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Zeng, Zheng	Shanghai Jiao Tong University
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chen, lepeng	Northwestern Polytechnical University
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Goury, Olivier	Inria - Lille Nord Europe
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Zhu, Kefan	UNSW Sydney
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Ding, Wenbo	Tsinghua University
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Walsh, Conor James	Harvard University
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Brock, Oliver	Technische Universität Berlin

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Event-Based Real-Time Moving Object Detection Based on IMU Ego-Motion Compensation, pp. 690-696. Attachment

Zhao, Chunhui	Northwestern Polytechnical University
Li, Yakun	Northwestern Polytechnical University
Lyu, Yang	Northwestern Polytechnical University

08:30-10:10 TuPO1S-04.4

Estimating the Motion of Drawers from Sound, pp. 697-703. Attachment

Baum, Manuel	TU Berlin
Froessl, Amelie	Technische Universitaet Berlin
Battaje, Aravind	TU Berlin
Brock, Oliver	Technische Universität Berlin

08:30-10:10 TuPO1S-04.5

Sonicverse: A Multisensory Simulation Platform for Embodied Household Agents That See and Hear, pp. 704-711.

Gao, Ruohan	Stanford University
Li, Hao	Stanford University
Dharan, Gokul	Stanford University
Wang, Zhuzhu	Stanford University
Li, Chengshu	Stanford University
Xia, Fei	Google Inc
Savarese, Silvio	Stanford University
Fei-Fei, Li	Stanford University
Wu, Jiajun	Stanford University

08:30-10:10 TuPO1S-04.6

LAPTNet-FPN: Multi-Scale LiDAR-Aided Projective Transform Network for Real Time Semantic Grid Prediction, pp. 712-718. Attachment

Diaz-Zapata, Manuel	Inria Grenoble
Sierra-Gonzalez, David	Inria Grenoble Rhône-Alpes
Erkent, Ozgur	Hacettepe University
Laugier, Christian	INRIA
Jilles, Dibangoye	Univ Lyon

08:30-10:10 TuPO1S-04.7

Collision-Aware In-Hand 6D Object Pose Estimation Using Multiple Vision-Based Tactile Sensors, pp. 719-725. Attachment

Caddeo, Gabriele Mario	Istituto Italiano Di Tecnologia
Piga, Nicola Agostino	Istituto Italiano Di Tecnologia
Bottarel, Fabrizio	Istituto Italiano Di Tecnologia
Natale, Lorenzo	Istituto Italiano Di Tecnologia

08:30-10:10 TuPO1S-04.8

CalibDepth: Unifying Depth Map Representation for Iterative LiDAR-Camera Online Calibration, pp. 726-733. Attachment

Zhu, Jiangtong	Xi'an Jiaotong University
Xue, Jianru	Xi'an Jiaotong University

TuPO1S-05 Room T8
Visual Servoing (Poster Session)

08:30-10:10 TuPO1S-05.1

Shape Visual Servoing of a Tether Cable from Parabolic Features, pp. 734-740. Attachment

Smolentsev, Lev — INRIA Rennes - Bretagne Atlantique
Krupa, Alexandre — Centre Inria De l'Université De Rennes
Chaumette, Francois — Inria Center at University of Rennes

08:30-10:10 TuPO1S-05.2

Deep Metric Learning for Visual Servoing: When Pose and Image Meet in Latent Space, pp. 741-747.

Felton, Samuel — Université De Rennes 1, IRISA
Fromont, Elisa — Université of Rennes 1 IRISA/Inria Rba
Marchand, Eric — Univ Rennes, Inria, CNRS, IRISA

08:30-10:10 TuPO1S-05.3

CNN-Based Visual Servoing for Simultaneous Positioning and Flattening of Soft Fabric Parts, pp. 748-754. Attachment

Tokuda, Fuyuki — Centre for Transformative Garment Production
Seino, Akira — Tohoku University
Kobayashi, Akinari — Centre for Transformative Garment Production
Kosuge, Kazuhiro — The University of Hong Kong

08:30-10:10 TuPO1S-05.4

Dynamical System-Based Imitation Learning for Visual Servoing Using the Large Projection Formulation, pp. 755-761. Attachment

Paolillo, Antonio — IDSIA USI-SUPSI
Robuffo Giordano, Paolo — Irisa Cnrs Umr6074
Saveriano, Matteo — University of Trento

08:30-10:10 TuPO1S-05.5

Constant Distance and Orientation Following of an Unknown Surface with a Cable-Driven Parallel Robot, pp. 762-768. Attachment

ROUSSEAU, Thomas — Nantes Université, LS2N, IRT Jules Verne
Pedemonte, Nicolo — IRT Jules Verne
Caro, Stéphane — CNRS/LS2N
Chaumette, Francois — Inria Center at University of Rennes

08:30-10:10 TuPO1S-05.6

3D Spectral Domain Registration-Based Visual Servoing, pp. 769-775. Attachment

Adjigble, Komlan Jean Maxime — University of Birmingham
TAMADAZTE, Brahim — CNRS
de Farias, Cristiana — University of Birmingham
Stolkin, Rustam — University of Birmingham
Marturi, Naresh — University of Birmingham

08:30-10:10 TuPO1S-05.7

Autonomous Endoscope Control Algorithm with Visibility and Joint Limits Avoidance Constraints for Da Vinci Research Kit Robot, pp. 776-781. Attachment

Moccia, Rocco — Università Degli Studi Di Napoli Federico II
Ficuciello, Fanny — Università Di Napoli Federico II

08:30-10:10 TuPO1S-05.8

Safe Control Using Vision-Based Control Barrier Function (V-CBF), pp. 782-788. Attachment

Abdi, Hossein — Sharif University of Technology
Raja, Golnaz — Tampere University
Ghabcheloo, Reza — Tampere University

TuPO1S-06 Room T8
Visual Tracking (Poster Session)

08:30-10:10 TuPO1S-06.1

DC-MOT: Motion Deblurring and Compensation for Multi-Object Tracking in UAV Videos, pp. 789-795. Attachment

Cheng, Song — Jilin University
Yao, Meibao — Jilin University

Xiao, Xueming	Changchun University of Science and Technology

08:30-10:10 TuPO1S-06.2

Fast Event-Based Double Integral for Real-Time Robotics, pp. 796-803. Attachment

Lin, Shijie	The University of Hong Kong
Zhang, Yinqiang	The University of Hong Kong
Huang, Dongyue	The Chinese University of Hong Kong
Zhou, Bin	Beihang University
Luo, Xiaowei	City University, HONG KONG
Pan, Jia	University of Hong Kong

08:30-10:10 TuPO1S-06.3

Continuous-Time Gaussian Process Motion-Compensation for Event-Vision Pattern Tracking with Distance Fields, pp. 804-812. Attachment

Le Gentil, Cedric	University of Technology Sydney
Alzugaray, Ignacio	Imperial College London
Vidal-Calleja, Teresa A.	University of Technology Sydney

08:30-10:10 TuPO1S-06.4

EXOT: Exit-Aware Object Tracker for Safe Robotic Manipulation of Moving Object, pp. 813-819. Attachment

Kim, Hyunseo	Seoul National University
Yoon, Hye Jung	Seoul National University
Kim, Minji	Seoul National University
Han, Dong-Sig	Seoul National University
Zhang, Byoung-Tak	Seoul National University

08:30-10:10 TuPO1S-06.5

Mono-STAR: Mono-Camera Scene-Level Tracking and Reconstruction, pp. 820-826. Attachment

Chang, Haonan	Rutgers University
Metha Ramesh, Dhruv	Rutgers University
Geng, Shijie	Rutgers University
Gan, Yuqiu	Columbia University
Boularias, Abdeslam	Rutgers University

08:30-10:10 TuPO1S-06.6

DFR-FastMOT: Detection Failure Resistant Tracker for Fast Multi-Object Tracking Based on Sensor Fusion, pp. 827-833. Attachment

Nagy, Mohamed	Khalifa University Center for Autonomous Robotic Systems (KUCARS
Khonji, Majid	Khalifa University
Dias, Jorge	Khalifa University
Javed, Sajid	Khalifa University

08:30-10:10 TuPO1S-06.7

Fusion of Events and Frames Using 8-DOF Warping Model for Robust Feature Tracking, pp. 834-840. Attachment

Lee, Min Seok	Seoul National University
Kim, Ye Jun	Hyundai Motor Group
Jung, Jae Hyung	Seoul National University
Park, Chan Gook	Seoul National University

08:30-10:10 TuPO1S-06.8

3DMODT: Attention-Guided Affinities for Joint Detection & Tracking in 3D Point Clouds, pp. 841-848. Attachment

Kini, Jyoti	University of Central Florida
Mian, Ajmal	University of Western Australia
Shah, Mubarak	University of Central Florida

TuPO1S-07 Room T8

Robot Learning (Poster Session)

08:30-10:10 TuPO1S-07.1

Inverse Reinforcement Learning Framework for Transferring Task Sequencing Policies from Humans to Robots in Manufacturing Applications, pp. 849-856. Attachment

Manyar, Omey Mohan	University of Southern California
McNulty, Zachary	University of Southern California
Nikolaidis, Stefanos	University of Southern California
Gupta, Satyandra K.	University of Southern California

08:30-10:10 TuPO1S-07.2

Learning State Conditioned Linear Mappings for Low-Dimensional Control of Robotic Manipulators, pp. 857-863. Attachment

Przystupa, Michael	University of Alberta
Johnstonbaugh, Kerrick	University of Alberta
Zhang, Zichen	University of Alberta, Canada
Petrich, Laura	University of Alberta
Dehghan, Masood	University of Alberta
Haghverd, Faezeh	University of Alberta
Jagersand, Martin	University of Alberta

08:30-10:10 TuPO1S-07.3

Decoupling Skill Learning from Robotic Control for Generalizable Object Manipulation, pp. 864-870. Attachment

Lu, Kai	University of Oxford
Yang, Bo	The Hong Kong Polytechnic University
Wang, Bing	University of Oxford
Markham, Andrew	Oxford University

08:30-10:10 TuPO1S-07.4

Comparison of Model-Based and Model-Free Reinforcement Learning for Real-World Dexterous Robotic Manipulation Tasks, pp. 871-878. Attachment

Valencia Redrovan, David Patricio	The University of Auckland
Jia, John	University of AUCKLAND
Li, Raymond	The University of Auckland
Hayashi, Alex	The University of Auckland
Lecchi, Megan	The University of Auckland
Terezakis, Reuel	University of Auckland
Gee, Trevor	The University of Auckland
Liarokapis, Minas	The University of Auckland
MacDonald, Bruce	University of Auckland
Williams, Henry	University of Auckland

08:30-10:10 TuPO1S-07.5

Handling Sparse Rewards in Reinforcement Learning Using Model Predictive Control, pp. 879-885. Attachment

Elnagdi, Murad	University of Bonn
Dengler, Nils	University of Bonn
de Heuvel, Jorge	University of Bonn
Bennewitz, Maren	University of Bonn

08:30-10:10 TuPO1S-07.6

Task-Driven Graph Attention for Hierarchical Relational Object Navigation, pp. 886-893. Attachment

Lingelbach, Michael	Stanford University
Li, Chengshu	Stanford University
Hwang, Minjune	Stanford University
Kurenkov, Andrey	Stanford University
Lou, Alan	Stanford University
Martín-Martín, Roberto	University of Texas at Austin
Zhang, Ruohan	Stanford University
Fei-Fei, Li	Stanford University
Wu, Jiajun	Stanford University

08:30-10:10 TuPO1S-07.7

Safety-Guaranteed Skill Discovery for Robot Manipulation Tasks, pp. 894-900. Attachment

Kim, Sunin	NAVER LABS
Kwon, Jaewoon	NAVER LABS
Lee, Taeyoon	Naver Labs
Park, Younghyo	Seoul National University
PEREZ, JULIEN	Naver Labs Europe

08:30-10:10 TuPO1S-07.8

A Framework for the Unsupervised Inference of Relations between Sensed Object Spatial Distributions and Robot Behaviors, pp. 901-908. Attachment

Morse, Christopher	University of Virginia
Feng, Lu	University of Virginia
Dwyer, Matthew	University of Virginia

Elbaum, Sebastian	University of Virginia

08:30-10:10 TuPO1S-07.9

Learning Video-Conditioned Policies for Unseen Manipulation Tasks, pp. 909-916.

Chane-Sane, Elliot	Inria PARIS
Schmid, Cordelia	Inria
Laptev, Ivan	INRIA

08:30-10:10 TuPO1S-07.10

Learning Food Picking without Food: Fracture Anticipation by Breaking Reusable Fragile Objects, pp. 917-923. Attachment

Yagawa, Rinto	Keio University
Ishikawa, Reina	Keio University
Hamaya, Masashi	OMRON SINIC X Corporation
Tanaka, Kazutoshi	OMRON SINIC X Corporation
Hashimoto, Atsushi	Omron Sinic X
Saito, Hideo	Keio University

08:30-10:10 TuPO1S-07.11

Learning Risk-Aware Costmaps Via Inverse Reinforcement Learning for Off-Road Navigation, pp. 924-930. Attachment

Triest, Samuel	Carnegie Mellon University
Guaman Castro, Mateo	Carnegie Mellon University
Maheshwari, Parv	Indian Institute of Technology Kharagpur
Sivaprakasam, Matthew	Carnegie Mellon University
Wang, Wenshan	Carnegie Mellon University
Scherer, Sebastian	Carnegie Mellon University

08:30-10:10 TuPO1S-07.12

How Does It Feel? Self-Supervised Costmap Learning for Off-Road Vehicle Traversability, pp. 931-938. Attachment

Guaman Castro, Mateo	Carnegie Mellon University
Triest, Samuel	Carnegie Mellon University
Wang, Wenshan	Carnegie Mellon University
Gregory, Jason M.	US Army Research Laboratory
Sanchez, Felix	Booz Allen Hamilton
Rogers III, John G.	US Army Research Laboratory
Scherer, Sebastian	Carnegie Mellon University

TuPO1S-08 Room T8

Learning for Control I (Poster Session)

08:30-10:10 TuPO1S-08.1

Global and Reactive Motion Generation with Geometric Fabric Command Sequences, pp. 939-945. Attachment

Zhi, Weiming	University of Sydney
Akinola, Iretiayo	Columbia University
Van Wyk, Karl	NVIDIA
Ratliff, Nathan	NVIDIA
Ramos, Fabio	University of Sydney, NVIDIA

08:30-10:10 TuPO1S-08.2

Enforcing the Consensus between Trajectory Optimization and Policy Learning for Precise Robot Control, pp. 946-952.

Le Lidec, Quentin	INRIA-ENS-PSL
Jallet, Wilson	LAAS-CNRS
Laptev, Ivan	INRIA
Schmid, Cordelia	Inria
Carpentier, Justin	INRIA

08:30-10:10 TuPO1S-08.3

Neural Optimal Control Using Learned System Dynamics, pp. 953-960. Attachment

Engin, Kazim Selim	University of Minnesota
Isler, Volkan	University of Minnesota

08:30-10:10 TuPO1S-08.4

Learned Risk Metric Maps for Kinodynamic Systems, pp. 961-967.

Allen, Ross	MIT Lincoln Laboratory
Xiao, Wei	MIT

Rus, Daniela	MIT

08:30-10:10 TuPO1S-08.5

Autonomous Drifting with 3 Minutes of Data Via Learned Tire Models, pp. 968-974. Attachment

Djeumou, Franck	University of Texas, Austin
Goh, Jon	Toyota Research Institute
Topcu, Ufuk	The University of Texas at Austin
Balachandran, Avinash	Toyota Research Institue

08:30-10:10 TuPO1S-08.6

DDK: A Deep Koopman Approach for Longitudinal and Lateral Control of Autonomous Ground Vehicles, pp. 975-981.

Xiao, Yongqian	National University of Defense Technology
Zhang, Xinglong	National University of Defense Technology
Xu, Xin	National University of Defense Technology
Yang, Lu	National University of Defense Technology
Li, Junxiang	National University of Defense Technology

08:30-10:10 TuPO1S-08.7

Meta-Learning-Based Optimal Control for Soft Robotic Manipulators to Interact with Unknown Environments, pp. 982-988. Attachment

Tang, Zhiqiang	National University of Singapore
Wang, Peiyi	Beijing Jiaotong University
Xin, Wenci	National University of Singapore
Xie, Zhexin	National University of Singapore
kan, longxin	National University of Singapore
Mohanakrishnan, Muralidharan	National University of Singapore
Laschi, Cecilia	National University of Singapore

08:30-10:10 TuPO1S-08.8

Dealing with Sparse Rewards in Continuous Control Robotics Via Heavy-Tailed Policy Optimization, pp. 989-995. Attachment

CHAKRABORTY, SOURADIP	University of Maryland
Bedi, Amrit Singh	University of Maryland, College Park
Kulathun Mudiyanselage, Kasun Weerakoon	University of Maryland, College Park
Poddar, Prithvi	IISER Bhopal
Koppel, Alec	JP Morgan Chase
Tokekar, Pratap	University of Maryland
Manocha, Dinesh	University of Maryland

08:30-10:10 TuPO1S-08.9

MPC with Sensor-Based Online Cost Adaptation, pp. 996-1002. Attachment

Meduri, Avadesh	New York University
Zhu, Huaijiang	New York University
Jordana, Armand	NYU
Righetti, Ludovic	New York University

08:30-10:10 TuPO1S-08.10

ReachLipBnB: A Branch-And-Bound Method for Reachability Analysis of Neural Network Autonomous Systems Using Lipschitz Bounds, pp. 1003-1010.

Entesari, Taha	Johns Hopkins University
Sharifi, Sina	Johns Hopkins University
Fazlyab, Mahyar	Johns Hopkins University

08:30-10:10 TuPO1S-08.11

Gradient-Based Trajectory Optimization with Learned Dynamics, pp. 1011-1018. Attachment

Sukhija, Bhavya	ETH Zürich
Köhler, Nathanael	ETH Zürich
Zamora Mora, Miguel Angel	ETH Zurich
Zimmermann, Simon	ETH Zurich
Curi, Sebastian	ETH Zürich
Coros, Stelian	ETH Zurich
Krause, Andreas	ETH Zurich

08:30-10:10 TuPO1S-08.12

RAMP-Net: A Robust Adaptive MPC for Quadrotors Via Physics-Informed Neural Network, pp. 1019-1025. Attachment

Sanyal, Sourav	Purdue University

TuPO1S-09 Room T8
Marine Robotics I (Poster Session)

08:30-10:10 TuPO1S-09.1

3-D Reconstruction Using Monocular Camera and Lights: Multi-View Photometric Stereo for Non-Stationary Robots, pp. 1026-1032. Attachment

Roznere, Monika — Dartmouth College
Mordohai, Philippos — Stevens Institute of Technology
Rekleitis, Ioannis — University of South Carolina
Quattrini Li, Alberto — Dartmouth College

08:30-10:10 TuPO1S-09.2

GMM Registration: A Probabilistic Scan Matching Approach for Sonar-Based AUV Navigation, pp. 1033-1039. Attachment

Vial, Pau — Universitat De Girona ESQ6750002E
Malagón Pedrosa, Miguel — Universitat De Girona
Segura, Ricard — Universitat De Girona
Palomeras, Narcis — Universitat De Girona
Carreras, Marc — Universitat De Girona

08:30-10:10 TuPO1S-09.3

Neural Implicit Surface Reconstruction Using Imaging Sonar, pp. 1040-1047. Attachment

Qadri, Mohamad — Carnegie Mellon University
Kaess, Michael — Carnegie Mellon University
Gkioulekas, Ioannis — Carnegie Mellon University

08:30-10:10 TuPO1S-09.4

Conditional GANs for Sonar Image Filtering with Applications to Underwater Occupancy Mapping, pp. 1048-1054. Attachment

Lin, Tianxiang — Carnegie Mellon University
Hinduja, Akshay — Carnegie Mellon University
Qadri, Mohamad — Carnegie Mellon University
Kaess, Michael — Carnegie Mellon University

08:30-10:10 TuPO1S-09.5

Stochastic Planning for ASV Navigation Using Satellite Images, pp. 1055-1061. Attachment

Huang, Yizhou — University of Toronto
Dugmag, Hamza — University of Toronto
Shkurti, Florian — University of Toronto
Barfoot, Timothy — University of Toronto

08:30-10:10 TuPO1S-09.6

Autonomous Underwater Docking Using Flow State Estimation and Model Predictive Control, pp. 1062-1068. Attachment

Vivekanandan, Rakesh — Oregon State University
Hollinger, Geoffrey — Oregon State University
Chang, Dongsik — Amazon

08:30-10:10 TuPO1S-09.7

Real-Time Navigation for Autonomous Surface Vehicles in Ice-Covered Waters, pp. 1069-1075. Attachment

de Schaetzen, Rodrigue — University of Waterloo
Botros, Alexander — University of Waterloo
Gash, Robert — National Research Council of Canada
Murrant, Kevin — National Research Council of Canada
Smith, Stephen L. — University of Waterloo

08:30-10:10 TuPO1S-09.8

Experiments in Underwater Feature Tracking with Performance Guarantees Using a Small AUV, pp. 1076-1082.

Biggs, Benjamin — Virginia Polytechnic Institute and State University
He, Hans — Virginia Tech
McMahon, James — The Naval Research Laboratory
Stilwell, Daniel — Virginia Tech

08:30-10:10 TuPO1S-09.9

Robust Imaging Sonar-Based Place Recognition and Localization in Underwater Environments, pp. 1083-1089. Attachment

Kim, Ho Gyun	Inha University
Kang, Gilhwan	Inha University
Jeong, Seokhwan	Inha University
Ma, Seungjun	Inha University
Cho, Younggun	Inha University

08:30-10:10 TuPO1S-09.10

Deep Underwater Monocular Depth Estimation with Single-Beam Echosounder, pp. 1090-1097. Attachment

Liu, Haowen	Dartmouth College
Roznere, Monika	Dartmouth College
Quattrini Li, Alberto	Dartmouth College

08:30-10:10 TuPO1S-09.11

Self-Supervised Monocular Depth Underwater, pp. 1098-1104. Attachment

Amitai, Shlomi	University of Haifa
Klein, Itzik	University of Haifa
Treibitz, Tali	University of Haifa

08:30-10:10 TuPO1S-09.12

Performance Evaluation of 3D Keypoint Detectors and Descriptors on Coloured Point Clouds in Subsea Environments, pp. 1105-1111. Attachment

Jung, Kyungmin	McGill University
Hitchcox, Thomas	McGill University
Forbes, James Richard	McGill University

TuPO1S-10 Room T8

Biomimetic Systems (Poster Session)

08:30-10:10 TuPO1S-10.1

Puppeteer and Marionette: Learning Anticipatory Quadrupedal Locomotion Based on Interactions of a Central Pattern Generator and Supraspinal Drive, pp. 1112-1119. Attachment

Shafiee, Milad	EPFL
Bellegarda, Guillaume	EPFL
Ijspeert, Auke	EPFL

08:30-10:10 TuPO1S-10.2

A Performance Optimization Strategy Based on Improved NSGA-II for a Flexible Robotic Fish, pp. 1120-1126. Attachment

Lu, Ben	Institute of Automation, Chinese Academy of Sciences
Wang, Jian	Institute of Automation, Chinese Academy of Sciences
Liao, Xiaocun	Institute of Automation, Chinese Academy of Sciences
Zou, Qianqian	Institution of Automation, Chinese Academy of Sciences
Tan, Min	Institute of Automation, Chinese Academy of Sciences
Zhou, Chao	Chinese Academy of Sciences

08:30-10:10 TuPO1S-10.3

Swarm Robotics Search and Rescue: A Bee-Inspired Swarm Cooperation Approach without Information Exchange, pp. 1127-1133. Attachment

Li, Yue	Beihang University
Gao, Yan	School of Automation Science and Electrical Engineering, Beihang
Yang, Sijie	Beihang University
Quan, Quan	Beihang University

08:30-10:10 TuPO1S-10.4

Achieving Extensive Trajectory Variation in Impulsive Robotic Systems, pp. 1134-1140. Attachment

Viornery, Luis	Carnegie Mellon University
Goode, Chloe	University of Lincoln
Sutton, Gregory	University of Lincoln
Bergbreiter, Sarah	Carnegie Mellon University

08:30-10:10 TuPO1S-10.5

Towards Safe Landing of Falling Quadruped Robots Using a 3-DoF Morphable Inertial Tail, pp. 1141-1147. Attachment

TANG, Yunxi	The Chinese University of Hong Kong

AN, JIAJUN	The Chinese University of Hong Kong
CHU, Xiangyu	The Chinese University of Hong Kong
Wang, Shengzhi	The Chinese University of Hong Kong
Wong, Ching Yan	The Chinese University of Hong Kong
Au, K. W. Samuel	The Chinese University of Hong Kong

08:30-10:10 TuPO1S-10.6

Bioinspired Tearing Manipulation with a Robotic Fish, pp. 1148-1154. Attachment

Wang, Stanley	University of California, Berkeley
Romero, Juan	University of California, Berkeley
Li, Monica	UC Berkeley
Wainwright, Peter	University of California, Davis
Stuart, Hannah	UC Berkeley

08:30-10:10 TuPO1S-10.7

Learnable Tegotae-Based Feedback in CPGs with Sparse Observation Produces Efficient and Adaptive Locomotion, pp. 1155-1161.

Herneth, Christopher	Technical University Munich
Hayashibe, Mitsuhiro	Tohoku University
Owaki, Dai	Tohoku University

08:30-10:10 TuPO1S-10.8

Multi-Segmented, Adaptive Feet for Versatile Legged Locomotion in Natural Terrain, pp. 1162-1169. Attachment

Chatterjee, Abhishek	Max Planck Institute for Intelligent Systems, Stuttgart
Mo, An	MPI IS Stuttgart
Kiss, Bernadett	Max Planck Institute for Intelligent Systems
Gonen, Emre Cemal	Max Planck Institute for Intelligent Systems
Badri-Spröwitz, Alexander	Max Planck Institute for Intelligent Systems

08:30-10:10 TuPO1S-10.9

Burst Stimulation for Enhanced Locomotion Control of Terrestrial Cyborg Insects, pp. 1170-1176. Attachment

NGUYEN, HUU DUOC	School of Mechanical & Aerospace Engineering, Nanyang Technologi
Sato, Hirotaka	Nanyang Technological University
Vo-Doan, T. Thang	University of Freiburg

08:30-10:10 TuPO1S-10.10

Twisting Spine or Rigid Torso: Exploring Quadrupedal Morphology Via Trajectory Optimization, pp. 1177-1184. Attachment

Caporale, J. Diego	University of Pennsylvania
Feng, Zeyuan	University of Pennsylvania
Rozen-Levy, Shane	University of Pennsylvania
Carter, Aja	University of Pennsylvania
Koditschek, Daniel	University of Pennsylvania

08:30-10:10 TuPO1S-10.11

Dynamic Locomotion of a Quadruped Robot with Active Spine Via Model Predictive Control, pp. 1185-1191. Attachment

Li, Wanyue	Sun Yat-Sen University
Zhou, Zida	Sun Yat-Sen University
Cheng, Hui	Sun Yat-Sen University

TuPO1S-11 Room T8

Aerial Robotics I (Poster Session)

08:30-10:10 TuPO1S-11.1

Scalable Task-Driven Robotic Swarm Control Via Collision Avoidance and Learning Mean-Field Control, pp. 1192-1199. Attachment

Cui, Kai	Technische Universität Darmstadt
Li, Mengguang	Technische Universität Darmstadt
Fabian, Christian	Technische Universität Darmstadt
Koeppl, Heinz	Technische Universität Darmstadt

08:30-10:10 TuPO1S-11.2

STD-Trees: Spatio-Temporal Deformable Trees for Multirotors Kinodynamic Planning, pp. 1200-1206. Attachment

Ye, Hongkai	Zhejiang University
Xu, Chao	Zhejiang University

Gao, Fei	Zhejiang University

08:30-10:10 TuPO1S-11.3

PredRecon: A Prediction-Boosted Planning Framework for Fast and High-Quality Autonomous Aerial Reconstruction, pp. 1207-1213. Attachment

Feng, Chen	The Hong Kong University of Science and Technology
Li, Haojia	The Hong Kong University of Science and Technology
Gao, Fei	Zhejiang University
Zhou, Boyu	Sun Yat-Sen University
Shen, Shaojie	Hong Kong University of Science and Technology

08:30-10:10 TuPO1S-11.4

Vision-Aided UAV Navigation and Dynamic Obstacle Avoidance Using Gradient-Based B-Spline Trajectory Optimization, pp. 1214-1220. Attachment

Xu, Zhefan	Carnegie Mellon University
Xiu, Yumeng	Carnegie Mellon University
Zhan, Xiaoyang	Carnegie Mellon University
Chen, Baihan	Carnegie Mellon University
Shimada, Kenji	Carnegie Mellon University

08:30-10:10 TuPO1S-11.5

Multi-Agent Spatial Predictive Control with Application to Drone Flocking, pp. 1221-1227. Attachment

Brandstätter, Andreas	Technische Universität Wien
Smolka, Scott	Stony Brook University
Stoller, Scott	Stony Brook University
Tiwari, Ashish	Microsoft Corp
Grosu, Radu	TU Wien

08:30-10:10 TuPO1S-11.6

Multimodal Image Registration for GPS-Denied UAV Navigation Based on Disentangled Representations, pp. 1228-1234.

Li, Huandong	Northwestern Polytechnical University
Liu, Zhunga	Northwestern Polytechnical University
Lyu, Yanyi	Northwestern Polytechnical University
Wu, Feiyan	Northwestern Polytechnical University

08:30-10:10 TuPO1S-11.7

SEER: Safe Efficient Exploration for Aerial Robots Using Learning to Predict Information Gain, pp. 1235-1241. Attachment

Tao, Yuezhan	University of Pennsylvania
Wu, Yuwei	University of Pennsylvania
Li, Beiming	University of Pennsylvania
Cladera Ojeda, Fernando	University of Pennsylvania
Zhou, Alex	University of Pennsylvania
Thakur, Dinesh	University of Pennsylvania
Kumar, Vijay	University of Pennsylvania

08:30-10:10 TuPO1S-11.8

Trajectory Planning for the Bidirectional Quadrotor As a Differentially Flat Hybrid System, pp. 1242-1248. Attachment

Mao, Katherine	University of Pennsylvania
Welde, Jake	University of Pennsylvania
Hsieh, M. Ani	University of Pennsylvania
Kumar, Vijay	University of Pennsylvania

08:30-10:10 TuPO1S-11.9

Fisher Information Based Active Planning for Aerial Photogrammetry, pp. 1249-1255. Attachment

LIM, JAEYOUNG	ETH Zurich
Lawrance, Nicholas	CSIRO Data61
Achermann, Florian	ETH Zurich, ASL
Stastny, Thomas	Swiss Federal Institute of Technology (ETH Zurich)
Bähnemann, Rik	ETH Zürich
Siegwart, Roland	ETH Zurich

08:30-10:10 TuPO1S-11.10

Integrated Vector Field and Backstepping Control for Quadcopters, pp. 1256-1262. Attachment

Dias Nunes, Arthur Henrique	Universidade Federal De Minas Gerais
Raffo, Guilherme V.	Universidade Federal De Minas Gerais

Pimenta, Luciano	Universidade Federal De Minas Gerais

08:30-10:10 TuPO1S-11.11

Learning a Single Near-Hover Position Controller for Vastly Different Quadcopters, pp. 1263-1269. Attachment

Zhang, Dingqi	University of California, Berkeley
Loquercio, Antonio	UC Berkeley
Wu, Xiangyu	University of California, Berkeley
Kumar, Ashish	UC Berkeley
Malik, Jitendra	UC Berkeley
Mueller, Mark Wilfried	University of California, Berkeley

08:30-10:10 TuPO1S-11.12

Forming and Controlling Hitches in Midair Using Aerial Robots, pp. 1270-1276. Attachment

S. D'Antonio, Diego	Lehigh University
Bhattacharya, Subhrajit	Lehigh University
Saldaña, David	Lehigh University

TuPO1S-12 Room T8

Aerial Robot Learning (Poster Session)

08:30-10:10 TuPO1S-12.1

AirTrack: Onboard Deep Learning Framework for Long-Range Aircraft Detection and Tracking, pp. 1277-1283. Attachment

Ghosh, Sourish	Carnegie Mellon University
Patrikar, Jay	Carnegie Mellon University
Moon, Brady	Carnegie Mellon University
Moghassem Hamidi, Milad	Carnegie Mellon University
Scherer, Sebastian	Carnegie Mellon University

08:30-10:10 TuPO1S-12.2

Towards a Reliable and Lightweight Onboard Fault Detection in Autonomous Unmanned Aerial Vehicles, pp. 1284-1290.

Katta, Sai Srinadhu	TII
Viegas, Eduardo	Pontifícia Universidade Catolica Do Paraná (PUCPR), Brazil

08:30-10:10 TuPO1S-12.3

Variable Admittance Interaction Control of UAVs Via Deep Reinforcement Learning, pp. 1291-1297.

Feng, Yuting	Beijing Institute of Technology
Shi, Chuanbeibei	Univeristy of Toronto
Du, Jianrui	Beijing Institute of Technology
Yu, Yushu	Beijing Institute of Technology
Sun, Fuchun	Tsinghua University
Song, Yixu	Tsinghua University

08:30-10:10 TuPO1S-12.4

Learning Tethered Perching for Aerial Robots, pp. 1298-1304.

Hauf, Fabian	Imperial College London
Kocer, Basaran Bahadir	Imperial College London
Nguyen, Hai-Nguyen (Hann)	CNRS
Pang, Oscar Kwong Fai	Imperial College London
Clark, Ronald	University of Oxford
Johns, Edward	Imperial College London
Kovac, Mirko	Imperial College London

08:30-10:10 TuPO1S-12.5

Credible Online Dynamics Learning for Hybrid UAVs, pp. 1305-1311. Attachment

Rohr, David	ETH Zurich
Lawrance, Nicholas	CSIRO Data61
Andersson, Olov	ETH Zürich
Siegwart, Roland	ETH Zurich

08:30-10:10 TuPO1S-12.6

AZTR: Aerial Video Action Recognition with Auto Zoom and Temporal Reasoning, pp. 1312-1319. Attachment

Wang, Xijun	University of Maryland, College Park
Xian, Ruiqi	University of Maryland-College Park
Guan, Tianrui	University of Maryland

de Melo, Celso — CCDC US Army Research Laboratory
Nogar, Stephen — CCDC U.S. Army Research Laboratory
Bera, Aniket — Purdue University
Manocha, Dinesh — University of Maryland

08:30-10:10 TuPO1S-12.7

Follow the Rules: Online Signal Temporal Logic Tree Search for Guided Imitation Learning in Stochastic Domains, pp. 1320-1326. Attachment

Aloor, Jasmine Jerry — Massachusetts Institute of Technology
Patrikar, Jay — Carnegie Mellon University
Kapoor, Parv — Carnegie Mellon University
Oh, Jean — Carnegie Mellon University
Scherer, Sebastian — Carnegie Mellon University

08:30-10:10 TuPO1S-12.8

Continuity-Aware Latent Interframe Information Mining for Reliable UAV Tracking, pp. 1327-1333.

Fu, Changhong — Tongji University
Cai, Mutian — Tongji University
Li, Sihang — Tongji University
Lu, Kunhan — Tongji University
Zuo, Haobo — Tongji University
Liu, Chongjun — Harbin Engineering University

08:30-10:10 TuPO1S-12.9

Weighted Maximum Likelihood for Controller Tuning, pp. 1334-1341. Attachment

Romero, Angel — University of Zurich
Govil, Shreedhar — University of Zurich
Yilmaz, Gonca — University of Zurich
Song, Yunlong — University of Zurich
Scaramuzza, Davide — University of Zurich

08:30-10:10 TuPO1S-12.10

User-Conditioned Neural Control Policies for Mobile Robotics, pp. 1342-1348. Attachment

Bauersfeld, Leonard — University of Zurich (UZH),
Kaufmann, Elia — University of Zurich
Scaramuzza, Davide — University of Zurich

08:30-10:10 TuPO1S-12.11

Training Efficient Controllers Via Analytic Policy Gradient, pp. 1349-1356. Attachment

Wiedemann, Nina — Robotics and Perception Group, University of Zürich
Wüest, Valentin — EPFL
Loquercio, Antonio — UC Berkeley
Müller, Matthias — Intel
Floreano, Dario — Ecole Polytechnique Federal, Lausanne
Scaramuzza, Davide — University of Zurich

08:30-10:10 TuPO1S-12.12

Parallel Reinforcement Learning Simulation for Visual Quadrotor Navigation, pp. 1357-1363. Attachment

Saunders, Jack — University of Bath
Saeedi, Sajad — Toronto Metropolitan University
Li, Wenbin — University of Bath

TuPO1S-13 Room T8
Multi-Robot Systems I (Poster Session)

08:30-10:10 TuPO1S-13.1

Toward Efficient Physical and Algorithmic Design of Automated Garages, pp. 1364-1370. Attachment

Guo, Teng — Rutgers University
Yu, Jingjin — Rutgers University

08:30-10:10 TuPO1S-13.2

Chronos and CRS: Design of a Miniature Car-Like Robot and a Software Framework for Single and Multi-Agent Robotics and Control, pp. 1371-1378. Attachment

Carron, Andrea — ETH Zurich
Sabrina, Bodmer — ETH Zurich

Vogel, Lukas	ETH Zurich
Zurbruegg, René	ETH Zurich
Helm, David	ETH Zürich
Rickenbach, Rahel	ETH Zurich
Muntwiler, Simon	ETH Zurich
Sieber, Jerome	ETH Zurich
Zeilinger, Melanie N.	ETH Zurich

08:30-10:10 TuPO1S-13.3

Multi-Agent Path Integral Control for Interaction-Aware Motion Planning in Urban Canals, pp. 1379-1385. Attachment

Streichenberg, Lucas Michael	ETH Zurich
Trevisan, Elia	Delft University of Technology
Chung, Jen Jen	The University of Queensland
Siegwart, Roland	ETH Zurich
Alonso-Mora, Javier	Delft University of Technology

08:30-10:10 TuPO1S-13.4

Mixed Observable RRT: Multi-Agent Mission-Planning in Partially Observable Environments, pp. 1386-1392. Attachment

Johansson, Kasper	Stanford University
Rosolia, Ugo	Caltech
Ubellacker, Wyatt	California Institute of Technology
Singletary, Andrew	California Institute of Technology
Ames, Aaron	California Institute of Technology

08:30-10:10 TuPO1S-13.5

RTAW: An Attention Inspired Reinforcement Learning Method for Multi-Robot Task Allocation in Warehouse Environments, pp. 1393-1399. Attachment

Agrawal, Aakriti	University of Maryland, College Park
Bedi, Amrit Singh	University of Maryland, College Park
Manocha, Dinesh	University of Maryland

08:30-10:10 TuPO1S-13.6

Hybrid SUSD-Based Task Allocation for Heterogeneous Multi-Robot Teams, pp. 1400-1406.

Chen, Shengkang	Georgia Tech
Lin, Tony X.	Georgia Institute of Technology
Al-Abri, Said	Georgia Institute of Technology
Arkin, Ronald	Georgia Tech
Zhang, Fumin	Georgia Institute of Technology

08:30-10:10 TuPO1S-13.7

Search Algorithms for Multi-Agent Teamwise Cooperative Path Finding, pp. 1407-1413. Attachment

Ren, Zhongqiang	Carnegie Mellon University
ZHANG, Chaoran	Carnegie Mellon University
Rathinam, Sivakumar	TAMU
Choset, Howie	Carnegie Mellon University

08:30-10:10 TuPO1S-13.8

Collaborative Scheduling with Adaptation to Failure for Heterogeneous Robot Teams, pp. 1414-1420.

Gao, Peng	University of Maryland, College Park
SIVA, SRIRAM	Colorado School of Mines
Micciche, Anthony	University of Massachusetts Amherst
Zhang, Hao	Colorado School of Mines

08:30-10:10 TuPO1S-13.9

AMSwarm: An Alternating Minimization Approach for Safe Motion Planning of Quadrotor Swarms in Cluttered Environments, pp. 1421-1427. Attachment

Adajania, Vivek Kantilal	University of Toronto
Zhou, Siqi	University of Toronto
Singh, Arun Kumar	University of Tartu
Schoellig, Angela P.	TU Munich

08:30-10:10 TuPO1S-13.10

Decentralized Deadlock-Free Trajectory Planning for Quadrotor Swarm in Obstacle-Rich Environments, pp. 1428-1434. Attachment

Park, Jungwon	Seoul National University
Jang, Inkyu	Seoul National University

Kim, H. Jin	Seoul National University

08:30-10:10 TuPO1S-13.11

A Negative Imaginary Theory-Based Time-Varying Group Formation Tracking Scheme for Multi-Robot Systems: Applications to Quadcopters, pp. 1435-1441. Attachment

Su, Yu-Hsiang	The University of Manchester
Bhowmick, Parijat	Indian Institute of Technology Guwahati
Lanzon, Alexander	The University of Manchester

08:30-10:10 TuPO1S-13.12

Data-Driven Risk-Sensitive Model Predictive Control for Safe Navigation in Multi-Robot Systems, pp. 1442-1448. Attachment

Navsalkar, Atharva	Indian Institute of Technology Kharagpur
Hota, Ashish	Indian Institute of Technology (IIT) Kharagpur

TuPO1S-14 Room T8

Intelligent Transportation Systems I (Poster Session)

08:30-10:10 TuPO1S-14.1

Multi-Modal Hierarchical Transformer for Occupancy Flow Field Prediction in Autonomous Driving, pp. 1449-1455.

Liu, Haochen	Nanyang Technological University
Huang, Zhiyu	Nanyang Technological University
Lv, Chen	Nanyang Technological University

08:30-10:10 TuPO1S-14.2

Annotating Covert Hazardous Driving Scenarios Online: Utilizing the Driver's Electroencephalography (EEG) Signals, pp. 1456-1462. Attachment

Zheng, Chen	Institute for AI Industry Research, Tsinghua University
Zi, Muxiao	Institute for AI Industry Research, Tsinghua University
jiang, wenjie	Tsinghua University
Chu, Mengdi	Tsinghua University
Zhang, Yan	Tsinghua University
Yuan, Jirui	Tsinghua University
Zhou, Guyue	Tsinghua University
Gong, Jiangtao	Tsinghua University

08:30-10:10 TuPO1S-14.3

Pedestrian Crossing Action Recognition and Trajectory Prediction with 3D Human Keypoints, pp. 1463-1470.

Li, Jiachen	Stanford University
Shi, Xinwei	Waymo LLC
Chen, Feiyu	Waymo LLC
Stroud, Jonathan	Waymo
Zhang, Zhishuai	Google
Lan, Tian	Waymo
Mao, Junhua	Waymo
Kang, Jeonhyung	Waymo
Refaat, Khaled	Waymo
Yang, Weilong	Waymo
Ie, Eugene	Waymo LLC
Li, Congcong	Waymo Inc

08:30-10:10 TuPO1S-14.4

Model-Agnostic Multi-Agent Perception Framework, pp. 1471-1478.

Xu, Runsheng	UCLA
Chen, Weizhe	Indiana University Bloomington
Xiang, Hao	University of California, Los Angeles
Xia, Xin	University of California, Los Angeles
Liu, Lantao	Indiana University
Ma, Jiaqi	University of California, Los Angeles

08:30-10:10 TuPO1S-14.5

Explainable Action Prediction through Self-Supervision on Scene Graphs, pp. 1479-1485. Attachment

Kochakarn, Pawit	University of Oxford
De Martini, Daniele	University of Oxford
Omeiza, Daniel	University of Oxford

Kunze, Lars	University of Oxford

08:30-10:10 TuPO1S-14.6

CueCAn: Cue-Driven Contextual Attention for Identifying Missing Traffic Signs on Unconstrained Roads, pp. 1486-1492. Attachment

Gupta, Varun	IIIT, Hyderabad
Subramanian, Anbumani	Intel
Jawahar, C.V.	IIIT, Hyderabad
Saluja, Rohit	IIIT Hyderabad

08:30-10:10 TuPO1S-14.7

Tackling Clutter in Radar Data - Label Generation and Detection Using PointNet++, pp. 1493-1499. Attachment

Kopp, Johannes	Ulm University
Kellner, Dominik	BMW AG
Piroli, Aldi	Universität Ulm
Dietmayer, Klaus	University of Ulm

08:30-10:10 TuPO1S-14.8

Effective Combination of Vertical, Longitudinal and Lateral Data for Vehicle Mass Estimation, pp. 1500-1506.

EL MRHASLI, Younesse	ENSTA PARIS
Monsuez, Bruno	ENSTA-ParisTech
MOUTON, XAVIER	Groupe Renault

08:30-10:10 TuPO1S-14.9

Receding Horizon Planning with Rule Hierarchies for Autonomous Vehicles, pp. 1507-1513. Attachment

Veer, Sushant	NVIDIA
Leung, Karen	Stanford University, NVIDIA Research, University of Washington
Cosner, Ryan	California Institute of Technology
Chen, Yuxiao	California Institute of Technology
Karkus, Peter	NVIDIA
Pavone, Marco	Stanford University

08:30-10:10 TuPO1S-14.10

Active Probing and Influencing Human Behaviors Via Autonomous Agents, pp. 1514-1521. Attachment

Wang, Shuangge	University of Southern California
Lyu, Yiwei	Carnegie Mellon University
Dolan, John M.	Carnegie Mellon University

08:30-10:10 TuPO1S-14.11

TrafficBots: Towards World Models for Autonomous Driving Simulation and Motion Prediction, pp. 1522-1529. Attachment

Zhang, Zhejun	ETH Zurich
Liniger, Alexander	ETH Zurich
Dai, Dengxin	ETH Zurich
Yu, Fisher	ETH Zürich
Van Gool, Luc	ETH Zurich

08:30-10:10 TuPO1S-14.12

SHAIL: Safety-Aware Hierarchical Adversarial Imitation Learning for Autonomous Driving in Urban Environments, pp. 1530-1536. Attachment

Jamgochian, Arec	Stanford University
Buehrle, Etienne	Karlsruhe Institute of Technology
Fischer, Johannes	Karlsruhe Institute of Technology
Kochenderfer, Mykel	Stanford University

TuPO1S-15 Room T8

Motion and Path Planning I (Poster Session)

08:30-10:10 TuPO1S-15.1

Reinforcement Learning-Based Optimal Multiple Waypoint Navigation, pp. 1537-1543.

Vlachos, Christos	National Technical University of Athens
Rousseas, Panagiotis	National Technical University of Athens
Bechlioulis, Charalampos	University of Patras
Kyriakopoulos, Kostas	National Technical Univ. of Athens

08:30-10:10 TuPO1S-15.2

DriveIRL: Drive in Real Life with Inverse Reinforcement Learning, pp. 1544-1550. Attachment

Phan-Minh, Tung — Motional AD
Howington, Forbes — Motional
Chu, Ting-Sheng — University of Michigan
Tomov, Momchil — Motional
Beaudoin, Robert — Motional AD
Lee, Sang Uk — Motional
Li, Nanxiang — Bosch Research and Technology Center
Dicle, Caglayan — Motional
Findler, Samuel — Senior Software Engineer at Motional
Suárez-Ruiz, Francisco — Nanyang Technological University
Yang, Bo — Motional
Omari, Sammy — ETH Zurich
Wolff, Eric — California Institute of Technology

08:30-10:10 TuPO1S-15.3

LES: Locally Exploitative Sampling for Robot Path Planning, pp. 1551-1557. Attachment

Joshi, Sagar — Aurora Innovation
Hutchinson, Seth — Georgia Institute of Technology
Tsiotras, Panagiotis — Georgia Tech

08:30-10:10 TuPO1S-15.4

Boundary Conditions in Geodesic Motion Planning for Manipulators, pp. 1558-1564.

Laux, Mario — University of Tübingen
Zell, Andreas — University of Tübingen

08:30-10:10 TuPO1S-15.5

TOFG: A Unified and Fine-Grained Environment Representation in Autonomous Driving, pp. 1565-1571.

WEN, Zihao — City University of Hong Kong
ZHANG, Yifan — City University of Hong Kong
Chen, Xinhong — City University of Hong Kong
Wang, Jianping — City University of Hong Kong

08:30-10:10 TuPO1S-15.6

Unidirectional-Road-Network-Based Global Path Planning for Cleaning Robots in Semi-Structured Environments, pp. 1572-1578. Attachment

Li, Yong — Guangzhou Shiyuan Electronic Technology Co., Ltd
Cheng, Hui — Sun Yat-Sen University

08:30-10:10 TuPO1S-15.7

A Hierarchical Decoupling Approach for Fast Temporal Logic Motion Planning, pp. 1579-1585.

Chen, Ziyang — University of Science and Technology of China
Zhou, Zhangli — University of Science and Technology of China
Wang, Shaochen — University of Science and Technology of China
Kan, Zhen — University of Science and Technology of China

08:30-10:10 TuPO1S-15.8

A Fast Two-Stage Approach for Multi-Goal Path Planning in a Fruit Tree, pp. 1586-1593.

Kroneman, Werner — University College Roosevelt
Valente, João — Wageningen University & Research
van der Stappen, Frank — Utrecht University

08:30-10:10 TuPO1S-15.9

Online Whole-Body Motion Planning for Quadrotor Using Multi-Resolution Search, pp. 1594-1600. Attachment

Ren, Yunfan — The University of Hong Kong
Liang, Siqi — Harbin Institute of Technology, Shenzhen
Zhu, Fangcheng — The University of Hong Kong
Lu, Guozheng — The University of Hong Kong
Zhang, Fu — University of Hong Kong

08:30-10:10 TuPO1S-15.10

Intermittent Diffusion Based Path Planning for Heterogeneous Groups of Mobile Sensors in Cluttered Environments, pp. 1601-1608. Attachment

Frederick, Christina — NJIT
Zhou, Haomin — Georgia Institute of Technology

Crosby, Frank	USNWC PC

08:30-10:10 TuPO1S-15.11

GANet: Goal Area Network for Motion Forecasting, pp. 1609-1615. Attachment

Wang, Mingkun	Peking University
Zhu, Xinge	CUHK
Yu, Changqian	Meituan
Li, Wei	Inceptio
Ma, yuexin	ShanghaiTech University
Jin, Ruochun	National University of Defense Technology
Ren, Xiaoguang	Academy of Military Sciences
Ren, Dongchun	Meituan
Wang, Mingxu	Fudan University
YANG, WENJING	State Key Laboratory of High Performance Computing (HPCL), Schoo

08:30-10:10 TuPO1S-15.12

FlowMap: Path Generation for Automated Vehicles in Open Space Using Traffic Flow, pp. 1616-1622. Attachment

Ding, Wenchao	Fudan University
Zhao, Jieru	Shanghai Jiao Tong University
Chu, Yubin	Dalian University of Technology
Huang, Haihui	Zhejiang University
Qin, Tong	Huawei Techonology
XU, Chunjing	Huawei Technologies
Guan, Yuxiang	Fudan University
Gan, Zhongxue	Fudan University

TuPO1S-16 Room T8

Reactive and Sensor-Based Planning (Poster Session)

08:30-10:10 TuPO1S-16.1

An Architecture for Reactive Mobile Manipulation On-The-Move, pp. 1623-1629. Attachment

Burgess-Limerick, Ben	Queensland University of Technology
Lehnert, Christopher	Queensland University of Technology
Leitner, Jurgen	LYRO Robotics & Monash University
Corke, Peter	Queensland University of Technology

08:30-10:10 TuPO1S-16.2

Multi-Robot Mission Planning in Dynamic Semantic Environments, pp. 1630-1637. Attachment

Kalluraya, Samarth	Washington University in St. Louis
Pappas, George J.	University of Pennsylvania
Kantaros, Yiannis	Washington University in St. Louis

08:30-10:10 TuPO1S-16.3

A System for Generalized 3D Multi-Object Search, pp. 1638-1644. Attachment

Zheng, Kaiyu	Brown University
Paul, Anirudha	Brown University
Tellex, Stefanie	Brown

08:30-10:10 TuPO1S-16.4

A General Class of Combinatorial Filters That Can Be Minimized Efficiently, pp. 1645-1651.

Zhang, Yulin	Amazon
Shell, Dylan	Texas A&M University

08:30-10:10 TuPO1S-16.5

Cautious Planning with Incremental Symbolic Perception: Designing Verified Reactive Driving Maneuvers, pp. 1652-1658.

Kamale, Disha	Lehigh University
Haesaert, Sofie	Eindhoven University of Technology
Vasile, Cristian Ioan	Lehigh University

08:30-10:10 TuPO1S-16.6

Decision Diagrams As Plans: Answering Observation-Grounded Queries, pp. 1659-1665.

Shell, Dylan	Texas A&M University
O'Kane, Jason	Texas A&M University

08:30-10:10 TuPO1S-16.7

Obstacle Avoidance Using Raycasting and Riemannian Motion Policies at kHz Rates for MAVs, pp. 1666-1672. Attachment

Pantic, Michael — ETH Zürich
Meijer, Isar — ETH Zurich
Bähnemann, Rik — ETH Zürich
Alatur, Nikhilesh — ETH Zurich
Andersson, Olov — ETH Zürich
Cadena Lerma, Cesar — ETH Zurich
Siegwart, Roland — ETH Zurich
Ott, Lionel — ETH Zurich

08:30-10:10 TuPO1S-16.8

Adaptive and Explainable Deployment of Navigation Skills Via Hierarchical Deep Reinforcement Learning, pp. 1673-1679. Attachment

Lee, Kyowoon — Ulsan National Institute of Science and Technology
Kim, Seongun — Korea Advanced Institute of Science and Technology
Choi, Jaesik — Korea Advanced Institute of Science and Technology

TuPO1S-17 Room T8

Collision Avoidance (Poster Session)

08:30-10:10 TuPO1S-17.1

Learning Agile Flight Maneuvers: Deep SE(3) Motion Planning and Control for Quadrotors, pp. 1680-1686. Attachment

Wang, Yixiao — National University of Singapore
Wang, Bingheng — National University of Singapore
Zhang, Shenning — National University of Singapore
Sia, Han Wei — ST Engineering
Zhao, Lin — National University of Singapore

08:30-10:10 TuPO1S-17.2

Robust MADER: Decentralized and Asynchronous Multiagent Trajectory Planner Robust to Communication Delay, pp. 1687-1693.

Kondo, Kota — Massachusetts Institute of Technology
Tordesillas Torres, Jesus — Massachusetts Institute of Technology
Figueroa, Reinaldo — Massachusetts Institute of Technology
Rached, Juan — Massachusetts Institute of Technology
Merkel, Joseph — MIT Aerospace Controls Lab
Lusk, Parker C. — Massachusetts Institute of Technology
How, Jonathan — Massachusetts Institute of Technology

08:30-10:10 TuPO1S-17.3

Obstacle Identification and Ellipsoidal Decomposition for Fast Motion Planning in Unknown Dynamic Environments, pp. 1694-1700. Attachment

Kaymaz, Mehmetcan — Istanbul Technical University
Ure, Nazim Kemal — Istanbul Technical University

08:30-10:10 TuPO1S-17.4

Safe Operations of an Aerial Swarm Via a Cobot Human Swarm Interface, pp. 1701-1707.

Abdi, Sydrak — University of Maryland
Paley, Derek — University of Maryland

TuPO1S-18 Room T8

Perception for Grasping and Manipulation I (Poster Session)

08:30-10:10 TuPO1S-18.1

MonoGraspNet: 6-DoF Grasping with a Single RGB Image, pp. 1708-1714. Attachment

Zhai, Guangyao — Technical University of Munich
Huang, Dianye — Technical University of Munich
Wu, Shun-Cheng — Technical University of Munich
Jung, HyunJun — Technical University of Munich
Di, Yan — Technical University of Munich
Manhardt, Fabian — Google
Tombari, Federico — Technische Universität München

Navab, Nassir	TU Munich
Busam, Benjamin	Technical University of Munich

08:30-10:10 TuPO1S-18.2

USEEK: Unsupervised SE(3)-Equivariant 3D Keypoints for Generalizable Manipulation, pp. 1715-1722. Attachment

Xue, Zhengrong	Shanghai Jiao Tong University
Yuan, Zhecheng	Tsinghua University
Wang, Jiashun	Carnegie Mellon University
WANG, xueqian	Center for Artificial Intelligence and Robotics, Graduate School
Gao, Yang	Tsinghua University
Xu, Huazhe	Tsinghua University

08:30-10:10 TuPO1S-18.3

Semantic Mapping with Confidence Scores through Metric Embeddings and Gaussian Process Classification, pp. 1723-1730. Attachment

Hong, Jungseok	University of Minnesota
Garg, Suveer	University of Pennsylvania
Isler, Volkan	University of Minnesota

08:30-10:10 TuPO1S-18.4

The Third Generation (G3) Dual-Modal and Dual Sensing Mechanisms (DMDSM) Pretouch Sensor for Robotic Grasping, pp. 1731-1736.

Fang, Cheng	Texas A&M University
Li, Shuangliang	Texas A&M University
Wang, Di	Texas A&M University
Guo, Fengzhi	Texas A&M University
Song, Dezhen	Texas A&M University
Zou, Jun	Texas A&M University

08:30-10:10 TuPO1S-18.5

Learning Height for Top-Down Grasps with the DIGIT Sensor, pp. 1737-1743. Attachment

Bernardi, Thais	Inria
Fleytoux, Yoann	Inria
Mouret, Jean-Baptiste	Inria
Ivaldi, Serena	INRIA

08:30-10:10 TuPO1S-18.6

Instance-Wise Grasp Synthesis for Robotic Grasping, pp. 1744-1750. Attachment

Xu, Yucheng	University of Edinburgh
Kasaei, Mohammadreza	University of Edinburgh
Kasaei, Hamidreza	University of Groningen
Li, Zhibin	University College London

08:30-10:10 TuPO1S-18.7

Joint Segmentation and Grasp Pose Detection with Multi-Modal Feature Fusion Network, pp. 1751-1756. Attachment

Liu, Xiaozheng	Northeastern University
Zhang, Yunzhou	Northeastern University
Cao, He	Northeastern University
Dexing, Shan	Northeastern University
Zhao, Jiaqi	Northeastern University

08:30-10:10 TuPO1S-18.8

GraspNeRF: Multiview-Based 6-DoF Grasp Detection for Transparent and Specular Objects Using Generalizable NeRF, pp. 1757-1763. Attachment

Dai, Qiyu	Peking University
Zhu, Yan	Peking University
Geng, Yiran	Peking University
Ruan, Ciyu	National University of Defense Technology
Zhang, Jiazhao	National University of Defense Technology
Wang, He	Peking University

08:30-10:10 TuPO1S-18.9

Elastic Context: Encoding Elasticity for Data-Driven Models of Textiles, pp. 1764-1770.

Longhini, Alberta	KTH Royal Institute of Technology
Moletta, Marco	KTH Royal Institute of Technology
Reichlin, Alfredo	KTH Royal Institute of Technology

Welle, Michael C.	KTH Royal Institute of Technology
Kravberg, Alexander	KTH Royal Institute of Technology
Wang, Yufei	Carnegie Mellon University
Held, David	Carnegie Mellon University
Erickson, Zackory	Carnegie Mellon University
Kragic, Danica	KTH

08:30-10:10 TuPO1S-18.10

Vision-Based Six-Dimensional Peg-In-Hole for Practical Connector Insertion, pp. 1771-1777. Attachment

Zhang, Kun	Hong Kong University of Science and Technology
Wang, Chen	The University of Hong Kong
Chen, Hua	Southern University of Science and Technology
Pan, Jia	University of Hong Kong
Wang, Michael Yu	Monash University
Zhang, Wei	Southern University of Science and Technology

08:30-10:10 TuPO1S-18.11

RGB-Only Reconstruction of Tabletop Scenes for Collision-Free Manipulator Control, pp. 1778-1785. Attachment

Tang, Zhenggang	University of Illinois Urbana-Champaign
Sundaralingam, Balakumar	NVIDIA Corporation
Tremblay, Jonathan	Nvidia
Wen, Bowen	NVIDIA
Yuan, Ye	Carnegie Mellon University
Tyree, Stephen	NVIDIA
Loop, Charles	NVIDIA
Schwing, Alexander	University of Illinois at Urbana-Champaign
Birchfield, Stan	NVIDIA Corporation

08:30-10:10 TuPO1S-18.12

Multi-View Object Pose Estimation from Correspondence Distributions and Epipolar Geometry, pp. 1786-1792.

Haugaard, Rasmus Laurvig	University of Southern Denmark
Iversen, Thorbjørn Mosekjær	The Maersk Mc-Kinney Moller Institute, University of Southern De

TuPO1S-19 Room T8

Learning for Grasping and Manipulation I (Poster Session)

08:30-10:10 TuPO1S-19.1

FSG-Net: A Deep Learning Model for Semantic Robot Grasping through Few-Shot Learning, pp. 1793-1799. Attachment

Barcellona, Leonardo	University of Padova
Bacchin, Alberto	University of Padua
Gottardi, Alberto	University of Padova
Menegatti, Emanuele	The University of Padua
Ghidoni, Stefano	University of Padova

08:30-10:10 TuPO1S-19.2

Learning Pre-Grasp Manipulation of Flat Objects in Cluttered Environments Using Sliding Primitives, pp. 1800-1806. Attachment

Wu, Jiaxi	Peking University
Wu, haoran	University of Science and Technology of China
Zhong, Shanlin	Institute of Automation, Chinese Academy of Sciences
Sun, Quqin	Wuhan Second.Ship Design.and Research Institute
Li, Yinlin	Institute of Automation, Chinese Academy of Sciences

08:30-10:10 TuPO1S-19.3

Learning Category-Level Manipulation Tasks from Point Clouds with Dynamic Graph CNNs, pp. 1807-1813. Attachment

Liang, Junchi	Rutgers University
Boularias, Abdeslam	Rutgers University

08:30-10:10 TuPO1S-19.4

Neural Grasp Distance Fields for Robot Manipulation, pp. 1814-1821. Attachment

Weng, Thomas	Carnegie Mellon University
Held, David	Carnegie Mellon University
Meier, Franziska	Facebook
Mukadam, Mustafa	Facebook AI Research

08:30-10:10 TuPO1S-19.5

Planning for Multi-Object Manipulation with Graph Neural Network Relational Classifiers, pp. 1822-1829. Attachment

Huang, Yixuan — University of Utah
Conkey, Adam — University of Utah
Hermans, Tucker — University of Utah

08:30-10:10 TuPO1S-19.6

Local Neural Descriptor Fields: Locally Conditioned Object Representations for Manipulation, pp. 1830-1836. Attachment

Chun, Ethan — MIT
Du, Yilun — MIT
Simeonov, Anthony — Massachusetts Institute of Technology
Lozano-Perez, Tomas — MIT
Kaelbling, Leslie — MIT

08:30-10:10 TuPO1S-19.7

Practical Visual Deep Imitation Learning Via Task-Level Domain Consistency, pp. 1837-1844.

Khansari, Mohi — Google X
Ho, Daniel — Google X
Du, Yuqing — UC Berkeley
Fuentes, Armando — Everyday Robots
Bennice, Matthew — Everyday Robots
Sievers, Nicolas — Everyday Robots
Kirmani, Sean — X, the Moonshot Factory
Bai, Yunfei — Google X
Jang, Eric — Halodi Robotics

08:30-10:10 TuPO1S-19.8

SEIL: Simulation-Augmented Equivariant Imitation Learning, pp. 1845-1851. Attachment

Jia, Mingxi — Northeastern University
Wang, Dian — Northeastern University
Su, Guanang — Northeastern University
Klee, David — Northeastern University
Zhu, Xupeng — Northeastern University
Walters, Robin — Northeastern University
Platt, Robert — Northeastern University

08:30-10:10 TuPO1S-19.9

Dextrous Tactile In-Hand Manipulation Using a Modular Reinforcement Learning Architecture, pp. 1852-1858. Attachment

Pitz, Johannes — German Aerospace Center
Röstel, Lennart — German Aerospace Center (DLR)
Sievers, Leon — German Aerospace Center
Bäuml, Berthold — German Aerospace Center (DLR)

08:30-10:10 TuPO1S-19.10

Learning Tool Morphology for Contact-Rich Manipulation Tasks with Differentiable Simulation, pp. 1859-1865. Attachment

Li, Mengxi — Stanford University
Antonova, Rika — Stanford University
Sadigh, Dorsa — Stanford University
Bohg, Jeannette — Stanford University

08:30-10:10 TuPO1S-19.11

CabiNet: Scaling Neural Collision Detection for Object Rearrangement with Procedural Scene Generation, pp. 1866-1874. Attachment

Murali, Adithyavairavan — Nvidia Corporation
Mousavian, Arsalan — NVIDIA
Eppner, Clemens — NVIDIA
Fishman, Adam — University of Washington
Fox, Dieter — University of Washington

08:30-10:10 TuPO1S-19.12

NIFT: Neural Interaction Field and Template for Object Manipulation, pp. 1875-1881. Attachment

Huang, Zeyu — Shenzhen University
Xu, Juzhan — Shenzhen University

Dai, Sisi	National University of Defense Technology
Xu, Kai	National University of Defense Technology
Zhang, Hao	Simon Fraser University
Huang, Hui	Shenzhen University
Hu, Ruizhen	Shenzhen University

TuPO1S-20 Room T8

Localization I (Poster Session)

08:30-10:10 TuPO1S-20.1

Place Recognition under Occlusion and Changing Appearance Via Disentangled Representations, pp. 1882-1888.

CHEN, YUE	Xi'an Jiaotong University
Chen, Xingyu	Laboratory of Visual Cognitive Computing and Intelligent Vehicle
Li, Yicen	McMaster University

08:30-10:10 TuPO1S-20.2

GIDP: Learning a Good Initialization and Inducing Descriptor Post-Enhancing for Large-Scale Place Recognition, pp. 1889-1896.

Fan, Zhaoxin	Renmin University of China
Song, Zhenbo	Nanjing University of Science and Technology
He, Jun	Renmin University of China
Liu, Hongyan	Tsinghua University

08:30-10:10 TuPO1S-20.3

STD: Stable Triangle Descriptor for 3D Place Recognition, pp. 1897-1903. Attachment

Yuan, Chongjian	The University of Hong Kong
Lin, Jiarong	The University of Hong Kong
Zou, Zuhao	HongKong University
Hong, Xiaoping	Southern University of Science and Technology
Zhang, Fu	University of Hong Kong

08:30-10:10 TuPO1S-20.4

DeepRING: Learning Roto-Translation Invariant Representation for LiDAR Based Place Recognition, pp. 1904-1911. Attachment

Lu, Sha	Zhejiang University
Xu, Xuecheng	Zhejiang University
Tang, Li	Zhejiang University
Xiong, Rong	Zhejiang University
Wang, Yue	Zhejiang University

08:30-10:10 TuPO1S-20.5

Sensor Localization by Few Distance Measurements Via the Intersection of Implicit Manifolds, pp. 1912-1918.

Bilevich, Michael M.	Tel Aviv University
LaValle, Steven M	University of Oulu
Halperin, Dan	Tel Aviv University

08:30-10:10 TuPO1S-20.6

Boosting Performance of a Baseline Visual Place Recognition Technique by Predicting the Maximally Complementary Technique, pp. 1919-1925. Attachment

Malone, Connor	Queensland University of Technology
Hausler, Stephen	CSIRO
Fischer, Tobias	Queensland University of Technology
Milford, Michael J	Queensland University of Technology

08:30-10:10 TuPO1S-20.7

Loosely-Coupled Localization Fusion System Based on Track-To-Track Fusion with Bias Alignment, pp. 1926-1932.

Kim, Soyeong	Konkuk University
Jo, Kichun	Konkuk University
BRADAI, Benazouz	Valeo
RESENDE, Paulo	Valeo
Jo, Jaeyoung	Konkuk University, Smart Vehicle Engineering

08:30-10:10 TuPO1S-20.8

Portable Multi-Hypothesis Monte Carlo Localization for Mobile Robots, pp. 1933-1939. Attachment

García, Alberto	Universidad Rey Juan Carlos
Martin Rico, Francisco	Carnegie Mellon University

Guerrero, Jose Miguel	Rey Juan Carlos University
Rodríguez Lera, Francisco Javier	Universidad De León
Matellan, Vicente	Universidad De Leon

08:30-10:10 TuPO1S-20.9

CPnP: Consistent Pose Estimator for Perspective-N-Point Problem with Bias Elimination, pp. 1940-1946.

Zeng, Guangyang	The Chinese University of Hong Kong, Shenzhen
Chen, Shiyu	The Chinese University of Hong Kong, Shenzhen
Mu, Biqiang	Chinese Academy of Sciences
Shi, Guodong	The University of Sydney
Wu, Junfeng	The Chinese Unviersity of Hong Kong, Shenzhen

08:30-10:10 TuPO1S-20.10

LiDAR-Based Indoor Localization with Optimal Particle Filters Using Surface Normal Constraints, pp. 1947-1953.

Andradi, Heruka	Hochschule Bonn Rhein Sieg
Blumenthal, Sebastian	Locomotec
Prassler, Erwin	Bonn-Rhein-Sieg Univ. of Applied Sciences
Plöger, Paul G.	Hochschule Bonn Rhein Sieg

08:30-10:10 TuPO1S-20.11

Efficient Planar Pose Estimation Via UWB Measurements, pp. 1954-1960. Attachment

JIANG, Haodong	The Chinese University of Hong Kong, Shenzhen
Wang, Wentao	ZhejiangUniversity
shen, yuan	Nanjing University of Science and Technology
Li, Xinghan	Zhejiang University
Ren, Xiaoqiang	Shanghai University
Mu, Biqiang	Chinese Academy of Sciences
Wu, Junfeng	The Chinese Unviersity of Hong Kong, Shenzhen

TuPO1S-21 Room T8

Vision-Based Navigation I (Poster Session)

08:30-10:10 TuPO1S-21.1

Visual Pitch and Roll Estimation for Inland Water Vessels, pp. 1961-1967. Attachment

Griesser, Dennis	University of Applied Sciences Konstanz, Institute for Optical S
Umlauf, Georg	University of Applied Sciences Konstanz, Institute for Optical S
Franz, Matthias	University of Applied Sciences Konstanz, Institute for Optical S

08:30-10:10 TuPO1S-21.2

GPF-BG: A Hierarchical Vision-Based Planning Framework for Safe Quadrupedal Navigation, pp. 1968-1975. Attachment

Feng, Shiyu	Georgia Institute of Technology
Zhou, Ziyi	Georgia Institute of Technology
Smith, Justin	Georgia Institute of Technology
Asselmeier, Maxwell	Georgia Institute of Technology
Zhao, Ye	Georgia Institute of Technology
Vela, Patricio	Georgia Institute of Technology

08:30-10:10 TuPO1S-21.3

Direct Angular Rate Estimation without Event Motion-Compensation at High Angular Rates, pp. 1976-1981. Attachment

Ng, Matthew	Singapore University of Technology and Design
Cai, Xinyu	Singapore University of Technology and Design
Foong, Shaohui	Singapore University of Technology and Design

08:30-10:10 TuPO1S-21.4

StereoVAE: A Lightweight Stereo-Matching System Using Embedded GPUs, pp. 1982-1988.

Qiong, Chang	Tokyo Institute of Technology
Xiang, Li	NanJing University
Xin, Xu	NanJing University
Liu, Xin	National Institute of Advanced Industrial Science and Technology
Li, Yun	NanJing University
Miyazaki, Jun	Tokyo Institute of Technology School of Computing

08:30-10:10 TuPO1S-21.5

Learning Perception-Aware Agile Flight in Cluttered Environments, pp. 1989-1995. Attachment

Song, Yunlong	University of Zurich

Shi, Kexin	Universität Zürich
Penicka, Robert	Czech Technical University in Prague
Scaramuzza, Davide	University of Zurich

08:30-10:10 TuPO1S-21.6

NanoFlowNet: Real-Time Dense Optical Flow on a Nano Quadcopter, pp. 1996-2003.

Bouwmeester, Rik Jan	Delft University of Technology
Paredes-Valles, Federico	Delft University of Technology
de Croon, Guido	TU Delft

08:30-10:10 TuPO1S-21.7

Zero-Shot Active Visual Search (ZAVIS): Intelligent Object Search for Robotic Assistants, pp. 2004-2010. Attachment

Park, Jeongeun	Korea University
Yoon, Taerim	Korea University
Hong, Jejoon	Korea University
Yu, Youngjae	Yonsei University
Pan, Matthew	Queen's University
Choi, Sungjoon	Korea University

08:30-10:10 TuPO1S-21.8

Memory-Based Exploration-Value Evaluation Model for Visual Navigation, pp. 2011-2017. Attachment

Feng, Yongquan	National University of Defense Technology
Xu, Liyang	NUDT
Li, Minglong	National University of Defense Technology
Jin, Ruochun	National University of Defense Technology
Huang, Da	The State Key Laboratory of High Performance Computing (HPCL) &
Yang, Shaowu	National University of Defense Technology
YANG, WENJING	State Key Laboratory of High Performance Computing (HPCL), Schoo

08:30-10:10 TuPO1S-21.9

ViNL: Visual Navigation and Locomotion Over Obstacles, pp. 2018-2024. Attachment

Kareer, Simar	Georgia Tech
Yokoyama, Naoki	Georgia Institute of Technology
Batra, Dhruv	Georgia Tech / Facebook AI Research
Ha, Sehoon	Georgia Institute of Technology
Truong, Joanne	The Georgia Institute of Technology

08:30-10:10 TuPO1S-21.10

Zero-Shot Object Goal Visual Navigation, pp. 2025-2031.

Zhao, Qianfan	State Key Laboratory of Management and Control for Complex Syste
Zhang, Lu	Institute of Automation, Chinese Academy of Science
He, Bin	Tongji University
Qiao, Hong	Institute of Automation, Chinese Academy of Sciences
Liu, Zhiyong	Institute of Automation Chinese Academy of Sciences

08:30-10:10 TuPO1S-21.11

Monocular Simultaneous Localization and Mapping Using Ground Textures, pp. 2032-2038. Attachment

Hart, Kyle	Stevens Institute of Technology
Englot, Brendan	Stevens Institute of Technology
O'Shea, Ryan	Naval Air Warfare Center Aircraft Division
Kelly, John	RISE Laboratory at Naval Air Warfare Center
Martinez, David	Pennsylvania State University

08:30-10:10 TuPO1S-21.12

WAVN: Wide Area Visual Navigation for Large-Scale, GPS-Denied Environments, pp. 2039-2045. Attachment

Lyons, Damian	Fordham University
Rahouti, Mohamed	Fordham University

TuPO1S-22 Room T8

Localization and Mapping I (Poster Session)

08:30-10:10 TuPO1S-22.1

ORORA: Outlier-Robust Radar Odometry, pp. 2046-2053. Attachment

LIM, HYUNGTAE	Korea Advanced Institute of Science and Technology
Han, Kawon	Korea Advanced Institute of Science and Technology
Shin, Gunhee	Inha University
Kim, Giseop	NAVER LABS
Hong, Songcheol	Korea Advanced Institute of Science and Technology
Myung, Hyun	KAIST (Korea Advanced Institute of Science and Technology)

08:30-10:10 TuPO1S-22.2

AdaSfM: From Coarse Global to Fine Incremental Adaptive Structure from Motion, pp. 2054-2061. Attachment

Chen, Yu	National University of Singapore
Yu, Zihao	Beihang University
song, shu	Nreal
li, jianming	Segway Ninebot
YU, Tianning	Willand Company
Lee, Gim Hee	National University of Singapore

08:30-10:10 TuPO1S-22.3

Robust Map Fusion with Visual Attention Utilizing Multi-Agent Rendezvous, pp. 2062-2068. Attachment

Kim, Jaein	Seoul National University
Han, Dong-Sig	Seoul National University
Zhang, Byoung-Tak	Seoul National University

08:30-10:10 TuPO1S-22.4

Wi-Closure: Reliable and Efficient Search of Inter-Robot Loop Closures Using Wireless Sensing, pp. 2069-2075.

Wang, Weiying	Harvard University
Kemmeren, Anne	Delft University
Son, Daniel	Harvard University
Alonso-Mora, Javier	Delft University of Technology
Gil, Stephanie	Harvard University

08:30-10:10 TuPO1S-22.5

COVINS-G: A Generic Back-End for Collaborative Visual-Inertial SLAM, pp. 2076-2082. Attachment

Patel, Manthan	ETH Zurich
Karrer, Marco	ETH Zurich
Bänninger, Philipp	ETH Zurich
Chli, Margarita	ETH Zurich

08:30-10:10 TuPO1S-22.6

PIEKF-VIWO: Visual-Inertial-Wheel Odometry Using Partial Invariant Extended Kalman Filter, pp. 2083-2090.

Hua, Tong	Shanghai Jiao Tong University
Li, Tao	Shanghai Jiao Tong University
Pei, Ling	Shanghai Jiao Tong University

08:30-10:10 TuPO1S-22.7

Observability-Aware Active Extrinsic Calibration of Multiple Sensors, pp. 2091-2097. Attachment

Xu, Shida	Heriot-Watt University
Scharff Willners, Jonatan	Heriot-Watt University
Hong, Ziyang	Heriot-Watt University
Zhang, Kaicheng	Heriot-Watt University
Petillot, Yvan R.	Heriot-Watt University
Wang, Sen	Imperial College London

08:30-10:10 TuPO1S-22.8

Learning Continuous Control Policies for Information-Theoretic Active Perception, pp. 2098-2104. Attachment

Yang, Pengzhi	University of Electronic Science and Technology of China
LIU, YUHAN	University of California, San Diego
Koga, Shumon	University of California San Diego
Asgharivaskasi, Arash	University of California, San Diego
Atanasov, Nikolay	University of California, San Diego

08:30-10:10 TuPO1S-22.9

Structure PLP-SLAM: Efficient Sparse Mapping and Localization Using Point, Line and Plane for Monocular, RGB-D and Stereo Cameras, pp. 2105-2112. Attachment

Shu, Fangwen	DFKI
Wang, Jiaxuan	DFKI
Pagani, Alain	German Research Center for Artificial Intelligence
Stricker, Didier	German Research Center for Artificial Intelligence

08:30-10:10 TuPO1S-22.10

Rotation Synchronization Via Deep Matrix Factorization, pp. 2113-2119.

GK, Tejus	Indian Institute of Technology (ISM) Dhanbad
Zara, Giacomo	University of Trento
Rota, Paolo	University of Trento
Fusiello, Andrea	University of Udine
Ricci, Elisa	University of Trento
Arrigoni, Federica	Politecnico Di Milano

08:30-10:10 TuPO1S-22.11

Object-Based SLAM Utilizing Unambiguous Pose Parameters Considering General Symmetry Types, pp. 2120-2126. Attachment

Lee, Taekbeom	Seoul National University
Jang, Youngseok	Seoul National University
Kim, H. Jin	Seoul National University

08:30-10:10 TuPO1S-22.12

Towards View-Invariant and Accurate Loop Detection Based on Scene Graph, pp. 2127-2133. Attachment

Liu, Chuhao	Hong Kong University of Science and Technology
Shen, Shaojie	Hong Kong University of Science and Technology

TuBT1 ICC Cap Suite 7-9

SLAM 2 (Oral Session)

Chair: Nieto, Juan	Microsoft
Co-Chair: Solà, Joan	Institut De Robòtica I Informàtica Industrial

15:00-15:10 TuBT1.1

ViViD++: Vision for Visibility Dataset, N/A.

Lee, Alex	Hyundai Motor Company
Cho, Younggun	Inha University
Shin, Young-Sik	KIMM
Kim, Ayoung	Seoul National University
Myung, Hyun	KAIST (Korea Advanced Institute of Science and Technology)

15:10-15:20 TuBT1.2

CamMap: Extrinsic Calibration of Non-Overlapping Cameras Based on SLAM Map Alignment, N/A.

Xu, Jie	Harbin Institute of Technology
Li, Ruifeng	Harbin Institute of Technology
zhao, lijun	Harbin Institute of Technology
Yu, Wenlu	Harbin Institute of Technology
Liu, Zhiheng	Harbin Institute of Technology
Zhang, Bo	Harbin Institute of Technology
Li, Yuchen	Harbin Institute of Technology

15:20-15:30 TuBT1.3

Hybrid Visual SLAM for Underwater Vehicle Manipulator Systems, N/A.

Billings, Gideon	University of Sydney, Australian Center for Field Robotics
Camilli, Richard	Woods Hole Oceanographic Institution
Johnson-Roberson, Matthew	University of Michigan

15:30-15:40 TuBT1.4

WOLF: A Modular Estimation Framework for Robotics Based on Factor Graphs, N/A.

Solà, Joan	Institut De Robòtica I Informàtica Industrial
Vallvé, Joan	CSIC-UPC
Casals, Joaquim	Institut De Robòtica I Informàtica Industrial
Deray, Jeremie	Institut De Robòtica I Informàtica Industrial, CSIC-UPC

Fourmy, Mederic	LAAS, CNRS
Atchuthan, Dinesh	EasyMile
Corominas-Murtra, Andreu	Beta Robots SL
Andrade-Cetto, Juan	CSIC-UPC

15:40-15:50 TuBT1.5

Point Cloud Change Detection with Stereo V-SLAM: Dataset, Metrics and Baseline, N/A. Attachment

Lin, Zihan	Tsinghua University
Jincheng, Yu	Tsinghua University
Zhou, Lipu	MeiTuan
Zhang, Xudong	Tsinghua Univ
Wang, Jian	Tsinghua Univ
Wang, Yu	Tsinghua University

15:50-16:00 TuBT1.6

Hilti-Oxford Dataset: A Millimeter-Accurate Benchmark for Simultaneous Localization and Mapping, N/A.

Zhang, Lintong	University of Oxford
Helmberger, Michael	HILTI AG
Fu, Lanke Frank Tarimo	University of Oxford
Wisth, David	University of Oxford
Camurri, Marco	Free University of Bozen-Bolzano
Scaramuzza, Davide	University of Zurich
Fallon, Maurice	University of Oxford

16:00-16:10 TuBT1.7

Long-Term Visual SLAM with Bayesian Persistence Filter Based Global Map Prediction (I), N/A.

Deng, Tianchen	Shanghai Jiao Tong University
Xie, Hongle	Shanghai Jiao Tong University
Wang, Jingchuan	Shanghai Jiao Tong University
Chen, Weidong	Shanghai Jiao Tong University

16:10-16:20 TuBT1.8

Wheel-SLAM: Simultaneous Localization and Terrain Mapping Using One Wheel-Mounted IMU, N/A.

Wu, Yibin	University of Bonn
Kuang, Jian	Wuhan University
Niu, Xiaoji	Wuhan University
Behley, Jens	University of Bonn
Klingbeil, Lasse	University of Bonn
kuhlmann, Heiner	University of Bonn

16:20-16:30 TuBT1.9

Maplab 2.0 - a Modular and Multi-Modal Mapping Framework, N/A.

Cramariuc, Andrei	ETHZ
Bernreiter, Lukas	ETH Zurich, Autonomous Systems Lab
Tschopp, Florian	Arrival Ltd
Fehr, Marius	Voliro AG
Reijgwart, Victor	ETH Zurich
Nieto, Juan	Microsoft
Siegwart, Roland	ETH Zurich
Cadena Lerma, Cesar	ETH Zurich

TuBT2 Theatre 1

Modeling, Control, and Learning for Soft Robots (Oral Session)

Chair: De Luca, Alessandro	Sapienza University of Rome
Co-Chair: Boyer, Frédéric	IMT Atlantique

15:00-15:10 TuBT2.1

Simulation Data Driven Design Optimization for Reconfigurable Soft Gripper System, N/A.

Liu, Jun	Institute of High Performance Computing
Low, Jin Huat	National University of Singapore
Han, Qian Qian	National University of Singapore
Lim, Marisa	National University of Singapore
Lu, Dingjie	IHPC, ASTAR
Li, Yangfan	Institute of High Performance Computing, A*Star

Yeow, Chen-Hua	National University of Singapore
Liu, ZhuangJian	Institute of High Performance Computing

15:10-15:20 TuBT2.2

Research on Design and Experiment of a Wearable Hand Rehabilitation Device Driven by Fiber-Reinforced Soft Actuator, N/A.

Ma, Kaiwei	Nanjing University of Posts and Telecommunications
Jiang, Zhenjiang	Nanjing University of Posts and Telecommunications
Gao, Shuang	Nanjing University of Posts and Telecommunications
Jiang, Guoping	Nanjing University of Posts and Telecommunications
Xu, Fengyu	Southeast University

15:20-15:30 TuBT2.3

DNN-Based Predictive Model for a Batoid-Inspired Soft Robot, N/A.

Li, Guangtong	Singapore University of Technology and Design
Stalin, Thileepan	Singapore University of Technology and Design
VAN TIEN, TRUONG	Singapore University of Technology and Design
Valdivia y Alvarado, Pablo	Singapore University of Technology and Design, MIT

15:30-15:40 TuBT2.4

Modeling the Locomotion of Articulated Soft Robots in Granular Medium, N/A.

DU, YAYUN	University of California, Los Angeles
Lam, Jacqueline	UCLA
Sachanandani, Karunesh	UCLA
Khalid Jawed, Mohammad	University of California, Los Angeles

15:40-15:50 TuBT2.5

SoRoSim: A MATLAB Toolbox for Hybrid Rigid-Soft Robots Based on the Geometric Variable-Strain Approach (I), N/A.

Mathew, Anup Teejo	Khalifa University
Ben Hmida, Ikhlas	Khalifa University
Armanini, Costanza	Khalifa University
Boyer, Frédéric	IMT Atlantique
Renda, Federico	Khalifa University of Science and Technology

15:50-16:00 TuBT2.6

A Geometrically-Exact Assumed Strain Modes Approach for the Geometrico and Kinemato-Static Modellings of Continuum Parallel Robots (I), N/A.

Briot, Sébastien	LS2N
Boyer, Frédéric	Ecole Des Mines De Nantes

16:00-16:10 TuBT2.7

Towards a Physics-Based Model for Steerable Eversion Growing Robots, N/A. Attachment

Wu, Zicong	King's College London
De Iturrate Reyzabal, Mikel	King's College London
Sadati, Seyedmohammadhadi	King's College London
Liu, Hongbin	Hong Kong Institute of Science & Innovation, Chinese Academy Of
Ourselin, Sebastien	University College London
Leff, Daniel Richard	Imperial College London
Katzschmann, Robert Kevin	ETH Zurich
Rhode, Kawal	King's College London
Bergeles, Christos	King's College London

16:10-16:20 TuBT2.8

P-satI-D Shape Regulation of Soft Robots, N/A. Attachment

Pustina, Pietro	Sapienza University of Rome
Borja, Pablo	University of Plymouth
Della Santina, Cosimo	TU Delft
De Luca, Alessandro	Sapienza University of Rome

16:20-16:30 TuBT2.9

Statics and Dynamics of Continuum Robots Based on Cosserat Rods and Optimal Control Theories (I), N/A.

Boyer, Frédéric	IMT Atlantique
Lebastard, Vincent	IMT Atlantique
Candelier, Fabien	Université Aix Marseille
Renda, Federico	Khalifa University of Science and Technology

Alamir, Mazen	LAG
16:30-16:40	TuBT2.10
Robotic Fiber Threading from a Gel-Like Substance Based on Impedance Control with Force Tracking, N/A.	
Bettahar, Houari	Aalto University
Harischandra, P. A. Diluka	Aalto University
Zhou, Quan	Aalto University

TuBT3	ICC Cap Suite 2-4
Compliant Mechanisms (Oral Session)	
Chair: Schimmels, Joseph	Marquette University
Co-Chair: Vanderborght, Bram	VUB
15:00-15:10	TuBT3.1
Overload Clutch with Integrated Torque Sensing and Decoupling Detection for Collision Tolerant Hybrid High-Speed Industrial Cobots, N/A.	
Ostyn, Frederik	Ghent University
Vanderborght, Bram	VUB
Crevecoeur, Guillaume	Ghent University
15:10-15:20	TuBT3.2
A Micro Aircraft with Passive Variable-Sweep Wings, N/A.	
Bai, Songnan	City University of Hong Kong
Ding, Runze	City University of Hongkong
Chirarattananon, Pakpong	City University of Hong Kong
15:20-15:30	TuBT3.3
Design and Voluntary Control of Variable Stiffness Exoskeleton Based on sEMG Driven Model, N/A.	
Zhu, Yanghui	Nanjing University of Aeronautics and Astronautics
Wu, Qingcong	Nanjing University of Aeronautics and Astronautics
Chen, Bai	Nanjing University of Aeronautics and Astronautics
Zhao, Ziyue	Nanjing University of Aeronautics and Astronautics
15:30-15:40	TuBT3.4
A Robotic Torso Joint with Adjustable Linear Spring Mechanism for Natural Dynamic Motions in a Differential-Elastic Arrangement, N/A.	
Reinecke, Jens	DLR
Dietrich, Alexander	German Aerospace Center (DLR)
Shu, Anton	German Aerospace Center (DLR)
Deutschmann, Bastian	German Aerospace Center
Hutter, Marco	ETH Zurich
15:40-15:50	TuBT3.5
Requirements on the Spatial Distribution of Elastic Components Used in Compliance Realization, N/A.	
Huang, Shuguang	Marquette University
Schimmels, Joseph	Marquette University
15:50-16:00	TuBT3.6
A Novel Metamorphic Foot Mechanism with Toe Joints Based on Spring-Loaded Linkages, N/A. Attachment	
Sun, Jianwei	Changchun University of Technology
Wang, Zhenyu	Changchun University of Technology
Zhang, Meiling	Changchun University of Technology
Zhang, Songyu	Changchun University of Technology
Qian, Zhihui	Jilin University
Chu, Jinkui	Dalian University of Technology
16:00-16:10	TuBT3.7
Haptic-Based and SE(3)-Aware Object Insertion Using Compliant Hands, N/A. Attachment	
Azulay, Osher	Tel Aviv University
Monastirsky, Maxim	Tel-Aviv University
Sintov, Avishai	Tel-Aviv University
16:10-16:20	TuBT3.8
Dynamic Modeling and Performance Analysis for a Wire-Driven Elastic Robotic Fish, N/A.	
Liao, Xiaocun	Institute of Automation, Chinese Academy of Sciences
Zhou, Chao	Chinese Academy of Sciences

Zou, Qianqian	Institution of Automation, Chinese Academy of Sciences
Wang, Jian	Institute of Automation, Chinese Academy of Sciences
Lu, Ben	Institute of Automation, Chinese Academy of Sciences

16:20-16:30 TuBT3.9

A 2-Degree-Of-Freedom Quasi-Passive Prosthetic Wrist with Two Levels of Compliance, N/A.

Cappello, Leonardo	Scuola Superiore Sant'Anna
D'Accolti, Daniele	Scuola Superiore Sant'Anna
Gherardini, Marta	The Biorobotics Institute, Sant'Anna School of Advanced Studies
Controzzi, Marco	Scuola Superiore Sant'Anna
Cipriani, Christian	Scuola Superiore Sant'Anna

TuBT4 — South Gallery Rms 20-22

Path Planning and Collision Avoidance (Oral Session)

Chair: Yip, Michael C.	University of California, San Diego
Co-Chair: Bekris, Kostas E.	Rutgers, the State University of New Jersey

15:00-15:10 TuBT4.1

DiffCo: Auto-Differentiable Proxy Collision Detection with Multi-Class Labels for Safety-Aware Trajectory Optimization (I), N/A.

Zhi, Yuheng	University of California, San Diego
Das, Nikhil	UCSD
Yip, Michael C.	University of California, San Diego

15:10-15:20 TuBT4.2

Risk-Aware Submodular Optimization for Multi-Robot Coordination (I), N/A.

Zhou, Lifeng	Drexel University
Tokekar, Pratap	University of Maryland

15:20-15:30 TuBT4.3

Risk-Aware Fast Trajectory Planner for Uncertain Environments Based on Probabilistic Surrogate Reliability and Risk Contours, N/A.

Wang, Guobiao	Southeast University

15:30-15:40 TuBT4.4

Collision Avoidance among Dense Heterogeneous Agents Using Deep Reinforcement Learning, N/A.

Zhu, Kai	Tsinghua University
Li, Bin	Tsinghua University
Zhe, Wen ming	JD
Zhang, Tao	Tsinghua University

15:40-15:50 TuBT4.5

Maximum-Entropy Multi-Agent Dynamic Games: Forward and Inverse Solutions (I), N/A.

Mehr, Negar	University of Illinois Urbana-Champaign
Wang, Mingyu	Stanford University
Bhatt, Maulik	University of Illinois Urbana-Champaign
Schwager, Mac	Stanford University

15:50-16:00 TuBT4.6

Distributing Collaborative Multi-Robot Planning with Gaussian Belief Propagation, N/A. Attachment

Patwardhan, Aalok	Imperial College London
Murai, Riku	Imperial College London
Davison, Andrew J	Imperial College London

16:00-16:10 TuBT4.7

Interactive Multi-Modal Motion Planning with Branch Model Predictive Control, N/A.

Chen, Yuxiao	Nvidia Research
Rosolia, Ugo	Caltech
Ubellacker, Wyatt	California Institute of Technology
Csomay-Shanklin, Noel	California Institute of Technology
Ames, Aaron	Caltech

16:10-16:20 TuBT4.8

A Sequential MPC Approach to Reactive Planning for Bipedal Robots Using Safe Corridors in Highly Cluttered Environments, N/A.

Narkhede, Kunal Sanjay	University of Delaware

Kulkarni, Abhijeet Mangesh	University of Delaware
Thanki, Dhruv Ashwinkumar	University of Delaware
Poulakakis, Ioannis	University of Delaware

16:20-16:30 TuBT4.9

Towards a Continuous Solution of the D-Visibility Watchman Route Problem in a Polygon with Holes, N/A.

Mikula, Jan	Czech Technical University in Prague
Kulich, Miroslav	Czech Technical University in Prague

TuBT5 ICC Cap Suite 10-12

Deep Learning and Neural Networks in Robotics (Oral Session)

Chair: Hermans, Tucker	University of Utah
Co-Chair: Mukadam, Mustafa	Meta AI / FAIR

15:00-15:10 TuBT5.1

Learning Deep Neural Network Controller for Path Following of Unicycle Robots, N/A.

Saha, Priyabrata	Georgia Institute of Technology
Guerrero-Bonilla, Luis	Instituto Tecnologico Y De Estudios Superiores De Monterrey
Egerstedt, Magnus	University of California, Irvine
Mukhopadhyay, Saibal	Georgia Institute of Technology

15:10-15:20 TuBT5.2

ViewBirdiformer: Learning to Recover Ground-Plane Crowd Trajectories and Ego-Motion from a Single Ego-Centric View, N/A. Attachment

Nishimura, Mai	Omron Sinic X
Nobuhara, Shohei	Kyoto University
Nishino, Ko	Kyoto University

15:20-15:30 TuBT5.3

Closing the Planning-Learning Loop with Application to Autonomous Driving (I), N/A.

Cai, Panpan	Shanghai Jiao Tong University
Hsu, David	National University of Singapore

15:30-15:40 TuBT5.4

Learning from Demonstrations Via Multi-Level and Multi-Attention Domain-Adaptive Meta-Learning, N/A.

Hu, Ziye	Fudan University
Gan, Zhongxue	Fudan University
Li, Wei	Fudan University
Guo, Weikun	Fudan University
Gao, Xiang	Jihua Lab
Zhu, Jiwei	Fudan University

15:40-15:50 TuBT5.5

Learning Stable Vector Fields on Lie Groups, N/A.

Urain De Jesus, Julen	TU Darmstadt
Tateo, Davide	Technische Universität Darmstadt
Peters, Jan	Technische Universität Darmstadt

15:50-16:00 TuBT5.6

Learning to Play Table Tennis from Scratch Using Muscular Robots (I), N/A.

Büchler, Dieter	Max Planck Institute for Intelligent Systems Tübingen
Guist, Simon	Max Planck Institute for Intelligent Systems
Calandra, Roberto	Meta AI
Berenz, Vincent	Max Planck Institute for Intelligent Systems
Schölkopf, Bernhard	Max Planck Institute for Intelligent Systems
Peters, Jan	Technische Universität Darmstadt

16:00-16:10 TuBT5.7

Particle Filters in Latent Space for Robust Deformable Linear Object Tracking, N/A.

Yang, Yuxuan	Örebro University
Stork, Johannes A.	Orebro University
Stoyanov, Todor	Örebro University

16:10-16:20 TuBT5.8

Multi-Scale Interaction for Real-Time LiDAR Data Segmentation on an Embedded Platform, N/A.

Li, ShiJie	Bonn University

Chen, Xieyuanli	National University of Defense Technology
Liu, Yun	Agency for Science, Technology and Research (A*STAR)
Dai, Dengxin	ETH Zurich
Stachniss, Cyrill	University of Bonn
Gall, Juergen	University of Bonn

16:20-16:30 TuBT5.9

Stable Neural Adaptive Filters for Teleoperations with Uncertain Delays, N/A.

Kebria, Parham	Deakin University
Khosravi, Abbas	Deakin University
Nahavandi, Saeid	Deakin University

TuPO2S-01 Room T8

Soft Robots II (Poster Session)

15:00-16:40 TuPO2S-01.1

Compliant Microgripper Using Soft Polymer Actuator, pp. 2570-2576.

Youn, Jung-Hwan	Electronics and Telecommunications Research Institute (ETRI)
Koh, Je-Sung	Ajou University
Kyung, Ki-Uk	Korea Advanced Institute of Science & Technology (KAIST)

15:00-16:40 TuPO2S-01.2

Development of Hydraulically-Driven Soft Hand for Handling Heavy Vegetables and Its Experimental Evaluation, pp. 2577-2583. Attachment

Azami, Osamu	Tokyo University
Ishibashi, Kyosuke	The University of Tokyo
Komagata, Mitsuo	University of Tokyo
Yamamoto, Ko	University of Tokyo

15:00-16:40 TuPO2S-01.3

Two-Stage Grasping: A New Bin Picking Framework for Small Objects, pp. 2584-2590. Attachment

Zhou, Jianshu	The Chinese University of Hong Kong
Zhou, Jianshu	The Chinese University of Hong Kong
Li, Yichuan	Chinese University of Hong Kong
Cao, Rui	The Chinese University of Hong Kong
Dou, Qi	The Chinese University of Hong Kong
Liu, Yunhui	Chinese University of Hong Kong

15:00-16:40 TuPO2S-01.4

Electroadhesive Auxetics As Programmable Layer Jamming Skins for Formable Crust Shape Displays, pp. 2591-2597. Attachment

Rauf, Ahad	Stanford University
Bernardo, John Settimio	Stanford University
Follmer, Sean	Stanford University

15:00-16:40 TuPO2S-01.5

Navigating Soft Robots through Wireless Heating, pp. 2598-2605. Attachment

Song, Yiwen	Carnegie Mellon University
Zadan, Mason	Carnegie Mellon University
Misra, Kushaan	Carnegie Mellon University
Li, Zefang	Carnegie Mellon University
Wang, Jingxian	Microsoft & National University of Singapore
Majidi, Carmel	Carnegie Mellon University
Kumar, Swarun	Carnegie Mellon University

15:00-16:40 TuPO2S-01.6

Fast Untethered Soft Robotic Crawler with Elastic Instability, pp. 2606-2612. Attachment

Xiong, Zechen	Columbia University
Su, Yufeng	Columbia University
Lipson, Hod	Columbia University

15:00-16:40 TuPO2S-01.7

An Underwater Jet-Propulsion Soft Robot with High Flexibility Driven by Water Hydraulics, pp. 2613-2619.

Chen, Siqing	Harbin Engineering University
Xu, He	College of Mechanical and Electrical Engineering, Harbin Enginee

Xiao, Xiong	Harbin Engineering University
Lu, Ben	Institute of Automation, Chinese Academy of Sciences

15:00-16:40 TuPO2S-01.8

Force/Torque Sensing for Soft Grippers Using an External Camera, pp. 2620-2626. Attachment

Collins, Jeremy	Georgia Institute of Technology
Grady, Patrick	Georgia Institute of Technology
Kemp, Charles C.	Georgia Institute of Technology

TuPO2S-02 Room T8

Soft Robots: Modelling and Control (Poster Session)

15:00-16:40 TuPO2S-02.1

Data-Driven Spectral Submanifold Reduction for Nonlinear Optimal Control of High-Dimensional Robots, pp. 2627-2633. Attachment

Alora, John Irvin	Stanford University
Cenedese, Mattia	ETH Zürich
Schmerling, Edward	Stanford University
Haller, George	ETH Zurich
Pavone, Marco	Stanford University

15:00-16:40 TuPO2S-02.2

Control of Shape Memory Alloy Actuator Via Electrostatic Capacitive Sensor for Meso-Scale Mirror Tilting System, pp. 2634-2640. Attachment

Kim, Baekgyeom	Ajou University
Lee, Doohoe	Ajou University
Kim, Dongjin	Ajou University
Han, Seungyong	Ajou University
Kang, Daeshik	Ajou University
Kim, Uikyum	Ajou University
Koh, Je-Sung	Ajou University

15:00-16:40 TuPO2S-02.3

Data-Efficient Non-Parametric Modelling and Control of an Extensible Soft Manipulator, pp. 2641-2647. Attachment

Kasaei, Mohammadreza	University of Edinburgh
Kouhkiloui Babarahmati, Keyhan	University of Edinburgh
Li, Zhibin	University College London
Khadem, Mohsen	University of Edinburgh

15:00-16:40 TuPO2S-02.4

Analytical Approach to Inverse Kinematics of Single Section Mobile Continuum Manipulators, pp. 2648-2654.

BOUYOM BOUTCHOUANG, Audrey Hyacinthe	University of Yaounde I
MELINGUI, Achille	University of Yaounde I
MVOGO AHANDA, Joseph Jean-Baptiste	Higher Technical Teacher Training Collage, University of Bame
YANG, Xinrui	University of Lille
Lakhal, Othman	University Lille, CRIStAL, CNRS-UMR 9189
BIYA MOTTO, Frederic	University of Yaounde I
Merzouki, Rochdi	CRIStAL, CNRS UMR 9189, University of Lille1

15:00-16:40 TuPO2S-02.5

A Fast Geometric Framework for Dynamic Cosserat Rods with Discrete Actuated Joints, pp. 2655-2661.

Samei, Hossain	Carleton University
Chhabra, Robin	Carleton University

15:00-16:40 TuPO2S-02.6

Data-Driven Estimation of Forces Along the Backbone of Concentric Tube Continuum Robots, pp. 2662-2668.

Donat, Heiko	Technische Universität Braunschweig
Mohammadi, Pouya	Technische Universität Braunschweig
Steil, Jochen J.	Technische Universität Braunschweig

15:00-16:40 TuPO2S-02.7

Bootstrapping the Dynamic Gait Controller of the Soft Robot Arm, pp. 2669-2675. Attachment

Szadkowski, Rudolf	Czech Technical University in Prague
Nazeer, Muhammad Sunny	The BioRobotics Institute, Scuola Superiore Sant'Anna
Cianchetti, Matteo	Scuola Superiore Sant'Anna

Falotico, Egidio	Scuola Superiore Sant'Anna
Faigl, Jan	Czech Technical University in Prague

15:00-16:40 TuPO2S-02.8

Model Based Position Control of Soft Hydraulic Actuators, pp. 2676-2682. Attachment

Runciman, Mark	Imperial College London
Franco, Enrico	Imperial College London
Avery, James	Imperial College London
Rodriguez y Baena, Ferdinando	Imperial College, London, UK
Mylonas, George	Imperial College London

TuPO2S-03 Room T8

Medical Imaging and Perception I (Poster Session)

15:00-16:40 TuPO2S-03.1

Multiple Surgical Instruments Tracking-By-Prediction with Graph Hierarchy, pp. 2683-2689. Attachment

Guo, Rui	Intuitive Surgical
Liu, Xi	Intuitive Surgical
Wang, Ziheng	Intuitive Surgical
Jarc, Tony	Intuitive Surgical

15:00-16:40 TuPO2S-03.2

Fully Robotized 3D Ultrasound Image Acquisition for Artery, pp. 2690-2696. Attachment

Chen, Mingcong	Institute of Automation Chinese Academy of Sciences
Huang, Yuanrui	University of Chinese Academy of Sciences
Chen, Jian	University of Chinese Academy of Sciences
Zhou, Tongxi	Institute of Automation, Chinese Academy of Sciences
Chen, Jiuan	Institute of Automation, Chinese Academy of Sciences
Liu, Hongbin	Institute of Automation, Chinese Academy of Sciences

15:00-16:40 TuPO2S-03.3

Depth Estimation for Oral Cavity by Shape from Shading with Endoscope, pp. 2697-2701. Attachment

Wu, Xi	Tsinghua University
Zheng, Gangtie	Tsinghua University

15:00-16:40 TuPO2S-03.4

Dynamic Interactive Relation Capturing Via Scene Graph Learning for Robotic Surgical Report Generation, pp. 2702-2709.

Wang, Hongqiu	Hong Kong University of Science and Technology (Guangzhou)
Jin, Yueming	University College London
Zhu, Lei	The Hong Kong University of Science and Technology (Guangzhou)

15:00-16:40 TuPO2S-03.5

Reslicing Ultrasound Images for Data Augmentation and Vessel Reconstruction, pp. 2710-2716. Attachment

Morales, Cecilia	Carnege Mellon University
Yao, Jason	Carnegie Mellon University
Rane, Tejas	Carnegie Mellon University
Edman, Robert	Carnegie Mellon University
Choset, Howie	CMU
Dubrawski, Artur	Carnegie Mellon University

15:00-16:40 TuPO2S-03.6

Expert-Agnostic Ultrasound Image Quality Assessment Using Deep Variational Clustering, pp. 2717-2723. Attachment

Raina, Deepak	Indian Institute of Technology Delhi and Purdue University USA
Ntentia, Dimitrios	Purdue University
Chandrashekhara, SH	All India Insititute of Medical Sciences, New Delhi
Voyles, Richard	Purdue University
Saha, Subir Kumar	Indain Institute of Technology Delhi

15:00-16:40 TuPO2S-03.7

A Curvature and Trajectory Optimization-Based 3D Surface Reconstruction Pipeline for Ultrasound Trajectory Generation, pp. 2724-2730. Attachment

Bal, Ananya	Carnegie Mellon University
Gupta, Ashutosh	BITS Pilani KK Birla Goa Campus

Abhimanyu, FNU	Carnegie Mellon University
Galeotti, John	Carnegie Mellon University
Choset, Howie	Carnegie Mellon University

15:00-16:40 TuPO2S-03.8

Graph-Based Pose Estimation of Texture-Less Surgical Tools for Autonomous Robot Control, pp. 2731-2737. Attachment

XU, HAOZHENG	Imperial College London
Runciman, Mark	Imperial College London
Cartucho, João	Imperial College London
Xu, Chi	Imperial College London
Giannarou, Stamatia	Imperial College London

TuPO2S-04 Room T8

Sensor Fusion II (Poster Session)

15:00-16:40 TuPO2S-04.1

Adaptive Sampling-Based Particle Filter for Visual-Inertial Gimbal in the Wild, pp. 2738-2744. Attachment

KANG, Xueyang	KU Leuven
Herrera, Ariel	Escuela Politécnica Nacional
Lema, Henry	Escuela Politécnica Nacional
Valencia, Esteban	Escuela Politecnica Nacional
Vandewalle, Patrick	KU Leuven

15:00-16:40 TuPO2S-04.2

DAMS-LIO: A Degeneration-Aware and Modular Sensor-Fusion LiDAR-Inertial Odometry, pp. 2745-2751. Attachment

Han, Fuzhang	Zhejiang University
Zheng, Han	Zhejiang University
Huang, Wenjun	Zhejiang University
Xiong, Rong	Zhejiang University
Wang, Yue	Zhejiang University
Jiao, Yanmei	Hangzhou Normal University

15:00-16:40 TuPO2S-04.3

ImmFusion: Robust mmWave-RGB Fusion for 3D Human Body Reconstruction in All Weather Conditions, pp. 2752-2758. Attachment

Chen, Anjun	Zhejiang University
Wang, Xiangyu	Zhejiang University
Shi, Kun	Zhejiang University
Zhu, Shaohao	Zhejiang University
Fang, Bin	Tsinghua University
Chen, Yingfeng	Netease Inc
Chen, Jiming	Zhejiang University
Huo, Yuchi	Zhejiang University
Ye, Qi	Zhejiang University

15:00-16:40 TuPO2S-04.4

Simple-BEV: What Really Matters for Multi-Sensor BEV Perception?, pp. 2759-2765.

Harley, Adam	Stanford University
Fang, Zhaoyuan	Carnegie Mellon University
Li, Jie	Toyota Research Institute
Ambrus, Rares	Toyota Research Institute
Fragkiadaki, Aikaterini	Carnegie Mellon University

15:00-16:40 TuPO2S-04.5

MVFusion: Multi-View 3D Object Detection with Semantic-Aligned Radar and Camera Fusion, pp. 2766-2773.

Wu, Zizhang	Zongmu Technology
Chen, Guilian	Zongmu Technology
Gan, Yuanzhu	Zongmu Technology
Robin, Wang, Lei	Zongmu Technology
Pu, Jian	Fudan University

15:00-16:40 TuPO2S-04.6

BEVFusion: Multi-Task Multi-Sensor Fusion with Unified Bird's-Eye View Representation, pp. 2774-2781. Attachment

Liu, Zhijian	Massachusetts Institute of Technology
Tang, Haotian	Massachusetts Institute of Technology

Amini, Alexander	Massachusetts Institute of Technology
Yang, Xinyu	Shanghai Jiao Tong University
Mao, Huizi	OmniML
Rus, Daniela	MIT
Han, Song	Massachusetts Institute of Technology

15:00-16:40 TuPO2S-04.7

Fusing Event-Based Camera and Radar for SLAM Using Spiking Neural Networks with Continual STDP Learning, pp. 2782-2788. Attachment

Safa, Ali	KU Leuven - IMEC
Verbelen, Tim	Ghent University - Imec
Ocket, Ilja	Imec - KU Leuven
Bourdoux, André	Imec
Sahli, Hichem	Vrije Universiteit Brussel
Catthoor, Francky	Imec - KU Leuven
Gielen, Georges	Imec - KU Leuven

15:00-16:40 TuPO2S-04.8

AI-Based Multi-Object Relative State Estimation with Self-Calibration Capabilities, pp. 2789-2795. Attachment

Jantos, Thomas	University of Klagenfurt
Brommer, Christian	University of Klagenfurt
Allak, Eren	University of Klagenfurt
Weiss, Stephan	Universität Klagenfurt
Steinbrener, Jan	Universität Klagenfurt

TuPO2S-05 Room T8

Point Clouds (Poster Session)

15:00-16:40 TuPO2S-05.1

Are All Point Clouds Suitable for Completion? Weakly Supervised Quality Evaluation Network for Point Cloud Completion, pp. 2796-2802.

Shi, Jieqi	Hong Kong University of Technology and Science
LI, Peiliang	HKUST, Robotics Institute
Chen, Xiaozhi	DJI
Shen, Shaojie	Hong Kong University of Science and Technology

15:00-16:40 TuPO2S-05.2

From Semi-Supervised to Omni-Supervised Room Layout Estimation Using Point Clouds, pp. 2803-2810.

Gao, Huan-ang	Tsinghua University
Tian, Beiwen	Tsinghua University
Li, Pengfei	Institute for AI Industry Research (AIR), Tsinghua University
Chen, Xiaoxue	Tsinghua University
Zhao, Hao	Tsinghua University
Zhou, Guyue	Tsinghua University
Chen, Yurong	Intel
Zha, Hongbin	Peking University

15:00-16:40 TuPO2S-05.3

Few-Shot Point Cloud Semantic Segmentation Via Contrastive Self-Supervision and Multi-Resolution Attention, pp. 2811-2817.

Wang, Jiahui	National University of Singapore
Zhu, Haiyue	Singapore Institute of Manufacturing Technology
Guo, Haoren	National University of Singapore
Mamun, Abdullah Al	National University of Singapore
Xiang, Cheng	National University of Singapore
Lee, Tong Heng	National University of Singapore

15:00-16:40 TuPO2S-05.4

Scene-Level Point Cloud Colorization with Semantics-And-Geometry-Aware Networks, pp. 2818-2824.

Gao, Rongrong	HongKong University of Science and Engineering
Xiang, Tian-Zhu	Inception Institute of Artificial Intelligence
LEI, Chenyang	HKUST
Park, Jaesik	POSTECH
Chen, Qifeng	HKUST

15:00-16:40 TuPO2S-05.5

Deep Interactive Full Transformer Framework for Point Cloud Registration, pp. 2825-2832.

Chen, Guangyan	Beijing Institute of Technology
Wang, Meiling	Beijing Institute of Technology
Zhang, Qingxiang	Beijing Institute of Technology
Yuan, Li	Peking University
LIU, TONG	Beijing Institute of Technology
Yue, Yufeng	Beijing Institute of Technology

15:00-16:40 TuPO2S-05.6

Coarse-To-Fine Point Cloud Registration with SE(3)-Equivariant Representations, pp. 2833-2840. Attachment

Lin, Cheng-Wei	National Taiwan University
Chen, Tung-I	National Taiwan University
Lee, Hsin-Ying	National Taiwan University
Chen, Wen-chin	National Taiwan University
Hsu, Winston	National Taiwan University

15:00-16:40 TuPO2S-05.7

LiDAR-SGM: Semi-Global Matching on LiDAR Point Clouds and Their Cost-Based Fusion into Stereo Matching, pp. 2841-2847.

Forkel, Bianca	Universität Der Bundeswehr München
Wuensche, Hans Joachim Joe	Universität Der Bundeswehr München

15:00-16:40 TuPO2S-05.8

Segregator: Global Point Cloud Registration with Semantic and Geometric Cues, pp. 2848-2854. Attachment

Yin, Pengyu	Nanyang Technological University
Yuan, Shenghai	Nanyang Technological University
HAOZHI, CAO	Nanyang Technological University
JI, XINGYU	Nanyang Technological University
Zhang, Shuyang	The Hong Kong University of Science and Technology
Xie, Lihua	NanyangTechnological University

TuPO2S-06 Room T8

Pose Estimation (Poster Session)

15:00-16:40 TuPO2S-06.1

StereoPose: Category-Level 6D Transparent Object Pose Estimation from Stereo Images Via Back-View NOCS, pp. 2855-2861. Attachment

Chen, Kai	The Chinese University of Hong Kong
James, Stephen	Dyson
SUI, Congying	The Chinese University of Hong Kong
Liu, Yunhui	Chinese University of Hong Kong
Abbeel, Pieter	UC Berkeley
Dou, Qi	The Chinese University of Hong Kong

15:00-16:40 TuPO2S-06.2

Non-Minimal Solvers for Relative Pose Estimation with a Known Relative Rotation Angle, pp. 2862-2868.

Hu, Deshun	Harbin Institute of Technology

15:00-16:40 TuPO2S-06.3

Generalizable Pose Estimation Using Implicit Scene Representations, pp. 2869-2875. Attachment

Saxena, Vaibhav	Georgia Institute of Technology
Rahimi Malekshan, Kamal	Autodesk
Tran, Linh	Autodesk
Koga, Yotto	Autodesk

15:00-16:40 TuPO2S-06.4

RFFCE: Residual Feature Fusion and Confidence Evaluation Network for 6DoF Pose Estimation, pp. 2876-2883. Attachment

Meng, Qiwei	Zhejiang Lab
ji, shanshan	Zhejiang Lab
Zhu, Shiqiang	Zhejiang Lab
Jin, Tianlei	Zhejiang Lab
Li, Te	Zhejiang Lab
Gu, Jason	Zhejiang Lab

Song, Wei	Zhejiang Lab

15:00-16:40 TuPO2S-06.5

Hierarchical Graph Neural Networks for Proprioceptive 6D Pose Estimation of In-Hand Objects, pp. 2884-2890. Attachment

Rezazadeh, Alireza	University of Minnesota
Dikhale, Snehal	Honda Research Institute USA
Iba, Soshi	Honda Research Institute USA
Jamali, Nawid	Honda Research Institute USA

15:00-16:40 TuPO2S-06.6

Interactive Object Segmentation in 3D Point Clouds, pp. 2891-2897. Attachment

Kontogianni, Theodora	ETH Zurich
Celikkan, Ekin	RWTH Aachen University
Tang, Siyu	ETH Zürich
Schindler, Konrad	ETH Zurich

15:00-16:40 TuPO2S-06.7

GSNet: Model Reconstruction Network for Category-Level 6D Object Pose and Size Estimation, pp. 2898-2904.

Liu, Penglei	Shenzhen College of Advanced Technology, University of Chinese A
Zhang, Qieshi	Shenzhen Institutes of Advanced Technology, Chinese Academy of S
Cheng, Jun	Shenzhen Institutes of Advanced Technology

15:00-16:40 TuPO2S-06.8

6D Pose Estimation for Textureless Objects on RGB Frames Using Multi-View Optimization, pp. 2905-2912.

Yang, Jun	University of Toronto
Xue, Wenjie	Epson Canada
Ghavidel, Sahar	Epson Canada
Waslander, Steven Lake	University of Toronto

TuPO2S-07 Room T8

Imitation Learning (Poster Session)

15:00-16:40 TuPO2S-07.1

Learning Stabilization Control from Observations by Learning Lyapunov-Like Proxy Models, pp. 2913-2920. Attachment

Ganai, Milan	University of California San Diego
Hirayama, Chiaki	University of California San Diego
Chang, Ya-Chien	University of California San Diego
Gao, Sicun	UCSD

15:00-16:40 TuPO2S-07.2

Efficient Preference-Based Reinforcement Learning Using Learned Dynamics Models, pp. 2921-2928. Attachment

Liu, Yi	UC Berkeley
Datta, Gaurav	UC Berkeley
Novoseller, Ellen	University of California, Berkeley
Brown, Daniel	University of Utah

15:00-16:40 TuPO2S-07.3

BITS: Bi-Level Imitation for Traffic Simulation, pp. 2929-2936.

Xu, Danfei	Stanford Univesity
Chen, Yuxiao	California Institute of Technology
Ivanovic, Boris	NVIDIA
Pavone, Marco	Stanford University

15:00-16:40 TuPO2S-07.4

Off-Policy Imitation Learning from Visual Inputs, pp. 2937-2943.

Cheng, Zhihao	The University of Sydney
Shen, Li	JD Explore Academy
TAO, Dacheng	The University of Sydney

15:00-16:40 TuPO2S-07.5

Versatile Skill Control Via Self-Supervised Adversarial Imitation of Unlabeled Mixed Motions, pp. 2944-2950. Attachment

Li, Chenhao	ETH Zürich
Blaes, Sebastian	Max Planck Institute for Intelligent Systems

Kolev, Pavel	Max Planck Institute for Intelligent Systems
Vlastelica, Marin	Max Planck Institute for Intelligent Systems
Frey, Jonas	ETH Zurich
Martius, Georg	Max Planck Institute for Intelligent Systems

15:00-16:40 TuPO2S-07.6

Curriculum-Based Imitation of Versatile Skills, pp. 2951-2957.

Li, Maximilian Xiling	Karlsruhe Institute of Technology
Celik, Onur	KIT
Becker, Philipp	Karlsruhe Institute of Technology (KIT)
Blessing, Denis	Karlsruhe Institute of Technology
Lioutikov, Rudolf	Karlsruhe Institute of Technology
Neumann, Gerhard	Karlsruhe Institute of Technology

15:00-16:40 TuPO2S-07.7

Learning Stable Dynamics Via Iterative Quadratic Programming, pp. 2958-2964. Attachment

Gesel, Paul	University of New Hampshire
Begum, Momotaz	University of New Hampshire

15:00-16:40 TuPO2S-07.8

Holistic Graph-Based Motion Prediction, pp. 2965-2972.

Grimm, Daniel	FZI Research Center for Information Technology
Schörner, Philip	FZI Research Center for Information Technology
Dreßler, Moritz	Karlsruhe Institute of Technology (KIT)
Zöllner, Johann Marius	FZI Forschungszentrum Informatik

15:00-16:40 TuPO2S-07.9

Extraneousness-Aware Imitation Learning, pp. 2973-2979. Attachment

Zheng, Ray Chen	Tsinghua University
Hu, Kaizhe	Tsinghua University
Yuan, Zhecheng	Tsinghua University
Chen, Boyuan	Massachusetts Institute of Technology
Xu, Huazhe	Tsinghua University

15:00-16:40 TuPO2S-07.10

Wayformer: Motion Forecasting Via Simple & Efficient Attention Networks, pp. 2980-2987. Attachment

Nayakanti, Nigamaa	Waymo
Al-Rfou, Rami	Waymo
Zhou, Aurick	Waymo
Goel, Kratarth	Waymo
Refaat, Khaled	Waymo
Sapp, Benjamin	Waymo

15:00-16:40 TuPO2S-07.11

A Non-Parametric Skill Representation with Soft Null Space Projectors for Fast Generalization, pp. 2988-2994.

Silvério, João	German Aerospace Center
Huang, Yanlong	University of Leeds

TuPO2S-08 Room T8

Learning for Control II (Poster Session)

15:00-16:40 TuPO2S-08.1

Sample Efficient Dynamics Learning for Symmetrical Legged Robots: Leveraging Physics Invariance and Geometric Symmetries, pp. 2995-3001. Attachment

Lee, Jee-eun	The University of Texas at Austin
Lee, Jaemin	California Institute of Technology
Bandyopadhyay, Tirthankar	CSIRO
Sentis, Luis	The University of Texas at Austin

15:00-16:40 TuPO2S-08.2

Just Round: Quantized Observation Spaces Enable Memory Efficient Learning of Dynamic Locomotion, pp. 3002-3007. Attachment

Grossman, Lev	Berkshire Grey
Plancher, Brian	Barnard College, Columbia University

15:00-16:40 TuPO2S-08.3

Causal Inference for De-Biasing Motion Estimation from Robotic Observational Data, pp. 3008-3014. Attachment

Xu, Junhong	Indiana University
Yin, Kai	Expedia Group
Gregory, Jason M.	US Army Research Laboratory
Liu, Lantao	Indiana University

15:00-16:40 TuPO2S-08.4

Active Predictive Coding: Brain-Inspired Reinforcement Learning for Sparse Reward Robotic Control Problems, pp. 3015-3021.

Ororbia, Alexander	Rochester Institute of Technology
Mali, Ankur	University of South Florida

15:00-16:40 TuPO2S-08.5

Approximating Discontinuous Nash Equilibrial Values of Two-Player General-Sum Differential Games, pp. 3022-3028. Attachment

Zhang, Lei	Arizona State University
Ghimire, Mukesh	Arizona State University
Zhang, Wenlong	Arizona State University
Xu, Zhe	Arizona State University
Ren, Yi	Arizona State University

15:00-16:40 TuPO2S-08.6

Visual Affordance Prediction for Guiding Robot Exploration, pp. 3029-3036.

Bharadhwaj, Homanga	Carnegie Mellon University
Gupta, Abhinav	Carnegie Mellon University
Tulsiani, Shubham	Carnegie Mellon University

15:00-16:40 TuPO2S-08.7

Generating Stable and Collision-Free Policies through Lyapunov Function Learning, pp. 3037-3043. Attachment

Alexandre, Coulombe	McGill University
Lin, Hsiu-Chin	McGill University

15:00-16:40 TuPO2S-08.8

ALAN: Autonomously Exploring Robotic Agents in the Real World, pp. 3044-3050. Attachment

Mendonca, Russell	Carnegie Mellon University
Bahl, Shikhar	UC Berkeley
Pathak, Deepak	Carnegie Mellon University, Facebook

15:00-16:40 TuPO2S-08.9

Throwing Objects into a Moving Basket While Avoiding Obstacles, pp. 3051-3057. Attachment

Kasaei, Hamidreza	University of Groningen
Kasaei, Mohammadreza	University of Edinburgh

15:00-16:40 TuPO2S-08.10

AIMY: An Open-Source Table Tennis Ball Launcher for Versatile and High-Fidelity Trajectory Generation, pp. 3058-3064. Attachment

Dittrich, Alexander	Max Planck Institute for Intelligent Systems, Tübingen, Germany
Schneider, Jan	Max Planck Institute for Intelligent Systems
Guist, Simon	Max Planck Institute for Intelligent Systems
Gürtler, Nico	Max Planck Institute for Intelligent Systems
Ott, Heiko	Max Planck Institute for Intelligent Systems Tübingen
Steinbrenner, Thomas	MPI for Intelligent Systems
Schölkopf, Bernhard	Max Planck Institute for Intelligent Systems
Büchler, Dieter	Max Planck Institute for Intelligent Systems Tübingen

15:00-16:40 TuPO2S-08.11

Data-Efficient Characterization of the Global Dynamics of Robot Controllers with Confidence Guarantees, pp. 3065-3072. Attachment

Vieira, Ewerton	Rutgers University
Sivaramakrishnan, Aravind	Rutgers University
Song, Yao	Rutgers University
Granados, Edgar	Rutgers
Gameiro, Marcio	Rutgers University
Mischaikow, Konstantin	Rutgers University
Hung, Ying	Rutgers University

Bekris, Kostas E.	Rutgers, the State University of New Jersey

15:00-16:40 TuPO2S-08.12

Modeling and Inertial Parameter Estimation of Cart-Like Nonholonomic Systems Using a Mobile Manipulator, pp. 3073-3079. Attachment

Aguilera, Sergio	Georgia Institute of Technology
Murtaza, Muhammad Ali	Georgia Institute of Technology
Rogers, Jonathan	Georgia Institute of Technology
Hutchinson, Seth	Georgia Institute of Technology

TuPO2S-09 Room T8

Marine Robotics II (Poster Session)

15:00-16:40 TuPO2S-09.1

Using Registration with Fourier-SOFT in 2D (FS2D) for Robust Scan Matching of Sonar Range Data, pp. 3080-3087. Attachment

Hansen, Tim	Constructor University
Birk, Andreas	Jacobs University

15:00-16:40 TuPO2S-09.2

A Robotic Cooperative Network for Localising a Submarine in Distress: Results from REPMUS21, pp. 3088-3094. Attachment

Ferri, Gabriele	NATO Centre for Maritime Research and Experimentation
Faggiani, Alessandro	CMRE
Petroccia, Roberto	NATO Ctr. on Maritime Research and Experimentation (CMRE)
stinco, Pietro	Nato Sto Cmre
Tesei, Alessandra	Nato Sto Cmre

15:00-16:40 TuPO2S-09.3

DeepSeeColor: Realtime Adaptive Color Correction for Autonomous Underwater Vehicles Via Deep Learning Methods, pp. 3095-3101. Attachment

Jamieson, Stewart	Massachusetts Institute of Technology
How, Jonathan	Massachusetts Institute of Technology
Girdhar, Yogesh	Woods Hole Oceanographic Institution

15:00-16:40 TuPO2S-09.4

From Concept to Field Tests: Accelerated Development of Multi-AUV Missions Using a High-Fidelity Faster-Than-Real-Time Simulator, pp. 3102-3108.

Player, Tim	Oregon State University
Chakravarty, Arjo	Open Robotics, Singapore University of Science and Technology
Zhang, Mabel M.	Intrinsic
Raanan, Ben Yair	Monterey Bay Aquarium Research Institute
Kieft, Brian	MBARI
Zhang, Yanwu	Monterey Bay Aquarium Research Institute
Hobson, Brett	MBARI

15:00-16:40 TuPO2S-09.5

Deep Reinforcement Learning Based Tracking Control of an Autonomous Surface Vessel in Natural Waters, pp. 3109-3115. Attachment

Wang, Wei	Massachusetts Institute of Technology
Cao, Xiaojing	Beijing University of Posts and Telecommunications
Gonzalez-Garcia, Alejandro	KU Leuven
Yin, Lianhao	MIT
Hagemann, Niklas	Massachusetts Institute of Technology
Qiao, Yuanyuan	Beijing University of Posts and Telecommunications
Ratti, Carlo	Massachusetts Institute of Technology
Rus, Daniela	MIT

15:00-16:40 TuPO2S-09.6

UDepth: Fast Monocular Depth Estimation for Visually-Guided Underwater Robots, pp. 3116-3123. Attachment

Yu, Boxiao	University of Florida
Wu, Jiayi	University of Florida
Islam, Md Jahidul	University of Florida

15:00-16:40 TuPO2S-09.7

Improved Benthic Classification Using Resolution Scaling and SymmNet Unsupervised Domain Adaptation, pp. 3124-3130.

Doig, Heather	University of Sydney
Pizarro, Oscar	Australian Centre for Field Robotics
Williams, Stefan B.	University of Sydney

15:00-16:40 TuPO2S-09.8

Data-Driven Loop Closure Detection in Bathymetric Point Clouds for Underwater SLAM, pp. 3131-3137.

Tan, Jiarui	KTH Royal Institute of Technology
Torroba Balmori, Ignacio	KTH Royal Institute of Technology
Xie, Yiping	KTH Royal Institute of Technology
Folkesson, John	KTH

15:00-16:40 TuPO2S-09.9

ResiPlan: Closing the Planning-Acting Loop for Safe Underwater Navigation, pp. 3138-3145. Attachment

Xanthidis, Marios	SINTEF Ocean AS
Kelasidi, Eleni	SINTEF Ocean
Alexis, Kostas	NTNU - Norwegian University of Science and Technology

15:00-16:40 TuPO2S-09.10

Diver Interest Via Pointing: Human-Directed Object Inspection for AUVs, pp. 3146-3153. Attachment

Edge, Chelsey	University of Minnesota-Twin Cities
Sattar, Junaed	University of Minnesota

15:00-16:40 TuPO2S-09.11

Robust Uncertainty Estimation for Classification of Maritime Objects, pp. 3154-3160.

Becktor, Jonathan	Techincal University of Denmark
Schöller, Frederik	Technical University of Denmark
Boukas, Evangelos	Technical University of Denmark
Nalpantidis, Lazaros	Technical University of Denmark

15:00-16:40 TuPO2S-09.12

Adaptive Heading for Perception-Aware Trajectory Following, pp. 3161-3167.

Scharff Willners, Jonatan	Heriot-Watt University
Katagiri, Sean	Heriot-Watt University
Xu, Shida	Heriot-Watt University
Luczynski, Tomasz	Heriot-Watt University
Roe, Joshua	Heriot-Watt University
Petillot, Yvan R.	Heriot-Watt University

TuPO2S-10 Room T8

Optimization and Optimal Control (Poster Session)

15:00-16:40 TuPO2S-10.1

An Optimal Open-Loop Strategy for Handling a Flexible Beam with a Robot Manipulator, pp. 3168-3174. Attachment

Mamedov, Shamil	KU Leuven
Astudillo, Alejandro	KU Leuven
Ronzani, Daniele	KU Leuven
Decré, Wilm	Katholieke Universiteit Leuven
Noël, Jean-Philippe	KU Leuven
Swevers, Jan	KU Leuven

15:00-16:40 TuPO2S-10.2

Constraint Manifolds for Robotic Inference and Planning, pp. 3175-3181.

Zhang, Yetong	Georgia Tech
Jiang, Fan	Georgia Institute of Technology
Chen, Gerry	Georgia Institute of Technology
Agrawal, Varun	Georgia Institute of Technology
Rutkowski, Adam	Air Force Research Laboratory
Dellaert, Frank	Verdant Robotics/Georgia Tech

15:00-16:40 TuPO2S-10.3

Model Predictive Optimized Path Integral Strategies, pp. 3182-3188. Attachment

Asmar, Dylan	Stanford University

Senanayake, Ransalu	Stanford University
Manuel, Shawn	Stanford University
Kochenderfer, Mykel	Stanford University

15:00-16:40 TuPO2S-10.4

MPOGames: Efficient Multimodal Partially Observable Dynamic Games, pp. 3189-3196. Attachment

So, Oswin	Massachusetts Institute of Technology
Drews, Paul	Toyota Research Institute
Balch, Thomas	Toyota Research Institute
Dimitrov, Velin	Toyota Research Institute
Rosman, Guy	Massachusetts Institute of Technology
Theodorou, Evangelos	Georgia Institute of Technology

15:00-16:40 TuPO2S-10.5

Autonomous Drone Racing: Time-Optimal Spatial Iterative Learning Control within a Virtual Tube, pp. 3197-3203. Attachment

Lv, Shuli	Beihang University
Gao, Yan	School of Automation Science and Electrical Engineering, Beihang
Che, jiaxing	Beihang University
Quan, Quan	Beihang University

15:00-16:40 TuPO2S-10.6

Curvature-Aware Model Predictive Contouring Control, pp. 3204-3210. Attachment

Lyons, Lorenzo	Delft University of Technology
Ferranti, Laura	Delft University of Technology

15:00-16:40 TuPO2S-10.7

A Sequential Quadratic Programming Approach to the Solution of Open-Loop Generalized Nash Equilibria, pp. 3211-3217. Attachment

Zhu, Edward	University of California, Berkeley
Borrelli, Francesco	University of California, Berkeley

15:00-16:40 TuPO2S-10.8

RPGD: A Small-Batch Parallel Gradient Descent Optimizer with Explorative Resampling for Nonlinear Model Predictive Control, pp. 3218-3224. Attachment

Heetmeyer, Frederik	ETH Zurich
Paluch, Marcin	University of Zurich
Bolliger, Diego	ETH Zurich
Bolli, Florian	ETH Zurich
Deng, Xiang	University of Zurich
Filicicchia, Ennio	ETH Zurich
Delbruck, Tobi	Univ. of Zurich & ETH Zurich

15:00-16:40 TuPO2S-10.9

Distributionally Robust Optimization with Unscented Transform for Learning-Based Motion Control in Dynamic Environments, pp. 3225-3232. Attachment

Hakobyan, Astghik	Seoul National University
Yang, Insoon	Seoul National University

15:00-16:40 TuPO2S-10.10

Event-Triggered Optimal Formation Tracking Control Using Reinforcement Learning for Large-Scale UAV Systems, pp. 3233-3239. Attachment

Yan, Ziwei	Beihang University
Han, Liang	Beihang University
Li, Xiaoduo	Shanghai Jiao Tong University
Li, Jinjie	Beihang University
Ren, Zhang	Beihang Unviersity

15:00-16:40 TuPO2S-10.11

Differentiable Collision Detection: A Randomized Smoothing Approach, pp. 3240-3246.

Montaut, Louis	INRIA (Paris) - CIIRC (Prague)
Le Lidec, Quentin	INRIA-ENS-PSL
Bambade, Antoine	INRIA Paris, ENPC France
Petrik, Vladimir	Czech Technical University in Prague
Sivic, Josef	Czech Technical University
Carpentier, Justin	INRIA

15:00-16:40 TuPO2S-10.12

Start State Selection for Control Policy Learning from Optimal Trajectories, pp. 3247-3253.

Zelch, Christoph — Technische Universität Darmstadt
Peters, Jan — Technische Universität Darmstadt
von Stryk, Oskar — Technische Universität Darmstadt

TuPO2S-11 Room T8

Aerial Robotics II (Poster Session)

15:00-16:40 TuPO2S-11.1

Swarm-LIO: Decentralized Swarm LiDAR-Inertial Odometry, pp. 3254-3260. Attachment

Zhu, Fangcheng — The University of Hong Kong
Ren, Yunfan — The University of Hong Kong
Kong, Fanze — The University of Hong Kong
Wu, Huajie — Hong Kong University
Liang, Siqi — Harbin Institute of Technology, Shenzhen
Chen, Nan — The University of Hong Kong
Xu, Wei — University of Hong Kong
Zhang, Fu — University of Hong Kong

15:00-16:40 TuPO2S-11.2

HALO: Hazard-Aware Landing Optimization for Autonomous Systems, pp. 3261-3267. Attachment

Hayner, Christopher — University of Washington
Buckner, Samuel — University of Washington
Broyles, Daniel — University of Washington
Madewell, Evelyn — University of Washington
Leung, Karen — Stanford University, NVIDIA Research, University of Washington
Acikmese, Behcet — University of Washington

15:00-16:40 TuPO2S-11.3

Onboard Controller Design for Nano UAV Swarm in Operator-Guided Collective Behaviors, pp. 3268-3274. Attachment

Karagüzel, Tugay Alperen — Vrije Universiteit Amsterdam
Retamal Guiberteau, Victor — Vrije Universiteit Amsterdam
Ferrante, Eliseo — Vrije Universiteit Amsterdam

15:00-16:40 TuPO2S-11.4

EFTrack: A Lightweight Siamese Network for Aerial Object Tracking, pp. 3275-3281. Attachment

Zhang, Wenqi — Northwestern Polytechnical University
Yao, Yuan — Northwestern Polytechnical University
Liu, Xincheng — Northwestern Polytechnical University
Kou, Kai — Northwestern Polytechnical University
Yang, Gang — Northwestern Polytechnical University

15:00-16:40 TuPO2S-11.5

Active Metric-Semantic Mapping by Multiple Aerial Robots, pp. 3282-3288. Attachment

Liu, Xu — University of Pennsylvania
Prabhu, Ankit — University of Pennsylvania
Cladera Ojeda, Fernando — University of Pennsylvania
Miller, Ian — University of Pennsylvania
Zhou, Lifeng — Drexel University
Taylor, Camillo Jose — University of Pennsylvania
Kumar, Vijay — University of Pennsylvania

15:00-16:40 TuPO2S-11.6

Multi-Target Pursuit by a Decentralized Heterogeneous UAV Swarm Using Deep Multi-Agent Reinforcement Learning, pp. 3289-3295. Attachment

Kouzehgar, Maryam — Singapore University of Technology and Design
Song, Youngbin — Singapore University of Technology and Design
Meghjani, Malika — Singapore University of Technology and Design
Bouffanais, Roland — University of Ottawa

15:00-16:40 TuPO2S-11.7

A Moving Target Tracking System of Quadrotors with Visual-Inertial Localization, pp. 3296-3302. Attachment

Lin, Ziyue — Institute of Automation, Chinese Academy of Sciences

Xu, Wenbo	Institute of Automation, Chinese Academy of Sciences
Wang, Wei	Institute of Automation, Chinese Academy of Sciences

15:00-16:40 TuPO2S-11.8

BogieCopter: A Multi-Modal Aerial-Ground Vehicle for Long-Endurance Inspection Applications, pp. 3303-3309. Attachment

Dias, Teodoro	Instituto Superior Técnico
Basiri, Meysam	Instituto Superior Técnico

TuPO2S-12 Room T8

Aerial Systems: Perception (Poster Session)

15:00-16:40 TuPO2S-12.1

Towards Autonomous UAV Railway DC Line Recharging: Design and Simulation, pp. 3310-3316. Attachment

Falk Nyboe, Frederik	University of Southern Denmark
Malle, Nicolaj	University of Southern Denmark
vom Bögel, Gerd	Fraunhofer IMS
Cousin, Linda	Fraunhofer IMS
Heckel, Thomas	Fraunhofer IISB
Troidl, Konstantin	Fraunhofer IISB
Madsen, Anders Schack	University of Southern Denmark
Ebeid, Emad	University of Southern Denmark

15:00-16:40 TuPO2S-12.2

Fast Region of Interest Proposals on Maritime UAVs, pp. 3317-3324. Attachment

Kiefer, Benjamin	University of Tuebingen
Zell, Andreas	University of Tübingen

15:00-16:40 TuPO2S-12.3

TRADE: Object Tracking with 3D Trajectory and Ground Depth Estimates for UAVs, pp. 3325-3331.

Proença, Pedro F.	California Institute of Technology
Spieler, Patrick	JPL
Hewitt, Robert	Jet Propulsion Laboratory
Delaune, Jeff	Jet Propulsion Laboratory

15:00-16:40 TuPO2S-12.4

Adaptive Keyframe Generation Based LiDAR Inertial Odometry for Complex Underground Environments, pp. 3332-3338. Attachment

Kim, Boseong	KAIST
Jung, Chanyoung	KAIST
Shim, David Hyunchul	KAIST
Agha-mohammadi, Ali-akbar	NASA-JPL, Caltech

15:00-16:40 TuPO2S-12.5

Finding Things in the Unknown: Semantic Object-Centric Exploration with an MAV, pp. 3339-3345. Attachment

Papatheodorou, Sotiris	Imperial College London
Funk, Nils	Imperial College London
Tzoumanikas, Dimos	Imperial College London
Choi, Christopher	Imperial College London
Xu, Binbin	University of Toronto
Leutenegger, Stefan	Technical University of Munich

15:00-16:40 TuPO2S-12.6

Stealthy Perception-Based Attacks on Unmanned Aerial Vehicles, pp. 3346-3352. Attachment

Khazraei, Amir	Duke University
Meng, Haocheng	Duke University
Pajic, Miroslav	Duke University

15:00-16:40 TuPO2S-12.7

SGDViT: Saliency-Guided Dynamic Vision Transformer for UAV Tracking, pp. 3353-3359.

Yao, Liangliang	Tongji University
Fu, Changhong	Tongji University
Li, Sihang	Tongji University
Zheng, Guangze	Tongji University
Ye, Junjie	Tongji University

15:00-16:40 TuPO2S-12.8

Semantics-Aware Exploration and Inspection Path Planning, pp. 3360-3367. Attachment

Dharmadhikari, Mihir Rahul — NTNU - Norwegian University of Science and Technology
Alexis, Kostas — NTNU - Norwegian University of Science and Technology

TuPO2S-13 Room T8

Micro Aerial Robots (Poster Session)

15:00-16:40 TuPO2S-13.1

Inverted Landing in a Small Aerial Robot Via Deep Reinforcement Learning for Triggering and Control of Rotational Maneuvers, pp. 3368-3375. Attachment

Habas, Bryan — The Pennsylvania State University
Langelaan, Jack W. — Penn State University
Cheng, Bo — Pennsylvania State University

15:00-16:40 TuPO2S-13.2

Heading Control of a Long-Endurance Insect-Scale Aerial Robot Powered by Soft Artificial Muscles, pp. 3376-3382. Attachment

Hsiao, Yi-Hsuan — Massachusetts Institute of Technology
Kim, Suhan — Massachusetts Institute of Technology (MIT)
Ren, Zhijian — Massachusetts Institute of Technology
Chen, YuFeng — Massachusetts Institute of Technology

15:00-16:40 TuPO2S-13.3

Robust, High-Rate Trajectory Tracking on Insect-Scale Soft-Actuated Aerial Robots with Deep-Learned Tube MPC, pp. 3383-3389. Attachment

Tagliabue, Andrea — Massachusetts Institute of Technology
Hsiao, Yi-Hsuan — Massachusetts Institute of Technology
Fasel, Urban — Imperial College London
Kutz, J. Nathan — University of Washington
Brunton, Steven — University of Washington
Chen, YuFeng — Massachusetts Institute of Technology
How, Jonathan — Massachusetts Institute of Technology

15:00-16:40 TuPO2S-13.4

A New Sensation: Digital Strain Sensing for Disturbance Detection in Flapping Wing Micro Aerial Vehicles, pp. 3390-3396. Attachment

Kubicek, Regan — Carnegie Mellon University
Babaei, Mahnoush — The University of Texas at Austin
Weber, Alison — University of Washington
Bergbreiter, Sarah — Carnegie Mellon University

15:00-16:40 TuPO2S-13.5

A Lightweight High-Voltage Boost Circuit for Soft-Actuated Micro-Aerial-Robots, pp. 3397-3403. Attachment

Ren, Zhijian — Massachusetts Institute of Technology
Yang, Jiahui — Southern University of Science and Technology
Kim, Suhan — Massachusetts Institute of Technology (MIT)
Hsiao, Yi-Hsuan — Massachusetts Institute of Technology
Lang, Jeffrey — MIT
Chen, YuFeng — Massachusetts Institute of Technology

15:00-16:40 TuPO2S-13.6

Hummingbird-Bat Hybrid Wing by 3-D Printing, pp. 3404-3410. Attachment

Fujii, Tomoya — Tokyo Institute of Technology
Dang, Jinqiang — Tokyo Institute of Technology
Tanaka, Hiroto — Tokyo Institute of Technology

15:00-16:40 TuPO2S-13.7

Ultra-Low Power Deep Learning-Based Monocular Relative Localization Onboard Nano-Quadrotors, pp. 3411-3417. Attachment

Bonato, Stefano — USI and SUPSI
Lambertenghi, Stefano Carlo — USI, SUPSI
Cereda, Elia — USI and SUPSI
Giusti, Alessandro — IDSIA Lugano, SUPSI
Palossi, Daniele — ETH Zurich

15:00-16:40 TuPO2S-13.8

A Hybrid Quadratic Programming Framework for Real-Time Embedded Safety-Critical Control, pp. 3418-3424. Attachment

Bena, Ryan	University of Southern California
Hossain, Sushmit	University of Southern California
Chen, Buyun	University of Southern California
Wu, Wei	University of Southern California
Nguyen, Quan	University of Southern California

TuPO2S-14 Room T8

Multi-Robot Systems II (Poster Session)

15:00-16:40 TuPO2S-14.1

D2CoPlan: A Differentiable Decentralized Planner for Multi-Robot Coverage, pp. 3425-3431.

Sharma, Vishnu	University of Maryland
Zhou, Lifeng	Drexel University
Tokekar, Pratap	University of Maryland

15:00-16:40 TuPO2S-14.2

Accelerating Multi-Agent Planning Using Graph Transformers with Bounded Suboptimality, pp. 3432-3439. Attachment

Yu, Chenning	University of California San Diego
Li, Qingbiao	The University of Cambridge
Gao, Sicun	UCSD
Prorok, Amanda	University of Cambridge

15:00-16:40 TuPO2S-14.3

Environment Optimization for Multi-Agent Navigation, pp. 3440-3446.

Gao, Zhan	University of Cambridge
Prorok, Amanda	University of Cambridge

15:00-16:40 TuPO2S-14.4

Heterogeneous Coverage and Multi-Resource Allocation in Supply-Constrained Teams, pp. 3447-3453. Attachment

Coffey, Mela	Boston University
Pierson, Alyssa	Boston University

15:00-16:40 TuPO2S-14.5

Sequential Stochastic Multi-Task Assignment for Multi-Robot Deployment Planning, pp. 3454-3460.

Mitchell, Colin	Oregon State University
Best, Graeme	University of Technology Sydney
Hollinger, Geoffrey	Oregon State University

15:00-16:40 TuPO2S-14.6

Path Planning under Uncertainty to Localize mmWave Sources, pp. 3461-3467.

Pfeiffer, Kai	School of Mechanical and Aerospace Engineering, Nanyang Technolo
Jia, Yuze	NYU
Yin, Mingsheng	NYU
Veldanda, Akshaj Kumar	NYU
Hu, Yaqi	NYU
Trivedi, Amee	UBC
Zhang, Jeff Jun	Yale
Garg, Siddharth	NYU
Erkip, Elza	NYU
Rangan, Sundeep	New York University
Righetti, Ludovic	New York University

15:00-16:40 TuPO2S-14.7

Communication-Critical Planning Via Multi-Agent Trajectory Exchange, pp. 3468-3475. Attachment

Glaser, Nathaniel	Georgia Institute of Technology
Kira, Zsolt	Georgia Institute of Technology

15:00-16:40 TuPO2S-14.8

Distributed Potential iLQR: Scalable Game-Theoretic Trajectory Planning for Multi-Agent Interactions, pp. 3476-3482.

Williams, Zach	University of Illinois Urbana-Champaign
Chen, Jushan	University of Illinois Urbana-Champaign

Mehr, Negar	University of Illinois Urbana-Champaign

15:00-16:40 TuPO2S-14.9

FRAME: Fast and Robust Autonomous 3D Point Cloud Map-Merging for Egocentric Multi-Robot Exploration, pp. 3483-3489.

Stathoulopoulos, Nikolaos	Luleå University of Technology, Robotics and AI Group
Koval, Anton	Luleå University of Technology
Agha-mohammadi, Ali-akbar	NASA-JPL, Caltech
Nikolakopoulos, George	Luleå University of Technology

15:00-16:40 TuPO2S-14.10

Autonomous Task Planning for Heterogeneous Multi-Agent Systems, pp. 3490-3496.

Tziola, Anatoli	Cyprus University of Technology
Loizou, Savvas	Cyprus University of Technology

15:00-16:40 TuPO2S-14.11

Graph Neural Networks for Multi-Robot Active Information Acquisition, pp. 3497-3503. Attachment

Tzes, Mariliza	University of Pennsylvania
Bousias, Nikolaos	University of Pennsylvania
Chatzipantazis, Evangelos	University of Pennsylvania
Pappas, George J.	University of Pennsylvania

15:00-16:40 TuPO2S-14.12

Balancing Efficiency and Unpredictability in Multi-Robot Patrolling: A MARL-Based Approach, pp. 3504-3509.

Guo, Lingxiao	Shanghai Jiao Tong University
Pan, Haoxuan	Department of Automation, Shanghai Jiao Tong University
Duan, Xiaoming	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University

TuPO2S-15 Room T8

Intelligent Transportation Systems II (Poster Session)

15:00-16:40 TuPO2S-15.1

Learning to Influence Vehicles' Routing in Mixed-Autonomy Networks by Dynamically Controlling the Headway of Autonomous Cars, pp. 3510-3516.

Ma, Xiaoyu	University of Illinois at Urbana-Champaign
Mehr, Negar	University of Illinois Urbana-Champaign

15:00-16:40 TuPO2S-15.2

Traffic-Aware Autonomous Driving with Differentiable Traffic Simulation, pp. 3517-3523. Attachment

Zheng, Laura	University of Maryland, College Park
Son, Sanghyun	University of Maryland
Lin, Ming C.	University of Maryland at College Park

15:00-16:40 TuPO2S-15.3

Multiagent Reinforcement Learning for Autonomous Routing and Pickup Problem with Adaptation to Variable Demand, pp. 3524-3531.

Garces, Daniel	Harvard University
Bhattacharya, Sushmita	Harvard University
Gil, Stephanie	Harvard University
Bertsekas, Dimitri	MIT

15:00-16:40 TuPO2S-15.4

Cooperative Driving in Mixed Traffic of Manned and Unmanned Vehicles Based on Human Driving Behavior Understanding, pp. 3532-3538. Attachment

Lu, Jiaxing	Oklahoma State University
Hossain, Sanzida	Oklahoma State University
Sheng, Weihua	Oklahoma State University
BAI, HE	Oklahoma State University

15:00-16:40 TuPO2S-15.5

Exploring Navigation Maps for Learning-Based Motion Prediction, pp. 3539-3545. Attachment

Schmidt, Julian	Mercedes-Benz AG, Ulm University
Jordan, Julian	Mercedes-Benz AG
Gritschneder, Franz	Ulm University
Monninger, Thomas	Mercedes-Benz AG, University of Stuttgart
Dietmayer, Klaus	University of Ulm

15:00-16:40 TuPO2S-15.6

SLAMesh: Real-Time LiDAR Simultaneous Localization and Meshing, pp. 3546-3552.

Ruan, Jianyuan	Hong Kong Polytechnic University
Li, Bo	Zhejiang University
WANG, Yibo	The Hong Kong Polytechnic University
Sun, Yuxiang	The Hong Kong Polytechnic University

15:00-16:40 TuPO2S-15.7

CenterLineDet: CenterLine Graph Detection for Road Lanes with Vehicle-Mounted Sensors by Transformer for HD Map Generation, pp. 3553-3559.

Xu, Zhenhua	The Hong Kong University of Science and Technology
LIU, Yuxuan	Hong Kong University of Science and Technology
Sun, Yuxiang	The Hong Kong Polytechnic University
Liu, Ming	Hong Kong University of Science and Technology
Wang, Lujia	The Hong Kong University of Technology

15:00-16:40 TuPO2S-15.8

Guided Conditional Diffusion for Controllable Traffic Simulation, pp. 3560-3566. Attachment

Zhong, Ziyuan	Columbia University
Rempe, Davis	Stanford University
Xu, Danfei	Stanford Univesity
Chen, Yuxiao	California Institute of Technology
Veer, Sushant	NVIDIA
Che, Tong	NVIDIA
Ray, Baishakhi	Columbia University in the City of New York
Pavone, Marco	Stanford University

15:00-16:40 TuPO2S-15.9

TrafficGen: Learning to Generate Diverse and Realistic Traffic Scenarios, pp. 3567-3575. Attachment

Feng, Lan	ETH ZURICH
Li, Quanyi	University of Edinburgh
Peng, Zhenghao	University of California, Los Angeles
Tan, Shuhan	UT Austin
Zhou, Bolei	University of California, Los Angeles

15:00-16:40 TuPO2S-15.10

Infrastructure-Based End-To-End Learning and Prevention of Driver Failure, pp. 3576-3583. Attachment

Buckman, Noam	Massachusetts Institute of Technology
Sreeram, Shiva	MIT
Lechner, Mathias	Massachusetts Institute of Technology
Ban, Yutong	Massachusetts Institute of Technology
Hasani, Ramin	Massachusetts Institute of Technology (MIT)
Karaman, Sertac	Massachusetts Institute of Technology
Rus, Daniela	MIT

15:00-16:40 TuPO2S-15.11

V2XP-ASG: Generating Adversarial Scenes for Vehicle-To-Everything Perception, pp. 3584-3591. Attachment

Xiang, Hao	University of California, Los Angeles
Xu, Runsheng	UCLA
Xia, Xin	University of California, Los Angeles
Zheng, Zhaoliang	University of California, Los Angeles
Zhou, Bolei	University of California, Los Angeles
Ma, Jiaqi	University of California, Los Angeles

15:00-16:40 TuPO2S-15.12

Satellite Image Based Cross-View Localization for Autonomous Vehicle, pp. 3592-3599. Attachment

Wang, Shan	The Australian National University
Zhang, Yanhao	Australian National University
Vora, Ankit	Ford Motor Company
Perincherry, Akhil	Ford Motor Company
Li, Hongdong	Australian National University and NICTA

TuPO2S-16 Room T8

Motion and Path Planning II (Poster Session)

15:00-16:40 TuPO2S-16.1

Collision-Free Coverage Path Planning for the Variable-Speed Curvature-Constrained Robot, pp. 3600-3606. Attachment

Li, Lin	National University of Defense Technology
Shi, Dianxi	Defense Innovation Institute
Jin, Songchang	Defense Innovation Institute
Sun, Yixuan	National University of Defense Technology
Zhou, Xing	National University of Defense Technology
Yang, Shaowu	National University of Defense Technology
Liu, Hengzhu	National University of Defense Technology

15:00-16:40 TuPO2S-16.2

Stochastic Traveling Salesperson Problem with Neighborhoods for Object Detection, pp. 3607-3613.

Peng, Cheng	Univerisyt of Minnesota, Twin Cities
Wei, Minghan	University of Minnesota
Isler, Volkan	University of Minnesota

15:00-16:40 TuPO2S-16.3

Optimal Allocation of Many Robot Guards for Sweep-Line Coverage, pp. 3614-3620. Attachment

Feng, Si Wei	Rutgers University
Guo, Teng	Rutgers University
Yu, Jingjin	Rutgers University

15:00-16:40 TuPO2S-16.4

A Linear and Exact Algorithm for Whole-Body Collision Evaluation Via Scale Optimization, pp. 3621-3627. Attachment

Wang, Qianhao	Zhejiang University
Wang, Zhepei	Zhejiang University
Pei, Liuao	Zhejiang University
Xu, Chao	Zhejiang University
Gao, Fei	Zhejiang University

15:00-16:40 TuPO2S-16.5

Probabilistic Risk Assessment for Chance-Constrained Collision Avoidance in Uncertain Dynamic Environments, pp. 3628-3634. Attachment

Mustafa, Khaled Alaaeldin Abdelfattah	TU Delft
de Groot, Oscar	Delft University of Technology
Wang, Xinwei	Delft University of Technology
Kober, Jens	TU Delft
Alonso-Mora, Javier	Delft University of Technology

15:00-16:40 TuPO2S-16.6

Computational Tradeoff in Minimum Obstacle Displacement Planning for Robot Navigation, pp. 3635-3641.

Thomas, Antony	University of Genoa
Ferro, Giulio	University of Genoa
Mastrogiovanni, Fulvio	University of Genoa
Robba, Michela	University of Genoa

15:00-16:40 TuPO2S-16.7

A Trajectory Planner for Mobile Robots Steering Non-Holonomic Wheelchairs in Dynamic Environments, pp. 3642-3648.

Schulze, Martin Asghar	FZI Research Center for Information Technology
Graaf, Friedrich	FZI Research Center for Information Technology
Steffen, Lea	FZI Research Center for Information Technology, 76131 Karlsruhe,
Roennau, Arne	FZI Forschungszentrum Informatik, Karlsruhe
Dillmann, Rüdiger	FZI - Forschungszentrum Informatik - Karlsruhe

15:00-16:40 TuPO2S-16.8

Safe Bipedal Path Planning Via Control Barrier Functions for Polynomial Shape Obstacles Estimated Using Logistic Regression, pp. 3649-3655. Attachment

Peng, Chengyang	The Ohio State University
Donca, Octavian	The Ohio State University
Castillo, Guillermo	The Ohio State University
Hereid, Ayonga	Ohio State University

15:00-16:40 TuPO2S-16.9

Real-Time Decentralized Navigation of Nonholonomic Agents Using Shifted Yielding Areas, pp. 3656-3662.

Liang, He — University of North Carolina at Chapel Hill
Pan, Zherong — Tencent America
Manocha, Dinesh — University of Maryland

15:00-16:40 TuPO2S-16.10

Differentiable Collision Detection for a Set of Convex Primitives, pp. 3663-3670. Attachment

Tracy, Kevin — Carnegie Mellon University
Howell, Taylor — Stanford University
Manchester, Zachary — Carnegie Mellon University

15:00-16:40 TuPO2S-16.11

Shunted Collision Avoidance for Multi-UAV Motion Planning with Posture Constraints, pp. 3671-3678. Attachment

Xu, Gang — Zhejiang University
Zhu, Deye — Zhejiang University
Cao, Junjie — Institute of Cyber Systems and Control, Zhejiang University
Liu, Yong — Zhejiang University
Yang, Jian — China Research and Development Academy of Machinery Equipment

15:00-16:40 TuPO2S-16.12

Dynamic Control Barrier Function-Based Model Predictive Control to Safety-Critical Obstacle-Avoidance of Mobile Robot, pp. 3679-3685. Attachment

Jian, Zhuozhu — Tsinghua University
Yan, Zihong — Tsinghua University
Lei, Xuanang — ETH Zurich
Lu, Zihong — Harbin Institute of Technology, Shenzhen
Lan, Bin — Tsinghua University
WANG, xueqian — Center for Artificial Intelligence and Robotics, Graduate School
Liang, Bin — Tsinghua University

TuPO2S-17 Room T8
Task and Motion Planning (Poster Session)

15:00-16:40 TuPO2S-17.1

A Minimum Swept-Volume Metric Structure for Configuration Space, pp. 3686-3692.

de Mont-Marin, Yann — Inria, DI ENS
Ponce, Jean — Ecole Normale Supérieure
Laumond, Jean-Paul — Inria, DI ENS PSL

15:00-16:40 TuPO2S-17.2

Task-Space Clustering for Mobile Manipulator Task Sequencing, pp. 3693-3699. Attachment

Nguyen, Quang-Nam — Nanyang Technological University
Adrian, Nicholas — Nanyang Technological University
Pham, Quang-Cuong — NTU Singapore

15:00-16:40 TuPO2S-17.3

Sampling-Based Path Planning under Temporal Logic Constraints with Real-Time Adaptation, pp. 3700-3706. Attachment

Chen, Yizhou — Chinese University of Hong Kong
Wang, Ruoyu — The Chinese University of Hong Kong
Wang, Xinyi — The Chinese University of Hong Kong
Chen, Ben M. — Chinese University of Hong Kong

15:00-16:40 TuPO2S-17.4

Optimal Grasps and Placements for Task and Motion Planning in Clutter, pp. 3707-3713. Attachment

Quintero-Peña, Carlos — Rice University
Kingston, Zachary — Rice University
Pan, Tianyang — Rice University
Shome, Rahul — The Australian National University
Kyrillidis, Anastasios — Rice University
Kavraki, Lydia — Rice University

15:00-16:40 TuPO2S-17.5

Resolution Complete In-Place Object Retrieval Given Known Object Models, pp. 3714-3720. Attachment

Nakhimovich, Daniel — Rutgers University
Miao, Yinglong — Rutgers University
Bekris, Kostas E. — Rutgers, the State University of New Jersey

15:00-16:40 TuPO2S-17.6

Task-Directed Exploration in Continuous POMDPs for Robotic Manipulation of Articulated Objects, pp. 3721-3728. Attachment

Curtis, Aidan — MIT
Kaelbling, Leslie — MIT
Jain, Siddarth — Mitsubishi Electric Research Laboratories (MERL)

15:00-16:40 TuPO2S-17.7

Learning Feasibility of Factored Nonlinear Programs in Robotic Manipulation Planning, pp. 3729-3735. Attachment

Ortiz-Haro, Joaquim — University of Stuttgart
Ha, Jung-Su — TU Berlin
Driess, Danny — TU Berlin
Karpas, Erez — Technion
Toussaint, Marc — TU Berlin

15:00-16:40 TuPO2S-17.8

Learning to Predict Action Feasibility for Task and Motion Planning in 3D Environments, pp. 3736-3742. Attachment

Ait Bouhsain, Smail — LAAS-CNRS
Alami, Rachid — CNRS
Simeon, Thierry — LAAS-CNRS

15:00-16:40 TuPO2S-17.9

Policy Guided Lazy Search with Feedback for Task and Motion Planning, pp. 3743-3749.

Khodeir, Mohamed — University of Toronto
Sonwane, Atharv — Microsoft Research
Hari, Ruthrash — University of Toronto
Shkurti, Florian — University of Toronto

15:00-16:40 TuPO2S-17.10

A Reachability Tree-Based Algorithm for Robot Task and Motion Planning, pp. 3750-3756. Attachment

Kim, Kanghyun — Korea Advanced Institute of Science and Technology (KAIST)
Park, Daehyung — Korea Advanced Institute of Science and Technology, KAIST
Kim, Min Jun — KAIST

15:00-16:40 TuPO2S-17.11

Dual Quaternion Based Dynamic Movement Primitives to Learn Industrial Tasks Using Teleoperation, pp. 3757-3763. Attachment

Chandra, Rohit — Institut Pascal, UMR 6602 - UCA/CNRS/SIGMA
Giraud, Victor Henri — SIGMA-Clermont / Institut Pascal
Alkhatib, Mohammad — Université Clermont Auvergne
Mezouar, Youcef — Clermont Auvergne INP - SIGMA Clermont

15:00-16:40 TuPO2S-17.12

Multi-Contact Task and Motion Planning Guided by Video Demonstration, pp. 3764-3770. Attachment

Zorina, Kateryna — CIIRC
Kovar, David — Czech Technical University in Prague
Lamiraux, Florent — CNRS
Mansard, Nicolas — CNRS
Carpentier, Justin — INRIA
Sivic, Josef — Czech Technical University
Petrik, Vladimir — Czech Technical University in Prague

TuPO2S-18 Room T8

Perception for Grasping and Manipulation II (Poster Session)

15:00-16:40 TuPO2S-18.1

MVTrans: Multi-View Perception of Transparent Objects, pp. 3771-3778. Attachment

Wang, Yi Ru — University of Toronto, University of Washington
Zhao, Yuchi — University of Waterloo

XU, Haoping	University of Toronto
Eppel, Sagi	University of Toronto
Aspuru-Guzik, Alan	University of Toronto
Shkurti, Florian	University of Toronto
Garg, Animesh	University of Toronto

15:00-16:40 TuPO2S-18.2

The Sum of Its Parts: Visual Part Segmentation for Inertial Parameter Identification of Manipulated Objects, pp. 3779-3785. Attachment

Nadeau, Philippe	University of Toronto
Giamou, Matthew	University of Toronto
Kelly, Jonathan	University of Toronto

15:00-16:40 TuPO2S-18.3

SLURP! Spectroscopy of Liquids Using Robot Pre-Touch Sensing, pp. 3786-3792. Attachment

Hanson, Nathaniel	Northeastern University
Lewis, Wesley	Carnegie Mellon University
Puthuveetil, Kavya	Carnegie Mellon University
Furline Jr, Donelle	Northeastern University
Padmanabha, Akhil	Carnegie Mellon University
Padir, Taskin	Northeastern University
Erickson, Zackory	Carnegie Mellon University

15:00-16:40 TuPO2S-18.4

Tactile Based Robotic Skills for Cable Routing Operations, pp. 3793-3799. Attachment

Monguzzi, Andrea	Politecnico Di Milano
Pelosi, Martina	Politecnico Di Milano
Zanchettin, Andrea Maria	Politecnico Di Milano
Rocco, Paolo	Politecnico Di Milano

15:00-16:40 TuPO2S-18.5

Category-Level Global Camera Pose Estimation with Multi-Hypothesis Point Cloud Correspondences, pp. 3800-3807. Attachment

Chao, Jun-Jee	University of Minnesota
Engin, Kazim Selim	University of Minnesota
Häni, Nicolai	University of Minnesota
Isler, Volkan	University of Minnesota

15:00-16:40 TuPO2S-18.6

GSMR-CNN: An End-To-End Trainable Architecture for Grasping Target Objects from Multi-Object Scenes, pp. 3808-3814. Attachment

Holomjova, Valerija	University of Aberdeen
Starkey, Andrew Joe	University of Aberdeen
Meißner, Pascal	University of Aberdeen

15:00-16:40 TuPO2S-18.7

3DSGrasp: 3D Shape-Completion for Robotic Grasp, pp. 3815-3822. Attachment

Mohammadi, Seyed Saber	Istituto Italiano Di Tecnologia (IIT), Università Di Genova
Ferreira Duarte, Nuno	IST-ID
Moreno, Plinio	IST-ID
Dehban, Atabak	Ist-Id 509 830 072
Dimou, Dimitrios	Instituto Superior Tecnico, University of Lisbon
Morerio, Pietro	Istituto Italiano Di Tecnologia
Taiana, Matteo	Italian Institute of Technology (IIT)
Wang, Yiming	Fondazione Bruno Kessler
Bernardino, Alexandre	IST - Técnico Lisboa
Del Bue, Alessio	Istituto Italiano Di Tecnologia
Santos-Victor, José	Instituto Superior Técnico - Lisbon

15:00-16:40 TuPO2S-18.8

Goal-Conditioned Action Space Reduction for Deformable Object Manipulation, pp. 3823-3830. Attachment

Wang, Shengyin	University of Leeds
Papallas, Rafael	University of Leeds
Leonetti, Matteo	King's College London
Dogar, Mehmet R	University of Leeds

15:00-16:40 TuPO2S-18.9

MMRDN: Consistent Representation for Multi-View Manipulation Relationship Detection in Object-Stacked Scenes, pp. 3831-3837. Attachment

Wang, Han	Xi'an Jiaotong University
Zhang, Jiayuan	Xi'an Jiaotong University
Wan, Lipeng	Xi'an Jiaotong Univ
Chen, Xingyu	Xi'an Jiaotong University
Lan, Xuguang	Xi'an Jiaotong University
Zheng, Nanning	Xi'an Jiaotong University

15:00-16:40 TuPO2S-18.10

SCARP: 3D Shape Completion in ARbitrary Poses for Improved Grasping, pp. 3838-3845. Attachment

Sen, Bipasha	International Institute of Information Technology
Agarwal, Aditya	IIIT Hyderabad
Singh, Gaurav	IIIT Hyderabad
Bhowmick, Brojeshwar	Tata Consultancy Services
Sridhar, Srinath	Brown University
Krishna, Madhava	IIIT Hyderabad

15:00-16:40 TuPO2S-18.11

Category-Level Shape Estimation for Densely Cluttered Objects, pp. 3846-3852. Attachment

Wu, Zhenyu	Beijing University of Posts and Telecommunications
Wang, Ziwei	Tsinghua University
Lu, Jiwen	Tsinghua University
Yan, Haibin	Beijing University of Posts and Telecommunications

15:00-16:40 TuPO2S-18.12

Counter-Hypothetical Particle Filters for Single Object Pose Tracking, pp. 3853-3859.

Olson, Elizabeth	University of Michigan
Pavlasek, Jana	University of Michigan
Berry, Jasmine	University of Michigan
Jenkins, Odest Chadwicke	University of Michigan

TuPO2S-19 Room T8

Learning for Grasping and Manipulation II (Poster Session)

15:00-16:40 TuPO2S-19.1

Reinforcement Learning Based Pushing and Grasping Objects from Ungraspable Poses, pp. 3860-3866. Attachment

Zhang, Hao	Tsinghua University
Liang, Hongzhuo	University of Hamburg
Cong, Lin	University of Hamburg
Lyu, Jianzhi	University of Hamburg
Zeng, Long	Tsinghua University
Feng, Pingfa	Tsinghua University
Zhang, Jianwei	University of Hamburg

15:00-16:40 TuPO2S-19.2

Efficient Bimanual Handover and Rearrangement Via Symmetry-Aware Actor-Critic Learning, pp. 3867-3874. Attachment

Li, Yunfei	Tsinghua University
Pan, Chaoyi	Tsinghua University
Xu, Huazhe	Tsinghua University
Wang, Xiaolong	UC San Diego
Wu, Yi	Tsinghua University

15:00-16:40 TuPO2S-19.3

EDO-Net: Learning Elastic Properties of Deformable Objects from Graph Dynamics, pp. 3875-3881. Attachment

Longhini, Alberta	KTH Royal Institute of Technology
Moletta, Marco	KTH Royal Institute of Technology
Reichlin, Alfredo	KTH Royal Institute of Technology
Welle, Michael C.	KTH Royal Institute of Technology
Held, David	Carnegie Mellon University
Erickson, Zackory	Carnegie Mellon University
Kragic, Danica	KTH

15:00-16:40 TuPO2S-19.4

Edge Grasp Network: A Graph-Based SE(3)-Invariant Approach to Grasp Detection, pp. 3882-3888.

Huang, Haojie — Northeastern University
Wang, Dian — Northeastern University
Zhu, Xupeng — Northeastern University
Walters, Robin — Northeastern University
Platt, Robert — Northeastern University

15:00-16:40 TuPO2S-19.5

Learning Dexterous Manipulation from Exemplar Object Trajectories and Pre-Grasps, pp. 3889-3896. Attachment

Dasari, Sudeep — Carnegie Mellon University
Gupta, Abhinav — Carnegie Mellon University
Kumar, Vikash — Meta AI

15:00-16:40 TuPO2S-19.6

A Multi-Agent Approach for Adaptive Finger Cooperation in Learning-Based In-Hand Manipulation, pp. 3897-3903. Attachment

Tao, Lingfeng — Colorado School of Mines
Zhang, Jiucai — Guangzhou Automotive Group R&D Center, Silicon Valley
Bowman, Michael — Colorado School of Mines
Zhang, Xiaoli — Colorado School of Mines

15:00-16:40 TuPO2S-19.7

Bimanual Rope Manipulation Skill Synthesis through Context Dependent Correction Policy Learning from Human Demonstration, pp. 3904-3910. Attachment

Akbulut, Baturhan — Boğaziçi University
Girgin, Tuba — Bogazici University
Mehrabi, Arash — Ozyegin University
Asada, Minoru — Open and Transdisciplinary Research Initiatives, Osaka Universit
Ugur, Emre — Bogazici University
Oztop, Erhan — Osaka University / Ozyegin University

15:00-16:40 TuPO2S-19.8

Sim-And-Real Reinforcement Learning for Manipulation: A Consensus-Based Approach, pp. 3911-3917. Attachment

Liu, Wenxing — United Kingdom Atomic Energy Authority
Niu, Hanlin — United Kingdom Atomic Energy Authority
Pan, Wei — Delft University of Technology
Herrmann, Guido — The University of Manchester
Carrasco, Joaquin — The University of Manchester

15:00-16:40 TuPO2S-19.9

AutoBag: Learning to Open Plastic Bags and Insert Objects, pp. 3918-3925. Attachment

Chen, Lawrence Yunliang — UC Berkeley
Shi, Baiyu — UC Berkeley
Seita, Daniel — Carnegie Mellon University
Cheng, Richard — California Institute of Technology
Kollar, Thomas — Toyota Research Institute
Held, David — Carnegie Mellon University
Goldberg, Ken — UC Berkeley

15:00-16:40 TuPO2S-19.10

Toward Fine Contact Interactions: Learning to Control Normal Contact Force with Limited Information, pp. 3926-3932. Attachment

Cui, Jinda — Honda Research Institute USA, Inc
Xu, Jiawei — Lehigh University
Saldaña, David — Lehigh University
Trinkle, Jeff — Lehigh University

15:00-16:40 TuPO2S-19.11

Ditto in the House: Building Articulation Models of Indoor Scenes through Interactive Perception, pp. 3933-3939. Attachment

Hsu, Cheng-Chun — The University of Texas at Austin
Jiang, Zhenyu — The Unversity of Texas at Austin
Zhu, Yuke — The University of Texas at Austin

15:00-16:40 TuPO2S-19.12

Zero-Shot Transfer of Haptics-Based Object Insertion Policies, pp. 3940-3947. Attachment

Brahmbhatt, Samarth Manoj — Intel Corporation
Deka, Ankur — Intel Labs
Spielberg, Andrew — Harvard University, MIT
Müller, Matthias — Intel

TuPO2S-20 Room T8
Localization II (Poster Session)

15:00-16:40 TuPO2S-20.1

Moment-Based Kalman Filter: Nonlinear Kalman Filtering with Exact Moment Propagation, pp. 3948-3954.

Shimizu, Yutaka — University of Tokyo
M. Jasour, Ashkan — MIT
Ghaffari, Maani — University of Michigan
Kato, Shinpei — The University of Tokyo

15:00-16:40 TuPO2S-20.2

Unsupervised Quality Prediction for Improved Single-Frame and Weighted Sequential Visual Place Recognition, pp. 3955-3961.

Carson, Helen — Queensland University of Technology
Ford, Jason — Queensland University of Technology
Milford, Michael J — Queensland University of Technology

15:00-16:40 TuPO2S-20.3

Towards Consistent Batch State Estimation Using a Time-Correlated Measurement Noise Model, pp. 3962-3968.

Yoon, David Juny — University of Toronto
Barfoot, Timothy — University of Toronto

15:00-16:40 TuPO2S-20.4

A Probabilistic Framework for Visual Localization in Ambiguous Scenes, pp. 3969-3975. Attachment

Zangeneh, Fereidoon — KTH Royal Institute of Technology
Bruns, Leonard — KTH Royal Institute of Technology
Dekel, Amit — Univrses AB
Pieropan, Alessandro — KTH
Jensfelt, Patric — KTH - Royal Institute of Technology

15:00-16:40 TuPO2S-20.5

RoLM: Radar on LiDAR Map Localization, pp. 3976-3982. Attachment

Ma, Yukai — Zhejiang Unicersity
Zhao, Xiangrui — Zhejiang University
Li, Han — Zhejiang University
Gu, Yaqing — Zhejiang University
Lang, Xiaolei — Zhejiang University
Liu, Yong — Zhejiang University

15:00-16:40 TuPO2S-20.6

Direct LiDAR-Inertial Odometry: Lightweight LIO with Continuous-Time Motion Correction, pp. 3983-3989. Attachment

Chen, Kenny — University of California, Los Angeles
Nemiroff, Ryan — University of California, Los Angeles
Lopez, Brett — University of California, Los Angeles

15:00-16:40 TuPO2S-20.7

Large-Scale Radar Localization Using Online Public Maps, pp. 3990-3996. Attachment

Hong, Ziyang — Heriot-Watt University
Petillot, Yvan R. — Heriot-Watt University
Zhang, Kaicheng — Heriot-Watt University
Xu, Shida — Heriot-Watt University
Wang, Sen — Imperial College London

15:00-16:40 TuPO2S-20.8

Continuous-Time LiDAR-Inertial-Vehicle Odometry Method with Lateral Acceleration Constraint, pp. 3997-4003.

He, Bin — Zhejiang University
Dai, Weichen — Hangzhou Dianzi University
Wan, Zeyu — Zhejiang University

Zhang, Hong — Zhejiang University
Zhang, Yu — Zhejiang University

TuPO2S-21 — Room T8
Localization III (Poster Session)

15:00-16:40 — TuPO2S-21.1

Cross-Modal Monocular Localization in Prior LiDAR Maps Utilizing Semantic Consistency, pp. 4004-4010. Attachment

Chi, Zhang — Shanghai Jiao Tong University
Zhao, Hengwang — Shanghai Jiao Tong University
Wang, Chunxiang — Shanghai Jiaotong University
Tang, Xuanlai — KEENON Robotics Co., Ltd
Yang, Ming — Shanghai Jiao Tong University

15:00-16:40 — TuPO2S-21.2

Multi-State Tightly-Coupled EKF-Based Radar-Inertial Odometry with Persistent Landmarks, pp. 4011-4017. Attachment

Michalczyk, Jan — University of Klagenfurt
Jung, Roland — University of Klagenfurt
Brommer, Christian — University of Klagenfurt
Weiss, Stephan — Universität Klagenfurt

15:00-16:40 — TuPO2S-21.3

Loc-NeRF: Monte Carlo Localization Using Neural Radiance Fields, pp. 4018-4025. Attachment

Maggio, Dominic — MIT
Abate, Marcus — MIT
Shi, Jingnan — Massachusetts Institute of Technology
Mario, Courtney — Draper
Carlone, Luca — Massachusetts Institute of Technology

15:00-16:40 — TuPO2S-21.4

RoSS: Rotation-Induced Aliasing for Audio Source Separation, pp. 4026-4032. Attachment

Seo, Hyungjoo — University of Illinois at Urbana-Champaign
Bhandary Karnoor, Sahil — University of Illinois at Urbana-Champaign
Roy Choudhury, Romit — University of Illinois at Urbana-Champaign

15:00-16:40 — TuPO2S-21.5

L-C: Visual-Inertial Loose Coupling for Resilient and Lightweight Direct Visual Localization*, pp. 4033-4039. Attachment

Oishi, Shuji — National Institute of Advanced Industrial Science and Technology
Koide, Kenji — National Institute of Advanced Industrial Science and Technology
Yokozuka, Masashi — Nat. Inst. of Advanced Industrial Science and Technology
Banno, Atsuhiko — National Instisute of Advanced Industrial Science and Technology

15:00-16:40 — TuPO2S-21.6

GRM: Gradient Rectification Module for Visual Place Retrieval, pp. 4040-4047.

LEI, BOSHU — Xi'an Jiaotong University
DING, WENJIE — MEGVII Inc
Qiao, Limeng — Megvii Inc
Qiu, Xi — Megvii

15:00-16:40 — TuPO2S-21.7

DytanVO: Joint Refinement of Visual Odometry and Motion Segmentation in Dynamic Environments, pp. 4048-4055. Attachment

Shen, Shihao — Carnegie Mellon University
Cai, Yilin — Carnegie Mellon University
Wang, Wenshan — Carnegie Mellon University
Scherer, Sebastian — Carnegie Mellon University

15:00-16:40 — TuPO2S-21.8

NOCaL: Calibration-Free Semi-Supervised Learning of Odometry and Camera Intrinsics, pp. 4056-4062.

Griffiths, Ryan — University of Sydney
Naylor, Jack — University of Sydney
Dansereau, Donald — University of Sydney

TuPO2S-22 Room T8

Vision-Based Navigation II (Poster Session)

15:00-16:40 TuPO2S-22.1

Efficient View Path Planning for Autonomous Implicit Reconstruction, pp. 4063-4069. Attachment

Zeng, Jing	Zhejiang University
Li, Yanxu	Zhejiang University
Ran, Yunlong	Zhejiang University
Li, Shuo	Zhejiang University
He, Shibo	Zhejiang University
Gao, Fei	Zhejiang University
Li, Lincheng	NetEase Fuxi AI Lab
Chen, Jiming	Zhejiang University
Ye, Qi	Zhejiang University

15:00-16:40 TuPO2S-22.2

Lighthouses and Global Graph Stabilization: Active SLAM for Low-Compute, Narrow-FoV Robots, pp. 4070-4076. Attachment

Deshpande, Mohit	Amazon Lab126
Kim, Richard	Amazon, Lab126
Kumar, Dhruva	Amazon Lab126
Park, Jong Jin	Amazon Lab126
Zamiska, James	Amazon

15:00-16:40 TuPO2S-22.3

ExAug: Robot-Conditioned Navigation Policies Via Geometric Experience Augmentation, pp. 4077-4084. Attachment

Hirose, Noriaki	UC Berkeley / TOYOTA Motor North America
Shah, Dhruv	University of California, Berkeley
Sridhar, Ajay	University of California, Berkeley
Levine, Sergey	UC Berkeley

15:00-16:40 TuPO2S-22.4

Multi-Object Navigation in Real Environments Using Hybrid Policies, pp. 4085-4091. Attachment

Sadek, Assem	Naver Labs Europe
Bono, Guillaume	Naverlabs Europe
Chidlovskii, Boris	Naver Labs Europe
Baskurt, Atilla	INSA Lyon
Wolf, Christian	Naver Labs Europe

15:00-16:40 TuPO2S-22.5

AeriaLPiPS: A Local Planner for Aerial Vehicles with Geometric Collision Checking, pp. 4092-4098. Attachment

Smith, Justin	Georgia Institute of Technology
Vela, Patricio	Georgia Institute of Technology

15:00-16:40 TuPO2S-22.6

Frontier Semantic Exploration for Visual Target Navigation, pp. 4099-4105. Attachment

Yu, Bangguo	University of Groningen
Kasaei, Hamidreza	University of Groningen
Cao, Ming	University of Groningen

15:00-16:40 TuPO2S-22.7

VINet: Visual and Inertial-Based Terrain Classification and Adaptive Navigation Over Unknown Terrain, pp. 4106-4112. Attachment

Guan, Tianrui	University of Maryland
SONG, Ruitao	Aptiv Corporation
Ye, Zhixian	Baidu
Zhang, Liangjun	Baidu

15:00-16:40 TuPO2S-22.8

Ground Then Navigate: Language-Guided Navigation in Dynamic Scenes, pp. 4113-4120. Attachment

Jain, Kanishk	IIIT Hyderabad
Chhangani, Varun	IIIT Hyderabad
Tiwari, Amogh	IIIT Hyderabad
Krishna, Madhava	IIIT Hyderabad
Gandhi, Vineet	IIIT Hyderabad

TuPO2S-23 Room T8

Localization and Mapping II (Poster Session)

15:00-16:40 TuPO2S-23.1

3-Dimensional Sonic Phase-Invariant Echo Localization, pp. 4121-4127.

Hahne, Christopher — University of Bern

15:00-16:40 TuPO2S-23.2

Calibration and Uncertainty Characterization for Ultra-Wideband Two-Way-Ranging Measurements, pp. 4128-4134. Attachment

Shalaby, Mohammed Ayman — McGill University
Cossette, Charles Champagne — McGill University
Forbes, James Richard — McGill University
Le Ny, Jerome — Polytechnique Montreal

15:00-16:40 TuPO2S-23.3

High Resolution Point Clouds from mmWave Radar, pp. 4135-4142. Attachment

Prabhakara, Akarsh — Carnegie Mellon University
JIN, TAO — Carnegie Mellon University
Das, Arnav — University of Washington
Bhatt, Gantavya — University of Washington
Kumari, Lilly — University of Washington
soltanaghai, Elahe — University of Illinois Urbana-Champaign
Bilmes, Jeff — University of Washington
Kumar, Swarun — Carnegie Mellon University
Rowe, Anthony — Carnegie Mellon University

15:00-16:40 TuPO2S-23.4

Pyramid Learnable Tokens for 3D LiDAR Place Recognition, pp. 4143-4149.

Wen, Congcong — New York University Abu Dhabi
Huang, Hao — New York University
Liu, Yu-Shen — Tsinghua University
Fang, Yi — New York University

15:00-16:40 TuPO2S-23.5

A Decoupled and Linear Framework for Global Outlier Rejection Over Planar Pose Graph, pp. 4150-4156.

Wu, Tianyue — Zhejiang University
Gao, Fei — Zhejiang University

15:00-16:40 TuPO2S-23.6

Robust Incremental Smoothing and Mapping (riSAM), pp. 4157-4163. Attachment

McGann, Daniel — Carnegie Mellon University
Rogers III, John G. — US Army Research Laboratory
Kaess, Michael — Carnegie Mellon University

15:00-16:40 TuPO2S-23.7

Real-Time Simultaneous Localization and Mapping with LiDAR Intensity, pp. 4164-4170.

Du, Wenqiang — Polytechnique Montreal
Beltrame, Giovanni — Ecole Polytechnique De Montreal

15:00-16:40 TuPO2S-23.8

IMODE: Real-Time Incremental Monocular Dense Mapping Using Neural Field, pp. 4171-4177. Attachment

Matsuki, Hidenobu — Imperial College London
Sucar, Edgar — Imperial College London
Laidlow, Tristan — Imperial College London
Wada, Kentaro — Mujin, Inc
Scona, Raluca — Ocado Technology
Davison, Andrew J — Imperial College London

15:00-16:40 TuPO2S-23.9

Probabilistic Uncertainty Quantification of Prediction Models with Application to Visual Localization, pp. 4178-4184.

Chen, Junan — Cornell University
Monica, Josephine — Cornell University
Chao, Wei-Lun — Cornell University
Campbell, Mark — Cornell University

15:00-16:40 TuPO2S-23.10

Extrinsic Calibration for Highly Accurate Trajectories Reconstruction, pp. 4185-4192. Attachment

Vaidis, Maxime	Université Laval
Dubois, William	Université Laval
Guénette, Alexandre	Université Laval
Laconte, Johann	University of Toronto
Kubelka, Vladimir	Örebro University
Pomerleau, Francois	Université Laval

15:00-16:40 TuPO2S-23.11

Cerberus: Low-Drift Visual-Inertial-Leg Odometry for Agile Locomotion, pp. 4193-4199. Attachment

Yang, Shuo	Carnegie Mellon University
Zhang, Zixin	Carnegie Mellon University
Fu, Zhengyu	The Hong Kong University of Science and Technology
Manchester, Zachary	Carnegie Mellon University

15:00-16:40 TuPO2S-23.12

Ensembles of Compact, Region-Specific & Regularized Spiking Neural Networks for Scalable Place Recognition, pp. 4200-4207. Attachment

Hussaini, Somayeh	Queensland University of Technology
Milford, Michael J	Queensland University of Technology
Fischer, Tobias	Queensland University of Technology

Wednesday, May 31, 2023

WeAT1	ICC Cap Suite 7-9
Localisation 1 (Oral Session)	
Chair: Schoellig, Angela P.	TU Munich
Co-Chair: Dune, Claire	Université De Toulon
09:00-09:10	WeAT1.1
Line As a Visual Sentence: Context-Aware Line Descriptor for Visual Localization, N/A.	
Yoon, SungHo	NAVER LABS
Kim, Ayoung	Seoul National University
09:10-09:20	WeAT1.2
Robust Visual Localization of a UAV Over a Pipe-Rack Based on the Lie Group SE(3), N/A.	
Lippiello, Vincenzo	University of Naples FEDERICO II
Cacace, Jonathan	University of Naples
09:20-09:30	WeAT1.3
Finding the Right Place: Sensor Placement for UWB Time Difference of Arrival Localization in Cluttered Indoor Environments, N/A.	
Zhao, Wenda	University of Toronto
Goudar, Abhishek	University of Toronto
Schoellig, Angela P.	TU Munich
09:30-09:40	WeAT1.4
EgoNN: Egocentric Neural Network for Point Cloud Based 6DoF Relocalization at the City Scale, N/A.	
Komorowski, Jacek	Warsaw University of Technology
Wysoczanska, Monika	Warsaw University of Technology
Trzcinski, Tomasz	Warsaw University of Technology
09:40-09:50	WeAT1.5
Stein Particle Filter for Nonlinear, Non-Gaussian State Estimation, N/A.	
Afzal Maken, Fahira	Data61, CSIRO
Ramos, Fabio	University of Sydney, NVIDIA
Ott, Lionel	ETH Zurich
09:50-10:00	WeAT1.6
Faster-LIO: Lightweight Tightly Coupled Lidar-Inertial Odometry Using Parallel Sparse Incremental Voxels, N/A.	
Bai, Chunge	Tsinghua University
Xiao, Tao	Beijing Idriverplus Technology Co. Ltd
Chen, Yajie	IDRIVERPLUS
Wang, Haoqian	Tsinghua University
Zhang, Fang	Beijing Idriverplus Technology Co., Ltd
Gao, Xiang	Idriverplus.com
10:00-10:10	WeAT1.7
Homography-Based Loss Function for Camera Pose Regression, N/A.	
BOITTIAUX, Clémentin	Ifremer
Marxer, Ricard	Université De Toulon, Aix Marseille Univ, CNRS, LIS
Dune, Claire	Université De Toulon
Arnaubec, Aurélien	Ifremer
HUGEL, Vincent	University of Toulon
10:10-10:20	WeAT1.8
Broadband Sound Source Localization Via Non-Synchronous Measurements for Service Robots: A Tensor Completion Approach, N/A.	
Chen, Long	Northwestern Polytechnical University
Sun, Weize	Shenzhen University
Huang, Lei	Shenzhen University
Yu, Liang	Shanghai Jiao Tong University

WeAT2	Theatre 1
Soft Sensors and Actuators (Oral Session)	
Chair: Luigi, Manfredi	University of Dundee
Co-Chair: Choi, Hyouk Ryeol	Sungkyunkwan University
09:00-09:10	WeAT2.1
Proprioceptive Soft Pneumatic Gripper for Extreme Environments Using Hybrid Optical Fibers, N/A.	
Jamil, Babar	Sungkyunkwan University
Yoo, Gyeongjae	University of Rochester
Choi, Youngjin	Hanyang University
Rodrigue, Hugo	Sungkyunkwan University
09:10-09:20	WeAT2.2
Modeling and Characterizing Two Dielectric Elastomer Folding Actuators for Origami-Inspired Robot, N/A.	
Yang, Li	Soochow University
Zhang, Ting	Soochow University
09:20-09:30	WeAT2.3
Deployable Soft Pneumatic Networks (D-PneuNets) Actuator with Dual-Morphing Origami Chambers for High Compactness, N/A.	
Kim, Woongbae	Korea Institue of Science and Technology
Seo, Bada	Seoul National University
Yu, Sung Yol	Seoul National University
Cho, Kyu-Jin	Seoul National University, Biorobotics Laboratory
09:30-09:40	WeAT2.4
Soft Fluidic Actuator for Locomotion in Multi-Phase Environments, N/A.	
Gkliva, Roza	Tallinn University of Technology
Kruusmaa, Maarja	Tallinn University of Technology
09:40-09:50	WeAT2.5
Contact Surface and Pose Recognition: Utilizing Multipole Magnetic Tactile Sensor with Meta Learning Model (I), N/A.	
Xia, Ziwei	China University of Geosciences, Haidian District, Beijing, Chin
Fang, Bin	Tsinghua University
Sun, Fuchun	Tsinghua Univerisity
Liu, Huaping	Tsinghua University
Xu, Wei Feng	Siemens Ltd., China
Fu, Ling	Siemens Ltd., China
yang, yiyong	School of Engineering and Technology, China University of Geosci
09:50-10:00	WeAT2.6
Force/Torque-Sensorless Joint Stiffness Estimation in Articulated Soft Robots, N/A.	
Trumic, Maja	University of Belgrade
Grioli, Giorgio	Istituto Italiano Di Tecnologia
Jovanovic, Kosta	University of Belgrade, Serbia
Fagiolini, Adriano	University of Palermo
10:00-10:10	WeAT2.7
Retractable Locking System Driven by Shape Memory Alloy Actuator for Lightweight Soft Robotic Application, N/A. Attachment	
Gong, Young Jin	SungKyunKwan University(SKKU)
Hwang, Seong Taek	Sungkyunkwan University(SKKU)
Yang, Sang Yul	Sungkyunkwan University
Kim, Kihyeon	Sungkyunkwan University
Park, Jae Hyeong	Sungkwunkwan University
Jung, Hosang	Sungkyunkwan University
Shin, Dongsu	Sungkyunkwan University
Choi, Hyouk Ryeol	Sungkyunkwan University
10:10-10:20	WeAT2.8
Elastic-Actuation Mechanism for Repetitive Hopping Based on Power Modulation and Cyclic Trajectory Generation (I), N/A.	
Shin, Won Dong	EPFL
Stewart, William	Ecole Polytechnique Federale De Lausanne
ESTRADA, MATTHEW	École Polytechnique Fédérale De Lausanne

Ijspeert, Auke	EPFL
Floreano, Dario	Ecole Polytechnique Federal, Lausanne

WeAT3	ICC Cap Suite 2-4
Manipulation and Grasping I (Oral Session)	
Chair: Dogar, Mehmet R	University of Leeds
Co-Chair: Liu, Yunhui	Chinese University of Hong Kong
09:00-09:10	WeAT3.1
Learning-Based Fabric Folding and Box Wrapping, N/A.	
Wang, Xiaoman	Harbin Institute of Technology, Shenzhen
Zhao, Jie	Harbin Institute of Technology, Shenzhen
Jiang, Xin	Harbin Institute of Technology, Shenzhen
Liu, Yunhui	Chinese University of Hong Kong
09:10-09:20	WeAT3.2
Few-Shot Instance Grasping of Novel Objects in Clutter, N/A.	
Guo, Weikun	Fudan University
Li, Wei	Fudan University
Hu, Ziye	Fudan University
Gan, Zhongxue	ENN Group
09:20-09:30	WeAT3.3
TransCG: A Large-Scale Real-World Dataset for Transparent Object Depth Completion and a Grasping Baseline, N/A.	
Fang, Hongjie	Shanghai Jiao Tong University
Fang, Hao-Shu	Shanghai Jiao Tong University
Xu, Sheng	Shanghai Jiao Tong University
Lu, Cewu	ShangHai Jiao Tong University
09:30-09:40	WeAT3.4
Dual-Arm Control for Coordinated Fast Grabbing and Tossing of an Object (I), N/A.	
Bombile, Michael Bosongo	Ecole Polytechnique Federale De Lausanne (EPFL)
Billard, Aude	EPFL
09:40-09:50	WeAT3.5
RBO Hand 3 - a Platform for Soft Dexterous Manipulation (I), N/A.	
Puhlmann, Steffen	TU Berlin
Harris, Jason	Technische Universitaet Berlin
Brock, Oliver	Technische Universität Berlin
09:50-10:00	WeAT3.6
A Multi-DoF Exoskeleton Haptic Device for the Grasping of a Compliant Object Adapting to a User's Motion Using Jamming Transitions (I), N/A.	
Michikawa, Ryohei	Kyoto University
Endo, Takahiro	Kyoto University
Matsuno, Fumitoshi	Kyoto University
10:00-10:10	WeAT3.7
Peg-In-Hole Assembly with Dual-Arm Robot and Dexterous Robot Hands, N/A.	
Lee, Dong-Hyuk	Korea Institute of Industrial Technology (KITECH)
Choi, Myoung-Su	KITECH, UST
Park, Hyeonjun	Korea Institute of Robotics & Technology Convergence
Jang, Ga-Ram	Korea Institute of Industrial Technology
Park, Jae-Han	Korea Institute of Industrial Technology
Bae, Ji-Hun	Korea Institute of Industrial Technology
10:10-10:20	WeAT3.8
Manipulation Planning Using Wave Variables, N/A.	
Pitakwatchara, Phongsaen	Chulalongkorn University
Arunrat, Jetnipit	Chula University
10:20-10:30	WeAT3.9
Active Inference and Behavior Trees for Reactive Action Planning and Execution in Robotics (I), N/A.	
Pezzato, Corrado	Delft University of Technology
Hernández, Carlos	Delft University of Technology

Bonhof, Stefan	TU Delft
Wisse, Martijn	Delft University of Technology

WeAT4	South Gallery Rms 20-22
Human Centered and Inspired Robotics (Oral Session)	
Chair: Ivaldi, Serena	INRIA
Co-Chair: Lynch, Kevin	Northwestern University
09:00-09:10	WeAT4.1
Physically Consistent Preferential Bayesian Optimization for Food Arrangement, N/A.	
Kwon, Yuhwan	Nara Institute of Science and Technology
Tsurumine, Yoshihisa	Nara Institute of Science and Technology
Shimmura, Takeshi	Ritsumeikan University
Kawamura, Sadao	Ritsumeikan University
Matsubara, Takamitsu	Nara Institute of Science and Technology
09:10-09:20	WeAT4.2
Multi-Objective Trajectory Optimization to Improve Ergonomics in Human Motion, N/A.	
Gomes, Waldez	Université Paris-Saclay
Maurice, Pauline	Cnrs - Loria
Dalin, Eloise	INRIA
Mouret, Jean-Baptiste	Inria
Ivaldi, Serena	INRIA
09:20-09:30	WeAT4.3
Interactive Dynamic Walking: Learning Gait Switching Policies with Generalization Guarantees, N/A.	
Chand, Prem	University of Delaware
Veer, Sushant	NVIDIA
Poulakakis, Ioannis	University of Delaware
09:30-09:40	WeAT4.4
Deep Predictive Model Learning with Parametric Bias: Handling Modeling Difficulties and Temporal Model Changes (I), N/A.	
Kawaharazuka, Kento	The University of Tokyo
Okada, Kei	The University of Tokyo
Inaba, Masayuki	The University of Tokyo
09:40-09:50	WeAT4.5
Power-Based Velocity-Domain Variable Structure Passivity Signature Control for Physical Human-(Tele)Robot Interaction (I), N/A.	
Paik, Peter	New York University
Thudi, Smrithi	New York University
Atashzar, S. Farokh	New York University (NYU), US
09:50-10:00	WeAT4.6
Human-Multirobot Collaborative Mobile Manipulation: The Omnid Mocobots, N/A. Attachment	
Elwin, Matthew	Northwestern University
Strong, Billie	Northwestern University
Freeman, Randy	Northwestern University
Lynch, Kevin	Northwestern University

WeAT5	ICC Cap Suite 10-12
Deep Learning for Visual Perception (Oral Session)	
Chair: Belter, Dominik	Poznan University of Technology
Co-Chair: Zhu, Yuke	The University of Texas at Austin
09:00-09:10	WeAT5.1
TransDSSL: Transformer Based Depth Estimation Via Self-Supervised Learning, N/A.	
HAN, DAECHAN	Sejong University
SHIN, JEONGMIN	Sejong Uninversity
Kim, Namil	NAVER LABS
Hwang, Soonmin	Carnegie Mellon University
Choi, Yukyung	Sejong University

09:10-09:20 WeAT5.2

Stereo Plane R-CNN: Accurate Scene Geometry Reconstruction Using Planar Segments and Camera-Agnostic Representation, N/A.

Wietrzykowski, Jan — Poznan University of Technology
Belter, Dominik — Poznan University of Technology

09:20-09:30 WeAT5.3

Object-Aware Monocular Depth Prediction with Instance Convolutions, N/A.

Simsar, Enis — ETH Zurich
Örnek, Evin Pinar — TU Munich
Manhardt, Fabian — Google
Dhamo, Helisa — Technische Universität München
Navab, Nassir — TU Munich
Tombari, Federico — Technische Universität München

09:30-09:40 WeAT5.4

Uncertainty Guided Policy for Active Robotic 3D Reconstruction Using Neural Radiance Fields, N/A.
Attachment

Lee, Soomin — Oracle
Chen, Le — ETH Zurich
Wang, Jiahao — ETH Zurich
Liniger, Alexander — ETH Zurich
Kumar, Suryansh — ETH Zurich
Yu, Fisher — ETH Zürich

09:40-09:50 WeAT5.5

Detaching and Boosting: Dual Engine for Scale-Invariant Self-Supervised Monocular Depth Estimation, N/A.

Jiang, Peizhe — Northwestern Polytechnical University
Yang, Wei — Baidu
Ye, xiaoqing — Baidu Inc
Tan, Xiao — Baidu
Wu, Meng — Northwestern Polytechnical University

09:50-10:00 WeAT5.6

Lidar Upsampling with Sliced Wasserstein Distance, N/A.

Savkin, Artem — TUM
Wang, Yida — Technical University of Munich
Wirkert, Sebastian — German Cancer Research Center
Navab, Nassir — TU Munich
Tombari, Federico — Technische Universität München

10:00-10:10 WeAT5.7

Accurate 3D Single Object Tracker with Local-To-Global Feature Refinement, N/A.

fan, baojie — Nanjing University of Posts and Telecommunications
Wang, Kai — Nanjing University of Posts and Telecommunications
zhou, wuyang — Nanjing University of Posts and Telecommunications
Yang, Yu Shi — Nanjing University of Posts and Telecommunications
Ma, Kaiwei — Nanjing University of Posts and Telecommunications
Jiang, Guoping — Nanjing University of Posts and Telecommunications

10:10-10:20 WeAT5.8

Self-Supervised Point Cloud Understanding Via Mask Transformer and Contrastive Learning, N/A.

WANG, DI — University of Macau
Yang, Zhi-Xin — University of Macau

WeAT6 — ICC Cap Suite 14-16

Aerial Robots and Autonomous Agents (Oral Session)

Chair: Pucci, Daniele — Italian Institute of Technology
Co-Chair: Stramigioli, Stefano — University of Twente

09:00-09:10 WeAT6.1

Aggregation Functions for Simultaneous Attitude and Image Estimation with Event Cameras at High Angular Rates, N/A.

Ng, Matthew — Singapore University of Technology and Design
Er, Zi Min — Singapore University of Technology and Design

Soh, Gim Song	Singapore University of Technology and Design
Foong, Shaohui	Singapore University of Technology and Design

09:10-09:20 WeAT6.2

RAST: Risk-Aware Spatio-Temporal Safety Corridors for MAV Navigation in Dynamic Uncertain Environments, N/A.
Attachment

Chen, Gang	Delft University of Technology
Wu, Siyuan	Delft University of Technology
Shi, Moji	Delft University of Technology
Dong, Wei	Shanghai Jiao Tong University
Zhu, Hai	Chinese Academy of Military Sciences
Alonso-Mora, Javier	Delft University of Technology

09:20-09:30 WeAT6.3

Energy Aware Impedance Control of a Flying End-Effector in the Port-Hamiltonian Framework (I), N/A.

Rashad, Ramy	University of Twente
Bicego, Davide	University of Twente
Zult, Jelle	Bond High Performance 3D Technology
Sanchez-Escalonilla, Santiago	University of Twente
Jiao, Ran	Beihang University
Franchi, Antonio	University of Twente
Stramigioli, Stefano	University of Twente

09:30-09:40 WeAT6.4

Momentum-Based Extended Kalman Filter for Thrust Estimation on Flying Multibody Robots, N/A.

Mohamed, Hosameldin Awadalla Omer	Italian Institute of Technology
Nava, Gabriele	Istituto Italiano Di Tecnologia
L'Erario, Giuseppe	Istituto Italiano Di Tecnologia
Traversaro, Silvio	Istituto Italiano Di Tecnologia
Bergonti, Fabio	Italian Institute of Technology
Fiorio, Luca	Istituto Italiano Di Tecnologia
Vanteddu, Punith Reddy	Istituto Italiano Di Tecnologia
Braghin, Francesco	Politecnico Di Milano
Pucci, Daniele	Italian Institute of Technology

09:40-09:50 WeAT6.5

Overcoming Bias: Equivariant Filter Design for Biased Attitude Estimation with Online Calibration, N/A.

Fornasier, Alessandro	University of Klagenfurt
Ng, Yonhon	Australian National University
Brommer, Christian	University of Klagenfurt
Böhm, Christoph	University Klagenfurt
Mahony, Robert	Australian National University
Weiss, Stephan	Universität Klagenfurt

09:50-10:00 WeAT6.6

DIDER: Discovering Interpretable Dynamically Evolving Relations, N/A.

Sachdeva, Enna	Honda Research Institute
Choi, Chiho	Honda Research Institute

10:00-10:10 WeAT6.7

A Global Max-Flow-Based Multi-Resolution Next-Best-View Method for Reconstruction of 3D Unknown Objects, N/A.

Pan, Sicong	University of Bonn
Wei, Hui	Fudan University

10:10-10:20 WeAT6.8

A Stack-Of-Tasks Approach Combined with Behavior Trees: A New Framework for Robot Control, N/A.

Cáceres Domínguez, David	Örebro University
Iannotta, Marco	Örebro University
Stork, Johannes A.	Orebro University
Schaffernicht, Erik	Örebro University, AASS Research Center
Stoyanov, Todor	Örebro University

WePO1S-01 Room T8

Medical Robotics I (Poster Session)

09:00-10:40 WePO1S-01.1

Demonstration-Guided Reinforcement Learning with Efficient Exploration for Task Automation of Surgical Robot, pp. 4640-4647. Attachment

Huang, Tao	The Chinese University of Hong Kong
Chen, Kai	The Chinese University of Hong Kong
LI, Bin	The Chinese University of Hong Kong
Liu, Yunhui	Chinese University of Hong Kong
Dou, Qi	The Chinese University of Hong Kong

09:00-10:40 WePO1S-01.2

Dual-Robot Collaborative System for Autonomous Venous Access Based on Ultrasound and Bioimpedance Sensing Technology, pp. 4648-4653. Attachment

Koskinopoulou, Maria	Istituto Italiano Di Tecnologia (IIT)
Acemoglu, Alperen	Istituto Italiano Di Tecnologia
Penza, Veronica	Istituto Italiano Di Tecnologia
Mattos, Leonardo	Istituto Italiano Di Tecnologia

09:00-10:40 WePO1S-01.3

Vitreoretinal Surgical Robotic System with Autonomous Orbital Manipulation Using Vector-Field Inequalities, pp. 4654-4660. Attachment

Koyama, Yuki	The University of Tokyo
Marques Marinho, Murilo	The University of Tokyo
Harada, Kanako	The University of Tokyo

09:00-10:40 WePO1S-01.4

Autonomous Needle Navigation in Retinal Microsurgery: Evaluation in Ex Vivo Porcine Eyes, pp. 4661-4667. Attachment

Zhang, Peiyao	Johns Hopkins University
Kim, Ji Woong	Johns Hopkins University
Gehlbach, Peter	Johns Hopkins Medical Institute
Iordachita, Ioan Iulian	Johns Hopkins University
Kobilarov, Marin	Johns Hopkins University

09:00-10:40 WePO1S-01.5

Dynamic Modeling and Identification of a Robotic Intracardiac Echo Catheter, pp. 4668-4674. Attachment

Salehizadeh, Mohammad	Harvard Medical School, Brigham and Women's Hospital
Pedrosa, Filipe	Western University
Bassan, Harmanpreet	The University of Western Ontario
Patel, Rajnikant V.	The University of Western Ontario
Jayender, Jagadeesan	Harvard Medical School, Brigham and Women's Hospital

09:00-10:40 WePO1S-01.6

Modeling of a Robotic Transcatheter Delivery System, pp. 4675-4681.

Nayar, Namrata Unnikrishnan	Georgia Institute of Technology, RoboMed Lab
Qi, Ronghuai	Georgia Institute of Technology
Desai, Jaydev P.	Georgia Institute of Technology

09:00-10:40 WePO1S-01.7

A Handheld Hydraulic Cardiac Catheter with Omnidirectional Manipulator and Touch Sensing, pp. 4682-4688.

Chi Cong, Nguyen	University of New South Wales
Davies, James J.	University of New South Wales
Thai, Mai Thanh	University of New South Wales
Hoang, Trung Thien	University of New South Wales
Phan, Phuoc Thien	University of New South Wales
Zhu, Kefan	UNSW Sydney
Tran, Dang Bao Nhi	RMIT
Ho, Van	Japan Advanced Institute of Science and Technology
La, Hung	University of Nevada at Reno
PHAN, HOANG PHUONG	The University of Tokyo
Lovell, Nigel Hamilton	University of New South Wales
Do, Thanh Nho	University of New South Wales

09:00-10:40 WePO1S-01.8

Optimized Design and Analysis of Active Propeller-Driven Capsule Endoscopic Robot for Gastric Examination, pp. 4689-4695.

Zhang, Yi	Southern University of Science and Technology
Wang, Weihao	Southern University of Science and Technology
Ke, Wende	Southern University of Science and Technology
Hu, Chengzhi	Southern University of Science and Technology

09:00-10:40 WePO1S-01.9

QuadMag: A Mobile-Coil System with Enhanced Magnetic Actuation Efficiency and Dexterity, pp. 4696-4702. Attachment

Yang, Lidong	The Hong Kong Polytechnic University
Zhang, Moqiu	The Chinese University of Hong Kong
Yang, Zhengxin	The Chinese Univeristy of HongKong
Yang, Haojin	The Chinese University of Hong Kong
Zhang, Li	The Chinese University of Hong Kong

09:00-10:40 WePO1S-01.10

Evaluating the Feasibility of Magnetic Tools for the Minimum Dynamic Requirements of Microneurosurgery, pp. 4703-4709. Attachment

Forbrigger, Cameron	University of Toronto
Fredin, Erik	University of Toronto
Diller, Eric D.	University of Toronto

09:00-10:40 WePO1S-01.11

A Novel Concentric Tube Steerable Drilling Robot for Minimally Invasive Treatment of Spinal Tumors Using Cavity and U-Shape Drilling Techniques, pp. 4710-4716. Attachment

Sharma, Susheela	University of Texas at Austin
Park, Ji Hwan	The University of Texas at Austin
Amadio, Jordan P.	University of Texas Dell Medical School
Khadem, Mohsen	University of Edinburgh
Alambeigi, Farshid	University of Texas at Austin

09:00-10:40 WePO1S-01.12

Magnetic Ball Chain Robots for Endoluminal Interventions, pp. 4717-4723. Attachment

Pittiglio, Giovanni	Harvard University
Mencattelli, Margherita	Boston Children's Hospital, Harvard Medical School
Dupont, Pierre	Children's Hospital Boston, Harvard Medical School

WePO1S-02 Room T8

Medical Imaging and Perception II (Poster Session)

09:00-10:40 WePO1S-02.1

Robotic Navigation Autonomy for Subretinal Injection Via Intelligent Real-Time Virtual iOCT Volume Slicing, pp. 4724-4731. Attachment

Dehghani, Shervin	TUM
Sommersperger, Michael	Technical University of Munich
Zhang, Peiyao	Johns Hopkins University
Martin-Gomez, Alejandro	Johns Hopkins University
Busam, Benjamin	Technical University of Munich
Gehlbach, Peter	Johns Hopkins Medical Institute
Navab, Nassir	TU Munich
Nasseri, M. Ali	Technische Universitaet Muenchen
Iordachita, Ioan Iulian	Johns Hopkins University

09:00-10:40 WePO1S-02.2

3D Reconstruction of Tibia and Fibula Using One General Model and Two X-Ray Images, pp. 4732-4738. Attachment

Pan, Kai	University of Technology Sydney
Zhang, Shuai	University of Technology Sydney
Zhao, Liang	University of Technology Sydney
Huang, Shoudong	University of Technology, Sydney
Zhang, Yanhao	Australian National University
wang, hua	Osteoarthropathy Surgery Department, Shenzhen People's Hospital
Luo, Qi	Osteoarthropathy Surgery Department, Shenzhen People's Hospital

09:00-10:40 WePO1S-02.3

Semantic-SuPer: A Semantic-Aware Surgical Perception Framework for Endoscopic Tissue Classification, Reconstruction, and Tracking, pp. 4739-4746. Attachment

Lin, Shan	University of California, San Diego
Miao, Albert	University of California, San Diego
Lu, Jingpei	University of California San Diego
Yu, Shunkai	UC San Diego
Chiu, Zih-Yun	University of California, San Diego
Richter, Florian	University of California, San Diego
Yip, Michael C.	University of California, San Diego

09:00-10:40 WePO1S-02.4

Suture Thread Spline Reconstruction from Endoscopic Images for Robotic Surgery with Reliability-Driven Keypoint Detection, pp. 4747-4753. Attachment

Joglekar, Neelay	University of California, San Diego
LIU, FEI	UCSD
Orosco, Ryan	University of California, San Diego
Yip, Michael C.	University of California, San Diego

09:00-10:40 WePO1S-02.5

CDFI: Cross Domain Feature Interaction for Robust Bronchi Lumen Detection, pp. 4754-4760. Attachment

Xu, Jiasheng	Shanghai Jiao Tong University
Zhang, Tianyi	Shanghai Jiao Tong University
Wu, Yangqian	Shanghai Jiao Tong University
yang, jie	Shanghai Jiaotong University
Yang, Guang-Zhong	Shanghai Jiao Tong University
Gu, Yun	SJTU

09:00-10:40 WePO1S-02.6

Real-Time Constrained 6D Object-Pose Tracking of an In-Hand Suture Needle for Minimally Invasive Robotic Surgery, pp. 4761-4767. Attachment

Chiu, Zih-Yun	University of California, San Diego
Richter, Florian	University of California, San Diego
Yip, Michael C.	University of California, San Diego

09:00-10:40 WePO1S-02.7

Exploring Robot-Assisted Optical Coherence Elastography for Surgical Palpation, pp. 4768-4774.

Chang, Yeonhee	DGIST
Ahronovich, Elan	Vanderbilt ARMA
Simaan, Nabil	Vanderbilt University
Song, Cheol	DGIST

09:00-10:40 WePO1S-02.8

Locate before Segment: Topology-Guided Retinal Layer Segmentation in Optical Coherence Tomography Images, pp. 4775-4781.

LU, Ye	The Chinese University of Hong Kong
SHEN, Yutian	The Chinese University of Hong Kong
Xing, Xiaohan	The Chinese University of Hong Kong
Meng, Max Q.-H.	The Chinese University of Hong Kong

WePO1S-03 Room T8

Medical Imaging and Perception III (Poster Session)

09:00-10:40 WePO1S-03.1

Visual Tracking of Needle Tip in 2D Ultrasound Based on Global Features in a Siamese Architecture, pp. 4782-4788. Attachment

Yan, Wanquan	The Chinese University of HongKong
Ding, Qingpeng	The Chinese University of Hong Kong
Chen, Jianghua	The Chinese University of Hong Kong
Yan, Kim	The Chinese University of Hong Kong
Tang, Raymond Shing-Yan	The Chinese University of Hong Kong
Cheng, Shing Shin	The Chinese University of Hong Kong

09:00-10:40 WePO1S-03.2

Model-Based Pose Estimation of Steerable Catheters under Bi-Plane Image Feedback, pp. 4789-4796. Attachment

Lawson, Jared	Vanderbilt University
Chitale, Rohan	Vanderbilt University Medical Center
Simaan, Nabil	Vanderbilt University

09:00-10:40 WePO1S-03.3

Pose Quality Prediction for Vision Guided Robotic Shoulder Arthroplasty, pp. 4797-4804.

Windsor, Morgan	Queensland University of Technology
Peng, Jing	Queensland University of Technology (QUT)
Gupta, Ashish	Queensland University of Technology
Pivonka, Peter	Queensland University of Technology
Milford, Michael J	Queensland University of Technology

09:00-10:40 WePO1S-03.4

Image Segmentation for Continuum Robots from a Kinematic Prior, pp. 4805-4811.

Watson, Connor	Morimoto Lab, UCSD
Nguyen, Anna	University of California San Diego
Morimoto, Tania K.	University of California San Diego

WePO1S-04 Room T8

Object Detection I (Poster Session)

09:00-10:40 WePO1S-04.1

Robust Collaborative 3D Object Detection in Presence of Pose Errors, pp. 4812-4818.

Lu, Yifan	Shanghai Jiao Tong University
Li, Quanhao	Nanjing University
Liu, Baoan	Meta
Dianati, Mehrdad	University of Warwick
Feng, Chen	New York University
Chen, Siheng	Shanghai Jiao Tong University
Wang, Yanfeng	Shanghai Jiao Tong University

09:00-10:40 WePO1S-04.2

Joint Semi-Supervised and Active Learning Via 3D Consistency for 3D Object Detection, pp. 4819-4825. Attachment

Hwang, Sihwan	Korea Advanced Institute of Science and Technology
Kim, Sanmin	KAIST
Kim, YoungSeok	Korea Advanced Institute of Science and Technology
Kum, Dongsuk	KAIST

09:00-10:40 WePO1S-04.3

StereoVoxelNet: Real-Time Obstacle Detection Based on Occupancy Voxels from a Stereo Camera Using Deep Neural Networks, pp. 4826-4833. Attachment

Li, Hongyu	Northeastern University
Li, Zhengang	Northeastern University
Akmandor, Neset Unver	Northeastern University
Jiang, Huaizu	Northeastern University
Wang, Yanzhi	Northeastern University
Padir, Taskin	Northeastern University

09:00-10:40 WePO1S-04.4

Perceiving Unseen 3D Objects by Poking the Objects, pp. 4834-4841. Attachment

Chen, Linghao	Zhejiang University
Song, Yunzhou	Zhejiang University
Bao, Hujun	Zhejiang University
Zhou, Xiaowei	Zhejiang University

09:00-10:40 WePO1S-04.5

MonoPGC: Monocular 3D Object Detection with Pixel Geometry Contexts, pp. 4842-4849.

Wu, Zizhang	Zongmu Technology
Gan, Yuanzhu	Zongmu Technology
Robin, Wang, Lei	Zongmu Technology
Chen, Guilian	Zongmu Technology
Pu, Jian	Fudan University

09:00-10:40 WePO1S-04.6

CrossDTR: Cross-View and Depth-Guided Transformers for 3D Object Detection, pp. 4850-4857. Attachment

Tseng, Ching-Yu	National Taiwan University
Chen, Yi-Rong	National Taiwan University
Lee, Hsin-Ying	National Taiwan University
Wu, Tsung-Han	National Taiwan University
Chen, Wen-chin	National Taiwan University
Hsu, Winston	National Taiwan University

09:00-10:40 WePO1S-04.7

DOTIE - Detecting Objects through Temporal Isolation of Events Using a Spiking Architecture, pp. 4858-4864. Attachment

Nagaraj, Manish	Purdue University
Liyanagedera, Chamika Mihiranga	Purdue University
Roy, Kaushik	Purdue University

09:00-10:40 WePO1S-04.8

CEAFFOD: Cross-Ensemble Attention-Based Feature Fusion Architecture towards a Robust and Real-Time UAV-Based Object Detection in Complex Scenarios, pp. 4865-4872.

Elhagry, Ahmed	MBZUAI
Dai, Hang	Mohamed Bin Zayed University of Artificial Intelligence
El Saddik, Abdulmotaleb	University of Ottawa
Gueaieb, Wail	University of Ottawa
De Masi, Giulia	Technology Innovation Institute

WePO1S-05 Room T8

Depth Estimation and RGB-D Sensing (Poster Session)

09:00-10:40 WePO1S-05.1

Test Time Domain Adaptation for Monocular Depth Estimation, pp. 4873-4879. Attachment

Li, Zhi	Max Planck Institute for Informatics
Shi, Shaoshuai	Max Planck Institute for Informatics
Schiele, Bernt	Max Planck
Dai, Dengxin	ETH Zurich

09:00-10:40 WePO1S-05.2

TODE-Trans: Transparent Object Depth Estimation with Transformer, pp. 4880-4886.

chen, kang	University of Science and Technology of China
Wang, Shaochen	University of Science and Technology of China
Xia, Beihao	Huazhong University of Science and Technology
Li, Dongxu	University of Science and Technology of China
Kan, Zhen	University of Science and Technology of China
Li, Bin	University of Science and Technology of China

09:00-10:40 WePO1S-05.3

Learning Depth Completion of Transparent Objects Using Augmented Unpaired Data, pp. 4887-4894. Attachment

Erich, Floris Marc Arden	National Institute of Advanced Industrial Science and Technology
Leme, Bruno	University of Florida
Ando, Noriaki	National Institute of Advanced Industrial Science and Technology
Hanai, Ryo	National Institute of Industrial Science and Technology(AIST)
Domae, Yukiyasu	The National Institute of Advanced Industrial Science and Techno

09:00-10:40 WePO1S-05.4

Lightweight Monocular Depth Estimation Via Token-Sharing Transformer, pp. 4895-4901.

Lee, Dong-Jae	Korea Advanced Institute of Science & Technology (KAIST)
Lee, Jae Young	Korea Advanced Institute of Science and Technology
Shon, Hyounguk	Korea Advanced Institute of Science and Technology
Yi, Eojindl	KAIST
Park, Yeong-Hun	Hyundai Mobis
Cho, Sung-Sik	Hyundai Mobis
Kim, Junmo	KAIST

09:00-10:40 WePO1S-05.5

Improved Event-Based Dense Depth Estimation Via Optical Flow Compensation, pp. 4902-4908.

Shi, Dianxi	Peking University
Jing, Luoxi	Peking University
Li, Ruihao	Defense Innovation Institute
Liu, Zhe	National University of Defense Technology
Xu, Huachi	Defense Innovation Institute
Wang, Lin	National University of Defense Technology
Zhang, Yi	Defense Innovation Institute

09:00-10:40 WePO1S-05.6

TTCDist: Fast Distance Estimation from an Active Monocular Camera Using Time-To-Contact, pp. 4909-4915. Attachment

Burner, Levi	University of Maryland, College Park
Sanket, Nitin	University of Maryland, College Park
Fermuller, Cornelia	University of Maryland
Aloimonos, Yiannis	University of Maryland

09:00-10:40 WePO1S-05.7

STEPS: Joint Self-Supervised Nighttime Image Enhancement and Depth Estimation, pp. 4916-4923. Attachment

Zheng, Yupeng	School of Artificial Intelligence, University of Chinese Academy
Zhong, Chengliang	Tsinghua University
Li, Pengfei	Institute for AI Industry Research (AIR), Tsinghua University
Gao, Huan-ang	Tsinghua University
Zheng, Yuhang	Beihang University
Jin, Bu	Institute of Automation, Chinese Academy of Sciences
Wang, Ling	Xi'an Research Institute of High-Tech
Zhao, Hao	Tsinghua University
Zhou, Guyue	Tsinghua University
Zhang, Qichao	Institute of Automation, Chinese Academy of Sciences
Zhao, Dongbin	Chinese Academy of Sciences

09:00-10:40 WePO1S-05.8

FG-Depth: Flow-Guided Unsupervised Monocular Depth Estimation, pp. 4924-4930. Attachment

Zhu, Junyu	Zhejiang University
Liu, Lina	Zhejiang University
Liu, Yong	Zhejiang University
li, wanlong	Beijing Huawei Digital Technologies Co., Ltd
Wen, Feng	Huawei Technologies Co., Ltd
Zhang, Hongbo	Huawei Technologies

09:00-10:40 WePO1S-05.9

Light-Weight Pointcloud Representation with Sparse Gaussian Process, pp. 4931-4937. Attachment

Ali, Mahmoud	Indiana University
Liu, Lantao	Indiana University

09:00-10:40 WePO1S-05.10

Test-Time Synthetic-To-Real Adaptive Depth Estimation, pp. 4938-4944.

Yi, Eojindl	KAIST
Kim, Junmo	KAIST

09:00-10:40 WePO1S-05.11

Unseen Object Instance Segmentation with Fully Test-Time RGB-D Embeddings Adaptation, pp. 4945-4952.

Zhang, Lu	Institute of Automation, Chinese Academy of Science
Zhang, Siqi	Institute of Automation, Chinese Academy of Science
Yang, Xu	Chinese Academy of Sciences, Institute of Automation
Qiao, Hong	Institute of Automation, Chinese Academy of Sciences
Liu, Zhiyong	Institute of Automation Chinese Academy of Sciences

09:00-10:40 WePO1S-05.12

Robust Double-Encoder Network for RGB-D Panoptic Segmentation, pp. 4953-4959.

Sodano, Matteo	Photogrammetry and Robotics Lab, University of Bonn
Magistri, Federico	University of Bonn
Guadagnino, Tiziano	Sapienza University of Rome
Behley, Jens	University of Bonn

Stachniss, Cyrill — University of Bonn

WePO1S-06 — Room T8
3D Vision (Poster Session)

09:00-10:40 — WePO1S-06.1

Explain What You See: Open-Ended Segmentation and Recognition of Occluded 3D Objects, pp. 4960-4966.

Ayoobi, Hamed	Imperial College London
Kasaei, Hamidreza	University of Groningen
Cao, Ming	University of Groningen
Verbrugge, Rineke	University of Groningen
Verheij, Bart	University of Groningen

09:00-10:40 — WePO1S-06.2

GMCR: Graph-Based Maximum Consensus Estimation for Point Cloud Registration, pp. 4967-4974. Attachment

Gentner, Michael	Technical University of Munich
Murali, Prajval Kumar	BMW Group and University of Glasgow
Kaboli, Mohsen	BMW Group and Radboud University, Donders Institute for Brain An

09:00-10:40 — WePO1S-06.3

Toward Cooperative 3D Object Reconstruction with Multi-Agent, pp. 4975-4982. Attachment

Li, Xiong	Zhejiang University of Technology
Wen, Zhenyu	Zhejiang University of Technology
leiqiang, zhou	Zhejiang University of Technology
LI, ChenWei	Zhejiang University of Technology
zhou, yejian	Zhejiang University of Technology
Li, Taotao	Zhejiang
Hong, Zhen	Zhejiang University of Technology

09:00-10:40 — WePO1S-06.4

SwinDepth: Unsupervised Depth Estimation Using Monocular Sequences Via Swin Transformer and Densely Cascaded Network, pp. 4983-4990.

Shim, Dongseok	Seoul National University
Kim, H. Jin	Seoul National University

WePO1S-07 — Room T8
Learning from Demonstration (Poster Session)

09:00-10:40 — WePO1S-07.1

GAN-Based Interactive Reinforcement Learning from Demonstration and Human Evaluative Feedback, pp. 4991-4998.

Huang, Jie	Ocean University of China
Hao, Jiangshan	Ocean University of China
Juan, Rongshun	Tianjin University
Gomez, Randy	Honda Research Institute Japan Co., Ltd
Nakamura, Keisuke	Honda Research Institute Japan Co., Ltd
Li, Guangliang	Ocean University of China

09:00-10:40 — WePO1S-07.2

Demonstration-Guided Optimal Control for Long-Term Non-Prehensile Planar Manipulation, pp. 4999-5005. Attachment

Xue, Teng	Idiap/EPFL
Girgin, Hakan	Idiap Research Institute, EPFL
Lembono, Teguh Santoso	Idiap Research Institute
Calinon, Sylvain	Idiap Research Institute

09:00-10:40 — WePO1S-07.3

Learning Reward Functions for Robotic Manipulation by Observing Humans, pp. 5006-5012. Attachment

Alakuijala, Minttu	Inria
Dulac-Arnold, Gabriel	Google
Mairal, Julien	INRIA
Ponce, Jean	Ecole Normale Supérieure
Schmid, Cordelia	Inria

09:00-10:40 WePO1S-07.4

Data-Driven Stochastic Motion Evaluation and Optimization with Image by Spatially-Aligned Temporal Encoding, pp. 5013-5019. Attachment

Oba, Takeru — Toyota Technological Institute
UKITA, Norimichi — Toyota Technological Institute

09:00-10:40 WePO1S-07.5

Demonstration-Bootstrapped Autonomous Practicing Via Multi-Task Reinforcement Learning, pp. 5020-5026. Attachment

Gupta, Abhishek — University of Washington
Lynch, Corey — Google Brain
Kinman, Brandon — Google LLC
Peake, Garrett — Google Inc
Levine, Sergey — UC Berkeley
Hausman, Karol — Google Brain

09:00-10:40 WePO1S-07.6

Minimizing Human Assistance: Augmenting a Single Demonstration for Deep Reinforcement Learning, pp. 5027-5033. Attachment

George, Abraham — Carnegie Mellon University
Bartsch, Alison — Carnegie Mellon University
Barati Farimani, Amir — Carnegie Mellon University

09:00-10:40 WePO1S-07.7

Learning Robotic Cutting from Demonstration: Non-Holonomic DMPs Using the Udwadia-Kalaba Method, pp. 5034-5040. Attachment

Straizys, Arturas — University of Edinburgh
Burke, Michael — Monash University
Ramamoorthy, Subramanian — The University of Edinburgh

09:00-10:40 WePO1S-07.8

KRIS: A Novel Device for Kinesthetic Corrective Feedback During Robot Motion, pp. 5041-5047.

Verhggen, Jorn — Vrije Universiteit
Baraka, Kim — Vrije Universiteit Amsterdam

09:00-10:40 WePO1S-07.9

Guided Learning from Demonstration for Robust Transferability, pp. 5048-5054. Attachment

Sukkar, Fouad — University of Technology Sydney
Hernandez Moreno, Victor — University of Technology Sydney
Vidal-Calleja, Teresa A. — University of Technology Sydney
Deuse, Jochen — Centre for Advanced Manufacturing, School for Mechanical and Mec

09:00-10:40 WePO1S-07.10

One-Shot Visual Imitation Via Attributed Waypoints and Demonstration Augmentation, pp. 5055-5062. Attachment

Chang, Matthew — University of Illinois at Urbana-Champaign
Gupta, Saurabh — UIUC

09:00-10:40 WePO1S-07.11

Show Me What You Want: Inverse Reinforcement Learning to Automatically Design Robot Swarms by Demonstration, pp. 5063-5070. Attachment

Gharbi, Ilyes — Université Libre De Bruxelles
Kuckling, Jonas — Université Libre De Bruxelles
Garzón Ramos, David — Université Libre De Bruxelles
Birattari, Mauro — Université Libre De Bruxelles

09:00-10:40 WePO1S-07.12

Immersive Demonstrations Are the Key to Imitation Learning, pp. 5071-5077. Attachment

Li, Kelin — Imperial College London
Chappell, Digby — Imperial College London
Rojas, Nicolas — Imperial College London

WePO1S-08 Room T8

Learning for Locomotion (Poster Session)

09:00-10:40 WePO1S-08.1

DreamWaQ: Learning Robust Quadrupedal Locomotion with Implicit Terrain Imagination Via Deep Reinforcement Learning, pp. 5078-5084. Attachment

Nahrendra, I Made Aswin — KAIST
Yu, Byeongho — KAIST
Myung, Hyun — KAIST (Korea Advanced Institute of Science and Technology)

09:00-10:40 WePO1S-08.2

Learning Low-Frequency Motion Control for Robust and Dynamic Robot Locomotion, pp. 5085-5091. Attachment

Gangapurwala, Siddhant — University of Oxford
campanaro, luigi — University of Oxford
Havoutis, Ioannis — University of Oxford

09:00-10:40 WePO1S-08.3

OPT-Mimic: Imitation of Optimized Trajectories for Dynamic Quadruped Behaviors, pp. 5092-5098. Attachment

Fuchioka, Yuni — University of British Columbia
Xie, Zhaoming — Stanford University
van de Panne, Michiel — University of British Columbia

09:00-10:40 WePO1S-08.4

Learning to Walk by Steering: Perceptive Quadrupedal Locomotion in Dynamic Environments, pp. 5099-5105. Attachment

Seo, Mingyo — The University of Texas at Austin
Gupta, Ryan — University of Texas at Austin
Zhu, Yifeng — The University of Texas at Austin
Skoutnev, Alexy — University of Texas at Austin
Sentis, Luis — The University of Texas at Austin
Zhu, Yuke — The University of Texas at Austin

09:00-10:40 WePO1S-08.5

Legs As Manipulator: Pushing Quadrupedal Agility Beyond Locomotion, pp. 5106-5112. Attachment

Cheng, Xuxin — Carnegie Mellon University
Kumar, Ashish — UC Berkeley
Pathak, Deepak — Carnegie Mellon University

09:00-10:40 WePO1S-08.6

Force Control for Robust Quadruped Locomotion: A Linear Policy Approach, pp. 5113-5119. Attachment

Shirwatkar, Aditya — Indian Institute of Science Bengaluru
Kurva, Vamshi Kumar — IISc
Vinoda, Devaraju — Indian Institute of Science, Bengaluru
Singh, Aman — Indian Institute of Science
Sagi, Aditya Varma — Indian Institute of Science
Lodha, Himanshu — Stoch Lab, Indian Institute of Science, Bengaluru
Goswami, Bhavya Giri — Indian Institute of Science (IISc), Bengaluru
Sood, Shivam — Indian Institute of Technology Kharagpur
Nehete, Ketan — Stoch Lab, Indian Institute of Science, Bengaluru
Kolathaya, Shishir — Indian Institute of Science

09:00-10:40 WePO1S-08.7

Advanced Skills through Multiple Adversarial Motion Priors in Reinforcement Learning, pp. 5120-5126.

Vollenweider, Eric — ETH, Microsoft
Bjelonic, Marko — ETH Zurich
Klemm, Victor — ETH Zurich
Rudin, Nikita — ETH Zurich, NVIDIA
lee, joonho — ETH Zurich Robotic Systems Laboratory
Hutter, Marco — ETH Zurich

09:00-10:40 WePO1S-08.8

Deep Reinforcement Learning Based Personalized Locomotion Planning for Lower-Limb Exoskeletons, pp. 5127-5133. Attachment

K. Mehr, Javad — University of Alberta
Guo, Edward — University of Alberta
Akbari, Mojtaba — University of Alberta

Mushahwar, Vivian K.	University of Alberta
Tavakoli, Mahdi	University of Alberta

09:00-10:40 WePO1S-08.9

Expanding Versatility of Agile Locomotion through Policy Transitions Using Latent State Representation, pp. 5134-5140. Attachment

Galelli Christmann, Guilherme Henrique	Inventec Corporation
Soeseno, Jonathan Hans	Inventec Corporation
Luo, Ying-Sheng	Inventec Corp
Chen, Wei-Chao	Inventec Inc

09:00-10:40 WePO1S-08.10

Sim-To-Real Transfer for Quadrupedal Locomotion Via Terrain Transformer, pp. 5141-5147. Attachment

Lai, Hang	Shanghai Jiao Tong University
Zhang, Weinan	Shanghai Jiao Tong University
He, Xialin	Shanghai Jiao Tong University
Yu, Chen	ShanghaiTech University
TIAN, ZHENG	ShanghaiTech University
Yu, Yong	Shanghai Jiao Tong University
Wang, Jun	University College London

09:00-10:40 WePO1S-08.11

Agile and Versatile Robot Locomotion Via Kernel-Based Residual Learning, pp. 5148-5154. Attachment

Carroll, Milo	University of Edinburgh
Liu, Zhaocheng	The University of Edinburgh
Kasaei, Mohammadreza	University of Edinburgh
Li, Zhibin	University College London

09:00-10:40 WePO1S-08.12

DribbleBot: Dynamic Legged Manipulation in the Wild, pp. 5155-5162. Attachment

Ji, Yandong	MIT
Margolis, Gabriel	Massachusetts Institute of Technology
Agrawal, Pulkit	MIT

WePO1S-09 Room T8
Marine Robotics III (Poster Session)

09:00-10:40 WePO1S-09.1

Knowledge Distillation for Feature Extraction in Underwater VSLAM, pp. 5163-5169.

Yang, Jinghe	The University of Melbourne
Gong, Mingming	The University of Melbourne
Nair, Girish	University of Melbourne
Lee, Jung Hoon	The University of Melbourne
Monty, Jason	The University of Melbourne
Pu, Ye	University of Melbourne

09:00-10:40 WePO1S-09.2

OysterNet: Enhanced Oyster Detection Using Simulation, pp. 5170-5176. Attachment

Lin, Xiaomin	University of Maryland
Sanket, Nitin	University of Maryland, College Park
Karapetyan, Nare	University of Maryland
Aloimonos, Yiannis	University of Maryland

09:00-10:40 WePO1S-09.3

SyreaNet: A Physically Guided Underwater Image Enhancement Framework Integrating Synthetic and Real Images, pp. 5177-5183. Attachment

Wen, Junjie	The Chinese University of Hong Kong
Cui, Jinqiang	Peng Cheng Laboratory
Zhao, Zhenjun	The Chinese University of Hong Kong
YAN, Ruixin	The Chinese University of Hong Kong
Gao, Zhi	Temasek Laboratories @ NUS
Dou, Lihua	Beijing Institue of Technology
Chen, Ben M.	Chinese University of Hong Kong

09:00-10:40 WePO1S-09.4

Real-Time Dense 3D Mapping of Underwater Environments, pp. 5184-5191. Attachment

Wang, Weihan	Stevens Institute of Technology
Joshi, Bharat	University of South Carolina
Burgdorfer, Nathaniel	Stevens Institute of Technology
BATSOS, KONSTANTINOS	Stevens Institute of Technoiogy
Quattrini Li, Alberto	Dartmouth College
Mordohai, Philippos	Stevens Institute of Technology
Rekleitis, Ioannis	University of South Carolina

09:00-10:40 WePO1S-09.5

SM/VIO: Robust Underwater State Estimation Switching between Model-Based and Visual Inertial Odometry, pp. 5192-5199. Attachment

Joshi, Bharat	University of South Carolina
Damron, Hunter	University of South Carolina
Rahman, Sharmin	Amazon
Rekleitis, Ioannis	University of South Carolina

09:00-10:40 WePO1S-09.6

Image-Based Visual Servoing Switchable Leader-Follower Control of Heterogeneous Multi-Agent Underwater Robot System, pp. 5200-5206. Attachment

yao, kanzhong	University of Manchester
Bauschmann, Nathalie	Hamburg University of Technology
Alff, Thies Lennart	Technische Universität Hamburg
Cheah, Wei	The University of Manchester
Duecker, Daniel Andre	Technical University of Munich (TUM)
Groves, Keir	The University of Manchester
Marjanovic, Ognjen	University of Manchester
Watson, Simon	University of Manchester

09:00-10:40 WePO1S-09.7

Buoyancy Enabled Autonomous Underwater Construction with Cement Blocks, pp. 5207-5213. Attachment

Lensgraf, Samuel	Dartmouth College
Balkcom, Devin	Dartmouth College
Quattrini Li, Alberto	Dartmouth College

09:00-10:40 WePO1S-09.8

Mapping Waves with an Uncrewed Surface Vessel Via Gaussian Process Regression, pp. 5214-5220. Attachment

Sears, Thomas M. C.	Queen's University
Cooper, Michael Riley	Queen's University
Marshall, Joshua A.	Queen's University

WePO1S-10 Room T8

Compliance and Impedance Control (Poster Session)

09:00-10:40 WePO1S-10.1

Enforcing Constraints for Dynamic Obstacle Avoidance by Compliant Robots, pp. 5221-5227. Attachment

Koutras, Leonidas	Aristotle University of Thessaloniki
Vlachos, Konstantinos	Aristotle University of Thessaloniki
Kanakis, George	Aristotle University of Thessaloniki
Dimeas, Fotios	Aristotle University of Thessaloniki
Doulgeri, Zoe	Aristotle University of Thessaloniki
Rovithakis, George	Aristotel University of Thessaloniki

09:00-10:40 WePO1S-10.2

Increasing Admittance of Industrial Robots by Velocity Feedback Inner-Loop Shaping, pp. 5228-5234. Attachment

Samuel, Kangwagye	DGIST
Haninger, Kevin	Fraunhofer IPK
Oh, Sehoon	DGIST

09:00-10:40 WePO1S-10.3

Bounded Compensation with Friction Estimation for Accurate Motion Tracking and Compliant Behavior of Industrial Manipulators, pp. 5235-5241. Attachment

Ko, Dongwoo	POSTECH
Lee, Donghyeon	Pohang University of Science and Technology(POSTECH)

Chung, Wan Kyun	POSTECH
Kim, Keehoon	POSTECH, Pohang University of Science and Technology

09:00-10:40 WePO1S-10.4

A Passivity-Based Approach on Relocating High-Frequency Robot Controller to the Edge Cloud, pp. 5242-5248. Attachment

Chen, Xiao	Technical University of Munich
Sadeghian, Hamid	Technical University of Munich
Chen, Lingyun	Technical University of Munich
Troebinger, Mario	Technical University of Munich
Swikir, Abdalla	Technical University of Munich
Naceri, Abdeldjallil	Technical University of Munich
Haddadin, Sami	Technical University of Munich

09:00-10:40 WePO1S-10.5

A Framework for Simultaneous Workpiece Registration in Robotic Machining Applications, pp. 5249-5255. Attachment

Lloyd, Steffan	Carleton University
Irani, Rishad	Carleton University
Ahmadi, Mojtaba	Carleton University

09:00-10:40 WePO1S-10.6

Contact Force Control with Continuously Compliant Robotic Legs, pp. 5256-5262.

Bendfeld, Robin	University of Stuttgart
Remy, C. David	University of Stuttgart

09:00-10:40 WePO1S-10.7

Generalization of Impact Response Factors for Proprioceptive Collaborative Robots, pp. 5263-5268. Attachment

Relaño, Carlos	University Carlos III of Madrid
Sanz-Merodio, Daniel	Arquimea Research Center
López Estévez, Miguel	Arquimea Research Center
Monje, Concepción A.	University Carlos III of Madrid

09:00-10:40 WePO1S-10.8

Robotic Fastening with a Manual Screwdriver, pp. 5269-5275. Attachment

Tang, Ling	Iowa State University
Jia, Yan-Bin	Iowa State University

WePO1S-11 Room T8

Robot Control (Poster Session)

09:00-10:40 WePO1S-11.1

Model and Acceleration-Based Pursuit Controller for High Performance Autonomous Racing, pp. 5276-5283. Attachment

Becker, Jonathan	ETH Zurich
Imholz, Nadine	ETH
Schwarzenbach, Luca	ETH
Ghignone, Edoardo	ETH
Baumann, Nicolas	ETH
Magno, Michele	ETH

09:00-10:40 WePO1S-11.2

Extremum Seeking-Based Adaptive Sliding Mode Control with Sliding Perturbation Observer for Robot Manipulators, pp. 5284-5290.

Khan, Muhammad Hamza	Pusan National University
Lee, Min Cheol	Pusan National University

09:00-10:40 WePO1S-11.3

Experimental Validation of Functional Iterative Learning Control on a One-Link Flexible Arm, pp. 5291-5297.

Drost, Sjoerd	Delft University of Technology, Delft, the Netherlands
Pustina, Pietro	Sapienza University of Rome
Angelini, Franco	University of Pisa
De Luca, Alessandro	Sapienza University of Rome
Smit, Gerwin	Delft University of Technology
Della Santina, Cosimo	TU Delft

09:00-10:40 WePO1S-11.4

Robust Output Feedback Controller for a Serial Robotic Manipulator with Unknown Nonlinearities and External Disturbances, pp. 5298-5303. Attachment

Al Saaideh, Mohammad — Memorial University of Newfoundland
Boker, Almuatazbellah — Virginia Tech
Al Janaideh, Mohammad — Memorial University &University of Toronto

09:00-10:40 WePO1S-11.5

Collaborative Control Based on Payload Leading for Multi-Quadrotors Transportation Systems, pp. 5304-5309. Attachment

Ping, Yuan — Tianjin University
Wang, Mingming — Tianjin University
Qi, Juntong — Shanghai University
Wu, Chong — EFY Intelligent Control (Tianjin) Technology Co., Ltd
Guo, Jinjin — Tianjin University

09:00-10:40 WePO1S-11.6

Torque Control with Joints Position and Velocity Limits Avoidance, pp. 5310-5316.

Pasandi, Venus — Italian Institute of Technology
Pucci, Daniele — Italian Institute of Technology

09:00-10:40 WePO1S-11.7

Low-Level Controller in Response to Changes in Quadrotor Dynamics, pp. 5317-5323. Attachment

Cho, Jaekyung — Seoul National University
Kim, Chan — Seoul National University
M Jaffar, Mohamed Khalid — University of Maryland, College Park
Otte, Michael W. — University of Maryland
Kim, Seong-Woo — Seoul National University

WePO1S-12 Room T8

Aerial Systems: Manipulation and Control (Poster Session)

09:00-10:40 WePO1S-12.1

Biodegradable Origami Gripper Actuated with Gelatin Hydrogel for Aerial Sensor Attachment to Tree Branches, pp. 5324-5330. Attachment

Geckeler, Christian — ETH Zürich
Armas Pizzani, Benito — ETH Zurich
Mintchev, Stefano — ETH Zurich

09:00-10:40 WePO1S-12.2

PARSEC: An Aerial Platform for Autonomous Deployment of Self-Anchoring Payloads on Natural Vertical Surfaces, pp. 5331-5337. Attachment

Spieler, Patrick — JPL
Wei, Skylar — Caltech
Li, Monica — UC Berkeley
Galassi, Andrew — UC Berkeley
Uckert, Kyle — Jet Propulsion Laboratory
kalantari, arash — NASA JPL
Burdick, Joel — California Institute of Technology

09:00-10:40 WePO1S-12.3

Autonomous Control for Orographic Soaring of Fixed-Wing UAVs, pp. 5338-5344. Attachment

Suys, Tom — Delft University of Technology
Hwang, Sunyou — TU Delft
de Croon, Guido — TU Delft
Remes, Bart — Delft University of Technology

09:00-10:40 WePO1S-12.4

Stable Contact Guaranteeing Motion/Force Control for an Aerial Manipulator on an Arbitrarily Tilted Surface, pp. 5345-5351. Attachment

Byun, Jeonghyun — Seoul National University
Kim, Byeongjun — Seoul National University
Kim, Changhyeon — Seoul National University
Oh, Donggeon David — Seoul National University
Kim, H. Jin — Seoul National University

09:00-10:40 WePO1S-12.5

Design and Control of a Micro Overactuated Aerial Robot with an Origami Delta Manipulator, pp. 5352-5358. Attachment

Cuniato, Eugenio	ETH Zurich
Geckeler, Christian	ETH Zürich
Brunner, Maximilian	ETH Zurich
Strübin, Dario	ETH Zurich
Bähler, Elia	ETH Zurich
Ospelt, Fabian	ETH Zurich
Tognon, Marco	Irisa Cnrs Umr6074
Mintchev, Stefano	ETH Zurich
Siegwart, Roland	ETH Zurich

09:00-10:40 WePO1S-12.6

Simplifying Aerial Manipulation Using Intentional Collisions, pp. 5359-5365. Attachment

Nail, Mark	University of Michigan
Janne, Nicholas	University of Michigan
Ma, Olivia	University of Michigan
Arellano, Gabriel	University of Michigan
Atkins, Ella	University of Michigan
Gillespie, Brent	University of Michigan

09:00-10:40 WePO1S-12.7

Hierarchical Whole-Body Control of the Cable-Suspended Aerial Manipulator Endowed with Winch-Based Actuation, pp. 5366-5372. Attachment

Sarkisov, Yuri	SberAutoTech
Coelho, Andre	German Aerospace Center (DLR)
Santos, Maihara Gabrieli	Instituto Tecnologico De Aeronautica
Kim, Min Jun	KAIST
Tsetserukou, Dzmitry	Toyohashi University of Technology
Ott, Christian	TU Wien
Kondak, Konstantin	German Aerospace Center

09:00-10:40 WePO1S-12.8

Heading for the Abyss: Control Strategies for Exploiting Swinging of a Descending Tethered Aerial Robot, pp. 5373-5378. Attachment

Polzin, Max	EPFL
Centamori, Frank	EPFL
Hughes, Josie	EPFL

09:00-10:40 WePO1S-12.9

Vector Field Aided Trajectory Tracking by a 10-Gram Flapping-Wing Micro Aerial Vehicle, pp. 5379-5385. Attachment

NDOYE, Abdoullah	Aix Marseille Université, CNRS, ISM and Gipsa-Lab
Castillo Zamora, José de Jesús	Aix-Marseille Universite, ISM CNRS
Samorah-Laki, Sabrine	Aix Marseille Université, CNRS, ISM
Miot, Romain	XTIM - Bionic Bird
Van Ruymbeke, Edwin	XTIM - Bionic Bird
Ruffier, Franck	CNRS / Aix-Marseille Univ

09:00-10:40 WePO1S-12.10

Globally Defined Dynamic Modelling and Geometric Tracking Controller Design for Aerial Manipulator, pp. 5386-5392. Attachment

Kim, Byeongjun	Seoul National University
Lee, Dongjae	Seoul National University
Byun, Jeonghyun	Seoul National University
Kim, H. Jin	Seoul National University

09:00-10:40 WePO1S-12.11

FlowDrone: Wind Estimation and Gust Rejection on UAVs Using Fast-Response Hot-Wire Flow Sensors, pp. 5393-5399. Attachment

Simon, Nathaniel	Princeton University
Ren, Allen Z.	Princeton University
Pique, Alex	Princeton University
Snyder, David	Princeton University
Barretto, Daphne	Princeton University
Hultmark, Marcus	Princeton University

Majumdar, Anirudha — Princeton University

09:00-10:40 — WePO1S-12.12

AutoCharge: Autonomous Charging for Perpetual Quadrotor Missions, pp. 5400-5406. Attachment

Saviolo, Alessandro — New York University
Mao, Jeffrey — New York University
Thalaivirithan Margabandu Balakrishnan, Roshan Balu — New York University
Radhakrishnan, Vivek — Technology Innovation Institute, New York University
Loianno, Giuseppe — New York University

WePO1S-13 — Room T8
Micro Robotics (Poster Session)

09:00-10:40 — WePO1S-13.1

DQN-Based On-Line Path Planning Method for Automatic Navigation of Miniature Robots, pp. 5407-5413. Attachment

JIANG, Jialin — The Chinese University of HONG KONG
Yang, Lidong — The Hong Kong Polytechnic University
Zhang, Li — The Chinese University of Hong Kong

09:00-10:40 — WePO1S-13.2

Rendezvous and Docking of Magnetic Helical Microrobots Along Arc Orbits for Field-Directed Assembly and Disassembly, pp. 5414-5419.

Wang, Shuideng — City University of Hongkong
YU, Zejie — City University of Hong Kong
Hou, Chaojian — City University of Hong Kong
Wang, Kun — City University of Hong Kong
Dong, Lixin — City University of Hong Kong

09:00-10:40 — WePO1S-13.3

MRI-Powered Magnetic Miniature Capsule Robot with HIFU-Controlled On-Demand Drug Delivery, pp. 5420-5425. Attachment

Tiryaki, Mehmet Efe — Max Plank Institute for Intelligent Systems
Doğangün, Fatih — Max Planck Institute for Intelligent Systems
DAYAN, Cem Balda — Max Planck Institute for Intelligent Systems
Wrede, Paul — Max Planck Institute for Intelligent Systems Stuttgart
Sitti, Metin — Max-Planck Institute for Intelligent Systems

09:00-10:40 — WePO1S-13.4

Structural Design and Frequency Tuning of Piezoelectric Energy Harvesters Based on Topology Optimization, pp. 5426-5432.

Homayouni-Amlashi, Abbas — FEMTO-ST Institute, Université Bourgogne Franche
Rakotondrabe, Micky — Laboratoire Génie De Production (LGP)
Mohand Ousaid, Abdenbi — University of Franche-Comte

09:00-10:40 — WePO1S-13.5

Input-Output Boundedness of a Magnetically-Actuated Helical Device, pp. 5433-5438. Attachment

Ligtenberg, Leendert-Jan Wouter — University of Twente
Khalil, Islam S.M. — University of Twente

09:00-10:40 — WePO1S-13.6

Atomic-Level Tracking and Analyzing of Quantum-Dot Motion Steered by an Electrostatic Field Positioned by a Nanorobotic Manipulation Tip, pp. 5439-5444.

QU, Zhi — City University of Hong Kong
WENQI, Zhang — City University of HongKong
Dong, Lixin — City University of Hong Kong

09:00-10:40 — WePO1S-13.7

3D-Printed Adaptive Microgripper Driven by Thin-Film NiTi Actuators, pp. 5445-5451. Attachment

Kim, Sukjun — Carnegie Mellon University
Bergbreiter, Sarah — Carnegie Mellon University

09:00-10:40 — WePO1S-13.8

Automatic Cell Rotation Method Based on Deep Reinforcement Learning, pp. 5452-5458.

Gong, Huiying — Nankai University
Zhang, Yujie — Nankai University
Liu, Yaowei — Nankai University
Zhao, Qili — Nankai University

Zhao, Xin	Nankai University
Sun, Mingzhu	Nankai University

09:00-10:40 WePO1S-13.9

Noncontact Particle Manipulation on Water Surface with Ultrasonic Phased Array System and Microscopic Vision, pp. 5459-5465.

Zhang, Yexin	ShanghaiTech University
Li, Jiaqi	ShanghaiTech University
Jia, Yuyu	ShanghaiTech University
LI, Teng	Tsinghua University
su, hu	Institute of Automation, Chinese Academy of Science
LIU, Song	ShanghaiTech University
Jeong, David C.	Santa Clara University
Wang, Yang	Shanghaitech University

09:00-10:40 WePO1S-13.10

Real-Time Acoustic Holography with Iterative Unsupervised Learning for Acoustic Robotic Manipulation, pp. 5466-5472.

Zhong, Chengxi	ShanghaiTech University
Sun, Zhenhuan	Shanghaitech University
LI, Teng	Tsinghua University
su, hu	Institute of Automation, Chinese Academy of Science
LIU, Song	ShanghaiTech University

WePO1S-14 Room T8

Multi-Robot Systems III (Poster Session)

09:00-10:40 WePO1S-14.1

ROSMC: A High-Level Mission Operation Framework for Heterogeneous Robotic Teams, pp. 5473-5479. Attachment

Sakagami, Ryo	German Aerospace Center (DLR)
Brunner, Sebastian Georg	DLR German Aerospace Center, Robotics and Mechatronics Center
Dömel, Andreas	German Aerospace Center (DLR)
Wedler, Armin	DLR - German Aerospace Center
Stulp, Freek	DLR - Deutsches Zentrum Für Luft Und Raumfahrt E.V

09:00-10:40 WePO1S-14.2

Non-Cooperative Stochastic Target Encirclement by Anti-Synchronization Control Via Range-Only Measurement, pp. 5480-5485. Attachment

Liu, Fen	Guangdong University of Technology
Yuan, Shenghai	Nanyang Technological University
Meng, Wei	Guangdong University of Technology
Su, Rong	Nanyang Technological University
Xie, Lihua	NanyangTechnological University

09:00-10:40 WePO1S-14.3

Estimation of Continuous Environments by Robot Swarms: Correlated Networks and Decision-Making, pp. 5486-5492. Attachment

Raoufi, Mohsen	Technical University of Berlin
Romanczuk, Pawel	Humboldt-Unviersity Berkin
Hamann, Heiko	University of Konstanz

09:00-10:40 WePO1S-14.4

FogROS2: An Adaptive Platform for Cloud and Fog Robotics Using ROS 2, pp. 5493-5500. Attachment

Ichnowski, Jeffrey	Carnegie Mellon University
Chen, Kaiyuan	University of California, Berkeley
Dharmarajan, Karthik	UC Berkeley
Adebola, Simeon Oluwafunmilore	University of California, Berkeley
Danielczuk, Michael	UC Berkeley
Mayoral-Vilches, Victor	Klagenfurt University
Jha, Nikhil	University of California, Berkeley
Zhan, Hugo	UC Berkeley
LLontop, Edith	University of California, Berkely
Xu, Derek	UC Berkeley
Buscaron, Camilo	Anytime.ai
Kubiatowicz, John	UC Berkeley

Stoica, Ion	UC Berkeley
Gonzalez, Joseph E.	UC Berkeley
Goldberg, Ken	UC Berkeley

09:00-10:40 WePO1S-14.5

Stackelberg Games for Learning Emergent Behaviors During Competitive Autocurricula, pp. 5501-5507. Attachment

Yang, Boling	University of Washington
Zheng, Liyuan	University of Washington
Ratliff, Lillian	University of Washington
Boots, Byron	University of Washington
Smith, Joshua R.	University of Washington

09:00-10:40 WePO1S-14.6

On Legible and Predictable Robot Navigation in Multi-Agent Environments, pp. 5508-5514. Attachment

Bastarache, Jean-Luc	University of Waterloo
Nielsen, Christopher	University of Waterloo
Smith, Stephen L.	University of Waterloo

09:00-10:40 WePO1S-14.7

Explainable Action Advising for Multi-Agent Reinforcement Learning, pp. 5515-5521. Attachment

Guo, Yue	Carnegie Mellon University
Campbell, Joseph	Carnegie Mellon University
Stepputtis, Simon	Carnegie Mellon University
Li, Ruiyu	Carnegie Mellon University
Hughes, Dana	Carnegie Mellon University
Fang, Fei	Carnegie Mellon University
Sycara, Katia	Carnegie Mellon University

09:00-10:40 WePO1S-14.8

A Complete Set of Connectivity-Aware Local Topology Manipulation Operations for Robot Swarms, pp. 5522-5529. Attachment

Soma, Karthik	École Polytechnique De Montréal
Khateri, Koresh	Shahid Beheshti University
Pourgholi, Mahdi	Shahid Beheshti University
montazeri, mohsen	Shahid Beheshti University
Sabattini, Lorenzo	University of Modena and Reggio Emilia
Beltrame, Giovanni	Ecole Polytechnique De Montreal

09:00-10:40 WePO1S-14.9

Decentralized Multi-Agent Exploration with Limited Inter-Agent Communications, pp. 5530-5536. Attachment

He, Hans	Virginia Tech
Koppel, Alec	JP Morgan Chase
Bedi, Amrit Singh	University of Maryland, College Park
Stilwell, Daniel	Virginia Tech
Farhood, Mazen	Virginia Tech
Biggs, Benjamin	Virginia Polytechnic Institute and State University

09:00-10:40 WePO1S-14.10

A Distributed Online Optimization Strategy for Cooperative Robotic Surveillance, pp. 5537-5543. Attachment

Pichierri, Lorenzo	University of Bologna
Carnevale, Guido	University of Bologna
Sforni, Lorenzo	Alma Mater Studiorum - Università Di Bologna
Testa, Andrea	University of Bologna
Notarstefano, Giuseppe	University of Bologna

09:00-10:40 WePO1S-14.11

Risk-Aware Recharging Rendezvous for a Collaborative Team of UAVs and UGVs, pp. 5544-5550.

Asghar, Ahmad Bilal	University of Toronto
Shi, Guangyao	University of Maryland
Karapetyan, Nare	University of Maryland
Humann, James	DEVCOM Army Research Laboratory,
Reddinger, Jean-Paul	DEVCOM Army Research Laboratory,
Dotterweich, James	Engility Corp
Tokekar, Pratap	University of Maryland

09:00-10:40 WePO1S-14.12

Cross-Agent Relocalization for Decentralized Collaborative SLAM, pp. 5551-5557.

Bänninger, Philipp — ETH Zurich
Alzugaray, Ignacio — Imperial College London
Karrer, Marco — ETH Zurich
Chli, Margarita — ETH Zurich

WePO1S-15 Room T8

Intelligent Transportation Systems III (Poster Session)

09:00-10:40 WePO1S-15.1

Planning with Occluded Traffic Agents Using Bi-Level Variational Occlusion Models, pp. 5558-5565.

Christianos, Filippos — University of Edinburgh
Karkus, Peter — NVIDIA
Ivanovic, Boris — NVIDIA
Albrecht, Stefano V. — University of Edinburgh
Pavone, Marco — Stanford University

09:00-10:40 WePO1S-15.2

Robust Forecasting for Robotic Control: A Game-Theoretic Approach, pp. 5566-5573.

Agarwal, Shubhankar — University of Texas at Austin
Fridovich-Keil, David — The University of Texas at Austin
Chinchali, Sandeep — The University of Texas at Austin

09:00-10:40 WePO1S-15.3

Spatial-Temporal-Aware Safe Multi-Agent Reinforcement Learning of Connected Autonomous Vehicles in Challenging Scenarios, pp. 5574-5580. Attachment

Zhang, Zhili — University of Connecticut
Han, Songyang — University of Connecticut
Wang, Jiangwei — University of Connecticut
Miao, Fei — University of Connecticut

09:00-10:40 WePO1S-15.4

Analyzing Infrastructure LiDAR Placement with Realistic LiDAR Simulation Library, pp. 5581-5587. Attachment

Cai, Xinyu — Shanghai AI Laboratory
Jiang, Wentao — Beihang University
Xu, Runsheng — UCLA
Zhao, Wenquan — Harbin Institute of Technology
Ma, Jiaqi — University of California, Los Angeles
Liu, Si — Beihang University
LI, Yikang — Sensetime Ltd

WePO1S-16 Room T8

Self-Driving Cars I (Poster Session)

09:00-10:40 WePO1S-16.1

Uncertainty Quantification of Collaborative Detection for Self-Driving, pp. 5588-5594. Attachment

Su, Sanbao — University of Connecticut
LI, YIMING — New York University
He, Sihong — University of Connecticut
Han, Songyang — University of Connecticut
Feng, Chen — New York University
Ding, Caiwen — University of Connecticut
Miao, Fei — University of Connecticut

09:00-10:40 WePO1S-16.2

WS-3D-Lane: Weakly Supervised 3D Lane Detection with 2D Lane Labels, pp. 5595-5601.

Ai, Jianyong — SAIC AI Lab
Ding, Wenbo — SAIC AI Lab
Zhao, Jiuhua — SAIC AI Lab
Zhong, Jiachen — SAIC AI Lab

09:00-10:40 WePO1S-16.3

One Training for Multiple Deployments: Polar-Based Adaptive BEV Perception for Autonomous Driving, pp. 5602-5609.

Yang, Huitong — ShanghaiTech University
BAI, Xuyang — Hong Kong University of Science and Technology
Zhu, Xinge — CUHK
Ma, Yuexin — ShanghaiTech University

09:00-10:40 WePO1S-16.4

Deep Occupancy-Predictive Representations for Autonomous Driving, pp. 5610-5617. Attachment

Meyer, Eivind — Technische Universität München
Peiss, Lars Frederik — Technische Universität München
Althoff, Matthias — Technische Universität München

09:00-10:40 WePO1S-16.5

PriorLane: A Prior Knowledge Enhanced Lane Detection Approach Based on Transformer, pp. 5618-5624.

Qiu, Qibo — Zhejiang Lab
Gao, Haiming — Zhejiang Lab
Hua, Wei — Zhejiang Lab
Huang, Gang — Zhejiang Lab
He, Xiaofei — Zhejiang University

09:00-10:40 WePO1S-16.6

Reinforcement Learning with Probabilistically Safe Control Barrier Functions for Ramp Merging, pp. 5625-5630. Attachment

Udatha, Soumith — Carnegie Mellon University
Lyu, Yiwei — Carnegie Mellon University
Dolan, John M. — Carnegie Mellon University

09:00-10:40 WePO1S-16.7

Self-Improving Safety Performance of Reinforcement Learning Based Driving with Black-Box Verification Algorithms, pp. 5631-5637. Attachment

Dagdanov, Resul — Eatron Yazilim Ve Muhendislik Teknolojileri A.S
Durmuş, Halil — İstanbul Technical University
Ure, Nazim Kemal — Istanbul Technical University

09:00-10:40 WePO1S-16.8

Multi-Source Domain Adaptation for Unsupervised Road Defect Segmentation, pp. 5638-5644.

YU, JONGMIN — King's College London
Oh, Hyeontaek — Korea Advanced Institute of Science and Technology
Fichera, Sebastiano — University of Liverpool
Paoletti, Paolo — University of Liverpool
LUO, SHAN — King's College London

WePO1S-17 Room T8
Motion and Path Planning III (Poster Session)

09:00-10:40 WePO1S-17.1

A Contextual Bandit Approach for Learning to Plan in Environments with Probabilistic Goal Configurations, pp. 5645-5652. Attachment

Rudra, Sohan — Google
Goel, Saksham — Google
Santara, Anirban — Google
Gentile, Claudio — Google
Perron, Laurent — Google
Xia, Fei — Google Inc
Sindhwani, Vikas — Google Brain, NYC
Parada, Carolina — Google
Aggarwal, Gaurav — Google

09:00-10:40 WePO1S-17.2

Safe and Efficient Navigation in Extreme Environments Using Semantic Belief Graphs, pp. 5653-5658. Attachment

Ginting, Muhammad Fadhil — Stanford University
Kim, Sung-Kyun — NASA Jet Propulsion Laboratory, Caltech
Peltzer, Oriana — Stanford University
Ott, Joshua — Stanford University

Jung, Sunggoo	JPL
Kochenderfer, Mykel	Stanford University
Agha-mohammadi, Ali-akbar	NASA-JPL, Caltech

09:00-10:40 WePO1S-17.3

Risk-Aware Neural Navigation from BEV Input for Interactive Driving, pp. 5659-5665. Attachment

Jiwani, Suzanna	Massachusetts Institute of Technology
Li, Xiao	MIT
Karaman, Sertac	Massachusetts Institute of Technology
Rus, Daniela	MIT

09:00-10:40 WePO1S-17.4

Informable Multi-Objective and Multi-Directional RRT System for Robot Path Planning*, pp. 5666-5673. Attachment

Huang, Jiunn-Kai	University of Michigan
Tan, Yingwen	University of Michigan
Lee, Dongmyeong	University of Michigan
Desaraju, Vishnu	Woven Planet North America
Grizzle, J.W	University of Michigan

09:00-10:40 WePO1S-17.5

Leveraging Scene Embeddings for Gradient-Based Motion Planning in Latent Space, pp. 5674-5680. Attachment

Yamada, Jun	University of Oxford
Hung, Chia-Man	University of Oxford
Collins, Jack	University of Oxford
Havoutis, Ioannis	University of Oxford
Posner, Ingmar	Oxford University

09:00-10:40 WePO1S-17.6

Sample-Driven Connectivity Learning for Motion Planning, pp. 5681-5687. Attachment

Li, Sihui	Colorado School of Mines
Dantam, Neil	Colorado School of Mines

09:00-10:40 WePO1S-17.7

Online Coverage Path Planning Scheme for a Size-Variable Robot, pp. 5688-5694.

Muthugala Arachchige, Viraj Jagathpriya Muthugala	Singapore University of Technology and Design
Samarakoon Mudiyanselage, Bhagya Prasangi Samarakoon	Singapore University of Technology and Design
Elara, Mohan Rajesh	Singapore University of Technology and Design

09:00-10:40 WePO1S-17.8

Navigation with Polytopes and B-Spline Path Planner, pp. 5695-5701. Attachment

Nguyen, Ngoc Thinh	University of Luebeck
Gangavarapu, Pranav Tej	University of Luebeck
Sahrhage, Arne	University of Luebeck
Schildbach, Georg	University of Luebeck
Ernst, Floris	University of Lübeck

WePO1S-18 Room T8

Planning under Uncertainty I (Poster Session)

09:00-10:40 WePO1S-18.1

Probabilistic Planning with Partially Ordered Preferences Over Temporal Goals, pp. 5702-5708.

Rahmani, Hazhar	University of Florida
Kulkarni, Abhishek	University of Florida, Gainesville
Fu, Jie	University of Florida

09:00-10:40 WePO1S-18.2

A Causal Decoupling Approach to Efficient Planning for Logistics Problems with Stateful Stochastic Demand, pp. 5709-5715.

Chaudhuri, Diptanil	Texas A&M University
Shell, Dylan	Texas A&M University

09:00-10:40 WePO1S-18.3

Stochastic Robustness Interval for Motion Planning with Signal Temporal Logic, pp. 5716-5722. Attachment

Ilyes, Roland	University of Colorado Boulder
Ho, Qi Heng	University of Colorado Boulder
Lahijanian, Morteza	University of Colorado Boulder

09:00-10:40 WePO1S-18.4

Planning with SiMBA: Motion Planning under Uncertainty for Temporal Goals Using Simplified Belief Guides, pp. 5723-5729. Attachment

Ho, Qi Heng — University of Colorado Boulder
Sunberg, Zachary — University of Colorado
Lahijanian, Morteza — University of Colorado Boulder

09:00-10:40 WePO1S-18.5

RAMP: A Risk-Aware Mapping and Planning Pipeline for Fast Off-Road Ground Robot Navigation, pp. 5730-5736. Attachment

Sharma, Lakshay — Massachusetts Institute of Technology
Everett, Michael — Northeastern University
Lee, Donggun — UC Berkeley
Cai, Xiaoyi — Massachusetts Institute of Technology
Osteen, Philip — U.S. Army Research Laboratory
How, Jonathan — Massachusetts Institute of Technology

09:00-10:40 WePO1S-18.6

Prioritized Robotic Exploration with Deadlines: A Comparison of Greedy, Orienteering, and Profitable Tour Approaches, pp. 5737-5743. Attachment

Datta, Sayantan — University of North Carolina at Charlotte
Akella, Srinivas — University of North Carolina at Charlotte

09:00-10:40 WePO1S-18.7

Epistemic Prediction and Planning with Implicit Coordination for Multi-Robot Teams in Communication Restricted Environments, pp. 5744-5750. Attachment

Bramblett, Lauren — University of Virginia
Gao, Shijie — University of Virginia
Bezzo, Nicola — University of Virginia

09:00-10:40 WePO1S-18.8

Uncertainty-Guided Active Reinforcement Learning with Bayesian Neural Networks, pp. 5751-5757. Attachment

Wu, Xinyang — Fraunhofer IPA
El-Shamouty, Mohamed — Fraunhofer IPA
Nitsche, Christof — Fraunhofer IPA
Huber, Marco F. — University of Stuttgart

WePO1S-19 Room T8

Task Planning (Poster Session)

09:00-10:40 WePO1S-19.1

Perturbation-Based Best Arm Identification for Efficient Task Planning with Monte-Carlo Tree Search, pp. 5758-5764. Attachment

Daejong, Jin — Chung-Ang Univercity
Park, Juhan — Chung-Ang University
Lee, Kyungjae — Chung-Ang University

09:00-10:40 WePO1S-19.2

Contingency-Aware Task Assignment and Scheduling for Human-Robot Teams, pp. 5765-5771. Attachment

Dhanaraj, Neel — University of Southern California
Varadanahalli Narayan, Santosh — University of Southern California
Nikolaidis, Stefanos — University of Southern California
Gupta, Satyandra K. — University of Southern California

09:00-10:40 WePO1S-19.3

Extracting Generalizable Skills from a Single Plan Execution Using Abstraction-Critical State Detection, pp. 5772-5778.

Elimelech, Khen — Rice University
Kavraki, Lydia — Rice University
Moshe, Vardi — Rice University

09:00-10:40 WePO1S-19.4

Efficient Planning of Multi-Robot Collective Transport Using Graph Reinforcement Learning with Higher Order Topological Abstraction, pp. 5779-5785. Attachment

Paul, Steve — University at Buffalo
Li, Wenyuan — University at Buffalo
Smyth, Brian — University at Buffalo

Chen, Yuzhou	Temple University
Gel, Yulia	University of Texas at Dallas
Chowdhury, Souma	University at Buffalo, State University of New York

09:00-10:40 WePO1S-19.5

On the Utility of Buffers in Pick-N-Swap Based Lattice Rearrangement, pp. 5786-5792. Attachment

Gao, Kai	Rutgers University
Yu, Jingjin	Rutgers University

09:00-10:40 WePO1S-19.6

On-Demand Multi-Agent Basket Picking for Shopping Stores, pp. 5793-5799. Attachment

Tiger, Mattias	AI and Integrated Computer Systems (AIICS), Linköping University
Bergström, David	Linköping University
Wijk Stranius, Simon	Linköping University
Holmgren, Evelina	Linköping University
de Leng, Daniel	Linköping University
Heintz, Fredrik	Linköping University

09:00-10:40 WePO1S-19.7

Multi-Robot Coordination and Cooperation with Task Precedence Relationships, pp. 5800-5806. Attachment

Gosrich, Walker	University of Pennsylvania
Mayya, Siddharth	Amazon Robotics
Narayan, Saaketh	University of Pennsylvania
Malencia, Matthew	University of Pennsylvania
Agarwal, Saurav	University of Pennsylvania
Kumar, Vijay	University of Pennsylvania

09:00-10:40 WePO1S-19.8

On the Programming Effort Required to Generate Behavior Trees and Finite State Machines for Robotic Applications, pp. 5807-5813. Attachment

Iovino, Matteo	ABB Corporate Research
Förster, Julian	ETH Zurich
Falco, Pietro	ABB, Corporate Research
Chung, Jen Jen	The University of Queensland
Siegwart, Roland	ETH Zurich
Smith, Claes Christian	KTH Royal Institute of Technology

WePO1S-20 Room T8

Deep Learning in Grasping and Manipulation (Poster Session)

09:00-10:40 WePO1S-20.1

Train What You Know - Precise Pick-And-Place with Transporter Networks, pp. 5814-5820. Attachment

Sóti, Gergely	Karlsruhe University of Applied Sciences
Huang, Xi	Karlsruhe Institute of Technology
Wurll, Christian	Karlsruhe University of Applied Sciences
Hein, Björn	University of Applied Sciences Karlsruhe

09:00-10:40 WePO1S-20.2

Asking for Help: Failure Prediction in Behavioral Cloning through Value Approximation, pp. 5821-5828.

Gokmen, Cem	Stanford University
Khansari, Mohi	Google X
Ho, Daniel	Google X

09:00-10:40 WePO1S-20.3

Seq2Seq Imitation Learning for Tactile Feedback-Based Manipulation, pp. 5829-5836. Attachment

Yang, Wenyan	Tampere University
Angleraud, Alexandre	Tampere University
Pieters, Roel S.	Tampere University
Pajarinen, Joni	Aalto University
Kamarainen, Joni-Kristian	Tampere University of Technology

09:00-10:40 WePO1S-20.4

SGTM 2.0: Autonomously Untangling Long Cables Using Interactive Perception, pp. 5837-5843. Attachment

Shivakumar, Kaushik	University of California Berkeley
Viswanath, Vainavi	University of California, Berkeley

Gu, Anrui	University of California, Berkeley
Avigal, Yahav	UC Berkeley
Kerr, Justin	University of California, Berkeley
Ichnowski, Jeffrey	Carnegie Mellon University
Cheng, Richard	California Institute of Technology
Kollar, Thomas	Toyota Research Institute
Goldberg, Ken	UC Berkeley

09:00-10:40 WePO1S-20.5

Online Tool Selection with Learned Grasp Prediction Models, pp. 5844-5850. Attachment

Khashayar, Rohanimanesh	Osaro Inc
Metzger, Jacob	Osaro Inc
Richards, William	Osaro, Inc
Tamar, Aviv	Technion

09:00-10:40 WePO1S-20.6

FOGL: Federated Object Grasping Learning, pp. 5851-5857.

Kang, Seok-Kyu	Sungkyunkwan University
Choi, Changhyun	University of Minnesota, Twin Cities

09:00-10:40 WePO1S-20.7

Goal-Image Conditioned Dynamic Cable Manipulation through Bayesian Inference and Multi-Objective Black-Box Optimization, pp. 5858-5864. Attachment

Takahashi, Kuniyuki	Preferred Networks, Inc
Taniguchi, Tadahiro	Ritsumeikan University

09:00-10:40 WePO1S-20.8

Learning Generalizable Pivoting Skills, pp. 5865-5871. Attachment

Zhang, Xiang	University of California, Berkeley
Jain, Siddarth	Mitsubishi Electric Research Laboratories (MERL)
Huang, Baichuan	Rutgers University
Tomizuka, Masayoshi	University of California
Romeres, Diego	Mitsubishi Electric Research Laboratories

09:00-10:40 WePO1S-20.9

Cloth Funnels: Canonicalized-Alignment for Multi-Purpose Garment Manipulation, pp. 5872-5879. Attachment

Canberk, Alper	Columbia University
Chi, Cheng	Columbia University
Ha, Huy	Columbia University
Burchfiel, Benjamin	Toyota Research Institute
Cousineau, Eric	Toyota Research Institute
Feng, Siyuan	Toyota Research Institute
Song, Shuran	Columbia University

09:00-10:40 WePO1S-20.10

RLAfford: End-To-End Affordance Learning for Robotic Manipulation, pp. 5880-5886. Attachment

Geng, Yiran	Peking University
an, boshi	Peking University
Geng, Haoran	Peking University
Chen, Yuanpei	South China University of Technology
Yang, Yaodong	Peking University
Dong, Hao	Peking University

09:00-10:40 WePO1S-20.11

Implementation and Optimization of Grasping Learning with Dual-Modal Soft Gripper, pp. 5887-5893. Attachment

zhao, lei	Anhui University of Technology
Liu, Haoyue	Tsinghua University
Li, Feihan	Tsinghua University
Ding, X.Y.	Anhui University of Technology
Sun, Yuhao	Anhui University of Technology
Sun, Fuchun	Tsinghua Univerisity
Shan, Jianhua	Anhui University of Technology
Ye, Qi	Zhejiang University
Li, Lincheng	NetEase Fuxi AI Lab
Fang, Bin	Tsinghua University

09:00-10:40 WePO1S-20.12

DefGraspNets: Grasp Planning on 3D Fields with Graph Neural Nets, pp. 5894-5901. Attachment

Huang, Isabella — UC Berkeley
Narang, Yashraj — NVIDIA
Bajcsy, Ruzena — Univ of California, Berkeley
Ramos, Fabio — University of Sydney, NVIDIA
Hermans, Tucker — University of Utah
Fox, Dieter — University of Washington

WePO1S-21 Room T8

Learning for Grasping and Manipulation III (Poster Session)

09:00-10:40 WePO1S-21.1

Option-Aware Adversarial Inverse Reinforcement Learning for Robotic Control, pp. 5902-5908.

Chen, Jiayu — Purdue University
Lan, Tian — George Washington University
Aggarwal, Vaneet — Purdue University

09:00-10:40 WePO1S-21.2

Efficiently Learning Small Policies for Locomotion and Manipulation, pp. 5909-5915. Attachment

Hegde, Shashank — University of Southern California
Sukhatme, Gaurav — University of Southern California

09:00-10:40 WePO1S-21.3

Learning Agent-Aware Affordances for Closed-Loop Interaction with Articulated Objects, pp. 5916-5922. Attachment

Schiavi, Giulio — ETH Zürich
Wulkop, Paula — ETH Zurich
Rizzi, Giuseppe Maria — ETH Zurich
Ott, Lionel — ETH Zurich
Siegwart, Roland — ETH Zurich
Chung, Jen Jen — The University of Queensland

09:00-10:40 WePO1S-21.4

SE(3)-DiffusionFields: Learning Smooth Cost Functions for Joint Grasp and Motion Optimization through Diffusion, pp. 5923-5930. Attachment

Urain De Jesus, Julen — TU Darmstadt
Funk, Niklas Wilhelm — TU Darmstadt
Peters, Jan — Technische Universität Darmstadt
Chalvatzaki, Georgia — Technische Universität Darmastadt

09:00-10:40 WePO1S-21.5

Focused Adaptation of Dynamics Models for Deformable Object Manipulation, pp. 5931-5937. Attachment

Mitrano, Peter — University of Michigan
LaGrassa, Alex — Carnegie Mellon University
Kroemer, Oliver — Carnegie Mellon University
Berenson, Dmitry — University of Michigan

09:00-10:40 WePO1S-21.6

Dexterous Manipulation from Images: Autonomous Real-World RL Via Substep Guidance, pp. 5938-5945. Attachment

Xu, Kelvin — University of California, Berkeley
Hu, Zheyuan — University of California, Berkeley
Doshi, Ria — University of California, Berkeley
Rovinsky, Aaron — University of California, Berkeley
Kumar, Vikash — Meta AI
Gupta, Abhishek — University of Washington
Levine, Sergey — UC Berkeley

09:00-10:40 WePO1S-21.7

Predicting Motion Plans for Articulating Everyday Objects, pp. 5946-5953. Attachment

Gupta, Arjun — UIUC
Shepherd, Max — UIUC
Gupta, Saurabh — UIUC

09:00-10:40 WePO1S-21.8

Dexterous Imitation Made Easy: A Learning-Based Framework for Efficient Dexterous Manipulation, pp. 5954-5961. Attachment

Arunachalam, Sridhar Pandian	New York University
Silwal, Sneha	New York University
Evans, Ben	New York University
Pinto, Lerrel	New York University

09:00-10:40 WePO1S-21.9

Holo-Dex: Teaching Dexterity with Immersive Mixed Reality, pp. 5962-5969. Attachment

Arunachalam, Sridhar Pandian	New York University
Guzey, Irmak	New York University
Chintala, Soumith	Facebook AI Research
Pinto, Lerrel	New York University

09:00-10:40 WePO1S-21.10

Online Augmentation of Learned Grasp Sequence Policies for More Adaptable and Data-Efficient In-Hand Manipulation, pp. 5970-5976. Attachment

Gordon, Ethan Kroll	University of Washington
Soltani Zarrin, Rana	Honda Research Institute - USA

09:00-10:40 WePO1S-21.11

DeXtreme: Transfer of Agile In-Hand Manipulation from Simulation to Reality, pp. 5977-5984. Attachment

Handa, Ankur	NVidia
Allshire, Arthur	University of Toronto
Makoviichuk, Viktor	NVIDIA
Petrenko, Aleksei	USC
Singh, Ritvik	NVIDIA
Liu, Jingzhou	University of Toronto, NVIDIA
Makoviichuk, Denys	Snap
Van Wyk, Karl	NVIDIA
Alexander, Zhurkevich	NVIDIA
Sundaralingam, Balakumar	NVIDIA Corporation
Narang, Yashraj	NVIDIA
Lafleche, Jean-Francois	NVIDIA
Fox, Dieter	University of Washington
State, Gavriel	NVIDIA

09:00-10:40 WePO1S-21.12

Meta-Reinforcement Learning Via Language Instructions, pp. 5985-5991. Attachment

Bing, Zhenshan	Technical University of Munich
Koch, Alexander	Technical University of Munich
Yao, Xiangtong	Technical University of Munich
Huang, Kai	Sun Yat-Sen University
Knoll, Alois	Tech. Univ. Muenchen TUM

WePO1S-22 Room T8

Machine Learning for Perception (Poster Session)

09:00-10:40 WePO1S-22.1

Improving Video Super-Resolution with Long-Term Self-Exemplars, pp. 5992-5998. Attachment

Meng, Guotao	HKUST
Wu, Yue	Hong Kong University of Science and Technology
Chen, Qifeng	HKUST

09:00-10:40 WePO1S-22.2

Learning-Based Relational Object Matching across Views, pp. 5999-6005.

Elich, Cathrin	Max Planck Institute for Intelligent Systems
Armeni, Iro	ETH Zurich
Oswald, Martin R.	ETH Zurich
Pollefeys, Marc	ETH Zurich
Stueckler, Joerg	Max Planck Institute for Intelligent Systems

09:00-10:40 WePO1S-22.3

TransVisDrone: Spatio-Temporal Transformer for Vision-Based Drone-To-Drone Detection in Aerial Videos, pp. 6006-6013. Attachment

Sangam, Tushar Bharat — University of Central Florida
Dave, Ishan Rajendrakumar — University of Central Florida
Sultani, Waqas — Informational Technology University
Shah, Mubarak — University of Central Florida

09:00-10:40 WePO1S-22.4

Unsupervised RGB-To-Thermal Domain Adaptation Via Multi-Domain Attention Network, pp. 6014-6020. Attachment

Gan, Lu — California Institute of Technology
Lee, Connor — California Institute of Technology
Chung, Soon-Jo — Caltech

09:00-10:40 WePO1S-22.5

Adaptive-SpikeNet: Event-Based Optical Flow Estimation Using Spiking Neural Networks with Learnable Neuronal Dynamics, pp. 6021-6027. Attachment

Kosta, Adarsh Kumar — Purdue University
Roy, Kaushik — Purdue University

09:00-10:40 WePO1S-22.6

Reinforced Learning for Label-Efficient 3D Face Reconstruction, pp. 6028-6034. Attachment

Mohaghegh, Hoda — University of Western Australia
Rahmani, Hossein — Lancaster University
Laga, Hamid — Murdoch University
Boussaid, Farid — The University of Western Australia
Bennamoun, Mohammed — UWA

09:00-10:40 WePO1S-22.7

Bridging the Domain Gap for Multi-Agent Perception, pp. 6035-6042.

Xu, Runsheng — UCLA
Li, Jinlong — Cleveland State University
Dong, Xiaoyu — Northwestern University
Yu, Hongkai — Cleveland State University
Ma, Jiaqi — University of California, Los Angeles

09:00-10:40 WePO1S-22.8

UPLIFT: Unsupervised Person Labeling and Identification Via Cooperative Learning with Mobile Robots, pp. 6043-6049. Attachment

Tseng, Yu-Chee — National Yang Ming Chiao Tung University
Ke, Ting-Yuan — National Yang Ming Chiao Tung University
Wu, Fang-Jing — TU Dortmund University

09:00-10:40 WePO1S-22.9

Learning to Explore Informative Trajectories and Samples for Embodied Perception, pp. 6050-6056. Attachment

Jing, Ya — Bytedance
Kong, Tao — ByteDance

09:00-10:40 WePO1S-22.10

Embodied Agents for Efficient Exploration and Smart Scene Description, pp. 6057-6064. Attachment

Bigazzi, Roberto — University of Modena and Reggio Emilia
Cornia, Marcella — University of Modena and Reggio Emilia
Cascianelli, Silvia — University of Modena and Reggio Emilia
Baraldi, Lorenzo — Università Degli Studi Di Modena E Reggio Emilia
Cucchiara, Rita — Università Degli Studi Di Modena E Reggio Emilia

09:00-10:40 WePO1S-22.11

Deep Neural Network Architecture Search for Accurate Visual Pose Estimation Aboard Nano-UAVs, pp. 6065-6071. Attachment

Cereda, Elia — USI and SUPSI
Crupi, Luca — IDSIA USI-SUPSI
Risso, Matteo — Politecnico Di Torino
Burrello, Alessio — Università Di Bologna
Benini, Luca — University of Bologna
Giusti, Alessandro — IDSIA Lugano, SUPSI
Jahier Pagliari, Daniele — Politecnico Di Torino

Palossi, Daniele	ETH Zurich

09:00-10:40 WePO1S-22.12

Reuse Your Features: Unifying Retrieval and Feature-Metric Alignment, pp. 6072-6079. Attachment

Morlana, Javier	Universidad De Zaragoza, CIF: ESU5018001G, C/ Pedro Cerbuna 12
Montiel, J.M.M	I3A. Universidad De Zaragoza

WePO1S-23 Room T8

Deep Learning for Visual Perception I (Poster Session)

09:00-10:40 WePO1S-23.1

FreDSNet: Joint Monocular Depth and Semantic Segmentation with Fast Fourier Convolutions from Single Panoramas, pp. 6080-6086. Attachment

Berenguel-Baeta, Bruno	University of Zaragoza
Bermúdez, Jesús	Universidad De Zaragoza
Guerrero, Josechu	Universidad De Zaragoza

09:00-10:40 WePO1S-23.2

CAHIR: Co-Attentive Hierarchical Image Representations for Visual Place Recognition, pp. 6087-6094.

Peng, Guohao	Nanyang Technological University
Li, Heshan	Nanyang Technological University
Huang, Yifeng	Nanyang Technological University
Zhang, Jun	Nanyang Technological University
Wen, Mingxing	Nanyang Technological University
Rahul, Singh	Continental Automotive Singapore Pte Ltd
Wang, Danwei	Nanyang Technological University

09:00-10:40 WePO1S-23.3

Monocular Visual-Inertial Depth Estimation, pp. 6095-6101. Attachment

Wofk, Diana	Intel
Ranftl, Rene	Intel
Müller, Matthias	Intel
Koltun, Vladlen	Intel Labs

09:00-10:40 WePO1S-23.4

KGNet: Knowledge-Guided Networks for Category-Level 6D Object Pose and Size Estimation, pp. 6102-6108. Attachment

Meng, Qiwei	Zhejiang Lab
Gu, Jason	Zhejiang Lab
Zhu, Shiqiang	Zhejiang Lab
Liao, Jianfeng	Zhejiang Lab
Jin, Tianlei	Zhejiang Lab
Guo, Fangtai	Zhejiang Lab
Wang, Wen	Zhejiang Lab
Song, Wei	Zhejiang Lab

09:00-10:40 WePO1S-23.5

Online Consistent Video Depth with Gaussian Mixture Representation, pp. 6109-6116. Attachment

Liu, Chao	NVIDIA
Eckart, Benjamin	NVIDIA
Kautz, Jan	NVIDIA

09:00-10:40 WePO1S-23.6

Deep Masked Graph Matching for Correspondence Identification in Collaborative Perception, pp. 6117-6123.

Gao, Peng	University of Maryland, College Park
Zhu, Qingzhao	Colorado School of Mines
Lu, Hongsheng	Toyota Motor North America
Gan, Chuang	IBM
Zhang, Hao	Colorado School of Mines

09:00-10:40 WePO1S-23.7

Operative Action Captioning for Estimating System Actions, pp. 6124-6130.

Nakamura, Taiki	The University of Tokyo
Kawano, Seiya	RIKEN
Yuguchi, Akishige	RIKEN

Kawanishi, Yasutomo	RIKEN
Yoshino, Koichiro	Institute of Physical and Chemical Research (RIKEN)

09:00-10:40 WePO1S-23.8

Deep Unsupervised Visual Odometry Via Bundle Adjusted Pose Graph Optimization, pp. 6131-6137.

Lu, Guoyu	University of Georgia

09:00-10:40 WePO1S-23.9

Pose Relation Transformer : Refine Occlusions for Human Pose Estimation, pp. 6138-6145. Attachment

Chi, Hyung-gun	Purdue University
Chi, Seunggeun	Purdue
Chan, Stanley	Purdue University
Ramani, Karthik	Purdue University

09:00-10:40 WePO1S-23.10

Question Generation for Uncertainty Elimination of Referring Expression in 3D Environment, pp. 6146-6152.

Matsuzawa, Fumiya	National Institute of Advanced Industrial Science and Technology
QIU, YUE	National Institute of Advanced Industrial Science and Technology
Iwata, Kenji	AIST
Kataoka, Hirokatsu	National Institute of Advanced Industrial Science and Technology
Satoh, Yutaka	AIST

09:00-10:40 WePO1S-23.11

A New Efficient Eye Gaze Tracker for Robotic Applications, pp. 6153-6159.

Bandi, Chaitanya	Chemnitz University of Technology
Thomas, Ulrike	Chemnitz University of Technology

09:00-10:40 WePO1S-23.12

A Deep Learning Human Activity Recognition Framework for Socially Assistive Robots to Support Reablement of Older Adults, pp. 6160-6167.

Robinson, Fraser	University of Toronto
Nejat, Goldie	University of Toronto

WePO1S-24 Room T8

Localization and Mapping III (Poster Session)

09:00-10:40 WePO1S-24.1

FloorplanNet: Learning Topometric Floorplan Matching for Robot Localization, pp. 6168-6174. Attachment

Feng, Delin	ShanghaiTech University
He, Zhenpeng	ShanghaiTech University
Hou, Jiawei	ShanghaiTech University
Schwertfeger, Sören	ShanghaiTech University
Zhang, Liangjun	Baidu

09:00-10:40 WePO1S-24.2

MOFT: Monocular Odometry Based on Deep Depth and Careful Feature Selection and Tracking, pp. 6175-6181.

Koledic;, Karlo	University of Zagreb
Cvišić, Igor	University of Zagreb, Faculty of Electrical Engineering and Comp
Markovic, Ivan	University of Zagreb Faculty of Electrical Engineering and Compu
Petrovic, Ivan	University of Zagreb

09:00-10:40 WePO1S-24.3

LGCNet: Feature Enhancement and Consistency Learning Based on Local and Global Coherence Network for Correspondence Selection, pp. 6182-6188.

Wu, Tzu-Han	National Yang Ming Chiao Tung University
Chen, Kuan-Wen	National Yang Ming Chiao Tung University

09:00-10:40 WePO1S-24.4

Learning-Based Dimensionality Reduction for Computing Compact and Effective Local Feature Descriptors, pp. 6189-6195.

Dong, Hao	ETH Zürich
Chen, Xieyuanli	National University of Defense Technology
Dusmanu, Mihai	ETH Zurich
Larsson, Viktor	Lund University
Pollefeys, Marc	ETH Zurich
Stachniss, Cyrill	University of Bonn

09:00-10:40 WePO1S-24.5

Online Visual SLAM Adaptation against Catastrophic Forgetting with Cycle-Consistent Contrastive Learning, pp. 6196-6202.

Xu, Sangni	South China University of Technology
Xiong, Hao	Macquarie University
Wu, Qiuxia	South China University of Technology
Yao, Tingting	Dalian Maritime University
Wang, Zhihui	Dalian University of Technology
Wang, Zhiyong	The University of Sydney

09:00-10:40 WePO1S-24.6

SLAMER: Simultaneous Localization and Map-Assisted Environment Recognition, pp. 6203-6209.

Akai, Naoki	Nagoya University

09:00-10:40 WePO1S-24.7

Descriptor Distillation for Efficient Multi-Robot SLAM, pp. 6210-6216. Attachment

Guo, Xiyue	Zhejiang University
Hu, Junjie	The Chinese University of Hong Kong, Shenzhen
Bao, Hujun	Zhejiang University
Zhang, Guofeng	Zhejiang University

09:00-10:40 WePO1S-24.8

DS-K3DOM: 3-D Dynamic Occupancy Mapping with Kernel Inference and Dempster-Shafer Evidential Theory, pp. 6217-6223. Attachment

Han, Juyeop	Korea Advanced Institute of Science and Technology
Min, Youngjae	Massachusetts Institute of Technology
Chae, Hyeok-Joo	KAIST
Jeong, Byeongmin	KAIST
Choi, Han-Lim	KAIST

09:00-10:40 WePO1S-24.9

Monocular Visual-Inertial Odometry with Planar Regularities, pp. 6224-6231.

Chen, Chuchu	University of Delaware
Geneva, Patrick	University of Delaware
Peng, Yuxiang	University of Delaware
Lee, Woosik	University of Delaware
Huang, Guoquan	University of Delaware

09:00-10:40 WePO1S-24.10

BAMF-SLAM: Bundle Adjusted Multi-Fisheye Visual-Inertial SLAM Using Recurrent Field Transforms, pp. 6232-6238. Attachment

Zhang, Wei	Huawei Technologies Duesseldorf GmbH
Wang, Sen	Techinische Universität München
Dong, Xingliang	Huawei Technologies, Co., Ltd., P. R. CHINA
Guo, Rongwei	Huawei
Haala, Norbert	University of Stuttgart, Institute for Photogrammetry

09:00-10:40 WePO1S-24.11

Improving the Performance of Local Bundle Adjustment for Visual-Inertial SLAM with Efficient Use of GPU Resources, pp. 6239-6245.

Gopinath, Shishir	Simon Fraser University
Dantu, Karthik	University of Buffalo
Ko, Steve	Simon Fraser University

09:00-10:40 WePO1S-24.12

Distributed Initialization for Visual-Inertial-Ranging Odometry with Position-Unknown UWB Network, pp. 6246-6252. Attachment

Jia, Shenhan	Zhejiang University
Xiong, Rong	Zhejiang University
Wang, Yue	Zhejiang University

WeBT1	ICC Cap Suite 7-9
Localisation 2 (Oral Session)	
Chair: Ko, Steve	Simon Fraser University
Co-Chair: Milford, Michael J	Queensland University of Technology
15:00-15:10	WeBT1.1
Biomimetic Electric Sense Based Localization: A Solution for Small Underwater Robots in Large-Scale Environment (I), N/A.	
Zheng, Junzheng	Peking University
Wang, Jingxian	Northwestern University
Guo, Xin	Peking University
Huntrakul, Chayutpon	Peking University
Wang, Chen	Peking University
Xie, Guangming	Peking University
15:10-15:20	WeBT1.2
How Many Events Do You Need? Event-Based Visual Place Recognition Using Sparse but Varying Pixels, N/A.	
Fischer, Tobias	Queensland University of Technology
Milford, Michael J	Queensland University of Technology
15:20-15:30	WeBT1.3
Mitigating Shadows in LIDAR Scan Matching Using Spherical Voxels, N/A.	
McDermott, Matthew	Tufts University
Rife, Jason	Tufts University
15:30-15:40	WeBT1.4
UWB-VIO Fusion for Accurate and Robust Relative Localization of Ground Robotic Teams, N/A.	
Zheng, Shuaikang	University of Chinese Academy of Sciences
Li, Zhitian	Aerospace Information Research Institute, Chinese Academy of Sci
Liu, Yunfei	University of Chinese Academy of Sciences
Zhang, Haifeng	University of Chinese Academy of Sciences
Zheng, Pengcheng	University of Chinese Academy of Sciences
Liang, Xingdong	National Key Laboratory of Microwave Imaging Technology, Aerospa
Li, YanLei	National Key Laboratory of Microwave Imaging Technology, Aerospa
Bu, Xiangxi	National Key Laboratory of Microwave Imaging Technology, Aerospa
Zou, Xudong	Aerospace Information Research Institute, Chinese Academy of Sci
15:40-15:50	WeBT1.5
Robust Self-Tuning Data Association for Geo-Referencing Using Lane Markings, N/A.	
Muñoz-Bañón, Miguel Ángel	University of Alicante
Pauls, Jan-Hendrik	Karlsruhe Institute of Technology (KIT)
Hu, Haohao	Karlsruhe Institute of Technology
Stiller, Christoph	Karlsruhe Institute of Technology
Candelas, Francisco A.	University of Alicante
Torres, Fernando	University of Alicante VAT ES-Q-0332001-G
15:50-16:00	WeBT1.6
Fast and Versatile Feature-Based LiDAR Odometry Via Efficient Local Quadratic Surface Approximation, N/A.	
Choi, Seungwon	Seoul National University
Chae, Hee-Won	Korea University
Jeung, Yunsuk	MAXST
Kim, Seokjoon	MAXST
Cho, Kyusung	MAXST
Kim, Taewan	Seoul National University
16:00-16:10	WeBT1.7
KPPR: Exploiting Momentum Contrast for Point Cloud-Based Place Recognition, N/A.	
Wiesmann, Louis	University of Bonn
Nunes, Lucas	University of Bonn
Behley, Jens	University of Bonn
Stachniss, Cyrill	University of Bonn

16:10-16:20 WeBT1.8

Handling Constrained Optimization in Factor Graphs for Autonomous Navigation, N/A. Attachment

Bazzana, Barbara	Sapienza Univ. of Rome
Guadagnino, Tiziano	Sapienza University of Rome
Grisetti, Giorgio	Sapienza University of Rome

16:20-16:30 WeBT1.9

Long-Term Localization Using Semantic Cues in Floor Plan Maps, N/A.

Zimmerman, Nicky	University of Bonn
Guadagnino, Tiziano	Sapienza University of Rome
Chen, Xieyuanli	National University of Defense Technology
Behley, Jens	University of Bonn
Stachniss, Cyrill	University of Bonn

WeBT2 Theatre 1

Medical Systems (Oral Session)

Chair: Valdastri, Pietro	University of Leeds
Co-Chair: Li, Jingshan	Tsinghua University

15:00-15:10 WeBT2.1

COBRA: From Industrial to Medical Surgery with Slender Continuum Robots (I), N/A.

Alatorre, David	University of Nottingham
Robles-Linares, Jose A.	University of Nottingham
Russo, Matteo	University of Rome Tor Vergata
Elbanna, Mohamed A.	University of Nottingham
Wild, Samuel	University of Nottingham
Dong, Xin	University of Nottingham
Mohammad, Abdelkhalick	University of Nottingham
Kell, James	University of Nottingham
norton, andy	Rolls-Royce Plc
Axinte, Dragos	University of Nottingham

15:10-15:20 WeBT2.2

Assistive Robotic Technologies for Next-Generation Smart Wheelchairs (I), N/A.

Morbidi, Fabio	Université De Picardie Jules Verne
Devigne, Louise	IRISA UMR CNRS 6074 - INRIA - INSA Rennes - Rehabilitation Cente
Teodorescu, Catalin Stefan	The University of Manchester
Fraudet, Bastien	Rehabilitation Center Pôle Saint Hélier
Leblong, Emilie	Rehabilitation Center Pôle Saint Hélier Rennes
Carlson, Tom	University College London, UK
Babel, Marie	IRISA UMR CNRS 6074 - INRIA - INSA Rennes
Caron, Guillaume	CNRS
Delmas, Sarah	Universite De Picardie Jules Verne
Pasteau, François	INSA Rennes / IRISA Rainbow Team
VAILLAND, Guillaume	IRISA UMR CNRS 6074 - INRIA - INSA Rennes
Gouranton, Valérie	IRISA UMR CNRS 6074 - Inria - INSA Rennes
Guegan, Sylvain	INSA Rennes
Le Breton, Ronan	UNIV-RENNES - INSA Rennes
Ragot, Nicolas	CESI

15:20-15:30 WeBT2.3

A-SEE: Active-Sensing End-Effector Enabled Probe Self-Normal-Positioning for Robotic Ultrasound Imaging Applications, N/A. Attachment

Ma, Xihan	Worcester Polytechnic Institute
Kuo, Wen-Yi	Worcester Polytechnic Institute
Yang, Kehan	Worcester Polytechnic Institute
Rahaman, Ashiqur	Worcester Polytechnic Institute
Zhang, Haichong	Worcester Polytechnic Institute

15:30-15:40 WeBT2.4

Hybrid Half-Gaussian Selectively Adaptive Fuzzy Control of an Actuated Ankle Foot-Orthosis, N/A.

MOON, Huiseok	LISSI-Lab, Universite De Paris-Est Creteil (UPEC)

Maiti, Roshni	University of Calcutta
Das Sharma, Kaushik	University of Calcutta
Amirat, Yacine	University of Paris Est Créteil (UPEC)
Siarry, Patrick	Université Paris-Est Créteil
Mohammed, Samer	University of Paris Est Créteil - (UPEC)

15:40-15:50 WeBT2.5

Collaborative Magnetic Manipulation Via Two Robotically-Actuated Permanent Magnets (I), N/A.

Pittiglio, Giovanni	Harvard University
Brockdorff, Michael	University of Leeds
da Veiga, Tomas	University of Leeds
Davy, Joshua	University of Leeds
Chandler, James Henry	University of Leeds
Valdastri, Pietro	University of Leeds

15:50-16:00 WeBT2.6

Neuromechanical Model-Based Adaptive Control of Bi-Lateral Ankle Exoskeletons: Biological Joint Torque and Electromyogram Reduction across Walking Conditions (I), N/A.

Durandau, Guillaume	McGill University
Rampeltshammer, Wolfgang Franz	University Twente
Van der Kooij, Herman	Universtity of Twente
Sartori, Massimo	University of Twente

16:00-16:10 WeBT2.7

A Markov Chain Model for Workflow Analysis in Operating Rooms, N/A.

Zheng, Hanyi	Tsinghua University
Wang, Qing	Tsinghua University
Li, Jingshan	Tsinghua University

16:10-16:20 WeBT2.8

On the Workspace of Electromagnetic Navigation Systems (I), N/A.

Boehler, Quentin	ETH Zurich
Gervasoni, Simone	ETH Zurich, Multi Scale Robotics Laboratory
Charreyron, Samuel L.	Accelera AI
Chautems, Christophe	ETH Zurich
Nelson, Bradley J.	ETH Zurich

WeBT3 ICC Cap Suite 2-4

Manipulation and Grasping II (Oral Session)

Chair: Tzemanaki, Antonia	University of Bristol
Co-Chair: Bekiroglu, Yasemin	Chalmers University of Technology, University College London

15:00-15:10 WeBT3.1

UVtac: Switchable UV Marker-Based Tactile Sensing Finger for Effective Force Estimation and Object Localization, N/A.

Kim, Woojong	KAIST
Kim, Won Dong	Korea Advanced Institute of Science & Technology (KAIST)
Kim, Jeong-Jung	Korea Institute of Machinery & Materials (KIMM)
Kim, Chang-Hyun	Korea Institute of Machinery and Materials (KIMM)
Kim, Jung	KAIST

15:10-15:20 WeBT3.2

Sparse-Dense Motion Modelling and Tracking for Manipulation without Prior Object Models, N/A.

Rauch, Christian	Robert Bosch GmbH
Long, Ran	University of Edinburgh
Ivan, Vladimir	Touchlab Limited
Vijayakumar, Sethu	University of Edinburgh

15:20-15:30 WeBT3.3

Enhanced GPIS Learning Based on Local and Global Focus Areas, N/A.

Murvanidze, Zuka	University College London
Deisenroth, Marc Peter	University College London
Bekiroglu, Yasemin	Chalmers University of Technology, University College London

15:30-15:40 WeBT3.4

Ambiguity-Aware Multi-Object Pose Optimization for Visually-Assisted Robot Manipulation, N/A. Attachment

Jeon, Myung-Hwan	SNU
Kim, Jeongyun	SNU
Ryu, Jee-Hwan	Korea Advanced Institute of Science and Technology
Kim, Ayoung	Seoul National University

15:40-15:50 WeBT3.5

Interaction Control of a Robotic Manipulator with the Surface of Deformable Object (I), N/A.

Dometios, Athanasios	National Technical University of Athens (NTUA)
Tzafestas, Costas S.	ICCS - Inst of Communication and Computer Systems

15:50-16:00 WeBT3.6

DiffSRL: Learning Dynamical State Representation for Deformable Object Manipulation with Differentiable Simulation, N/A.

Chen, Sirui	The University of Hong Kong
Liu, Yunhao	University of Hong Kong
Yao, Shang Wen	The Univeristy of Hong Kong
LI, Jialong	The University of Hong Kong
Fan, Tingxiang	The University of Hong Kong
Pan, Jia	University of Hong Kong

16:00-16:10 WeBT3.7

SymmetryGrasp: Symmetry-Aware Antipodal Grasp Detection from Single-View RGB-D Images, N/A.

Shi, Yifei	National University of Defense Technology
Tang, Zixin	National University of Defense Technology
Cai, Xiangting	National University of Defense Technology
Zhang, Hongjia	National University of Defense Technology
Hu, Dewen	National University of Defense Technology
Xu, Xin	National University of Defense Technology

16:10-16:20 WeBT3.8

Hardware-Accelerated Mars Sample Localization Via Deep Transfer Learning from Photorealistic Simulations, N/A.

Castilla-Arquillo, Raul	Universidad De Malaga
Perez-del-Pulgar, Carlos	Universidad De Málaga
Paz Delgado, Gonzalo Jesús	University of Málaga
Gerdes, Levin	ESA/ESTEC

16:20-16:30 WeBT3.9

How AI and Robotics Can Build Furniture: A Case Study from the 2021 AI-Robot Assembly Challenge (I), N/A.

Yun, SeongSeop	Yonsei Univercity
Choi, Myoung-Su	KITECH, UST
Cho, Min-Young	Korea Electronics Technology Institute
Kim, Keunhwan	Korea Electronics Technology Institute
Lee, Dong-Hyuk	Korea Institute of Industrial Technology (KITECH)
Jun, Se-Woong	Korea Electronics Technology Institute
Bae, Ji-Hun	Korea Institute of Industrial Technology
Shin, Dongjun	Yonsei University

16:30-16:40 WeBT3.10

A Robotic End-Effector for Screwing and Unscrewing Bolts from the Side, N/A.

Tao, Rui	Institute of Automation, Chinese Academy of Sciences
fan, junfeng	Institute of Automation, Chinese Academy of Sciences
Jing, Fengshui	Institute of Automation, CAS
Hou, Jun	Chinese Academy of Sciences, Institute of Automation
Xing, Shiyu	Chinese Academy of Sciences
Ma, Yunkai	Institute of Automation, Chinese Academy of Sciences,
Tan, Min	Institute of Automation, Chinese Academy of Sciences

WeBT4	South Gallery Rms 20-22
Human-Robot Interaction/Collaboration (Oral Session)	
Chair: Secchi, Cristian	Univ. of Modena & Reggio Emilia
Co-Chair: Hirata, Yasuhisa	Tohoku University
15:00-15:10	WeBT4.1
Adaptive Cooperative Control for Human-Robot Load Manipulation, N/A.	
Rodríguez de Cos, Carlos	MathWorks AB
Dimarogonas, Dimos V.	KTH Royal Institute of Technology
15:10-15:20	WeBT4.2
An Energy Based Control Architecture for Shared Autonomy (I), N/A.	
Benzi, Federico	University of Modena and Reggio Emilia
Ferraguti, Federica	Università Degli Studi Di Modena E Reggio Emilia
Riggio, Giuseppe	University of Modena and Reggio Emilia
Secchi, Cristian	Univ. of Modena & Reggio Emilia
15:20-15:30	WeBT4.3
Computational Model of Robot Trust in Human Co-Worker for Physical Human-Robot Collaboration, N/A.	
Wang, Qiao	University of Technology Sydney
Liu, Dikai	University of Technology, Sydney
Carmichael, Marc	Centre for Autonomous Systems
Aldini, Stefano	University of Technology Sydney
Lin, Chin-Teng	UTS
15:30-15:40	WeBT4.4
Robust Multi-User In-Hand Object Recognition in Human-Robot Collaboration Using a Wearable Force-Myography Device, N/A.	
Bamani, Eran	Tel Aviv University
Kahanowich, Nadav Dov	Tel Aviv University
Meir, Inbar	Tel Aviv University
Sintov, Avishai	Tel-Aviv University
15:40-15:50	WeBT4.5
CARE: Cooperation of AI-Robot Enablers to Create a Vibrant Society (I), N/A.	
Ravankar, Ankit A.	Tohoku University
Tafrishi, Seyed Amir	Cardiff Univerity
Salazar Luces, Jose Victorio	Tohoku University
Seto, Fumi	Tohoku University
Hirata, Yasuhisa	Tohoku University
15:50-16:00	WeBT4.6
Safety and Efficiency in Robotics: The Control Barrier Functions Approach (I), N/A.	
Ferraguti, Federica	Università Degli Studi Di Modena E Reggio Emilia
Talignani Landi, Chiara	University of Modena and Reggio Emilia
Singletary, Andrew	California Institute of Technology
Lin, Hsien-Chung	FANUC Corporation
Ames, Aaron	Caltech
Secchi, Cristian	Univ. of Modena & Reggio Emilia
Bonfe, Marcello	University of Ferrara
16:00-16:10	WeBT4.7
Encouraging Human Interaction with Robot Teams: Legible and Fair Subtask Allocations, N/A.	
Habibian, Soheil	Virginia Tech
Losey, Dylan	Virginia Tech
16:10-16:20	WeBT4.8
Autonomous Wristband Placement in a Moving Hand for Victims in SAR Scenarios with a Mobile Manipulator, N/A.	
Pastor, Francisco	Universidad De Málaga
Ruiz-Ruiz, Francisco J.	University of Málaga
Gomez de Gabriel, Jesus Manuel	Universidad De Malaga
García-Cerezo, Alfonso	University of Malaga

WeBT5	ICC Cap Suite 10-12
Computer Vision and Visual Servoing (Oral Session)	
Chair: Natale, Lorenzo	Istituto Italiano Di Tecnologia
Co-Chair: Stoyanov, Danail	University College London
15:00-15:10	WeBT5.1
Recommending Fine-Grained Tool Consistent with Common Sense Knowledge for Robot, N/A.	
xin, jianjia	Beijing University of Technology
Wang, Lichun	Beijing University of Technology
wang, shaofan	Beijing University of Technology
liu, yukun	Beijing University of Technology
yang, chao	Beijing University of Technology
Yin, Baocai	Beijing University of Technology
15:10-15:20	WeBT5.2
Real-Time Hetero-Stereo Matching for Event and Frame Camera with Aligned Events Using Maximum Shift Distance, N/A. Attachment	
Kim, Haram	Seoul National University
Lee, Sangil	Seoul National Univ
Kim, Junha	Seoul National University
Kim, H. Jin	Seoul National University
15:20-15:30	WeBT5.3
Toward Holistic Scene Understanding: A Transfer of Human Scene Perception to Mobile Robots (I), N/A.	
Graf, Florenz	Fraunhofer IPA
Lindermayr, Jochen	Fraunhofer IPA
odabasi, cagatay	Fraunhofer IPA
Huber, Marco F.	University of Stuttgart
15:30-15:40	WeBT5.4
Object Detection Using Sim2Real Domain Randomization for Robotic Applications (I), N/A.	
Horváth, Dániel	Institute for Computer Science and Control (SZTAKI) and Eötvös L
Erdos, Gábor	Institute for Computer Science and Control, Engineering and Mana
Istenes, Zoltán	Eötvös Loránd University, Faculty of Informatics
Horvath, Tomas	Eötvös Loránd University
Földi, Sándor	Centre of Excellence in Production Informatics and Control, Inst
15:40-15:50	WeBT5.5
Continual Adaptation of Semantic Segmentation Using Complementary 2D-3D Data Representations, N/A.	
Frey, Jonas	ETH Zurich
Blum, Hermann	ETH Zurich
Milano, Francesco	ETH Zurich
Siegwart, Roland	ETH Zurich
Cadena Lerma, Cesar	ETH Zurich
15:50-16:00	WeBT5.6
ROFT: Real-Time Optical Flow-Aided 6D Object Pose and Velocity Tracking, N/A.	
Piga, Nicola Agostino	Istituto Italiano Di Tecnologia
Onyshchuk, Yuriy	Italian Institute of Technology (IIT)
Pasquale, Giulia	Istituto Italiano Di Tecnologia
Pattacini, Ugo	Istituto Italiano Di Tecnologia
Natale, Lorenzo	Istituto Italiano Di Tecnologia
16:00-16:10	WeBT5.7
Stability and Convergence Analysis of 3D Feature-Based Visual Servoing, N/A. Attachment	
Costanzo, Marco	Università Degli Studi Della Campania "Luigi Vanvitelli"
De Maria, Giuseppe	Università Degli Studi Della Campania Luigi Vanvitelli
Natale, Ciro	Università Degli Studi Della Campania "Luigi Vanvitelli"
Russo, Antonio	Università Degli Studi Della Campania "Luigi Vanvitelli"
16:10-16:20	WeBT5.8
A Robust Visual Servoing Controller for Anthropomorphic Manipulators with Field-Of-View Constraints and Swivel-Angle Motion (I), N/A.	
Jiang, Jiao	Hunan University
Wang, Yaonan	Hunan University
JIANG, YIMING	Hunan University

Xie, He	Huazhong University of Science and Technology
Tan, Haoran	Hunan University
Zhang, Hui	Hunan University

WeBT6	ICC Cap Suite 14-16
Aerial Robotics (Oral Session)	
Chair: Gabellieri, Chiara	University of Twente
Co-Chair: Scaramuzza, Davide	University of Zurich

15:00-15:10	WeBT6.1
Formation Tracking and Obstacle Avoidance for Multiple Quadrotors with Static and Dynamic Obstacles, N/A.	
Qi, Juntong	Shanghai University
Guo, Jinjin	Tianjin University
Wang, Mingming	Tianjin University
Wu, Chong	EFY Intelligent Control (Tianjin) Technology Co., Ltd
Ma, Zhenwei	Tianjin University

15:10-15:20	WeBT6.2
Deep Learning-Aided Synthetic Airspeed Estimation of UAVs for Analytical Redundancy with a Temporal Convolutional Network, N/A.	
LIM, HYUNGTAE	Korea Advanced Institute of Science and Technology
Ryu, Han-seok	Korea Aerospace Research Institute
Rhudy, Matthew	Penn State University
Lee, Dongjin	Hanseo University
Jang, Dongjin	Hanseo University
LEE, Changho	Korea Aerospace Research Institute
Park, Youngmin	Korea Aerospace Research Institute
Youn, Wonkeun	Chungnam National University
Myung, Hyun	KAIST (Korea Advanced Institute of Science and Technology)

15:20-15:30	WeBT6.3
Reconfigurable Drone System for Transportation of Parcels with Variable Mass and Size, N/A.	
Schiano, Fabrizio	Leonardo S.p.a
Kornatowski, Przemyslaw Mariusz	Ecole Polytechnique Federale De Lausanne (EPFL)
Cencetti, Leonardo	Swiss Federal Institute of Technology Lausanne (EPFL)
Floreano, Dario	Ecole Polytechnique Federal, Lausanne

15:30-15:40	WeBT6.4
Geometrically Constrained Trajectory Optimization for Multicopters (I), N/A.	
Wang, Zhepei	Zhejiang University
Zhou, Xin	ZHEJIANG UNIVERSITY
Xu, Chao	Zhejiang University
Gao, Fei	Zhejiang University

15:40-15:50	WeBT6.5
Parameter Estimation and Control of Multirotors, N/A.	
Yang, Cheng-Cheng	National Chiao Tung University
Cheng, Teng-Hu	National Yang Ming Chiao Tung University

15:50-16:00	WeBT6.6
Indirect Force Control of a Cable-Suspended Aerial Multi-Robot Manipulator, N/A.	
Sanalitro, Dario	LAAS-CNRS
Tognon, Marco	Inria Rennes-Bretagne Atlantique
Jimenez-Cano, Antonio	Centre National De La Recherche Scientifique
Cortes, Juan	LAAS-CNRS
Franchi, Antonio	University of Twente

16:00-16:10	WeBT6.7
Accurate High-Maneuvering Trajectory Tracking for Quadrotors: A Drag Utilization Method, N/A.	
Jia, Jindou	Beihang University
Guo, Kexin	Beihang University
Yu, Xiang	Beihang University
Zhao, Weihua	NanyangTechnologicalUniversity
Guo, Lei	Beihang University

16:10-16:20 WeBT6.8

A Comparative Study of Nonlinear MPC and Differential-Flatness-Based Control for Quadrotor Agile Flight (I), N/A.

Sun, Sihao	Univesity of Twente
Romero, Angel	University of Zurich
Foehn, Philipp	University of Zurich
Kaufmann, Elia	University of Zurich
Scaramuzza, Davide	University of Zurich

16:20-16:30 WeBT6.9

Model Predictive Contouring Control for Time-Optimal Quadrotor Flight (I), N/A.

Romero, Angel	University of Zurich
Sun, Sihao	Univesity of Twente
Foehn, Philipp	University of Zurich
Scaramuzza, Davide	University of Zurich

WePO2S-01 Room T8

Medical Robotics II (Poster Session)

15:00-16:40 WePO2S-01.1

Automating Vascular Shunt Insertion with the dVRK Surgical Robot, pp. 6781-6788. Attachment

Dharmarajan, Karthik	UC Berkeley
Panitch, William	University of California, Berkeley
Jiang, Muyan	UC Berkeley
Srinivas, Kishore	UC Berkeley
Shi, Baiyu	UC Berkeley
Avigal, Yahav	UC Berkeley
Huang, Huang	University of California at Berkeley
Low, Thomas	SRI International
Fer, Danyal	University of California, San Francisco East Bay
Goldberg, Ken	UC Berkeley

15:00-16:40 WePO2S-01.2

CogniDaVinci: Towards Estimating Mental Workload Modulated by Visual Delays During Telerobotic Surgery -- an EEG-Based Analysis, pp. 6789-6794.

Kumar, Satyam	The University of Texas at Austin
Liu, Deland Hu	University of Texas at Austin
Racz, Frigyes Samuel	The University of Texas at Austin
Retana, Manuel	University of Texas, Austin
Sharma, Susheela	University of Texas at Austin
Iwane, Fumiaki	National Institutes of Health
Murphy, Braden	The University of Texas at Austin
O'Keeffe, Rory	New York University
Atashzar, S. Farokh	New York University (NYU), US
Alambeigi, Farshid	University of Texas at Austin
Millán, José del R.	The University of Texas at Austin

15:00-16:40 WePO2S-01.3

Exploring an External Approach to Subretinal Drug Delivery Via Robot Assistance and B-Mode OCT, pp. 6795-6801. Attachment

Ahronovich, Elan	Vanderbilt ARMA
Shihora, Neel	Vanderbilt University
Shen, Jin-Hui	Vanderbilt University
Joos, Karen	Vanderbilt University
Simaan, Nabil	Vanderbilt University

15:00-16:40 WePO2S-01.4

Towards Surgical Context Inference and Translation to Gestures, pp. 6802-6809. Attachment

Hutchinson, Kay	University of Virginia
Li, Zongyu	The University of Virginia
Reyes, Ian	IBM
Alemzadeh, Homa	University of Virginia

15:00-16:40 WePO2S-01.5

A Method to Use Haptic Feedback of Laryngoscope Force Vector for Endotracheal Intubation Training, pp. 6810-6816. Attachment

Zhou, Haonan — Imperial College London
YANG, Siyu — Imperial College London
Halamek, Louis — Stanford University
Nanayakkara, Thrishantha — Imperial College London

15:00-16:40 WePO2S-01.6

A Hydraulic Soft Robotic Detrusor Based on an Origami Design, pp. 6817-6822. Attachment

Onorati, Simone — The BioRobotics Institute - Scuola Superiore S. Anna
Semproni, Federica — Scuola Superiore Sant'Anna
Paterno, Linda — Scuola Superiore Sant'Anna
Casagrande, Giada — Scuola Superiore Sant'Anna
Iacovacci, Veronica — Scuola Superiore Sant'Anna
Menciassi, Arianna — Scuola Superiore Sant'Anna - SSSA

15:00-16:40 WePO2S-01.7

Semi-Autonomous Robotic Control of a Self-Shaping Cochlear Implant, pp. 6823-6829.

Bautista-Salinas, Daniel — Imperial College London
Kirby, Conor — Imperial College London
Abdelaziz, Mohamed Essam Mohamed Kassem — Imperial College London
Temelkuran, Burak — Imperial College London
Huins, Charlie T — Queen Elizabeth Hospital Birmingham
Rodriguez y Baena, Ferdinando — Imperial College, London, UK

15:00-16:40 WePO2S-01.8

A Hybrid Steerable Robot with Magnetic Wrist for Minimally Invasive Epilepsy Surgery, pp. 6830-6836. Attachment

He, Changyan — University of Toronto
Nguyen, Robert Hideki — The Hospital for Sick Children
Forbrigger, Cameron — University of Toronto
Drake, James — Hospital for Sick Children, University of Toronto
Looi, Thomas — Hospital for Sick Children
Diller, Eric D. — University of Toronto

WePO2S-02 Room T8

Surgical Robotics (Poster Session)

15:00-16:40 WePO2S-02.1

Induced Vertex Motion As a Performance Measure for Surgery in Confined Spaces, pp. 6837-6843. Attachment

Shihora, Neel — Vanderbilt University
Simaan, Nabil — Vanderbilt University

15:00-16:40 WePO2S-02.2

Foot Gestures to Control the Grasping of a Surgical Robot, pp. 6844-6850. Attachment

CHENG, YIJUN — Imperial College London
huang, yanpei — Imperial College London
Wang, Ziwei — Lancaster University
burdet, etienne — Imperial College London

15:00-16:40 WePO2S-02.3

Design and Development of a Novel Force-Sensing Robotic System for the Transseptal Puncture in Left Atrial Catheter Ablation, pp. 6851-6858. Attachment

Zeidan, Aya Mutaz — King's College London
Xu, Zhouyang — King's College London
Mower, Christopher Edwin — King's College London
Wu, Honglei — King's College London
Walker, Quentin — King's College London
Ayoade, Oyinkansola — King's College London
Cotic, Natalia — King's College London
Behar, Jonathan — King's College London
Williams, Steven — King's College London
Arujuna, Aruna — King's College London
Noh, Yohan — Brunel University London

Housden, Richard James	King's College London
Rhode, Kawal	King's College London

15:00-16:40 WePO2S-02.4

Surgical-VQLA: Transformer with Gated Vision-Language Embedding for Visual Question Localized-Answering in Robotic Surgery, pp. 6859-6865. Attachment

Bai, Long	The Chinese University of Hong Kong
Islam, Mobarakol	University College London
Seenivasan, Lalithkumar	National University of Singapore
Ren, Hongliang	Chinese Univ Hong Kong (CUHK) & National Univ Singapore(NUS)

WePO2S-03 Room T8

Medical Robotics: Navigation (Poster Session)

15:00-16:40 WePO2S-03.1

Implicit Neural Field Guidance for Teleoperated Robot - assisted Surgery, pp. 6866-6872. Attachment

Zhang, Heng	Southeast University
Zhu, Lifeng	Southeast University
Shen, Jiangwei	Southeast University
Song, Aiguo	Southeast University

15:00-16:40 WePO2S-03.2

Bidirectional Generalised Rigid Point Set Registration, pp. 6873-6879.

Zhang, Ang	The Chinese University of Hong Kong
Min, Zhe	University College London
Liu, Li	The Chinese University of Hong Kong
Meng, Max Q.-H.	The Chinese University of Hong Kong

15:00-16:40 WePO2S-03.3

Finding the Optimal Incision Point in Robotic Assisted Surgery, pp. 6880-6885.

Almpanidis, Kyriakos	Aristotle University of Thessaloniki
Kastritsi, Theodora	Aristotle University of Thessaloniki
Doulgeri, Zoe	Aristotle University of Thessaloniki

15:00-16:40 WePO2S-03.4

Development and Experimental Verification of a 3D Dynamic Absolute Nodal Coordinate Formulation Model of Flexible Prostate Biopsy/Brachytherapy Needles, pp. 6886-6892. Attachment

Martsopoulos, Athanasios	University of Bristol
Hill, Thomas	University of Bristol
Persad, Raj	Bristol Urological Institute, Southmead Hospital, Bristol
Bolomytis, Stefanos	North Bristol NHS Trust
Tzemanaki, Antonia	University of Bristol

15:00-16:40 WePO2S-03.5

Collaborative Robotic Biopsy with Trajectory Guidance and Needle Tip Force Feedback, pp. 6893-6900. Attachment

Mieling, Robin	Hamburg University of Technology
Neidhardt, Maximilian	Hamburg University of Technology
Latus, Sarah	Hamburg University of Technology
Stapper, Carolin	Hamburg University of Technology
Gerlach, Stefan	Hamburg University of Technology
Kniep, Inga	University Medical Center Hamburg-Eppendorf
Heinemann, Axel	University Medical Center Hamburg-Eppendorf
Ondruschka, Benjamin	University Medical Center Hamburg-Eppendorf
Schlaefer, Alexander	Hamburg University of Technology

15:00-16:40 WePO2S-03.6

Development and Evaluation of a Robotic Vessel Positioning System for Semi-Automatic Microvascular Anastomosis, pp. 6901-6908. Attachment

Haworth, Jesse	Johns Hopkins University
Opfermann, Justin	Johns Hopkins University
Kam, Michael	Johns Hopkins University
Wang, Yaning	Johns Hopkins University
Yang, Robin	Johns Hopkins Medicine
Kang, Jin	The Johns Hopkins University

Krieger, Axel	Johns Hopkins University

15:00-16:40 WePO2S-03.7

Robotic Sonographer: Autonomous Robotic Ultrasound Using Domain Expertise in Bayesian Optimization, pp. 6909-6915. Attachment

Raina, Deepak	Indian Institute of Technology Delhi and Purdue University USA
Chandrashekhara, SH	All India Insititute of Medical Sciences, New Delhi
Voyles, Richard	Purdue University
Wachs, Juan	Purdue University
Saha, Subir Kumar	Indain Institute of Technology Delhi

15:00-16:40 WePO2S-03.8

Autonomous Intelligent Navigation for Flexible Endoscopy Using Monocular Depth Guidance and 3-D Shape Planning, pp. 6916-6922. Attachment

Lu, Yiang	The Chinese University of Hong Kong
wei, ruofeng	City University of Hong Kong
LI, Bin	The Chinese University of Hong Kong
Chen, Wei	The Chinese University of Hong Kong
Zhou, Jianshu	The Chinese University of Hong Kong
Dou, Qi	The Chinese University of Hong Kong
Sun, Dong	City University of Hong Kong
Liu, Yunhui	Chinese University of Hong Kong

WePO2S-04 Room T8

Probability and Statistical Methods (Poster Session)

15:00-16:40 WePO2S-04.1

A Probabilistic Rotation Representation for Symmetric Shapes with an Efficiently Computable Bingham Loss Function, pp. 6923-6929. Attachment

Sato, Hiroya	The University of Tokyo
Ikeda, Takuya	Woven Planet Holdings, Inc
Nishiwaki, Koichi	Woven Alpha

15:00-16:40 WePO2S-04.2

Topological Trajectory Prediction with Homotopy Classes, pp. 6930-6936.

Wakulicz, Jennifer	University of Technology Sydney, Centre for Autonomous Systems
Lee, Ki Myung Brian	University of Technology Sydney
Vidal-Calleja, Teresa A.	University of Technology Sydney
Fitch, Robert	University of Technology Sydney

15:00-16:40 WePO2S-04.3

Information-Theoretic Abstraction of Semantic Octree Models for Integrated Perception and Planning, pp. 6937-6943.

Larsson, Daniel	Georgia Institute of Technology
Asgharivaskasi, Arash	University of California, San Diego
Lim, Jaein	Georgia Institute of Technology
Atanasov, Nikolay	University of California, San Diego
Tsiotras, Panagiotis	Georgia Tech

15:00-16:40 WePO2S-04.4

BO-ICP: Initialization of Iterative Closest Point Based on Bayesian Optimization, pp. 6944-6950. Attachment

Biggie, Harel	University of Colorado Boulder
Beathard, Andrew	University of Colorado, Boulder
Heckman, Christoffer	University of Colorado at Boulder

WePO2S-05 Room T8

Object Detection II (Poster Session)

15:00-16:40 WePO2S-05.1

DuEqNet: Dual-Equivariance Network in Outdoor 3D Object Detection for Autonomous Driving, pp. 6951-6957. Attachment

Wang, Xihao	Technical University of Munich
Lei, Jiaming	Fujian Institute of Research on the Structure of Matter, Chinese
Lan, Hai	Fujian Institute of Research on the Structure of Matter, Chinese
Al-Jawari, Arafat	Fujian Institute of Research on the Structure of Matter, Chinese
wei, xian	East China Normal University

15:00-16:40 WePO2S-05.2

NVRadarNet: Real-Time Radar Obstacle and Free Space Detection for Autonomous Driving, pp. 6958-6964. Attachment

Popov, Alexander — NVIDIA
Gebhardt, Patrik — NVIDIA Corporation
Chen, Ke — Nvidia
Oldja, Ryan — NVIDIA
Lee, Hee Seok — NVIDIA
Murray, Shane, Michael — Nvidia
bhargava, ruchi — Nvidia
Smolyanskiy, Nikolai — NVIDIA

15:00-16:40 WePO2S-05.3

TransRSS: Transformer-Based Radar Semantic Segmentation, pp. 6965-6972. Attachment

Zou, Hao — Alibaba Group
Xie, Harry — Alibaba Group
Ou, Jiarong — Alibaba
Yutao, Gao — Alibaba

15:00-16:40 WePO2S-05.4

Source-Free Unsupervised Domain Adaptation for 3D Object Detection in Adverse Weather, pp. 6973-6980.

Hegde, Deepti — Johns Hopkins University
Kilic, Velat — Johns Hopkins University
Sindagi, Vishwanath — Johns Hopkins University
Cooper, A. Brinton — Johns Hopkins University
Foster, Mark — Johns Hopkins University
Patel, Vishal M. — The Johns Hopkins UNiversity

15:00-16:40 WePO2S-05.5

Bayesian Deep Learning for Affordance Segmentation in Images, pp. 6981-6987. Attachment

MUR LABADIA, LORENZO — University of Zaragoza
Martinez-Cantin, Ruben — University of Zaragoza
Guerrero, Josechu — Universidad De Zaragoza

15:00-16:40 WePO2S-05.6

Multi-View Keypoints for Reliable 6D Object Pose Estimation, pp. 6988-6994.

Li, Alan — University of Toronto
Schoellig, Angela P. — TU Munich

15:00-16:40 WePO2S-05.7

Towards Unsupervised Filtering of Millimetre-Wave Radar Returns for Autonomous Vehicle Road Following, pp. 6995-7001.

Sacoransky, Dean — Queen's University
Marshall, Joshua A. — Queen's University
Hashtrudi-Zaad, Keyvan — Queen's University

15:00-16:40 WePO2S-05.8

Domain Generalised Fully Convolutional One Stage Detection, pp. 7002-7009. Attachment

Seemakurthy, Karthik — University of Lincoln
Bosilj, Petra — University of Lincoln
Aptoula, Erchan — Sabanci University
Fox, Charles — University of Lincoln

WePO2S-06 Room T8

Object Detection and Segmentation (Poster Session)

15:00-16:40 WePO2S-06.1

GNN-Based Point Cloud Maps Feature Extraction and Residual Feature Fusion for 3D Object Detection, pp. 7010-7016.

Liao, Wei-Hsiang — National Yang Ming Chiao Tung University
Wang, Chieh-Chih — National Yang Ming Chiao Tung University
Lin, Wen-Chieh — National Yang Ming Chiao Tung University

15:00-16:40 WePO2S-06.2

Self-Supervised Learning of Object Segmentation from Unlabeled RGB-D Videos, pp. 7017-7023. Attachment

Lu, Shiyang — Rutgers University
Deng, Yunfu — Shenzhen Institutes of Advanced Technology, Chinese Academy

	of S
Boularias, Abdeslam	Rutgers University
Bekris, Kostas E.	Rutgers, the State University of New Jersey

15:00-16:40 WePO2S-06.3

Depth Is All You Need for Monocular 3D Detection, pp. 7024-7031.

Park, Dennis	Toyota Research Institute
Li, Jie	Toyota Research Institute
Chen, Dian	Toyota Research Institute
Guizilini, Vitor	Toyota Research Institute
Gaidon, Adrien	Toyota Research Institute

15:00-16:40 WePO2S-06.4

Towards Visual Classification under Class Ambiguity, pp. 7032-7038. Attachment

Kozák, Viktor	Czech Technical University in Prague
Mikula, Jan	Czech Technical University in Prague
Bertl, Lukáš	Czech Technical University in Prague
Kosnar, Karel	Czech Technical University in Prague
Preucil, Libor	Czech Technical University in Prague, CIIRC

15:00-16:40 WePO2S-06.5

LidarAugment: Searching for Scalable 3D LiDAR Data Augmentations, pp. 7039-7045.

Leng, Zhaoqi	Waymo LLC
Li, Guowang	Waymo LLC
Liu, Chenxi	Waymo
Cubuk, Ekin	Google
Sun, Pei	Waymo
He, Tong	Waymo LLC
Anguelov, Dragomir	Waymo
Tan, Mingxing	Waymo Research

15:00-16:40 WePO2S-06.6

HFT: Lifting Perspective Representations Via Hybrid Feature Transformation for BEV Perception, pp. 7046-7053. Attachment

Zou, Jiayu	Institute of Automation, Chinese Academy of Sciences
Zhu, Zheng	Institute of Automation, Chinese Academy of Sciences
Huang, Junjie	Phigent Robotics
Yang, Tian	PhiGent Robotics
Huang, Guan	Phigent Robotics
Wang, Xingang	Research Center of Precision Sensing and Control, Institute of A

15:00-16:40 WePO2S-06.7

Radar Velocity Transformer: Single-Scan Moving Object Segmentation in Noisy Radar Point Clouds, pp. 7054-7061. Attachment

Zeller, Matthias	CARIAD SE
Sandhu, Vardeep Singh	University of Bonn, CARIAD
Mersch, Benedikt	University of Bonn
Behley, Jens	University of Bonn
Heidingsfeld, Michael	CARIAD SE
Stachniss, Cyrill	University of Bonn

15:00-16:40 WePO2S-06.8

CurveFormer: 3D Lane Detection by Curve Propagation with Curve Queries and Attention, pp. 7062-7068. Attachment

Bai, Yifeng	University of Science and Technology of China
Chen, Zhirong	Nullmax
Fu, Zhangjie	Southeast University
Peng, Lang	Nullmax
Liang, Pengpeng	Zhengzhou University
Cheng, Erkang	Nullmax Inc

15:00-16:40 WePO2S-06.9

Distributional Instance Segmentation: Modeling Uncertainty and High Confidence Predictions with Latent-MaskRCNN, pp. 7069-7075. Attachment

Liu, YuXuan	Covariant.ai, UC Berkeley
Mishra, Nikhil	UC Berkeley, Covariant.ai
Abbeel, Pieter	UC Berkeley

Chen, Xi	Embodied Intelligence, UC Berkeley

15:00-16:40 WePO2S-06.10

Bayesian Inference of Fog Visibility from LiDAR Point Clouds and Correlation with Probabilities of Detection, pp. 7076-7082.

montalban, karl	Easymile
Reymann, Christophe	EASYMILE SAS
Atchuthan, Dinesh	EasyMile
Dupouy, Paul-Édouard	ONERA
Riviere, Nicolas	ONERA
Lacroix, Simon	LAAS/CNRS

15:00-16:40 WePO2S-06.11

GDIP: Gated Differentiable Image Processing for Object Detection in Adverse Conditions, pp. 7083-7089. Attachment

Kalwar, Sanket	International Institute of Information Technology, Hyderabad
Patel, Dhruv	International Institute of Information Technology, Hyderabad, In
Aanegola, Aakash	International Institute of Information Technology, Hyderabad
konda, Krishna	ZF TCI
Garg, Sourav	Queensland University of Technology
Krishna, Madhava	IIIT Hyderabad

15:00-16:40 WePO2S-06.12

Sample, Crop, Track: Self-Supervised Mobile 3D Object Detection for Urban Driving LiDAR, pp. 7090-7096. Attachment

Shin, Sangyun	University of Oxford
Golodetz, Stuart	University of Oxford
Vankadari, Madhu	University of Oxford
kaichen, zhou	University of Oxford
Markham, Andrew	Oxford University
Trigoni, Niki	University of Oxford

WePO2S-07 Room T8

Perception of Deformable Objects (Poster Session)

15:00-16:40 WePO2S-07.1

Topology Matching of Branched Deformable Linear Objects, pp. 7097-7103. Attachment

Zürn, Manuel	Institute for Control Engineering of Machine Tools and Manufactu
Wnuk, Markus	Institute for Control Engineering of Machine Tools and Manufactu
Lechler, Armin	University Stuttgart
Verl, Alexander	University of Stuttgart

15:00-16:40 WePO2S-07.2

DLOFTBs – Fast Tracking of Deformable Linear Objects with B-Splines, pp. 7104-7110. Attachment

Kicki, Piotr	Poznan University of Technology
Szymko, Amadeusz	Poznan University of Technology
Walas, Krzysztof, Tadeusz	Poznan University of Technology

15:00-16:40 WePO2S-07.3

Self-Supervised Cloth Reconstruction Via Action-Conditioned Cloth Tracking, pp. 7111-7118.

Huang, Zixuan	Carnegie Mellon University
Lin, Xingyu	Carnegie Mellon University
Held, David	Carnegie Mellon University

15:00-16:40 WePO2S-07.4

Learning to Estimate 3-D States of Deformable Linear Objects from Single-Frame Occluded Point Clouds, pp. 7119-7125. Attachment

Lv, Kangchen	Tsinghua University
Yu, Mingrui	Tsinghua University
Pu, Yifan	Tsinghua University
Jiang, Xin	Beijing Academy of Artificial Intelligence
Huang, Gao	Tsinghua University
LI, Xiang	Tsinghua University

WePO2S-08 Room T8

Reinforcement Learning I (Poster Session)

15:00-16:40 WePO2S-08.1

Feature Extraction for Effective and Efficient Deep Reinforcement Learning on Real Robotic Platforms, pp. 7126-7132. Attachment

Bohm, Peter	The University of Queensland
Pounds, Pauline	The University of Queensland
Chapman, Archie	The University of Queensland

15:00-16:40 WePO2S-08.2

Online Safety Property Collection and Refinement for Safe Deep Reinforcement Learning in Mapless Navigation, pp. 7133-7139. Attachment

Marzari, Luca	University of Verona
Marchesini, Enrico	Northeastern University
Farinelli, Alessandro	University of Verona

15:00-16:40 WePO2S-08.3

Learning to View: Decision Transformers for Active Object Detection, pp. 7140-7146. Attachment

Ding, Wenhao	Carnegie Mellon University
Nathalie, Majcherczyk	Amazon LLC
Deshpande, Mohit	Amazon Lab126
Qi, Xuewei	Toyota North America R&D Labs
Zhao, Ding	Carnegie Mellon University
Madhivanan, Rajasimman	Amazon.com
Sen, Arnab	Amazon

15:00-16:40 WePO2S-08.4

Deep Reinforcement Learning for Autonomous Driving Using High-Level Heterogeneous Graph Representations, pp. 7147-7153. Attachment

Schier, Maximilian	Leibniz Universität Hannover
Reinders, Christoph	Leibniz University Hanover
Rosenhahn, Bodo	Institute of Information Processing, Leibniz Universität Hannove

15:00-16:40 WePO2S-08.5

Learning on the Job: Self-Rewarding Offline-To-Online Finetuning for Industrial Insertion of Novel Connectors from Vision, pp. 7154-7161. Attachment

Nair, Ashvin	UC Berkeley
Zhu, Brian	University of California, Berkeley; Siemens
Sathya narayanan, Gokul narayanan	Worcester Polytechnic Institute
Solowjow, Eugen	Siemens Corporation
Levine, Sergey	UC Berkeley

15:00-16:40 WePO2S-08.6

Multi-Alpha Soft Actor-Critic: Overcoming Stochastic Biases in Maximum Entropy Reinforcement Learning, pp. 7162-7168.

Igoe, Conor	Carnegie Mellon University
Pande, Swapnil	Carnegie Mellon University
Venkatraman, Siddarth	Manipal Institute of Technology
Schneider, Jeff	Carnegie Mellon University

15:00-16:40 WePO2S-08.7

Zero-Shot Policy Transfer with Disentangled Task Representation of Meta-Reinforcement Learning, pp. 7169-7175. Attachment

Wu, Zheng	University of California, Berkeley
Xie, Yichen	University of California, Berkeley
Lian, Wenzhao	Google X
Wang, Changhao	University of California, Berkeley
Guo, Yanjiang	Tsinghua University
Chen, Jianyu	Tsinghua University
Schaal, Stefan	Google X
Tomizuka, Masayoshi	University of California

15:00-16:40 WePO2S-08.8

Real World Offline Reinforcement Learning with Realistic Data Source, pp. 7176-7183. Attachment

Zhou, Gaoyue	Carnegie Mellon University
Ke, Liyiming	University of Washington

Srinivasa, Siddhartha	University of Washington
Gupta, Abhinav	Carnegie Mellon University
Rajeswaran, Aravind	University of Washington
Kumar, Vikash	Meta AI

15:00-16:40 WePO2S-08.9

Robotic Table Wiping Via Reinforcement Learning and Whole-Body Trajectory Optimization, pp. 7184-7190. Attachment

Lew, Thomas	Stanford University
Singh, Sumeet	Google
Prats, Mario	Google
Bingham, Jeffrey	X
Weisz, Jonathan	Everyday Robots
Holson, Benjie	Everyday Robots
Zhang, Xiaohan	Binghamton University
Sindhwani, Vikas	Google Brain, NYC
Lu, Yao	Google
Xia, Fei	Google Inc
Xu, Peng	Google
Zhang, Tingnan	Google
Tan, Jie	Google
Gonzalez Arenas, Montserrat	Google Inc

15:00-16:40 WePO2S-08.10

Towards True Lossless Sparse Communication in Multi-Agent Systems, pp. 7191-7197.

Karten, Seth	Carnegie Mellon University
Tucker, Mycal	Massachusetts Institute of Technology
Kailas, Siva	Carnegie Mellon University
Sycara, Katia	Carnegie Mellon University

15:00-16:40 WePO2S-08.11

Adaptive Risk-Tendency: Nano Drone Navigation in Cluttered Environments with Distributional Reinforcement Learning, pp. 7198-7204. Attachment

Liu, Cheng	Delft University of Technology
van Kampen, Erik-Jan	Delft University of Technology
de Croon, Guido	TU Delft

15:00-16:40 WePO2S-08.12

Self-Adaptive Driving in Nonstationary Environments through Conjectural Online Lookahead Adaptation, pp. 7205-7211. Attachment

Li, Tao	New York University
Lei, Haozhe	New York University
Zhu, Quanyan	New York University

WePO2S-09 Room T8

Transfer Learning (Poster Session)

15:00-16:40 WePO2S-09.1

Sim-To-Real Policy and Reward Transfer with Adaptive Forward Dynamics Model, pp. 7212-7218.

Juan, Rongshun	Tianjin University
Ju, Hao	Ocean University of China
Huang, Jie	Ocean University of China
Gomez, Randy	Honda Research Institute Japan Co., Ltd
Nakamura, Keisuke	Honda Research Institute Japan Co., Ltd
Li, Guangliang	Ocean University of China

15:00-16:40 WePO2S-09.2

Safety-Constrained Policy Transfer with Successor Features, pp. 7219-7225.

Feng, Zeyu	National University of Singapore
Zhang, Bowen	National University of Singapore
Bi, Jianxin	National University of Singapore
Soh, Harold	National University of Singapore

15:00-16:40 WePO2S-09.3

GNM: A General Navigation Model to Drive Any Robot, pp. 7226-7233. Attachment

Shah, Dhruv	University of California, Berkeley

Sridhar, Ajay	University of California, Berkeley
Bhorkar, Arjun	UC Berkeley
Hirose, Noriaki	UC Berkeley / TOYOTA Motor North America
Levine, Sergey	UC Berkeley

15:00-16:40 WePO2S-09.4

ViPFormer: Efficient Vision-And-Pointcloud Transformer for Unsupervised Pointcloud Understanding, pp. 7234-7242. Attachment

Sun, Hongyu	Renmin University of China
Wang, Yongcai	Renmin University of China
Cai, Xudong	Renmin University of China
Bai, Xuewei	Renmin University of China
Li, Deying	Renmin University of China

WePO2S-10 Room T8

Learning Methods (Poster Session)

15:00-16:40 WePO2S-10.1

Learning Exploration Strategies to Solve Real-World Marble Runs, pp. 7243-7249. Attachment

Allaire, Alisa	Carnegie Mellon University
Atkeson, Christopher	CMU

15:00-16:40 WePO2S-10.2

Multi-Embodiment Legged Robot Control As a Sequence Modeling Problem, pp. 7250-7257. Attachment

Yu, Chen	ShanghaiTech University
Zhang, Weinan	Shanghai Jiao Tong University
Lai, Hang	Shanghai Jiao Tong University
TIAN, ZHENG	ShanghaiTech University
Kneip, Laurent	ShanghaiTech University
Wang, Jun	University College London

15:00-16:40 WePO2S-10.3

Efficient Recovery Learning Using Model Predictive Meta-Reasoning, pp. 7258-7264.

Vats, Shivam	Carnegie Mellon University
Likhachev, Maxim	Carnegie Mellon University
Kroemer, Oliver	Carnegie Mellon University

15:00-16:40 WePO2S-10.4

Multi-Swarm Genetic Gray Wolf Optimizer with Embedded Autoencoders for High-Dimensional Expensive Problems, pp. 7265-7271.

Bi, Jing	Beijing University of Technology, Beijing 100124, China
Zhai, Jiahui	Beijing University of Technology
Yuan, Haitao	Beihang University
Wang, Ziqi	Beijing University of Technology
Qiao, Junfei	Beijing University of Technology
Zhang, Jia	Southern Methodist University
Zhou, MengChu	New Jersey Institute of Technology

15:00-16:40 WePO2S-10.5

H-SAUR: Hypothesize, Simulate, Act, Update, and Repeat for Understanding Object Articulations from Interactions, pp. 7272-7278. Attachment

Ota, Kei	Tokyo Institute of Technology
Tung, Hsiao-Yu	CMU
Smith, Kevin	Massachusetts Institute of Technology
Cherian, Anoop	Australian National University
Marks, Tim K.	Mitsubishi Electric Research Laboratories (MERL)
Sullivan, Alan	Mitsubishi Electric Research Lab
Kanezaki, Asako	Tokyo Institute of Technology
Tenenbaum, Joshua	Massachusetts Institute of Technology

15:00-16:40 WePO2S-10.6

Self-Supervised Learning of Action Affordances As Interaction Modes, pp. 7279-7286. Attachment

Wang, Liquan	University of Toronto
Dvornik, Nikita	Samsung
Dubeau, Rafael	University of Toronto

Mittal, Mayank	ETH Zurich
Garg, Animesh	University of Toronto

15:00-16:40 WePO2S-10.7

LATTE: LAnguage Trajectory TransformEr, pp. 7287-7294. Attachment

Bucker, Arthur Fender Coelho	Technical University of Munich
Figueredo, Luis Felipe Cruz	Technical University of Munich (TUM)
Haddadin, Sami	Technical University of Munich
Kapoor, Ashish	MicroSoft
ma, shuang	Microsoft
Vemprala, Sai	Microsoft Corporation
Bonatti, Rogerio	Microsoft

15:00-16:40 WePO2S-10.8

Learning Visual Locomotion with Cross-Modal Supervision, pp. 7295-7302. Attachment

Loquercio, Antonio	UC Berkeley
Kumar, Ashish	UC Berkeley
Malik, Jitendra	UC Berkeley

WePO2S-11 Room T8

Novel Actuation and Actuators (Poster Session)

15:00-16:40 WePO2S-11.1

MMIC-I: A Robotic Platform for Assembly Integration and Internal Locomotion through Mechanical Meta-Material Structures, pp. 7303-7309. Attachment

Formoso, Olivia Irene	NASA Ames Research Center
Trinh, Greenfield	NASA Ames Research Center
Catanoso, Damiana	NASA Ames Research Center
Park, In-Won	NASA Ames Research Center
Gregg, Christine	NASA Ames Research Center
Cheung, Kenneth C.	National Aeronautics and Space Administration (NASA)

15:00-16:40 WePO2S-11.2

Flow-Based Rendezvous and Docking for Marine Modular Robots in Gyre-Like Environments, pp. 7310-7316. Attachment

Knizhnik, Gedaliah	RRAI, University of Pennsylvania
Li, Peihan	Drexel University
Yim, Mark	University of Pennsylvania
Hsieh, M. Ani	University of Pennsylvania

15:00-16:40 WePO2S-11.3

Mobility Analysis of Screw-Based Locomotion and Propulsion in Various Media, pp. 7317-7323. Attachment

Lim, Jason	University of Nevada, Reno
Richter, Florian	University of California, San Diego
Schreiber, Dimitri A.	University of California
Gavrilov, Peter	University of California San Diego
Peiros, Lizzie	University of California, San Diego
Yeoh, Mingwei	University of California, San Diego
Joyce, Calvin	University of California, San Diego
Wickenhiser, Sara	University of California, San Diego
Yip, Michael C.	University of California, San Diego

15:00-16:40 WePO2S-11.4

TJ-FlyingFish: Design and Implementation of an Aerial-Aquatic Quadrotor with Tiltable Propulsion Units, pp. 7324-7330. Attachment

Liu, Xuchen	The Chinese University of Hong Kong
DOU, Minghao	The Chinese University of Hong Kong
Huang, Dongyue	The Chinese University of Hong Kong
Gao, Songqun	Chinese University of Hong Kong
YAN, Ruixin	The Chinese University of Hong Kong
wang, biao	Nanjing University of Aeronautics and Astronautics
Cui, Jinqiang	Peng Cheng Laboratory
Ren, Qinyuan	Zhejiang University
Dou, Lihua	Beijing Institue of Technology
Gao, Zhi	Wuhan University

Chen, Jie	Tongji University
Chen, Ben M.	Chinese University of Hong Kong

15:00-16:40 WePO2S-11.5

Modular Multi-Axis Elastic Actuator with Torque Sensing Capable P-CFH for Highly Impact Resistive Robot Leg, pp. 7331-7337. Attachment

Kim, Youngrae	Daegu Gyeongbuk Institute of Science and Technology (DGIST), Dae
Choi, Sunghyun	Daegu Gyeongbuk Institute of Science & Technology
Song, Jinhyeok	DGIST
Yun, Dongwon	Daegu Gyeongbuk Institute of Science and Technology (DGIST)

15:00-16:40 WePO2S-11.6

Design and Mechanics of Cable-Driven Rolling Diaphragm Transmission for High-Transparency Robotic Motion, pp. 7338-7344. Attachment

Lam, Hoi Man	University of California San Diego
Walker, Jared	University of California San Diego
Jonasch, Lucas	University of California San Diego
Schreiber, Dimitri A.	University of California
Yip, Michael C.	University of California, San Diego

15:00-16:40 WePO2S-11.7

Twist Snake: Plastic Table-Top Cable-Driven Robotic Arm with All Motors Located at the Base Link, pp. 7345-7351. Attachment

Tanaka, Kazutoshi	OMRON SINIC X Corporation
Hamaya, Masashi	OMRON SINIC X Corporation

15:00-16:40 WePO2S-11.8

Strained Elastic Surfaces with Adjustable-Modulus Edges (SESAMEs) for Soft Robotic Actuation, pp. 7352-7358. Attachment

Kimmer, Christopher	Indiana University Southeast
Han, Michael Seokyoung	University of Louisville
Harnett, Cindy	University of Louisville

WePO2S-12 Room T8

Compliant Joints and Mechanisms (Poster Session)

15:00-16:40 WePO2S-12.1

Controllable Mechanical-Domain Energy Accumulators, pp. 7359-7364. Attachment

Kim, Sung	Vanderbilt University
Braun, David	Vanderbilt University

15:00-16:40 WePO2S-12.2

Concept Design of a New XY Compliant Parallel Manipulator with Spatial Configuration, pp. 7365-7370.

Lyu, Zekui	University of Macau
Xu, Qingsong	University of Macau

15:00-16:40 WePO2S-12.3

Computational Design of 3D-Printable Compliant Mechanisms with Bio-Inspired Sliding Joints, pp. 7371-7377. Attachment

Velasquez, Felipe	ETH Zurich
Thomaszewski, Bernhard	Université De Montréal
Coros, Stelian	ETH Zurich

15:00-16:40 WePO2S-12.4

Compliant Finger Joint with Controlled Variable Stiffness Based on Twisted Strings Actuation, pp. 7378-7384. Attachment

Dragusanu, Mihai	University of Siena
Troisi, Danilo	University of Siena
Prattichizzo, Domenico	Università Di Siena
Malvezzi, Monica	University of Siena

15:00-16:40 WePO2S-12.5

Design of a Variable Stiffness Spring with Human-Selectable Stiffness, pp. 7385-7390. Attachment

Mathews, Chase	Vanderbilt University
Braun, David	Vanderbilt University

15:00-16:40 WePO2S-12.6

Novel Spring Mechanism Enables Iterative Energy Accumulation under Force and Deformation Constraints, pp. 7391-7397. Attachment

Dempsey, Cole	Vanderbilt University
Braun, David	Vanderbilt University

15:00-16:40 WePO2S-12.7

Fast, Reliable Constrained Manipulation Using a VSA Driven Planar Robot, pp. 7398-7404. Attachment

Bernhard, Andrew	Argonne National Laboratory
Schimmels, Joseph	Marquette University

15:00-16:40 WePO2S-12.8

A Stiffness-Changeable Soft Finger Based on Chain Mail Jamming, pp. 7405-7411. Attachment

Hu, Zhengtao	Osaka University
Ahmed, Abdullah	Osaka University
Wan, Weiwei	Osaka University
Watanabe, Tetsuyou	Kanazawa University
Harada, Kensuke	Osaka University

WePO2S-13 Room T8

Mechanism Design (Poster Session)

15:00-16:40 WePO2S-13.1

Repetitive Twisting Durability of Synthetic Fiber Ropes, pp. 7412-7418. Attachment

Sadachika, Shinya	Tokyo Institute of Technology
Kanekiyo, Masahito	Tokyo Institute of Technology
Nabae, Hiroyuki	Tokyo Institute of Technology
Endo, Gen	Tokyo Institute of Technology

15:00-16:40 WePO2S-13.2

Computational Design of Closed-Chain Linkages: Hopping Robot Driven by Morphological Computation, pp. 7419-7425. Attachment

Nasonov, Kirill	ITMO University
Ivolga, Dmitriy	ITMO
Borisov, Ivan	ITMO University
Kolyubin, Sergey	ITMO University

15:00-16:40 WePO2S-13.3

Trajectory Planning Issues in Cuspidal Commercial Robots, pp. 7426-7432. Attachment

Salunkhe, Durgesh Haribhau	CNRS-UMR6004-CD0962-LS2N
Chablat, Damien	Laboratoire Des Sciences Du Numérique De Nantes
Wenger, Philippe	Ecole Centrale De Nantes

15:00-16:40 WePO2S-13.4

Big Data Approach for Synthesizing a Spatial Linkage Mechanism, pp. 7433-7439. Attachment

Yim, Neung Hwan	Seoul National University
Ryu, Jegyeong	Korea Institute of Science and Technology
Kim, Yoon Young	Seoul National University

15:00-16:40 WePO2S-13.5

Croche-Matic: A Robot for Crocheting 3D Cylindrical Geometry, pp. 7440-7446. Attachment

Perry, Gabriella	Harvard University
Garcia del Castillo y Lopez, Jose Luis	Harvard University
Melenbrink, Nathan	Harvard University

15:00-16:40 WePO2S-13.6

A Novel Platform to Control Biofouling in Pearl Oysters Cultivation, pp. 7447-7453. Attachment

Tran, Van-Nhan	Hong Kong University of Science and Technology
Pham, Quan-Dung	Hong Kong University of Science and Technology
Ha, Tan-Sang	Hong Kong University of Science and Technology
Yue Him, Wong	Shenzhen University
Yeung, Sai-Kit	Hong Kong University of Science and Technology

15:00-16:40 WePO2S-13.7

Embedded Active Stiffening Mechanisms to Modulate Kresling Tower Kinetostatic Properties, pp. 7454-7460. Attachment

BERRE, John	INSA Strasbourg, University of Strasbourg, CNRS
Rubbert, Lennart	INSA - Strasbourg

Geiskopf, Francois	INSA De Strasbourg
Renaud, Pierre	ICube

15:00-16:40 WePO2S-13.8

A Compact, Two-Part Torsion Spring Architecture, pp. 7461-7467. Attachment

Bons, Zachary P	University of Michigan
Thomas, Gray	University of Michigan
Mooney, Luke	Dephy, Inc
Rouse, Elliott	University of Michigan

WePO2S-14 Room T8

Human-Robot Collaboration I (Poster Session)

15:00-16:40 WePO2S-14.1

HREyes: Design, Development, and Evaluation of a Novel Method for AUVs to Communicate Information and Gaze Direction, pp. 7468-7475. Attachment

Fulton, Michael	University of Minnesota
Prabhu, Aditya	University of Minnesota, Twin Cities
Sattar, Junaed	University of Minnesota

15:00-16:40 WePO2S-14.2

Dense Depth Completion Based on Multi-Scale Confidence and Self-Attention Mechanism for Intestinal Endoscopy, pp. 7476-7482.

Liu, Ruyu	Hangzhou Normal University
Liu, Zhengzhe	Hangzhou Normal University
Zhang, Haoyu	Hangzhou Normal University
Zhang, Guodao	Hangzhou Dianzi University
Zuo, Zhigui	The First Affiliated Hospital of Wenzhou Medical University
Sheng, Weiguo	Hangzhou Normal University

15:00-16:40 WePO2S-14.3

Design of an Energy-Aware Cartesian Impedance Controller for Collaborative Disassembly, pp. 7483-7489. Attachment

Hjorth, Sebastian	Aalborg University
Lamon, Edoardo	Istituto Italiano Di Tecnologia
Chrysostomou, Dimitrios	Aalborg University
Ajoudani, Arash	Istituto Italiano Di Tecnologia

15:00-16:40 WePO2S-14.4

Towards Robots That Influence Humans Over Long-Term Interaction, pp. 7490-7496. Attachment

Sagheb, Shahabedin	Virginia Tech
Mun, Ye-Ji	University of Illinois at Urbana-Champaign
Ahmadian, Neema	Virginia Tech
Christie, Benjamin	Virginia Tech
Bajcsy, Andrea	University of California Berkeley
Driggs-Campbell, Katherine	University of Illinois at Urbana-Champaign
Losey, Dylan	Virginia Tech

15:00-16:40 WePO2S-14.5

Carrying the Uncarriable: A Deformation-Agnostic and Human-Cooperative Framework for Unwieldy Objects Using Multiple Robots, pp. 7497-7503. Attachment

Sirintuna, Doganay	HRI2 Lab., Istituto Italiano Di Tecnologia. Dept. of Informatics
Ozdamar, Idil	HRI2 Lab., Istituto Italiano Di Tecnologia. Dept. of Informatics
Ajoudani, Arash	Istituto Italiano Di Tecnologia

15:00-16:40 WePO2S-14.6

A Control Approach for Human-Robot Ergonomic Payload Lifting, pp. 7504-7510. Attachment

Rapetti, Lorenzo	IIT
Sartore, Carlotta	Istituto Italiano Di Tecnologia
Elobaid, Mohamed	Fondazione Istituto Italiano Di Tecnologia
Tirupachuri, Yeshasvi	Italian Institute of Technology
Draicchio, Francesco	INAIL, Department of Occupational & Environmental Medicine, Mont
Kawakami, Tomohiro	Honda R&D Co., Ltd
Yoshiike, Takahide	Honda Research Institute Japan
Pucci, Daniele	Italian Institute of Technology

15:00-16:40 WePO2S-14.7

Active Reward Learning from Online Preferences, pp. 7511-7518. Attachment

Myers, Vivek — UC Berkeley
Bıyık, Erdem — UC Berkeley
Sadigh, Dorsa — Stanford University

15:00-16:40 WePO2S-14.8

Supernumerary Robotic Limbs for Next Generation Space Suit Technology, pp. 7519-7525. Attachment

Ballesteros, Erik — Massachusetts Institute of Technology
Man, Brandon — Cornell University
Asada, Harry — MIT

15:00-16:40 WePO2S-14.9

It Takes Two: Learning to Plan for Human-Robot Cooperative Carrying, pp. 7526-7532. Attachment

Ng, Eley — Stanford University
Liu, Ziang — University of Southern California
Kennedy, Monroe — Stanford University

15:00-16:40 WePO2S-14.10

Collision Detection and Contact Point Estimation Using Virtual Joint Torque Sensing Applied to a Cobot, pp. 7533-7539. Attachment

Zurlo, Dario — Sapienza Università Di Roma
Heitmann, Tom — NEURA Robotics GmbH
Morlock, Merlin — NEURA Robotics GmbH
De Luca, Alessandro — Sapienza University of Rome

15:00-16:40 WePO2S-14.11

The Human Gaze Helps Robots Run Bravely and Efficiently in Crowds, pp. 7540-7546.

Zhang, Qianyi — Nankai University
Hu, Zhengxi — Nankai University
Song, Yinuo — NanKai Univerdsity
Pei, Jiayi — NanKai University
Liu, Jingtai — Nankai University

15:00-16:40 WePO2S-14.12

A Gaze-Speech System in Mixed Reality for Human-Robot Interaction, pp. 7547-7553.

Prieto Prada, John David — DGIST
Lee, Myung Ho — DGIST
Song, Cheol — DGIST

WePO2S-15 Room T8
Human-Robot Interaction (Poster Session)

15:00-16:40 WePO2S-15.1

ADAPT: Action-Aware Driving Caption Transformer, pp. 7554-7561. Attachment

Jin, Bu — Institute of Automation, Chinese Academy of Sciences
Liu, Xinyu — Xidian University
Zheng, Yupeng — Institute of Automation, Chinese Academy of Sciences
Li, Pengfei — Institute for AI Industry Research (AIR), Tsinghua University
Zhao, Hao — Tsinghua University
Zhang, Tong — Southern University of Science and Technology
Zheng, Yuhang — Beihang University
Zhou, Guyue — Tsinghua University
Liu, Jingjing — Institute for AI Industry Research (AIR), Tsinghua University

15:00-16:40 WePO2S-15.2

Aligning Human Preferences with Baseline Objectives in Reinforcement Learning, pp. 7562-7568. Attachment

Marta, Daniel — KTH Royal Institute of Technology
Holk, Simon — KTH Royal Institute of Technology
Pek, Christian — KTH Royal Institute of Technology
Tumova, Jana — KTH Royal Institute of Technology
Leite, Iolanda — KTH Royal Institute of Technology

15:00-16:40 WePO2S-15.3

EWareNet: Emotion Aware Pedestrian Intent Prediction and Adaptive Spatial Profile Fusion for Social Robot Navigation, pp. 7569-7575. Attachment

Narayanan, Venkatraman — UMD
Sai Sudhakar, Bala Murali Manoghar — University of Maryland, College Park
Ramasamy Vijayakumar, Rama Prashanth — University of Maryland
Bera, Aniket — Purdue University

15:00-16:40 WePO2S-15.4

SCAN: Socially-Aware Navigation Using Monte Carlo Tree Search, pp. 7576-7582. Attachment

Oh, Jeongwoo — Seoul National University
Heo, Jae Seok — Seoul National University
Lee, Junseo — Seoul National University
Lee, Gunmin — Seoul National University
Kang, Minjae — Seoul National University (SNU)
Park, Jeongho — Seoul National Universitiy
Oh, Songhwai — Seoul National University

15:00-16:40 WePO2S-15.5

SGPT: The Secondary Path Guides the Primary Path in Transformers for HOI Detection, pp. 7583-7590.

chan, sixian — Zhejiang University of Technology
Wang, Weixiang — Zhejiang University of Technology
Shao, Zhanpeng — Hunan Normal University
Bai, Cong — Zhejiang University of Technology

15:00-16:40 WePO2S-15.6

Robot Person Following under Partial Occlusion, pp. 7591-7597. Attachment

Ye, Hanjing — Southern University of Science and Technology
Zhao, Jieting — Southern University of Science and Technology
Pan, Yaling — Guangdong University of Technology
Chen, Weinan — Guangdong University of Technology
He, Li — Southern University of Science and Technology
Zhang, Hong — SUSTech

15:00-16:40 WePO2S-15.7

A Little Bit Attention Is All You Need for Person Re-Identification, pp. 7598-7605.

Eisenbach, Markus — Ilmenau University of Technology
Lübberstedt, Jannik — Ilmenau University of Technology
Aganian, Dustin — University of Technology Ilmenau
Gross, Horst-Michael — Ilmenau University of Technology

15:00-16:40 WePO2S-15.8

Automatic Generation of Robot Facial Expressions with Preferences, pp. 7606-7613. Attachment

TANG, BING — University of Science and Technology of China
Cao, Rongyun — University of Science and Technology of China
Chen, Rongya — Institute of Advanced Technology, University of Science and Tech
Hua, Bei — University of Science and Technology of China
Chen, Xiaoping — University of Science and Technology of China
Wu, Feng — University of Science and Technology of China

15:00-16:40 WePO2S-15.9

A Task Allocation Framework for Human Multi-Robot Collaborative Settings, pp. 7614-7620. Attachment

Lippi, Martina — University of Roma Tre
Di Lillo, Paolo — University of Cassino and Southern Lazio
Marino, Alessandro — University of Cassino and Southern Lazio

15:00-16:40 WePO2S-15.10

TOP-JAM: A Bio-Inspired Topology-Based Model of Joint Attention for Human-Robot Interaction, pp. 7621-7627. Attachment

Chame, Hendry — University of Lorraine / CNRS
Clodic, Aurélie — Laas - Cnrs
Alami, Rachid — CNRS

15:00-16:40 WePO2S-15.11

NOPA: Neurally-Guided Online Probabilistic Assistance for Building Socially Intelligent Home Assistants, pp. 7628-7634. Attachment

Puig, Xavier	MIT
Shu, Tianmin	Massachusetts Institute of Technology
Tenenbaum, Joshua	Massachusetts Institute of Technology
Torralba, Antonio	MIT

15:00-16:40 WePO2S-15.12

Embodied Referring Expression for Manipulation Question Answering in Interactive Environment, pp. 7635-7641. Attachment

Sima, Qie	Tsinghua University
Tan, Sinan	Tsinghua University
Liu, Huaping	Tsinghua University
Sun, Fuchun	Tsinghua Univerisity

WePO2S-16 Room T8

Multi-Robot Systems IV (Poster Session)

15:00-16:40 WePO2S-16.1

Congestion Prediction for Large Fleets of Mobile Robots, pp. 7642-7648.

Yu, Ge	Amazon
Wolf, Michael	Amazon

15:00-16:40 WePO2S-16.2

Decentralised Active Perception in Continuous Action Spaces for the Coordinated Escort Problem, pp. 7649-7655.

Hull, Rhett	University of Technology Sydney
Lee, Ki Myung Brian	University of Technology Sydney
Wakulicz, Jennifer	University of Technology Sydney, Centre for Autonomous Systems
Yoo, Chanyeol	University of Technology Sydney
McMahon, James	The Naval Research Laboratory
Clarke, Bryan	University of Sydney
Anstee, Stuart David	Defence Science and Technology Group
Kim, Jijoong	Defence Science and Technology Organisation
Fitch, Robert	University of Technology Sydney

15:00-16:40 WePO2S-16.3

Socially Fair Coverage Control, pp. 7656-7662.

Malencia, Matthew	University of Pennsylvania
Pappas, George J.	University of Pennsylvania
Kumar, Vijay	University of Pennsylvania

15:00-16:40 WePO2S-16.4

Exploiting Trust for Resilient Hypothesis Testing with Malicious Robots, pp. 7663-7669. Attachment

Cavorsi, Matthew	Harvard University
Akgün, Orhan Eren	Harvard University
Yemini, Michal	Stanford University
Goldsmith, Andrea	Stanford University
Gil, Stephanie	Harvard University

15:00-16:40 WePO2S-16.5

Obscuring Objectives with Pareto-Optimal Privacy-Aware Trajectories in Multi-Robot Coverage, pp. 7670-7676. Attachment

Brodt, Brennan	Boston University
Pierson, Alyssa	Boston University

15:00-16:40 WePO2S-16.6

Safe and Distributed Multi-Agent Motion Planning under Minimum Speed Constraints, pp. 7677-7683. Attachment

Jang, Inkyu	Seoul National University
Park, Jungwon	Seoul National University
Kim, H. Jin	Seoul National University

15:00-16:40 WePO2S-16.7

Minimally Constrained Multi-Robot Coordination with Line-Of-Sight Connectivity Maintenance, pp. 7684-7690. Attachment

Yang, Yupeng — University of North Carolina at Charlotte
Lyu, Yiwei — Carnegie Mellon University
Luo, Wenhao — University of North Carolina at Charlotte

15:00-16:40 WePO2S-16.8

Relay Pursuit for Multirobot Target Tracking on Tile Graphs, pp. 7691-7698. Attachment

Mandal, Shashwata — Iowa State University
Bhattacharya, Sourabh — Iowa State University

15:00-16:40 WePO2S-16.9

Passivity-Based Decentralized Control for Collaborative Grasping of Under-Actuated Aerial Manipulators, pp. 7699-7705. Attachment

Jeong, Jinyeong — Korea Advanced Institute of Science and Technology
Kim, Min Jun — KAIST

15:00-16:40 WePO2S-16.10

Distributed Barrier Function-Enabled Human-In-The-Loop Control for Multi-Robot Systems, pp. 7706-7712. Attachment

Nan Fernandez-Ayala, Victor — KTH Royal Institute of Technology
Tan, Xiao — KTH Royal Institute of Technology, Sweden
Dimarogonas, Dimos V. — KTH Royal Institute of Technology

15:00-16:40 WePO2S-16.11

LEMURS: Learning Distributed Multi-Robot Interactions, pp. 7713-7719. Attachment

Sebastián, Eduardo — University of Zaragoza
Duong, Thai — University of California, San Diego
Atanasov, Nikolay — University of California, San Diego
Montijano, Eduardo — Universidad De Zaragoza
Sagues, Carlos — Universidad De Zaragoza

15:00-16:40 WePO2S-16.12

Multi-Agent Active Search Using Detection and Location Uncertainty, pp. 7720-7727. Attachment

Banerjee, Arundhati — Carnegie Mellon University
Ghods, Ramina — Carnegie Mellon University
Schneider, Jeff — Carnegie Mellon University

WePO2S-17 Room T8

Search, Rescue, and Hazardous Field Robotics (Poster Session)

15:00-16:40 WePO2S-17.1

HMAAC: Hierarchical Multi-Agent Actor-Critic for Aerial Search with Explicit Coordination Modeling, pp. 7728-7734. Attachment

Sun, Chuanneng — Rutgers University
Huang, Songjun — Rutgers University
Pompili, Dario — Rutgers University

15:00-16:40 WePO2S-17.2

GUTS: Generalized Uncertainty-Aware Thompson Sampling for Multi-Agent Active Search, pp. 7735-7741. Attachment

Bakshi, Nikhil Angad — Carnegie Mellon University
Gupta, Tejus — Carnegie Mellon University
Ghods, Ramina — Carnegie Mellon University
Schneider, Jeff — Carnegie Mellon University

15:00-16:40 WePO2S-17.3

CLIO: A Novel Robotic Solution for Exploration and Rescue Missions in Hostile Mountain Environments, pp. 7742-7748. Attachment

Focchi, Michele — Università Di Trento
Bensaadallah, Mohamed — University of Batna 2
Frego, Marco — Free University of Bolzano
Peer, Angelika — Free University of Bolzano
Fontanelli, Daniele — University of Trento
Del Prete, Andrea — University of Trento
Palopoli, Luigi — University of Trento

15:00-16:40 WePO2S-17.4

Towards Efficient Gas Leak Detection in Built Environments: Data-Driven Plume Modeling for Gas Sensing Robots, pp. 7749-7755. Attachment

Jin, Wanting	EPFL
Rahbar, Faezeh	EPFL
Ercolani, Chiara	EPFL
Martinoli, Alcherio	EPFL

WePO2S-18 Room T8

Self-Driving Cars II (Poster Session)

15:00-16:40 WePO2S-18.1

Image-To-Image Translation for Autonomous Driving from Coarsely-Aligned Image Pairs, pp. 7756-7762. Attachment

Xia, Youya	Cornell University
Monica, Josephine	Cornell University
Chao, Wei-Lun	Cornell University
Hariharan, Bharath	Cornell University
Weinberger, Kilian	Cornell University
Campbell, Mark	Cornell University

15:00-16:40 WePO2S-18.2

Small-Shot Multi-Modal Distillation for Vision-Based Autonomous Steering, pp. 7763-7770. Attachment

Shen, Yu	University of Maryland
Yang, Luyu	University of Maryland
Wang, Xijun	University of Maryland, College Park
Lin, Ming C.	University of Maryland at College Park

15:00-16:40 WePO2S-18.3

SceneCalib: Automatic Targetless Calibration of Cameras and Lidars in Autonomous Driving, pp. 7771-7777.

Sen, Ayon	NVIDIA Corporation
Pan, Gang	NVIDIA Corporation
Mitrokhin, Anton	NVIDIA Corporation
Islam, Ashraful	NVIDIA Corporation

15:00-16:40 WePO2S-18.4

Unsupervised Road Anomaly Detection with Language Anchors, pp. 7778-7785. Attachment

Tian, Beiwen	Tsinghua University
Liu, Mingdao	Tsinghua University
Gao, Huan-ang	Tsinghua University
Li, Pengfei	Institute for AI Industry Research (AIR), Tsinghua University
Zhao, Hao	Tsinghua University
Zhou, Guyue	Tsinghua University

15:00-16:40 WePO2S-18.5

Expanding the Deployment Envelope of Behavior Prediction Via Adaptive Meta-Learning, pp. 7786-7793.

Ivanovic, Boris	NVIDIA
Harrison, James	Stanford University
Pavone, Marco	Stanford University

15:00-16:40 WePO2S-18.6

Interaction-Aware Trajectory Planning for Autonomous Vehicles with Analytic Integration of Neural Networks into Model Predictive Control, pp. 7794-7800. Attachment

Gupta, Piyush	Michigan State University
Isele, David	University of Pennsylvania, Honda Research Institute USA
Lee, Donggun	UC Berkeley
Bae, Sangjae	Honda Research Institute, USA

15:00-16:40 WePO2S-18.7

GoRela: Go Relative for Viewpoint-Invariant Motion Forecasting, pp. 7801-7807. Attachment

Cui, Alexander	University of Toronto, Waabi
Casas Romero, Sergio	University of Toronto
Wong, Kelvin	University of Toronto
Suo, Simon	University of Toronto
Urtasun, Raquel	University of Toronto

15:00-16:40 WePO2S-18.8

RGB-Event Fusion for Moving Object Detection in Autonomous Driving, pp. 7808-7815.

Zhou, Zhuyun	University of Burgundy (Université De Bourgogne), France
Wu, Zongwei	Université De Bourgogne, France
Boutteau, Rémi	Université De Rouen Normandie
Yang, Fan	Univ. Bourgogne Franche-Comté
Demonceaux, Cédric	Université Bourgogne Franche-Comté
Ginhac, Dominique	Univ Burgundy

WePO2S-19 Room T8

Motion and Path Planning IV (Poster Session)

15:00-16:40 WePO2S-19.1

Self-Entanglement-Free Tethered Path Planning for Non-Particle Differential-Driven Robot, pp. 7816-7822. Attachment

Yang, Tong	Zhejiang University
Liu, Jiangpin	Zhejiang University
Wang, Yue	Zhejiang University
Xiong, Rong	Zhejiang University

15:00-16:40 WePO2S-19.2

Operating with Inaccurate Models by Integrating Control-Level Discrepancy Information into Planning, pp. 7823-7829. Attachment

Ratner, Ellis	University of California, Berkeley
Tomlin, Claire	UC Berkeley
Likhachev, Maxim	Carnegie Mellon University

15:00-16:40 WePO2S-19.3

Approximation Algorithms for Robot Tours in Random Fields with Guaranteed Estimation Accuracy, pp. 7830-7836. Attachment

Dutta, Shamak	University of Waterloo
Wilde, Nils	TU Delft
Tokekar, Pratap	University of Maryland
Smith, Stephen L.	University of Waterloo

15:00-16:40 WePO2S-19.4

Real-Time Fast Marching Tree for Mobile Robot Motion Planning in Dynamic Environments, pp. 7837-7843. Attachment

Silveira, Jefferson	Queen's University
Cabral, Kleber	Royal Military College of Canada
Givigi, Sidney	Queen's University
Marshall, Joshua A.	Queen's University

15:00-16:40 WePO2S-19.5

Efficient Optimal Planning in Non-FIFO Time-Dependent Flow Fields, pp. 7844-7850. Attachment

Lee, James Ju Heon	University of Technology Sydney
Yoo, Chanyeol	University of Technology Sydney
Anstee, Stuart David	Defence Science and Technology Group
Fitch, Robert	University of Technology Sydney

15:00-16:40 WePO2S-19.6

Human-Guided Planning for Complex Manipulation Tasks Using the Screw Geometry of Motion, pp. 7851-7857. Attachment

Mahalingam, Dasharadhan	Stony Brook University
Chakraborty, Nilanjan	Stony Brook University

15:00-16:40 WePO2S-19.7

Towards Efficient Trajectory Generation for Ground Robots Beyond 2D Environment, pp. 7858-7864. Attachment

Wang, Jingping	Zhejiang University
Xu, Long	Zhejiang University
FU, HAORAN	Sun Yat-Sen University
Xu, Chao	Zhejiang University
Cao, Yanjun	Zhejiang University, Huzhou Institute of Zhejiang University
Lyu, Ximin	Sun Yat-Sen University
Gao, Fei	Zhejiang University

15:00-16:40 WePO2S-19.8

Concentration of Measure Phenomenon and Its Implications for Sample-Based Planning Algorithms in Very-High Dimensional Configuration Spaces, pp. 7865-7871.

Esposito, Joel — US Naval Academy

WePO2S-20 Room T8

Planning under Uncertainty II (Poster Session)

15:00-16:40 WePO2S-20.1

Safeguarding Learning-Based Planners under Motion and Sensing Uncertainties Using Reachability Analysis, pp. 7872-7878. Attachment

Shetty, Akshay — Stanford University
Dai, Adam — Stanford University
Tzikas, Alexandros — Stanford University
Gao, Grace — Stanford University

15:00-16:40 WePO2S-20.2

Risk-Aware Spatio-Temporal Logic Planning in Gaussian Belief Spaces, pp. 7879-7885.

Vahs, Matti — KTH Royal Institute of Technology, Stockholm
Pek, Christian — KTH Royal Institute of Technology
Tumova, Jana — KTH Royal Institute of Technology

15:00-16:40 WePO2S-20.3

Density Planner: Minimizing Collision Risk in Motion Planning with Dynamic Obstacles Using Density-Based Reachability, pp. 7886-7893. Attachment

Lützow, Laura — Technical University of Munich
Meng, Yue — Massachusetts Institute of Technology
Chavez Armijos, Andres — Boston University
Fan, Chuchu — Massachusetts Institute of Technology

15:00-16:40 WePO2S-20.4

Sequential Bayesian Optimization for Adaptive Informative Path Planning with Multimodal Sensing, pp. 7894-7901. Attachment

Ott, Joshua — Stanford University
Balaban, Edward — NASA Ames Research Center
Kochenderfer, Mykel — Stanford University

15:00-16:40 WePO2S-20.5

Tree-Structured Policy Planning with Learned Behavior Models, pp. 7902-7908. Attachment

Chen, Yuxiao — Nvidia Research
Karkus, Peter — NVIDIA
Ivanovic, Boris — NVIDIA
Weng, Xinshuo — Carnegie Mellon University
Pavone, Marco — Stanford University

15:00-16:40 WePO2S-20.6

Fast and Scalable Signal Inference for Active Robotic Source Seeking, pp. 7909-7915.

Denniston, Christopher E. — University of Southern California
Peltzer, Oriana — Stanford University
Ott, Joshua — Stanford University
Moon, Sangwoo — Jet Propulsion Laboratory, NASA
Kim, Sung-Kyun — NASA Jet Propulsion Laboratory, Caltech
Sukhatme, Gaurav — University of Southern California
Kochenderfer, Mykel — Stanford University
Schwager, Mac — Stanford University
Agha-mohammadi, Ali-akbar — NASA-JPL, Caltech

15:00-16:40 WePO2S-20.7

Active Inference for Autonomous Decision-Making with Contextual Multi-Armed Bandits, pp. 7916-7922. Attachment

Wakayama, Shohei — University of Colorado Boulder
Ahmed, Nisar — University of Colorado Boulder

15:00-16:40 WePO2S-20.8

Covariance Steering for Uncertain Contact-Rich Systems, pp. 7923-7929.

Shirai, Yuki — University of California, Los Angeles

Jha, Devesh	Mitsubishi Electric Research Laboratories
Raghunathan, Arvind	Mitsubishi Electric Research Laboratories

15:00-16:40 WePO2S-20.9

A Congestion-Aware Path Planning Method Considering Crowd Spatial-Temporal Anomalies for Long-Term Autonomy of Mobile Robots, pp. 7930-7936.

Ge, Zijian	Loughborough University
Jiang, Jingjing	Loughborough University
Coombes, Matthew	Loughborough University

15:00-16:40 WePO2S-20.10

Risk-Aware Model Predictive Path Integral Control Using Conditional Value-At-Risk, pp. 7937-7943. Attachment

Yin, Ji	Georgia Institute of Technology
Zhang, Zhiyuan	Georgia Institute of Technology
Tsiotras, Panagiotis	Georgia Tech

15:00-16:40 WePO2S-20.11

Chance-Constrained Motion Planning with Event-Triggered Estimation, pp. 7944-7950. Attachment

Theurkauf, Anne	University of Colorado Boulder
Ho, Qi Heng	University of Colorado Boulder
Ilyes, Roland	University of Colorado Boulder
Ahmed, Nisar	University of Colorado Boulder
Lahijanian, Morteza	University of Colorado Boulder

WePO2S-21 Room T8

Integrated Planning and Learning (Poster Session)

15:00-16:40 WePO2S-21.1

STAP: Sequencing Task-Agnostic Policies, pp. 7951-7958. Attachment

Migimatsu, Toki	Stanford University
Agia, Christopher George	Stanford University
Wu, Jiajun	Stanford University
Bohg, Jeannette	Stanford University

15:00-16:40 WePO2S-21.2

A Multi-Step Dynamics Modeling Framework for Autonomous Driving in Multiple Environments, pp. 7959-7965. Attachment

Gibson, Jason	Georgia Institute of Technology
Vlahov, Bogdan	Georgia Institute of Technology
Fan, David D	NASA Jet Propulsion Laboratory
Spieler, Patrick	JPL
Pastor, Daniel	Caltech
Agha-mohammadi, Ali-akbar	NASA-JPL, Caltech
Theodorou, Evangelos	Georgia Institute of Technology

15:00-16:40 WePO2S-21.3

Self-Adaptive Teaching-Learning-Based Optimizer with Improved RBF and Sparse Autoencoder for Complex Optimization Problems, pp. 7966-7972.

Bi, Jing	Beijing University of Technology, Beijing 100124, China
Wang, Ziqi	Beijing University of Technology
Yuan, Haitao	Beihang University
Qiao, Junfei	Beijing University of Technology
Zhang, Jia	Southern Methodist University
Zhou, MengChu	New Jersey Institute of Technology

15:00-16:40 WePO2S-21.4

Learning Neuro-Symbolic Programs for Language Guided Robot Manipulation, pp. 7973-7980. Attachment

Kalithasan, Namasivayam	Indian Institute of Technology, Delhi
Singh, Himanshu Gaurav	Indian Institute of Technology, Delhi
Bindal, Vishal	Indian Institute of Technology, Delhi
Tuli, Arnav	Indian Institute of Technology, Delhi
Agrawal, Vishwajeet	IIT DELHI
Jain, Rahul	Indian Institute of Technology, Delhi
Singla, Parag	Indian Institute of Technology, Delhi
Paul, Rohan	Indian Institute of Technology Delhi

WePO2S-22 Room T8

Grasping and Manipulation I (Poster Session)

15:00-16:40 WePO2S-22.1

Real-Time Generative Grasping with Spatio-Temporal Sparse Convolution, pp. 7981-7987. Attachment

Player, Tim	Oregon State University
Chang, Dongsik	Amazon
Li, Fuxin	Oregon State University
Hollinger, Geoffrey	Oregon State University

15:00-16:40 WePO2S-22.2

Keypoint-GraspNet: Keypoint-Based 6-DoF Grasp Generation from the Monocular RGB-D Input, pp. 7988-7995. Attachment

Chen, Yiye	Georgia Institute of Technology
Lin, Yunzhi	Georgia Institute of Technology
Xu, Ruinian	Georgia Institute of Technology
Vela, Patricio	Georgia Institute of Technology

15:00-16:40 WePO2S-22.3

Pick2Place: Task-Aware 6DoF Grasp Estimation Via Object-Centric Perspective Affordance, pp. 7996-8002. Attachment

He, Zhanpeng	Columbia University
Chavan-Dafle, Nikhil	Samsung Research America
Huh, Jinwook	Samsung
Song, Shuran	Columbia University
Isler, Volkan	University of Minnesota

15:00-16:40 WePO2S-22.4

RGB-D Grasp Detection Via Depth Guided Learning with Cross-Modal Attention, pp. 8003-8009. Attachment

Qin, Ran	Beihang University
Ma, Haoxiang	Beihang University
Gao, Boyang	Geometry Robotics Ltd. Harbin Institute of Technology
Huang, Di	Beihang University

15:00-16:40 WePO2S-22.5

Towards Generalized Robot Assembly through Compliance-Enabled Contact Formations, pp. 8010-8016. Attachment

Morgan, Andrew	Yale University
Bateux, Quentin	Yale University
Hao, Mei	Yale University
Dollar, Aaron	Yale University

15:00-16:40 WePO2S-22.6

Design of a Multimodal Fingertip Sensor for Dynamic Manipulation, pp. 8017-8024. Attachment

SaLoutos, Andrew	Massachusetts Institute of Technology
Stanger-Jones, Elijah	Massachusetts Institute of Technology
Guo, Menglong	University of California Berkeley
Kim, Hongmin	Seoul National University
Kim, Sangbae	Massachusetts Institute of Technology

15:00-16:40 WePO2S-22.7

TactoFind: A Tactile Only System for Object Retrieval, pp. 8025-8032. Attachment

Pai, Sameer	Massachusetts Institute of Technology
Chen, Tao	Massachusetts Institute of Technology
Tippur, Megha	Massachusetts Institute of Technology
Adelson, Edward	MIT
Gupta, Abhishek	University of Washington
Agrawal, Pulkit	MIT

15:00-16:40 WePO2S-22.8

FingerSLAM: Closed-Loop Unknown Object Localization and Reconstruction from Visuo-Tactile Feedback, pp. 8033-8039. Attachment

Zhao, Jialiang	Massachusetts Institute of Technology
Bauza Villalonga, Maria	Massachusetts Institute of Technology
Adelson, Edward	MIT

15:00-16:40 WePO2S-22.9

Differential Dynamic Programming Based Hybrid Manipulation Strategy for Dynamic Grasping, pp. 8040-8046. Attachment

Zhou, Cheng	Tencent
Long, Yanbo	University of Bristol
Shi, Lei	Johns Hopkins University
Zhao, Longfei	TENCENT
Zheng, Yu	Tencent

15:00-16:40 WePO2S-22.10

A Bioinspired Synthetic Nervous System Controller for Pick-And-Place Manipulation, pp. 8047-8053. Attachment

Li, Yanjun	Case Western Reserve University
Sukhnandan, Ravesh	Carnegie Mellon University
Gill, Jeffrey	Case Western Reserve University
Chiel, Hillel	Case Western Reserve University
Webster-Wood, Victoria	Carnegie Mellon University
Quinn, Roger, D.	Case Western Reserve University

15:00-16:40 WePO2S-22.11

SDF-Based Graph Convolutional Q-Networks for Rearrangement of Multiple Objects, pp. 8054-8060. Attachment

Kee, Hogun	Seoul National University
Kang, Minjae	Seoul National University (SNU)
Kim, Dohyeong	Seoul National University
Choy, JaeGoo	Seoul National University
Oh, Songhwai	Seoul National University

15:00-16:40 WePO2S-22.12

Towards Open-World Interactive Disambiguation for Robotic Grasping, pp. 8061-8067. Attachment

Mo, Yuchen	ByteDance AI Lab
Zhang, Hanbo	Bytedance AI Lab
Kong, Tao	ByteDance

15:00-16:40 WePO2S-22.13

GenDexGrasp: Generalizable Dexterous Grasping, pp. 8068-8074. Attachment

Li, Puhao	Tsinghua University
Liu, Tengyu	Beijing Institute for General Artificial Intelligence
Li, Yuyang	Tsinghua University
Geng, Yiran	Peking University
Zhu, Yixin	Peking University
Yang, Yaodong	Peking University
Huang, Siyuan	Beijing Institute for General Artificial Intelligence

15:00-16:40 WePO2S-22.14

Mechanical Intelligence for Prehensile In-Hand Manipulation of Spatial Trajectories, pp. 8075-8081. Attachment

Lu, Qiujie	Fudan University
Gan, Zhongxue	Fudan University
Wang, Xinran	Imperial College London
Bai, Guochao	Imperial College London
Zhang, Zhuang	Shanghai Jiao Tong University
Rojas, Nicolas	Imperial College London

15:00-16:40 WePO2S-22.15

Fast-Grasp'D: Dexterous Multi-Finger Grasp Generation through Differentiable Simulation, pp. 8082-8089.

Turpin, Dylan	University of Toronto
Zhong, Tao	University of Toronto
Zhang, Shutong	University of Toronto
Zhu, Guanglei	University of Toronto
Heiden, Eric	NVIDIA
Macklin, Miles	University of Copenhagen, NVIDIA
Tsogkas, Stavros	Samsung
Dickinson, Sven	University of Toronto
Garg, Animesh	University of Toronto

15:00-16:40 WePO2S-22.16

An Analysis of Unified Manipulation with Robot Arms and Dexterous Hands Via Optimization-Based Motion Synthesis, pp. 8090-8096. Attachment

Patel, Vatsal — Yale University
Rakita, Daniel — University of Wisconsin-Madison
Dollar, Aaron — Yale University

WePO2S-23 Room T8

Planning for Manipulation (Poster Session)

15:00-16:40 WePO2S-23.1

Spherical Cubic Blends: C2-Continuous, Zero-Clamped, and Time-Optimized Interpolation of Quaternions, pp. 8097-8103. Attachment

Wittmann, Jonas — Technical University of Munich
Cha, Lukas — Technical University of Munich
Kappertz, Marco — Technical University of Munich
Seiwald, Philipp — Technical University of Munich
Rixen, Daniel — Technische Universität München

15:00-16:40 WePO2S-23.2

Object Reconfiguration with Simulation-Derived Feasible Actions, pp. 8104-8111. Attachment

Lee, Yiyuan — Rice University
Thomason, William — Rice University
Kingston, Zachary — Rice University
Kavraki, Lydia — Rice University

15:00-16:40 WePO2S-23.3

CuRobo: Parellelized Collision-Free Robot Motion Generation, pp. 8112-8119.

Sundaralingam, Balakumar — NVIDIA Corporation
Hari, Siva Kumar Sastry — NVIDIA
Fishman, Adam — University of Washington
Garrett, Caelan — Massachusetts Institute of Technology
Van Wyk, Karl — NVIDIA
Blukis, Valts — NVIDIA
Millane, Alexander James — ETH Zurich
Oleynikova, Helen — Nvidia
Handa, Ankur — NVidia
Ramos, Fabio — University of Sydney, NVIDIA
Ratliff, Nathan — NVIDIA
Fox, Dieter — University of Washington

15:00-16:40 WePO2S-23.4

Allowing Safe Contact in Robotic Goal-Reaching: Planning and Tracking in Operational and Null Spaces, pp. 8120-8126. Attachment

Zhu, Xinghao — University of California, Berkeley
Lian, Wenzhao — Google X
Yuan, BODI — UC Berkeley
Freeman, Daniel — Google LLC
Tomizuka, Masayoshi — University of California

15:00-16:40 WePO2S-23.5

Kinodynamic Rapidly-Exploring Random Forest for Rearrangement-Based Nonprehensile Manipulation, pp. 8127-8133. Attachment

Ren, Kejia — Rice University
Chanrungmaneekul, Podshara — Rice University
Kavraki, Lydia — Rice University
Hang, Kaiyu — Rice University

15:00-16:40 WePO2S-23.6

Trajectory Generation with Dynamic Programming for End-Effector Sway Damping of Forestry Machine, pp. 8134-8140. Attachment

Jebellat, Iman — McGill University
Sharf, Inna — McGill University

15:00-16:40 WePO2S-23.7

Planning for Complex Non-Prehensile Manipulation among Movable Objects by Interleaving Multi-Agent Pathfinding and Physics-Based Simulation, pp. 8141-8147. Attachment

Saxena, Dhruv Mauria	The Robotics Institute, Carnegie Mellon University
Likhachev, Maxim	Carnegie Mellon University

15:00-16:40 WePO2S-23.8

Torque-Limited Manipulation Planning through Contact by Interleaving Graph Search and Trajectory Optimization, pp. 8148-8154. Attachment

Natarajan, Ramkumar	Robotics Institute, Carnegie Mellon University
Johnston, Garrison	Vanderbilt University
Simaan, Nabil	Vanderbilt University
Likhachev, Maxim	Carnegie Mellon University
Choset, Howie	Carnegie Mellon University

WePO2S-24 Room T8

Semantic Scene Understanding (Poster Session)

15:00-16:40 WePO2S-24.1

FDLNet: Boosting Real-Time Semantic Segmentation by Image-Size Convolution Via Frequency Domain Learning, pp. 8155-8162.

Yan, Qingqing	Tongji University
Li, Shu	Tongji University
Liu, Chengju	Tongji University
Liu, Ming	Hong Kong University of Science and Technology
Chen, Qijun	Tongji University

15:00-16:40 WePO2S-24.2

SphNet: A Spherical Network for Semantic Pointcloud Segmentation, pp. 8163-8170.

Bernreiter, Lukas	ETH Zurich, Autonomous Systems Lab
Ott, Lionel	ETH Zurich
Siegwart, Roland	ETH Zurich
Cadena Lerma, Cesar	ETH Zurich

15:00-16:40 WePO2S-24.3

SRI-Graph: A Novel Scene-Robot Interaction Graph for Robust Scene Understanding, pp. 8171-8178. Attachment

Yang, Dong	TU Munich, Chair of Media Technology
Xu, Xiao	Technical University of Munich
Xiong, Mengchen	Technical University of Munich
Babaians, Edwin	Technical University of Munich
Steinbach, Eckehard	Technical University of Munich

15:00-16:40 WePO2S-24.4

3D VSG: Long-Term Semantic Scene Change Prediction through 3D Variable Scene Graphs, pp. 8179-8186.

Looper, Samuel	ETH Zurich
Rodriguez-Puigvert, Javier	Universidad De Zaragoza
Siegwart, Roland	ETH Zurich
Cadena Lerma, Cesar	ETH Zurich
Schmid, Lukas Maximilian	Massachusetts Institute of Technology

15:00-16:40 WePO2S-24.5

Infrared Image Captioning with Wearable Device, pp. 8187-8193. Attachment

Gao, Chenjun	Yantai University
Dong, Yanzhi	Yantai University
Yuan, Xiaohu	Tsinghua Univerisity
Liu, Huaping	Tsinghua University

15:00-16:40 WePO2S-24.6

External Camera-Based Mobile Robot Pose Estimation for Collaborative Perception with Smart Edge Sensors, pp. 8194-8200. Attachment

Bultmann, Simon	University of Bonn
Memmesheimer, Raphael	University of Bonn
Behnke, Sven	University of Bonn

15:00-16:40 WePO2S-24.7

Feature-Realistic Neural Fusion for Real-Time, Open Set Scene Understanding, pp. 8201-8207. Attachment

Mazur, Kirill — Imperial College London
Sucar, Edgar — Imperial College London
Davison, Andrew J — Imperial College London

15:00-16:40 WePO2S-24.8

Deep Learning on Home Drone: Searching for the Optimal Architecture, pp. 8208-8215. Attachment

Maalouf, Alaa — MIT
Gurfinkel, Yotam — University of Haifa
Diker, Barak — University of Haifa
Gal, Oren — Technion - Israel Institute of Technology
Rus, Daniela — MIT
Feldman, Dan — University of Haifa

15:00-16:40 WePO2S-24.9

Mask3D: Mask Transformer for 3D Semantic Instance Segmentation, pp. 8216-8223. Attachment

Schult, Jonas — RWTH Aachen University
Engelmann, Francis — ETH Zurich
Hermans, Alexander — RWTH Aachen University
Litany, Or — Nvidia
Tang, Siyu — ETH Zürich
Leibe, Bastian — RWTH Aachen University

15:00-16:40 WePO2S-24.10

Detecting Spatio-Temporal Relations by Combining a Semantic Map with a Stream Processing Engine, pp. 8224-8230. Attachment

Niecksch, Lennart — German Research Centre for Artificial Intelligence (DFKI)
Deeken, Henning — Osnabrueck University
Wiemann, Thomas — Osnabrueck University

15:00-16:40 WePO2S-24.11

Cross-Modality Time-Variant Relation Learning for Generating Dynamic Scene Graphs, pp. 8231-8238. Attachment

Wang, Jingyi — Tsinghua University
Huang, JinFa — Peking University
Zhang, Can — Peking University
Deng, Zhidong — Tsinghua University

15:00-16:40 WePO2S-24.12

CPSeg: Cluster-Free Panoptic Segmentation of 3D LiDAR Point Clouds, pp. 8239-8245.

Li, Enxu — University of Toronto
Razani, Ryan — Huawei
Xu, Yixuan — Huawei Technologies Canada Co., Ltd
Liu, Bingbing — Huawei Technologies

WePO2S-25 Room T8
Deep Learning for Visual Perception II (Poster Session)

15:00-16:40 WePO2S-25.1

A Generic Diffusion-Based Approach for 3D Human Pose Prediction in the Wild, pp. 8246-8253. Attachment

Saadatnejad, Saeed — EPFL
Rasekh, Ali — Independent Scholar
Mofayezi, Mohammadreza — Sharif University of Technology
Medghalchi, Yasamin — Sharif University of Technology
Rajabzadeh, Sara — Sharif University of Technology
Mordan, Taylor — EPFL
Alahi, Alexandre — EPFL

15:00-16:40 WePO2S-25.2

DifFAR: Differentiable Frequency-Based Disentanglement for Aerial Video Action Recognition, pp. 8254-8261. Attachment

Kothandaraman, Divya — University of Maryland College Park
Lin, Ming C. — University of Maryland at College Park
Manocha, Dinesh — University of Maryland

15:00-16:40 WePO2S-25.3

ANSEL Photobot: A Robot Event Photographer with Semantic Intelligence, pp. 8262-8268. Attachment

Rivkin, Dmitriy	Samsung
Dudek, Gregory	McGill University
Kakodkar, Nikhil Rajiv	McGill University
Meger, David Paul	McGill University
Limoyo, Oliver	University of Toronto
Jenkin, Michael	York University
Liu, Xue	McGill University
Hogan, Francois	Massachusetts Institute of Technology

15:00-16:40 WePO2S-25.4

LODE: Locally Conditioned Eikonal Implicit Scene Completion from Sparse LiDAR, pp. 8269-8276. Attachment

Li, Pengfei	Institute for AI Industry Research (AIR), Tsinghua University
Zhao, Ruowen	University of Chinese Academy of Sciences
Shi, Yongliang	Tsinghua University
Zhao, Hao	Tsinghua University
Yuan, Jirui	Tsinghua University
Zhou, Guyue	Tsinghua University
Zhang, Ya-Qin	Institute for AI Industry Research(AIR), Tsinghua University

15:00-16:40 WePO2S-25.5

Uncertainty-Aware LiDAR Panoptic Segmentation, pp. 8277-8283. Attachment

Sirohi, Kshitij	University of Freiburg
Marvi, Mohammad Sajad	University of Freiburg
Büscher, Daniel	Albert-Ludwigs-Universität Freiburg
Burgard, Wolfram	University of Technology Nuremberg

15:00-16:40 WePO2S-25.6

E-VFIA : Event-Based Video Frame Interpolation with Attention, pp. 8284-8290.

KILIC, Onur Selim	METU
Akman, Ahmet	Middle East Technical University
Alatan, A.	Middle East Technical University

15:00-16:40 WePO2S-25.7

Edge-Guided Multi-Domain RGB-To-TIR Image Translation for Training Vision Tasks with Challenging Labels, pp. 8291-8298. Attachment

Lee, DongGuw	Seoul National University (SNU)
Jeon, Myung-Hwan	KAIST
Cho, Younggun	Inha University
Kim, Ayoung	Seoul National University

15:00-16:40 WePO2S-25.8

Weakly Supervised Referring Expression Grounding Via Target-Guided Knowledge Distillation, pp. 8299-8305. Attachment

Mi, Jinpeng	USST
Tang, Song	University of Hamburg
Zhiyuan, Ma	University of Shanghai for Science and Technology
liu, dan	University of Shanghai for Science and Technology
Li, Qingdu	University of Shanghai for Science and Technology
Zhang, Jianwei	University of Hamburg

WePO2S-26 Room T8

AI-Based Methods (Poster Session)

15:00-16:40 WePO2S-26.1

VQA-Based Robotic State Recognition Optimized with Genetic Algorithm, pp. 8306-8311.

Kawaharazuka, Kento	The University of Tokyo
Obinata, Yoshiki	The University of Tokyo
Kanazawa, Naoaki	The University of Tokyo
Okada, Kei	The University of Tokyo
Inaba, Masayuki	The University of Tokyo

15:00-16:40 WePO2S-26.2

Center Feature Fusion: Selective Multi-Sensor Fusion of Center-Based Objects, pp. 8312-8318. Attachment

Jacobson, Philip	University of California, Berkeley
Zhou, Yiyang	University of California, Berkeley
Zhan, Wei	Univeristy of California, Berkeley
Tomizuka, Masayoshi	University of California
Wu, Ming	University of California, Berkeley

15:00-16:40 WePO2S-26.3

Towards Robust Reference System for Autonomous Driving: Rethinking 3D MOT, pp. 8319-8325.

Wang, LeiChen	Robert Bosch CN
zhang, jiadi	Tongji University
Cai, Pei	Nanyang Technological University
Li, Xinrun	Bosch (China) Investment Co., Ltd

15:00-16:40 WePO2S-26.4

LATITUDE: Robotic Global Localization with Truncated Dynamic Low-Pass Filter in City-Scale NeRF, pp. 8326-8332. Attachment

Zhu, Zhenxin	Beihang University
Chen, yuantao	Xi'an University of Architecture and Technology
Wu, Zirui	Institute for AI Industry Research, Tsinghua University; Beijing
Hou, Chao	The University of Hong Kong
Shi, Yongliang	Tsinghua University
Li, Chuxuan	Tsinghua University
Li, Pengfei	Institute for AI Industry Research (AIR), Tsinghua University
Zhou, Guyue	Tsinghua University
Zhao, Hao	Tsinghua University

WePO2S-27 Room T8

Localization and Mapping IV (Poster Session)

15:00-16:40 WePO2S-27.1

4DRadarSLAM: A 4D Imaging Radar SLAM System for Large-Scale Environments Based on Pose Graph Optimization, pp. 8333-8340. Attachment

Zhang, Jun	Nanyang Technological University
Zhuge, Huayang	Nanyang Technological University
Wu, Zhenyu	Nanyang Technological University
Peng, Guohao	Nanyang Technological University
Wen, Mingxing	Nanyang Technological University
LIU, YIYAO	NANYANG Technological University
Wang, Danwei	Nanyang Technological University

15:00-16:40 WePO2S-27.2

A Unified BEV Model for Joint Learning of 3D Local Features and Overlap Estimation, pp. 8341-8348.

Li, Lin	Zhejiang University
Ding, Wendong	Baidu
Wen, YongKun	China, Intelligent Driving Group, Baidu
Liang, Yufei	Zhejiang University
Liu, Yong	Zhejiang University
Wan, Guowei	Baidu

15:00-16:40 WePO2S-27.3

Data-Association-Free Landmark-Based SLAM, pp. 8349-8355. Attachment

Zhang, Yihao	Massachusetts Institute of Technology
Severinsen, Odin Aleksander	Massachusetts Institute of Technology
Leonard, John	MIT
Carlone, Luca	Massachusetts Institute of Technology
Khosoussi, Kasra	The Commonwealth Scientific and Industrial Research (CSIRO)

15:00-16:40 WePO2S-27.4

Efficient Bundle Adjustment for Coplanar Points and Lines, pp. 8356-8363.

Zhou, Lipu	MeiTuan
Liu, Jiacheng	Tsinghua University
zhai, fengguang	Meituan
Ai, Pan	Meituan

Ren, Kefei	Meituan
Mao, Yinian	Meituan-Dianping Group
Huang, Guoquan	University of Delaware
Meng, Ziyang	Tsinghua University
Kaess, Michael	Carnegie Mellon University

15:00-16:40 WePO2S-27.5

Convolutional Bayesian Kernel Inference for 3D Semantic Mapping, pp. 8364-8370. Attachment

Wilson, Joseph	University of Michigan
Fu, Yuewei	University of Michigan
Zhang, Arthur	University of Michigan
Song, Jingyu	University of Michigan
Capodieci, Andrew	Neya Robotics
Jayakumar, Paramsothy	U.S. Army DEVCOM Ground Vehicle Systems Center
Barton, Kira	University of Michigan at Ann Arbor
Ghaffari, Maani	University of Michigan

15:00-16:40 WePO2S-27.6

SHINE-Mapping: Large-Scale 3D Mapping Using Sparse Hierarchical Implicit Neural Representations, pp. 8371-8377. Attachment

Zhong, Xingguang	University of Bonn
Pan, Yue	University of Bonn
Behley, Jens	University of Bonn
Stachniss, Cyrill	University of Bonn

15:00-16:40 WePO2S-27.7

Efficient and Hybrid Decoder for Local Map Construction in Bird's-Eye-View, pp. 8378-8385.

Tian, Kun	Phigent Robotics
Ye, Yun	Company
Zhu, Zheng	Institute of Automation, Chinese Academy of Sciences
Li, Peng	Phigent AI
Huang, Guan	Phigent Robotics

15:00-16:40 WePO2S-27.8

Contour Context: Abstract Structural Distribution for 3D LiDAR Loop Detection and Metric Pose Estimation, pp. 8386-8392. Attachment

Jiang, Binqian	Hong Kong University of Science and Technology
Shen, Shaojie	Hong Kong University of Science and Technology

15:00-16:40 WePO2S-27.9

The Reflectance Field Map: Mapping Glass and Specular Surfaces in Dynamic Environments, pp. 8393-8399. Attachment

Foster, Paul	University of Michigan
Johnson, Collin	May Mobility
Kuipers, Benjamin	University of Michigan

15:00-16:40 WePO2S-27.10

Inverse Perspective Mapping-Based Neural Occupancy Grid Map for Visual Parking, pp. 8400-8406. Attachment

Mu, Xiangru	Huawei
Ye, Haoyang	Huawei Technologies
Zhu, Daojun	Huawei
Chen, Tongqing	Huawei Technology
Qin, Tong	Huawei Techonology

15:00-16:40 WePO2S-27.11

Efficient Implicit Neural Reconstruction Using LiDAR, pp. 8407-8414. Attachment

Yan, Dongyu	Harbin Institute of Technology (ShenZhen)
Lyu, Xiaoyang	The University of Hong Kong
Shi, Jieqi	Hong Kong University of Technology and Science
Lin, Yi	Hong Kong University of Science and Technology

15:00-16:40 WePO2S-27.12

Factor Graph Fusion of Raw GNSS Sensing with IMU and Lidar for Precise Robot Localization without a Base Station, pp. 8415-8421. Attachment

Beuchert, Jonas	University of Oxford
Camurri, Marco	Free University of Bozen-Bolzano
Fallon, Maurice	University of Oxford

Thursday, June 1, 2023

ThAT1	ICC Cap Suite 7-9
Localisation and Mapping (Oral Session)	
Chair: Barfoot, Timothy	University of Toronto
Co-Chair: Atanasov, Nikolay	University of California, San Diego
09:00-09:10	ThAT1.1
Continuous and Precise Positioning in Urban Environments by Tightly Coupled Integration of GNSS, INS and Vision, N/A.	
Li, Xingxing	Wuhan University
Li, Shengyu	Wuhan University
Zhou, Yuxuan	Wuhan University
Shen, Zhiheng	Wuhan University
Wang, Xuanbin	Wuhan University
Li, Xin	Wuhan University, School of Geodesy and Geomatics
Wen, Weisong	Hong Kong Polytechnic University
09:10-09:20	ThAT1.2
360-DFPE: Leveraging Monocular 360-Layouts for Direct Floor Plan Estimation, N/A.	
Solarte, Bolivar	National Tsing Hua University
Liu, Yueh-Cheng	Technical University of Munich
Wu, Chin-Hsuan	National Tsing Hua University
Tsai, Yi-Hsuan	NEC Labs America
Sun, Min	National Tsing Hua University
09:20-09:30	ThAT1.3
Autonomous Navigation in Unknown Environments with Sparse Bayesian Kernel-Based Occupancy Mapping (I), N/A.	
Duong, Thai	University of California, San Diego
Yip, Michael C.	University of California, San Diego
Atanasov, Nikolay	University of California, San Diego
09:30-09:40	ThAT1.4
Multitask Learning for Scalable and Dense Multilayer Bayesian Map Inference (I), N/A.	
Gan, Lu	California Institute of Technology
Kim, Youngji	NAVER Labs
Grizzle, J.W	University of Michigan
Walls, Jeffrey	University of Michigan
Kim, Ayoung	Seoul National University
Eustice, Ryan	University of Michigan
Ghaffari, Maani	University of Michigan
09:40-09:50	ThAT1.5
Sigma-FP: Robot Mapping of 3D Floor Plans with an RGB-D Camera under Uncertainty, N/A.	
Matez-Bandera, Jose Luis	University of Malaga
Monroy, Javier	University of Málaga
Gonzalez-Jimenez, Javier	University of Malaga
09:50-10:00	ThAT1.6
Continuous-Time Trajectory Estimation for Differentially Flat Systems, N/A.	
Johnson, Jacob	Brigham Young University
Mangelson, Joshua	Brigham Young University
Beard, Randal	Brigham Young University
10:00-10:10	ThAT1.7
IC-GVINS: A Robust, Real-Time, INS-Centric GNSS-Visual-Inertial Navigation System, N/A.	
Niu, Xiaoji	Wuhan University
Tang, Hailiang	Wuhan University
Zhang, Tisheng	Wuhan University
Fan, Jing	Wuhan University
Jingnan, Liu	Wuhan University

10:10-10:20 ThAT1.8

Gyro-Net: IMU Gyroscopes Random Errors Compensation Method Based on Deep Learning, N/A.

Gao, Yunqi — Defense Innovation Institute
Shi, Dianxi — Defense Innovation Institute
Li, Ruihao — Defense Innovation Institute
Liu, Zhe — National University of Defense Technology
SUN, Wen — Renmin University of China

10:20-10:30 ThAT1.9

Self-Supervised Feature Learning for Long-Term Metric Visual Localization, N/A.

Chen, Yuxuan — University of Toronto
Barfoot, Timothy — University of Toronto

10:30-10:40 ThAT1.10

GraffMatch: Global Matching of 3D Lines and Planes for Wide Baseline LiDAR Registration, N/A.

Lusk, Parker C. — Massachusetts Institute of Technology
Parikh, Devarth — Ford Motor Company
How, Jonathan — Massachusetts Institute of Technology

ThAT2 Theatre 1

Medical and Surgical Robotics (Oral Session)

Chair: Mathis-Ullrich, Franziska — Friedrich-Alexander-University Erlangen-Nurnberg (FAU)
Co-Chair: Legrand, Julie — VUB

09:00-09:10 ThAT2.1

Model Learning with Backlash Compensation for a Tendon-Driven Surgical Robot, N/A.

Cursi, Francesco — Imperial College London
Bai, Weibang — Imperial College London
Yeatman, Eric — Imperial College London
Kormushev, Petar — Imperial College London

09:10-09:20 ThAT2.2

Simultaneous Online Registration-Independent Stiffness Identification and Tip Localization of Surgical Instruments in Robot-Assisted Eye Surgery (I), N/A.

Ebrahimi, Ali — Johns Hopkins University
Sefati, Shahriar — Johns Hopkins University
Gehlbach, Peter — Johns Hopkins Medical Institute
Taylor, Russell H. — The Johns Hopkins University
Iordachita, Ioan Iulian — Johns Hopkins University

09:20-09:30 ThAT2.3

Robot-Assisted Retraction for Transoral Surgery, N/A.

Zhu, Lifeng — Southeast University
Shen, Jiangwei — Southeast University
Yang, Shuyan — Southeast University
Song, Aiguo — Southeast University

09:30-09:40 ThAT2.4

HIFUSK – High Intensity Focused Ultrasound Surgery Based on KUKA Robot (I), N/A.

Mariani, Andrea — Scuola Superiore Sant'Anna
Morchi, Laura — Scuola Superiore Sant'Anna
Diodato, Alessandro — Scuola Superiore Sant'Anna, the BioRobotics Institute
Tognarelli, Selene — Scuola Superiore Sant'Anna
Menciassi, Arianna — Scuola Superiore Sant'Anna - SSSA

09:40-09:50 ThAT2.5

Rethinking Feature Extraction: Gradient-Based Localized Feature Extraction for End-To-End Surgical Downstream Tasks, N/A. Attachment

Pang, Winnie — National University of Singapore
Islam, Mobarakol — University College London
Jagadesh Kumar, Sai Mitheran — Carnegie Mellon University
Seenivasan, Lalithkumar — National University of Singapore
Xu, Mengya — National University of Singapore
Ren, Hongliang — Chinese Univ Hong Kong (CUHK) & National Univ Singapore(NUS)

09:50-10:00 ThAT2.6

Sim-To-Real Transfer for Visual Reinforcement Learning of Deformable Object Manipulation for Robot-Assisted Surgery, N/A. Attachment

Scheikl, Paul Maria	Karlsruhe Institute of Technology
Tagliabue, Eleonora	Carl Zeiss AG
Gyenes, Balazs	Karlsruhe Institute of Technology
Wagner, Martin	Heidelberg University Hospital
Dall'Alba, Diego	University of Verona
Fiorini, Paolo	University of Verona
Mathis-Ullrich, Franziska	Karlsruhe Institute of Technology

10:00-10:10 ThAT2.7

Shape Tracking and Feedback Control of Cardiac Catheter Using MRI-Guided Robotic Platform - Validation with Pulmonary Vein Isolation Simulator in MRI (I), N/A.

Dong, Ziyang	The University of Hong Kong
WANG, Xiaomei	The University of Hong Kong
Fang, Ge	The University of Hong Kong
He, Zhuoliang	The University of Hong Kong
Ho, Justin Di-Lang	The University of Hong Kong
Cheung, Chim Lee	The University of Hong Kong
Tang, Wai Lun	The University of Hong Kong
Xie, Xiaochen	Harbin Institute of Technology, Shenzhen
Liang, Liyuan	The University of Hong Kong
Chang, Hing-Chiu	The University of Hong Kong
Ching, Chi Keong	National Heart Centre Singapore
Kwok, Ka-Wai	The University of Hong Kong

10:10-10:20 ThAT2.8

A Generalized Framework for Concentric Tube Robot Design Using Gradient-Based Optimization (I), N/A.

Lin, Jui-Te	University of California, San Diego
Girerd, Cedric	University of California, San Diego
Yan, Jiayao	University of California, San Diego
Hwang, John T.	University of California, San Diego
Morimoto, Tania K.	University of California San Diego

10:20-10:30 ThAT2.9

Magnetic Soft Continuum Robots with Braided Reinforcement, N/A.

Lloyd, Peter Robert	University of Leeds
Onaizah, Onaizah	McMaster University
Pittiglio, Giovanni	Harvard University
Chathuranga, Damith Suresh	University of Leeds
Chandler, James Henry	University of Leeds
Valdastri, Pietro	University of Leeds

10:30-10:40 ThAT2.10

Shape Sensing of Flexible Robots Based on Deep Learning (I), N/A.

Ha, Xuan Thao	KU Leuven
Wu, Di	KU Leuven
OURAK, Mouloud	University of Leuven
Borghesan, Gianni	KU Leuven
Dankelman, Jenny	TU Delft
Menciassi, Arianna	Scuola Superiore Sant'Anna - SSSA
Vander Poorten, Emmanuel B	KU Leuven

ThAT3 ICC Cap Suite 2-4

Grasping and Micromanipulation (Oral Session)

Chair: Harada, Kensuke	Osaka University
Co-Chair: Ostyn, Frederik	Ghent University

09:00-09:10 ThAT3.1

Multifingered Grasping Based on Multimodal Reinforcement Learning, N/A.

Liang, Hongzhuo	University of Hamburg
Cong, Lin	University of Hamburg

Hendrich, Norman	University of Hamburg
Li, Shuang	University of Hamburg
Sun, Fuchun	Tsinghua University
Zhang, Jianwei	University of Hamburg

09:10-09:20 ThAT3.2

Planning of Power Grasps Using Infinite Program under Complementary Constraints, N/A.

Pan, Zherong	Tencent America
Zhang, Duo	New York University
Tu, Changhe	Shandong University
Gao, Xifeng	Tencent America

09:20-09:30 ThAT3.3

A Soft Barometric Tactile Sensor to Simultaneously Localize Contact and Estimate Normal Force with Validation to Detect Slip in a Robotic Gripper, N/A.

De Clercq, Thomas	Ghent University
Sianov, Anatolii	University of Gent, EELAB
Crevecoeur, Guillaume	Ghent University

09:30-09:40 ThAT3.4

Learning Efficient Policies for Picking Entangled Wire Harnesses: An Approach to Industrial Bin Picking, N/A.
Attachment

Zhang, Xinyi	Osaka University
Domae, Yukiyasu	The National Institute of Advanced Industrial Science and Techno
Wan, Weiwei	Osaka University
Harada, Kensuke	Osaka University

09:40-09:50 ThAT3.5

A Novel Scaffold Reinforced Actuator with Tunable Attitude Ability for Grasping (I), N/A.

Jiang, Pei	Chongqing University
Luo, Ji	Chongqing University
Li, Jiaxing	Chongqing University
Chen, Michael Z. Q.	Nanjing University of Science and Technology
Chen, Yonghua	The University of Hong Kong
Yang, Yang	Nanjing University of Information Science and Technology
Chen, Rui	Chongqing University

09:50-10:00 ThAT3.6

Deep Learning Reactive Robotic Grasping with a Versatile Vacuum Gripper (I), N/A.

Zhang, Hui	KU Leuven
Peeters, Jef	KU Leuven
Demeester, Eric	KU Leuven
Kellens, Karel	KU Leuven

10:00-10:10 ThAT3.7

An Unconstrained Convex Formulation of Compliant Contact (I), N/A.

Castro, Alejandro	Toyota Research Institute
Permenter, Frank	Toyota Research Institute
Han, Xuchen	Toyota Research Institute

10:10-10:20 ThAT3.8

Robotic Manipulation of Sperm As a Deformable Linear Object (I), N/A.

Dai, Changsheng	Dalian University of Technology
Shan, Guanqiao	University of Toronto
Liu, Hang	University of Toronto
Ru, Changhai	Soochow University
Sun, Yu	University of Toronto

10:20-10:30 ThAT3.9

Robotic Rotational Positioning of End-Effectors for Micromanipulation (I), N/A.

Zhuang, Songlin	Yongjiang Laboratory
Dai, Changsheng	Dalian University of Technology
Shan, Guanqiao	University of Toronto
Ru, Changhai	Soochow University
Zhang, Zhuoran	The Chinese University of Hong Kong, Shenzhen
Sun, Yu	University of Toronto

ThAT4	South Gallery Rms 20-22
Prosthetics, Exoskeletons and Rehabilitation (Oral Session)	
Chair: Gregg, Robert D.	University of Michigan
Co-Chair: Ben-Tzvi, Pinhas	Virginia Tech
09:00-09:10	ThAT4.1
Comparing EMG Continuous Movement Decoding with Joints Unconstrained and Constrained, N/A.	
Pan, Lizhi	Tianjin University
Ding, Zhongyi	Tianjin University
Li, Jianmin	Tianjin University
09:10-09:20	ThAT4.2
Design and Validation of a Polycentric Hybrid Knee Prosthesis with Electromagnet-Controlled Mode Transition, N/A.	
Wang, Xu	Jilin University
Xiu, Haohua	Ningbo University of Technology
Zhang, Yao	Jilin University
Liang, Wei	Jilin University
Chen, Wei	Jilin University
Wei, Guowu	Salford University
Ren, Lei	University of Manchester
Ren, Luquan	Jilin University
09:20-09:30	ThAT4.3
Powered Knee and Ankle Prosthesis with Adaptive Control Enables Climbing Stairs with Different Stair Heights, Cadences, and Gait Patterns (I), N/A.	
Hood, Sarah	University of Utah
Gabert, Lukas	University of Utah
Lenzi, Tommaso	University of Utah
09:30-09:40	ThAT4.4
Design, Control, and Experimental Evaluation of a Novel Robotic Glove System for Patients with Brachial Plexus Injuries (I), N/A.	
Xu, Wenda	Virginia Tech
Guo, Yunfei	Virginia Tech
Bravo, Cesar	Carilion Clinic Institute of Orthopaedics and Neurosciences
Ben-Tzvi, Pinhas	Virginia Tech
09:40-09:50	ThAT4.5
Data-Driven Variable Impedance Control of a Powered Knee-Ankle Prosthesis for Adaptive Speed and Incline Walking (I), N/A.	
Best, T. Kevin	University of Michigan
Welker, Cara Gonzalez	University of Colorado Boulder
Rouse, Elliott	University of Michigan
Gregg, Robert D.	University of Michigan
09:50-10:00	ThAT4.6
NESM-Gamma: An Upper-Limb Exoskeleton with Compliant Actuators for Clinical Deployment, N/A.	
Pan, Jun	Zhejiang University of Technology
Astarita, Davide	Scuola Superiore Sant'Anna
Baldoni, Andrea	Istituto Di Biorobotica
Dell'Agnello, Filippo	Scuola Superiore Sant'Anna
Crea, Simona	Scuola Superiore Sant'Anna, the BioRobotics Institute
Vitiello, Nicola	Scuola Superiore Sant Anna
Trigili, Emilio	Scuola Superiore Sant'Anna
10:00-10:10	ThAT4.7
Design, Development, and Control of a Hand/Wrist Exoskeleton for Rehabilitation and Training (I), N/A.	
Dragusanu, Mihai	University of Siena
Iqbal, Muhammad Zubair	University of Siena
Lisini Baldi, Tommaso	University of Siena
Prattichizzo, Domenico	University of Siena
Malvezzi, Monica	University of Siena

10:10-10:20 ThAT4.8

Markovian Transparency Control of an Exoskeleton Robot, N/A. Attachment

Escalante, Felix M	University of São Paulo
dos Santos, Leonardo Felipe	University of São Paulo
Moreno, Yecid	University of São Paulo
Siqueira, Adriano	University of Sao Paulo
Terra, Marco Henrique	University of Sao Paulo
Boaventura, Thiago	University of Sao Paulo

10:20-10:30 ThAT4.9

ArmAssist: A Telerehabilitation Solution for Upper-Limb Rehabilitation at Home (I), N/A.

Garzo, Ainara	TECNALIA, Basque Research and Technology Alliance (BRTA)
Jung, Je Hyung	TECNALIA, Basque Research and Technology Alliance (BRTA)
Arcas Ruiz-Ruano, Javier	TECNALIA, Basque Research and Technology Alliance (BRTA)
Perry, Joel C.	University of Idaho
Keller, Thierry	FUNDACION TECNALIA Research & Innovation

10:30-10:40 ThAT4.10

A Soft, Wearable Skin-Brace for Assisting Forearm Pronation and Supination with a Low-Profile Design, N/A.

Su, Huimin	Korea Advanced Institute of Science and Technology
Lee, Kyoung-Soub	Korea Advanced Institute of Science and Technology (KAIST)
Kim, Yusung	Korea Advanced Institute of Science and Technology
Park, Hyung-Soon	Korea Advanced Institute of Science and Technology

ThAT5 — ICC Cap Suite 10-12

Optimal Control and Object Detection (Oral Session)

Chair: Braun, David	Vanderbilt University
Co-Chair: Milford, Michael J	Queensland University of Technology

09:00-09:10 ThAT5.1

Teachers in Concordance for Pseudo-Labeling of 3D Sequential Data, N/A.

Gebrehiwot, Awet Haileslassie	Czech Technical University in Prague
Vacek, Patrik	Ceske Vysoke Uceni Technicke V Praze - Fakulta Elektrotechnicka
Hurych, David	Valeo
Zimmermann, Karel	Czech Technical University Prague
Perez, Patrick	Valeo
Svoboda, Tomas	Faculty of Electrical Engineering, Czech Technical University In

09:10-09:20 ThAT5.2

Automatic Labeling to Generate Training Data for Online LiDAR-Based Moving Object Segmentation, N/A.

Chen, Xieyuanli	National University of Defense Technology
Mersch, Benedikt	University of Bonn
Nunes, Lucas	University of Bonn
Marcuzzi, Rodrigo	University of Bonn
Vizzo, Ignacio	University of Bonn
Behley, Jens	University of Bonn
Stachniss, Cyrill	University of Bonn

09:20-09:30 ThAT5.3

Uncertainty for Identifying Open-Set Errors in Visual Object Detection, N/A.

Miller, Dimity	Queensland University of Technology
Sünderhauf, Niko	Queensland University of Technology
Milford, Michael J	Queensland University of Technology
Dayoub, Feras	The University of Adelaide

09:30-09:40 ThAT5.4

Bounds on Optimal Revisit Times in Persistent Monitoring Missions with a Distinct & Remote Service Station (I), N/A.

Hari, Sai Krishna Kanth	Los Alamos National Laboratory
Rathinam, Sivakumar	TAMU
Darbha, Swaroop	TAMU
Kalyanam, Krishna	NASA Ames Research Center
Manyam, Satyanarayana Gupta	Air Force Research Labs
Casbeer, David	AFRL

09:40-09:50 ThAT5.5

Force Sharing Problem During Gait Using Inverse Optimal Control, N/A.

Becanovic, Filip — Université Paris-Est Créteil, University of Belgrade
Bonnet, Vincent — University Paul Sabatier
Dumas, Raphaël — University Gustave Eiffel
Jovanovic, Kosta — University of Belgrade, Serbia
Mohammed, Samer — University of Paris Est Créteil - (UPEC)

09:50-10:00 ThAT5.6

Data-Driven Iterative Optimal Control for Switched Dynamical Systems, N/A.

Chen, Yuqing — Xi'an Jiaotong-Liverpool University
Li, Yangzhi — Singapore University of Technology and Design
Braun, David — Vanderbilt University

10:00-10:10 ThAT5.7

BiConMP: A Nonlinear Model Predictive Control Framework for Whole Body Motion Planning (I), N/A.

Meduri, Avadesh — New York University
Shah, Paarth — University of Oxford
Viereck, Julian — New York University
Khadiv, Majid — Max Planck Institute for Intelligent Systems
Havoutis, Ioannis — University of Oxford
Righetti, Ludovic — New York University

10:10-10:20 ThAT5.8

Environment Warped Gait Trajectory Optimization for Complex Terrains, N/A. Attachment

Pan, Zherong — Tencent America
Chen, Tan — Michigan Technological University
Gao, Xifeng — Tencent America
Wu, Kui — Tencent

10:20-10:30 ThAT5.9

Differential Dynamic Programming with Nonlinear Safety Constraints under System Uncertainties, N/A.

Alcan, Gokhan — Aalto University
Kyrki, Ville — Aalto University

10:30-10:40 ThAT5.10

ViTAL: Vision-Based Terrain-Aware Locomotion for Legged Robots (I), N/A.

Fahmi, Shamel — Massachusetts Institute of Technology
Barasuol, Victor — Istituto Italiano Di Tecnologia
Esteban, Domingo — ANYbotics AG
Villarreal Magaña, Octavio Antonio — Istituto Italiano Di Tecnologia
Semini, Claudio — Istituto Italiano Di Tecnologia

ThAT6 — ICC Cap Suite 14-16

Calibration, Identification, and Simulation (Oral Session)

Chair: Lee, Dongjun — Seoul National University
Co-Chair: Ficuciello, Fanny — Università Di Napoli Federico II

09:00-09:10 ThAT6.1

Experimental Study on Accurate Calibration for Industrial Robot Via Integrated Extended Kalman and Beetle Antennae Search, N/A.

Li, Zhibing — Chongqing Institute of Green and Intelligent Technology, Chinese
Li, Shuai — Hong Kong Polytechnic University
Luo, Xin — Chongqing Institute of Green and Intelligent Technology, Chinese

09:10-09:20 ThAT6.2

Real-Time Model Predictive Control and System Identification Using Differentiable Physics Simulation, N/A. Attachment

Chen, Sirui — The University of Hong Kong
Werling, Keenon — Stanford University
Wu, Albert — Stanford University
Liu, Karen — Stanford University

09:20-09:30 ThAT6.3

PBACalib: Targetless Extrinsic Calibration for High-Resolution LiDAR-Camera System Based on Plane-Constrained Bundle Adjustment, N/A.

Chen, Feiyi	The Hong Kong University of Science and Technology
Li, Liang	The University of Hong Kong
Zhang, Shuyang	The Hong Kong University of Science and Technology
Jin, Wu	UESTC
Wang, Lujia	The Hong Kong University of Technology

09:30-09:40 ThAT6.4

Probabilistic Framework for Hand-Eye and Robot-World Calibration AX=YB (I), N/A.

Ha, Junhyoung	Korea Institute of Science and Technology

09:40-09:50 ThAT6.5

Multi-Kernel Maximum Correntropy Kalman Filter for Orientation Estimation, N/A.

Li, Shilei	The Hong Kong University of Science and Technology
Li, Lijing	China University of Mining and Technology
Shi, Dawei	Beijing Institute of Technology
Zou, Wulin	Hong Kong University of Science and Technology
Duan, Pu	Xeno Dynamics Co., Ltd
Shi, Ling	The Hong Kong University of Science and Technology

09:50-10:00 ThAT6.6

A4LidarTag: Depth-Based Fiducial Marker for Extrinsic Calibration of Solid-State Lidar and Camera, N/A.

Xie, Yusen	Beijing Information Science & Technology University
Lei, Deng	Tsinghua University
Ting, Sun	Beijing Information Science & Technology University
Yeyu, Fu	Beijing Information Science & Technology University
Chen, Zhixiang	The University of Sheffield
Baohua, Chen	Tsinghua University
Jian, Li	Tsinghua University
Xinglong, Cui	Beijing Information Science & Technology University
Hanxi, Yin	Tsinghua University
Shuixin, Deng	Beijing Information Science & Technology University
Junwei, Xiao	Tsinghua University

10:00-10:10 ThAT6.7

A CoppeliaSim Dynamic Simulator for the Da Vinci Research Kit, N/A. Attachment

Ferro, Marco	CNRS
Mirante, Alessandro	Sapienza University of Rome
Ficuciello, Fanny	Università Di Napoli Federico II
Vendittelli, Marilena	Sapienza University of Rome

10:10-10:20 ThAT6.8

Fast and Robust Inverse Kinematics of Serial Robots Using Halley's Method (I), N/A.

Lloyd, Steffan	Carleton University
Irani, Rishad	Carleton University
Ahmadi, Mojtaba	Carleton University

10:20-10:30 ThAT6.9

Large-Dimensional Multibody Dynamics Simulation Using Contact Nodalization and Diagonalization (I), N/A.

Lee, Jeongmin	Seoul National University
Lee, Minji	Seoul National University
Lee, Dongjun	Seoul National University

ThPO1S-01 Room T8

Software Tools I (Poster Session)

09:00-10:40 ThPO1S-01.1

EMS®: A Massive Computational Experiment Management System towards Data-Driven Robotics, pp. 9068-9075. Attachment

Lin, Qinjie	Northwestern University
Ye, Guo	Northwestern University
Liu, Han	Northwestern University

09:00-10:40 ThPO1S-01.2

Rmagine: 3D Range Sensor Simulation in Polygonal Maps Via Ray Tracing for Embedded Hardware on Mobile Robots, pp. 9076-9082. Attachment

Mock, Alexander — University of Osnabrück
Wiemann, Thomas — Fulda University of Applied Sciences
Hertzberg, Joachim — University of Osnabrueck

09:00-10:40 ThPO1S-01.3

A Framework for Fast Prototyping of Photo-Realistic Environments with Multiple Pedestrians, pp. 9083-9089. Attachment

Casao, Sara — Unversity of Zaragoza ESQ5018001G Department of Computer Science
Otero, Andrés — Universidad De Zaragoza
Serra-Gómez, Álvaro — Delft University of Technology
Murillo, Ana Cristina — University of Zaragoza
Alonso-Mora, Javier — Delft University of Technology
Montijano, Eduardo — Universidad De Zaragoza

09:00-10:40 ThPO1S-01.4

RoboSC: A Domain-Specific Language for Supervisory Controller Synthesis of ROS Applications, pp. 9090-9096. Attachment

Wesselink, Bart — Eindhoven University of Technology
de Vos, Koen — Eindhoven University of Technology
Kurtev, Ivan — Eindhoven University of Technology
Reniers, Michel — Eindhoven University of Technology
Torta, Elena — Eindhoven Univeristy of Technology

09:00-10:40 ThPO1S-01.5

KubeROS: A Unified Platform for Automated and Scalable Deployment of ROS2-Based Multi-Robot Applications, pp. 9097-9103.

Zhang, Yongzhou — Karlsruhe University of Applied Sciences
Wurll, Christian — Karlsruhe University of Applied Sciences
Hein, Björn — University of Applied Sciences Karlsruhe

09:00-10:40 ThPO1S-01.6

Domain-Specific Languages for Kinematic Chains and Their Solver Algorithms: Lessons Learned for Composable Models, pp. 9104-9110.

Schneider, Sven — Bonn-Rhein-Sieg University
Hochgeschwender, Nico — Bonn-Rhein-Sieg University
Bruyninckx, Herman — University of Leuven

09:00-10:40 ThPO1S-01.7

SIERRA: A Modular Framework for Accelerating Research and Improving Reproducibility, pp. 9111-9117.

Harwell, John — University of Minnesota
Gini, Maria — University of Minnesota

09:00-10:40 ThPO1S-01.8

OpTaS: An Optimization-Based Task Specification Library for Trajectory Optimization and Model Predictive Control, pp. 9118-9124. Attachment

Mower, Christopher Edwin — King's College London
Moura, Joao — The University of Edinburgh
Zamani Behabadi, Nazanin — Not Affiliated
Vijayakumar, Sethu — University of Edinburgh
Vercauteren, Tom — King's College London
Bergeles, Christos — King's College London

ThPO1S-02 Room T8

Data Sets I (Poster Session)

09:00-10:40 ThPO1S-02.1

CMG-Net: An End-To-End Contact-Based Multi-Finger Dexterous Grasping Network, pp. 9125-9131. Attachment

Wei, Mingze — East China Normal University, Midea
Huang, Yaomin — East China Normal University
Xu, Zhiyuan — Midea Group
Liu, Ning — Midea Group
Che, Zhengping — Midea Group

ZHANG, Xinyu	East China Normal University
Shen, Chaomin	East China Normal University
Feng, Feifei	Midea Group
Shan, Chun	Guangdong Polytechnic Normal University
Tang, Jian	Midea Group (Shanghai) Co., Ltd

09:00-10:40 ThPO1S-02.2

ARMBench: An Object-Centric Benchmark Dataset for Robotic Manipulation, pp. 9132-9139. Attachment

Mitash, Chaitanya	Amazon Robotics
Wang, Fan	Amazon Robotics
Lu, Shiyang	Rutgers University
Terhuja, Vikedo	Amazon Robotics
Garaas, Tyler	Mitsubishi Electric Research Laboratories
Polido, Felipe	Italian Institute of Technology
Nambi, Manikantan	Amazon Robotics

09:00-10:40 ThPO1S-02.3

FewSOL: A Dataset for Few-Shot Object Learning in Robotic Environments, pp. 9140-9146.

P, Jishnu Jaykumar	The University of Texas at Dallas
Chao, Yu-Wei	NVIDIA
Xiang, Yu	University of Texas at Dallas

09:00-10:40 ThPO1S-02.4

WorldGen: A Large Scale Generative Simulator, pp. 9147-9154. Attachment

Singh, Chahat Deep	University of Maryland, College Park
Kumari, Riya	University of Maryland, College Park
Fermuller, Cornelia	University of Maryland
Sanket, Nitin	University of Maryland, College Park
Aloimonos, Yiannis	University of Maryland

09:00-10:40 ThPO1S-02.5

Lossless SIMD Compression of LiDAR Range and Attribute Scan Sequences, pp. 9155-9161.

Ford, Jeff	ComplexIQ
Ford, Jordan	Carnegie Mellon University

09:00-10:40 ThPO1S-02.6

3D-DAT: 3D-Dataset Annotation Toolkit for Robotic Vision, pp. 9162-9168. Attachment

Suchi, Markus	TU Wien
Neuberger, Bernhard	TU Wien
Salykov, Amanzhol	TU Wien
Weibel, Jean-Baptiste	TU Wien
Patten, Timothy	University of Technology Sydney
Vincze, Markus	Vienna University of Technology

09:00-10:40 ThPO1S-02.7

METEOR: A Dense, Heterogeneous, and Unstructured Traffic Dataset with Rare Behaviors, pp. 9169-9175.

Chandra, Rohan	University of Texas, Austin
Wang, Xijun	University of Maryland, College Park
Mahajan, Mridul	Indian Institute of Information Technology Allahabad
Kala, Rahul	Indian Institute of Information Technology, Allahabad, India
Palugulla, Rishitha	NavAjna Technologies Private Limited
nallagopu, Chandrababu Naidu	NavAjna Technologies Private Limited
Jain, Alok	NavAjna Technologies Private Limited
Manocha, Dinesh	University of Maryland

09:00-10:40 ThPO1S-02.8

Kollagen: A Collaborative SLAM Pose Graph Generator, pp. 9176-9182. Attachment

Sundin, Roberto C.	Ericsson Research
Umsonst, David	Ericsson Research

ThPO1S-03 Room T8

Benchmarking (Poster Session)

09:00-10:40 ThPO1S-03.1

AvoidBench: A High-Fidelity Vision-Based Obstacle Avoidance Benchmarking Suite for Multi-Rotors, pp. 9183-9189. Attachment

Yu, Hang — Delft University of Technology
de Croon, Guido — TU Delft
De Wagter, Christophe — Delft University of Technology

09:00-10:40 ThPO1S-03.2

Generating a Terrain-Robustness Benchmark for Legged Locomotion: A Prototype Via Terrain Authoring and Active Learning, pp. 9190-9196. Attachment

Zhang, Chong — ETH Zurich
Yang, Lizhi — California Institute of Technology

09:00-10:40 ThPO1S-03.3

Train Offline, Test Online: A Real Robot Learning Benchmark, pp. 9197-9203. Attachment

Zhou, Gaoyue — Carnegie Mellon University
Dean, Victoria — Carnegie Mellon University
Srirama, Mohan Kumar — Carnegie Mellon University
Rajeswaran, Aravind — University of Washington
Pari, Jyothish — New York University
Hatch, Kyle Beltran — Stanford University
Jain, Aryan — UC Berkeley
Yu, Tianhe — Stanford University
Abbeel, Pieter — UC Berkeley
Pinto, Lerrel — New York University
Finn, Chelsea — Stanford University
Gupta, Abhinav — Carnegie Mellon University

09:00-10:40 ThPO1S-03.4

Benchmarking Potential Based Rewards for Learning Humanoid Locomotion, pp. 9204-9210. Attachment

Jeon, Se Hwan — Massachusetts Institute of Technology
Heim, Steve — Massachusetts Institute of Technology
Khazoom, Charles — Massachusetts Institute of Technology
Kim, Sangbae — Massachusetts Institute of Technology

09:00-10:40 ThPO1S-03.5

Household Clothing Set and Benchmarks for Characterising End-Effector Cloth Manipulation, pp. 9211-9217. Attachment

Clark, Angus Benedict — Imperial College London
Cramphorn, Luke — Bristol University
Rachowiecki, Michal — Dyson
Gregg-Smith, Austin — University of Bristol

09:00-10:40 ThPO1S-03.6

Parameter Optimization for Manipulator Motion Planning Using a Novel Benchmark Set, pp. 9218-9223. Attachment

Gaebert, Carl — Chemnitz University of Technology
Kaden, Sascha — Chemnitz University of Technology
Fischer, Benjamin — Technische Universität Chemnitz
Thomas, Ulrike — Chemnitz University of Technology

09:00-10:40 ThPO1S-03.7

Benchmarking Reinforcement Learning Techniques for Autonomous Navigation, pp. 9224-9230. Attachment

Xu, Zifan — University of Texas at Austin
Liu, Bo — University of Texas at Austin
Xiao, Xuesu — George Mason University
Nair, Anirudh — The University of Texas at Austin
Stone, Peter — University of Texas at Austin

09:00-10:40 ThPO1S-03.8

A Benchmark for Multi-Robot Planning in Realistic, Complex and Cluttered Environments, pp. 9231-9237.

Schaefer, Simon — Karlsruhe Institute of Technology (KIT)
Palmieri, Luigi — Robert Bosch GmbH
Heuer, Lukas — Örebro University, Robert Bosch GmbH
Dillmann, Rüdiger — FZI - Forschungszentrum Informatik - Karlsruhe

Koenig, Sven — University of Southern California
Kleiner, Alexander — Bosch Central Research

ThPO1S-04 — Room T8
Object Detection III (Poster Session)

09:00-10:40 — ThPO1S-04.1

D-Align: Dual Query Co-Attention Network for 3D Object Detection Based on Multi-Frame Point Cloud Sequence, pp. 9238-9244. Attachment

Lee, Junhyung — Hanyang University
Koh, Junho — Hanyang University
Lee, Youngwoo — Hanyang University
Choi, Jun Won — Hanyang University

09:00-10:40 — ThPO1S-04.2

DDS3D: Dense Pseudo-Labels with Dynamic Threshold for Semi-Supervised 3D Object Detection, pp. 9245-9252.

Li, Jingyu — Huazhong University of Science and Technology
Liu, Zhe — Huazhong University of Science and Technology
Jinghua, Hou — Huazhong University of Science and Technology
liang, dingkang — Huazhong University of Science and Technology

09:00-10:40 — ThPO1S-04.3

Fast Staircase Detection and Estimation Using 3D Point Clouds with Multi-Detection Merging for Heterogeneous Robots, pp. 9253-9259. Attachment

Sriganesh, Prasanna — Carnegie Mellon University
Bagree, Namya — Carnegie Mellon University
Vundurthy, Bhaskar — Carnegie Mellon University
Travers, Matthew — Carnegie Mellon University

09:00-10:40 — ThPO1S-04.4

Cost-Aware Evaluation and Model Scaling for LiDAR-Based 3D Object Detection, pp. 9260-9266.

Wang, Xiaofang — Carnegie Mellon University
Kitani, Kris — CMU

09:00-10:40 — ThPO1S-04.5

Zero-Shot Object Detection Based on Dynamic Semantic Vectors, pp. 9267-9273.

Li, Haoyu — University of Chinese Academy of Sciences
Mei, Jilin — Institute of Computing Technology, Chinese Academy of Sciences
Zhou, Jiancong — University of Chinese Academy of Sciences
Hu, Yu — Institute of Computing Technology Chinese Academy of Sciences

09:00-10:40 — ThPO1S-04.6

Road Anomaly Segmentation Based on Pixel-Wise Logit Variance with Iterative Background Highlighting, pp. 9274-9280. Attachment

Lee, Dongkun — KAIST
Kim, Han-Gyu — NAVER Cloud
Choi, Ho-Jin — KAIST

09:00-10:40 — ThPO1S-04.7

WEDGE: Web-Image Assisted Domain Generalization for Semantic Segmentation, pp. 9281-9288. Attachment

Kim, Namyup — POSTECH
Son, Taeyoung — Pohang University of Science and Technology
Pahk, Jaehyun — DGIST
Lan, Cuiling — Microsoft Research Asia
Zeng, Wenjun — Eastern Institute for Advanced Study
KWAK, SUHA — POSTECH

09:00-10:40 — ThPO1S-04.8

Incremental Few-Shot Object Detection Via Simple Fine-Tuning Approach, pp. 9289-9295.

Choi, Tae-Min — Korea Advanced Institute of Science and Technology
Kim, Jong-Hwan — KAIST

ThPO1S-05 Room T8

Segmentation (Poster Session)

09:00-10:40 ThPO1S-05.1

Discriminative 3D Shape Modeling for Few-Shot Instance Segmentation, pp. 9296-9302.

Cherian, Anoop — Mitsubishi Electric Research Labs
Jain, Siddarth — Mitsubishi Electric Research Laboratories (MERL)
Marks, Tim K. — Mitsubishi Electric Research Laboratories (MERL)
Sullivan, Alan — Mitsubishi Electric Research Lab

09:00-10:40 ThPO1S-05.2

Multi-To-Single Knowledge Distillation for Point Cloud Semantic Segmentation, pp. 9303-9309.

qiu, shoumeng — Fudan
jiang, feng — Fudan University
Zhang, Haiqiang — Beijing Institute of Technology
Xue, Xiangyang — Fudan University
Pu, Jian — Fudan University

09:00-10:40 ThPO1S-05.3

On Improving Boundary Quality of Instance Segmentation in Cluttered and Chaotic Scenarios, pp. 9310-9316. Attachment

Yang, Biqi — The Chinese University of Hong Kong
Gao, Xiaojie — The Chinese University of Hong Kong
Li, Xianzhi — The Chinese University of Hong Kong
Liu, Yunhui — Chinese University of Hong Kong
Fu, Chi-Wing — The Chinese University of Hong Kong
HENG, Pheng Ann — The Chinese University of Hong Kong

09:00-10:40 ThPO1S-05.4

Real-Time Background Subtraction under Varying Lighting Conditions, pp. 9317-9323. Attachment

Liang, Sisi — CSIRO
Baker, Darren — CSIRO

09:00-10:40 ThPO1S-05.5

Few-Shot 3D LiDAR Semantic Segmentation for Autonomous Driving, pp. 9324-9330. Attachment

Mei, Jilin — Institute of Computing Technology, Chinese Academy of Sciences
Zhou, Junbao — Chinese Academy of Sciences
Hu, Yu — Institute of Computing Technology Chinese Academy of Sciences

09:00-10:40 ThPO1S-05.6

ERASE-Net: Efficient Segmentation Networks for Automotive Radar Signals, pp. 9331-9337. Attachment

Fang, Shihong — New York University
Zhu, Haoran — NYU
Bisla, Devansh — NYU
Choromanska, Anna — New York University Tandon School of Engineering
Ravindran, Satish — NXP
Ren, Dongyin — NXP Semiconductors
WU, Ryan — NXP Semiconductors

09:00-10:40 ThPO1S-05.7

ConDA: Unsupervised Domain Adaptation for LiDAR Segmentation Via Regularized Domain Concatenation, pp. 9338-9345. Attachment

Kong, Lingdong — National University of Singapore
Quader, Niamul — Motional, Singapore
Liong, Venice Erin — Motional

09:00-10:40 ThPO1S-05.8

Viewer-Centred Surface Completion for Unsupervised Domain Adaptation in 3D Object Detection, pp. 9346-9353. Attachment

Tsai, Darren — University of Sydney, Australian Centre for Field Robotics
Berrio Perez, Julie Stephany — ACFR - the University of Sydney
Shan, Mao — The University of Sydney
Nebot, Eduardo — Unversity of Sydney
Worrall, Stewart — University of Sydney

ThPO1S-06 Room T8

Radiance Fields (Poster Session)

09:00-10:40 ThPO1S-06.1

Nerf2nerf: Pairwise Registration of Neural Radiance Fields, pp. 9354-9361. Attachment

Goli, Leili	University of Toronto, Vector Institute
Rebain, Daniel	University of British Columbia
Sabour, Sara	Google, University of Toronto
Garg, Animesh	University of Toronto
Tagliasacchi, Andrea	Simon Fraser University

09:00-10:40 ThPO1S-06.2

NeRF2Real: Sim2real Transfer of Vision-Guided Bipedal Motion Skills Using Neural Radiance Fields, pp. 9362-9369. Attachment

Byravan, Arunkumar	Google
Humplik, Jan	DeepMind
Hasenclever, Leonard	DeepMind
Brussee, Arthur	DeepMind
Nori, Francesco	DeepMind
Haarnoja, Tuomas	Google
Moran, Ben	Deepmind
Bohez, Steven	DeepMind
Sadeghi, Fereshteh	University of Washington
Vujatovic, Bojan	DeepMind
Heess, Nicolas	Deepmind

09:00-10:40 ThPO1S-06.3

Density-Aware NeRF Ensembles: Quantifying Predictive Uncertainty in Neural Radiance Fields, pp. 9370-9376.

Sünderhauf, Niko	Queensland University of Technology
Miller, Dimity	Queensland University of Technology
Abou-Chakra, Jad	Queensland University of Technology

09:00-10:40 ThPO1S-06.4

Parallel Inversion of Neural Radiance Fields for Robust Pose Estimation, pp. 9377-9384. Attachment

Lin, Yunzhi	Georgia Institute of Technology
Müller, Thomas	NVIDIA
Tremblay, Jonathan	Nvidia
Wen, Bowen	NVIDIA
Tyree, Stephen	NVIDIA
Evans, Alex	NVIDIA
Vela, Patricio	Georgia Institute of Technology
Birchfield, Stan	NVIDIA Corporation

09:00-10:40 ThPO1S-06.5

NeRF-Loc: Visual Localization with Conditional Neural Radiance Field, pp. 9385-9392. Attachment

Liu, Jianlin	Tencent
Nie, Qiang	The Chinese University of Hong Kong
Liu, Yong	Tencent
Wang, Chengjie	Tencent YouTuLab, Shanghai Jiao Tong University

09:00-10:40 ThPO1S-06.6

Multimodal Neural Radiance Field, pp. 9393-9399.

Zhu, Haidong	University of Southern California
Sun, Yuyin	Amazon
Liu, Chi	Amazon
Xia, Lu	Amazon
Luo, Jiajia	University of Tennessee
Qiao, Nan	Amazon
Nevatia, Ram	University of Southern California
KUO, CHENG-HAO	Amazon

09:00-10:40 ThPO1S-06.7

Orbeez-SLAM: A Real-Time Monocular Visual SLAM with ORB Features and NeRF-Realized Mapping, pp. 9400-9406. Attachment

Chung, Chi-Ming	National Taiwan University

Tseng, Yang-Che	National Taiwan University
Hsu, Ya-Ching	National Taiwan University
Shi, Xiang-Qian	National Taiwan University
Hua, Yun-Hung	National Taiwan University
Yeh, Jia-Fong	National Taiwan University
Chen, Yi-Ting	National Chiao Tung University
Chen, Wen-chin	National Taiwan University
Hsu, Winston	National Taiwan University

09:00-10:40 ThPO1S-06.8

NeRFing It: Offline Object Segmentation through Implicit Modeling, pp. 9407-9413. Attachment

Blomqvist, Kenneth	ETH Zurich
Chung, Jen Jen	The University of Queensland
Ott, Lionel	ETH Zurich
Siegwart, Roland	ETH Zurich

ThPO1S-07 Room T8

Reinforcement Learning II (Poster Session)

09:00-10:40 ThPO1S-07.1

Using Learning Curve Predictions to Learn from Incorrect Feedback, pp. 9414-9420.

Kessler Faulkner, Taylor	University of Washington
Thomaz, Andrea Lockerd	University of Texas at Austin

09:00-10:40 ThPO1S-07.2

Conflict-Constrained Multi-Agent Reinforcement Learning Method for Parking Trajectory Planning, pp. 9421-9427. Attachment

Chen, Siyuan	Beijing Institute of Technology
Wang, Meiling	Beijing Institute of Technology
Yang, Yi	Beijing Institute of Technology
Song, Wenjie	Beijing Institute of Technology

09:00-10:40 ThPO1S-07.3

Improving Robot Navigation in Crowded Environments Using Intrinsic Rewards, pp. 9428-9434. Attachment

Martinez-Baselga, Diego	University of Zaragoza
Riazuelo, Luis	Instituto De Investigación En IngenieríadeAragón, University of Z
Montano, Luis	Universidad De Zaragoza

09:00-10:40 ThPO1S-07.4

Real-Time Reinforcement Learning for Vision-Based Robotics Utilizing Local and Remote Computers, pp. 9435-9441. Attachment

Wang, Yan	University of Alberta
Vasan, Gautham	University of Alberta
Mahmood, Rupam	University of Alberta

09:00-10:40 ThPO1S-07.5

Reinforcement Learning for Safe Robot Control Using Control Lyapunov Barrier Functions, pp. 9442-9448. Attachment

Du, Desong	Harbin Institute of Technology
Han, Shaohang	Delft University of Technology
Qi, Naiming	Harbin Institute of Technology
Bou Ammar, Haitham	Princeton University
Wang, Jun	University College London
Pan, Wei	Delft University of Technology

09:00-10:40 ThPO1S-07.6

Safe Reinforcement Learning of Dynamic High-Dimensional Robotic Tasks: Navigation, Manipulation, Interaction, pp. 9449-9456. Attachment

Liu, Puze	Technische Universität Darmstadt
Zhang, Kuo	TU-Darmstadt
Tateo, Davide	Technische Universität Darmstadt
Jauhri, Snehal	TU Darmstadt
Hu, Zhiyuan	Technical University of Darmstadt
Peters, Jan	Technische Universität Darmstadt
Chalvatzaki, Georgia	Technische Universität Darmastadt

09:00-10:40 ThPO1S-07.7

Robotic Control Using Model Based Meta Adaption, pp. 9457-9463. Attachment

Daaboul, Karam — Karlsruhe Institut for Technology
Ikels, Joel — Karlsruhe Insitute of Technology
Zöllner, Johann Marius — FZI Forschungszentrum Informatik

09:00-10:40 ThPO1S-07.8

SACPlanner: Real-World Collision Avoidance with a Soft Actor Critic Local Planner and Polar State Representations, pp. 9464-9470. Attachment

Nakhleh, Khaled — Texas A&M University
Raza, Minahil — Nokia Bell Labs
Tang, Mack — Nokia Bell Labs
Andrews, Matthew — Nokia Bell Labs
Boney, Rinu — Aalto University
Hadzic, Ilija — Nokia Bell Labs
Lee, Jeongran — Nokia Bell Labs
Mohajeri, Atefeh — Nokia Bell Labs
Palyutina, Karina — Nokia Bell Labs

ThPO1S-08 Room T8

Deep Learning Methods (Poster Session)

09:00-10:40 ThPO1S-08.1

Clothes Grasping and Unfolding Based on RGB-D Semantic Segmentation, pp. 9471-9477. Attachment

Zhu, Xingyu — JiLin University
Wang, Xin — Jilin University
Freer, Jonathan — University of Birmingham
Chang, Hyung Jin — University of Birmingham
Gao, Yixing — Jilin University

09:00-10:40 ThPO1S-08.2

Privacy-Preserving Video Conferencing Via Thermal-Generative Images, pp. 9478-9485. Attachment

Chiu, Sheng-Yang — National Yang Ming Chiao Tung University
Huang, Yu-Ting — National Yang Ming Chiao Tung University
Lin, Chieh-Ting — National Yang Ming Chiao Tung University
Tseng, Yu-Chee — National Yang Ming Chiao Tung University
Chen, Jen-Jee — National Yang Ming Chiao Tung University
Tu, Meng-Hsuan — NYCU
Tung, Bo-Chen — NYCU, National Yang Ming Chiao Tung University
Nieh, YuJou — National Yang Ming Chiao Tung University

09:00-10:40 ThPO1S-08.3

Streaming LifeLong Learning with Any-Time Inference, pp. 9486-9492. Attachment

Banerjee, Soumya — IIT Kanpur
Verma, Vinay Kumar — IIT Kanpur
Namboodiri, Vinay — University of Bath

09:00-10:40 ThPO1S-08.4

Code As Policies: Language Model Programs for Embodied Control, pp. 9493-9500. Attachment

Liang, Jacky — Carnegie Mellon University
Huang, Wenlong — UC Berkeley
Xia, Fei — Google Inc
Xu, Peng — Google
Hausman, Karol — Google Brain
Ichter, Brian — Google Brain
Florence, Peter — MIT
Zeng, Andy — Google

ThPO1S-09 Room T8

Representation Learning (Poster Session)

09:00-10:40 ThPO1S-09.1

Learning Sim-To-Real Dense Object Descriptors for Robotic Manipulation, pp. 9501-9507. Attachment

Cao, Hoang-Giang	National Yang Ming Chiao Tung University
Zeng, Weihao	NYCU
Wu, I-Chen	National Chiao Tung University

09:00-10:40 ThPO1S-09.2

Learning Visual-Audio Representations for Voice-Controlled Robots, pp. 9508-9514. Attachment

Chang, Peixin	University of Illinois at Urbana Champaign
Liu, Shuijing	University of Illinois at Urbana Champaign
McPherson, D. Livingston	University of Illinois
Driggs-Campbell, Katherine	University of Illinois at Urbana-Champaign

09:00-10:40 ThPO1S-09.3

Visuomotor Control in Multi-Object Scenes Using Object-Aware Representations, pp. 9515-9522.

Heravi, Negin	Stanford
Wahid, Ayzaan	Google
Lynch, Corey	Google Brain
Florence, Peter	MIT
Armstrong, Travis	Google
Tompson, Jonathan	Google
Sermanet, Pierre	Google
Bohg, Jeannette	Stanford University
Dwibedi, Debidatta	Google

09:00-10:40 ThPO1S-09.4

Sample-Efficient Goal-Conditioned Reinforcement Learning Via Predictive Information Bottleneck for Goal Representation Learning, pp. 9523-9529. Attachment

zou, qiming	Kyushu University
Suzuki, Einoshin	Kyushu University

ThPO1S-10 Room T8

Learning from Experience (Poster Session)

09:00-10:40 ThPO1S-10.1

Context-Aware Robot Control Using Gesture Episodes, pp. 9530-9536. Attachment

Vanc, Petr	CIIRC, Czech Technical University in Prague
Behrens, Jan Kristof	Czech Technical University
Stepanova, Karla	Czech Technical University

09:00-10:40 ThPO1S-10.2

Automated Action Evaluation for Robotic Imitation Learning Via Siamese Neural Networks, pp. 9537-9543. Attachment

Chang, Xiang	Aberystwyth University
Chao, Fei	Xiamen University
Shang, Changjing	Aberystwyth University
Shen, Qiang	Aberystwyth University

09:00-10:40 ThPO1S-10.3

Failure-Aware Policy Learning for Self-Assessable Robotics Tasks, pp. 9544-9550. Attachment

Xu, Kechun	Zhejiang University
Chen, Runjian	Zhejiang University
Zhao, Shuqi	Zhejiang University
Li, Zizhang	Zhejiang University
Yu, Hongxiang	Zhejiang University
Chen, Ci	Zhejiang University
Wang, Yue	Zhejiang University
Xiong, Rong	Zhejiang University

09:00-10:40 ThPO1S-10.4

Multimodal Time Series Learning of Robots Based on Distributed and Integrated Modalities: Verification with a Simulator and Actual Robots, pp. 9551-9557. Attachment

Ichiwara, Hideyuki	Hitachi, Ltd. / Waseda University

Ito, Hiroshi	Hitachi, Ltd
Yamamoto, Kenjiro	Hitachi, Ltd
Mori, Hiroki	Waseda University
Ogata, Tetsuya	Waseda University

09:00-10:40 ThPO1S-10.5

Using Memory-Based Learning to Solve Tasks with State-Action Constraints, pp. 9558-9565. Attachment

Verghese, Mrinal	Carnegie Mellon University
Atkeson, Christopher	CMU

09:00-10:40 ThPO1S-10.6

Structured Motion Generation with Predictive Learning: Proposing Subgoal for Long-Horizon Manipulation, pp. 9566-9572. Attachment

Saito, Namiko	The University of Edinburgh
Moura, Joao	The University of Edinburgh
Ogata, Tetsuya	Waseda University
Aoyama, Marina Y.	The University of Edinburgh
Murata, Shingo	Keio University
Sugano, Shigeki	Waseda University
Vijayakumar, Sethu	University of Edinburgh

09:00-10:40 ThPO1S-10.7

Sequence-Agnostic Multi-Object Navigation, pp. 9573-9579. Attachment

Nandiraju, Gireesh	IIIT Hyderabad
Agrawal, Ayush	Robotics Research Center, IIIT Hyderabad
Datta, Ahana	International Institute of Information Technology, Hyderabad
Banerjee, Snehasis	Iiit-H / Tcs
Sridharan, Mohan	University of Birmingham
Bhowmick, Brojeshwar	Tata Consultancy Services
Krishna, Madhava	IIIT Hyderabad

ThPO1S-11 Room T8

Agricultural Robotics and Automation I (Poster Session)

09:00-10:40 ThPO1S-11.1

Occlusion Reasoning for Skeleton Extraction of Self-Occluded Tree Canopies, pp. 9580-9586. Attachment

Kim, Chung Hee	Carnegie Mellon University
Kantor, George	Carnegie Mellon University

09:00-10:40 ThPO1S-11.2

Statistical Shape Representations for Temporal Registration of Plant Components in 3D, pp. 9587-9593. Attachment

Heiwolt, Karoline	University of Lincoln
Öztireli, Cengiz	ETH Zurich
Cielniak, Grzegorz	University of Lincoln

09:00-10:40 ThPO1S-11.3

3D Reconstruction-Based Seed Counting of Sorghum Panicles for Agricultural Inspection, pp. 9594-9600. Attachment

Freeman, Harry	Carnegie Mellon University
Schneider, Franz	Carnegie Mellon University
Kim, Chung Hee	Carnegie Mellon University
Lee, Moonyoung	Carnegie Mellon University
Kantor, George	Carnegie Mellon University

09:00-10:40 ThPO1S-11.4

Hierarchical Approach for Joint Semantic, Plant Instance, and Leaf Instance Segmentation in the Agricultural Domain, pp. 9601-9607.

Roggiolani, Gianmarco	University of Bonn
Sodano, Matteo	Photogrammetry and Robotics Lab, University of Bonn
Guadagnino, Tiziano	Sapienza University of Rome
Magistri, Federico	University of Bonn
Behley, Jens	University of Bonn
Stachniss, Cyrill	University of Bonn

09:00-10:40 ThPO1S-11.5

Target-Aware Implicit Mapping for Agricultural Crop Inspection, pp. 9608-9614.

Kelly, Shane	ETH Zurich
Riccardi, Alessandro	University of Bonn
Marks, Elias Ariel	University of Bonn
Magistri, Federico	University of Bonn
Guadagnino, Tiziano	University of Bonn
Chli, Margarita	ETH Zurich
Stachniss, Cyrill	University of Bonn

09:00-10:40 ThPO1S-11.6

Robust Plant Localization and Phenotyping in Dense 3D Point Clouds for Precision Agriculture, pp. 9615-9621.

Nelson, Henry J.	University of Minnesota
Smith, Christopher	Lake Superior State University
Bacharis, Athanasios	University of Minnesota
Papanikolopoulos, Nikos	University of Minnesota

09:00-10:40 ThPO1S-11.7

Neural-Kalman GNSS/INS Navigation for Precision Agriculture, pp. 9622-9629. Attachment

DU, YAYUN	University of California, Los Angeles
Saha, Swapnil Sayan	University of California - Los Angeles
Sandha, Sandeep	University of California, Los Angeles
Lovekin, Arthur	University of California, Los Angeles
Wu, Jason	University of California, Los Angeles
Siddharth, S.	STMicroelectronics
Chowdhary, Mahesh	STMicroelectronics
Khalid Jawed, Mohammad	University of California, Los Angeles
Srivastava, Mani	UCLA

09:00-10:40 ThPO1S-11.8

Fruit Tracking Over Time Using High-Precision Point Clouds, pp. 9630-9636.

Riccardi, Alessandro	University of Bonn
Kelly, Shane	ETH Zurich
Marks, Elias Ariel	University of Bonn
Magistri, Federico	University of Bonn
Guadagnino, Tiziano	University of Bonn
Behley, Jens	University of Bonn
Bennewitz, Maren	University of Bonn
Stachniss, Cyrill	University of Bonn

ThPO1S-12 Room T8

Redundant Robots (Poster Session)

09:00-10:40 ThPO1S-12.1

A MySQL Database for the Systematic Configuration Selection of Redundant Manipulators When Path Planning in Confined Spaces, pp. 9637-9643. Attachment

Styles Wood, Kat	University of Bristol
Scott, Thomas. B	University of Bristol
Tzemanaki, Antonia	University of Bristol

09:00-10:40 ThPO1S-12.2

Reinforcement Learning Control of a Reconfigurable Planar Cable Driven Parallel Manipulator, pp. 9644-9650. Attachment

Raman Thothathri, Adhiti	Clemson University
Salvi, Ameya	Clemson University
Schmid, Matthias	Clemson University
Krovi, Venkat	Clemson University

09:00-10:40 ThPO1S-12.3

Intuitive Telemanipulation of Hyper-Redundant Snake Robots within Locomotion and Reorientation Using Task-Priority Inverse Kinematics, pp. 9651-9657. Attachment

Habich, Tim-Lukas	Leibniz University Hannover
Hueter, Melvin	Leibniz University Hannover
Schappler, Moritz	Institute of Mechatronic Systems, Leibniz Universitaet Hannover

Spindeldreier, Svenja — Leibniz Universität Hannover

09:00-10:40 — ThPO1S-12.4

An Equivalent Two Section Method for Calculating the Workspace of Multi-Segment Continuum Robots, pp. 9658-9664.

Fan, Yeman — University of Technology Sydney
Liu, Dikai — University of Technology, Sydney

09:00-10:40 — ThPO1S-12.5

On Locally Optimal Redundancy Resolution Using the Basis of the Null Space, pp. 9665-9671. Attachment

Monari, Eugenio — University of Bologna
Chen, Yi — Università Di Bologna
Vertechy, Rocco — University of Bologna

09:00-10:40 — ThPO1S-12.6

Optimal Parameterized Joints Selection to Improve Motion Planning Performance of Redundant Manipulators, pp. 9672-9678.

Xie, Bin — Central South University
Wang, Qingfeng — Central South University
Wu, Di — Central South University

09:00-10:40 — ThPO1S-12.7

A Kinematically Redundant (6+1)-Dof Hybrid Parallel Robot for Delicate Physical Environment and Robot Interaction (pERI), pp. 9679-9685. Attachment

KIM, JEHYEOK — Université Laval
Gosselin, Clement — Université Laval

09:00-10:40 — ThPO1S-12.8

Learning-Based Initialization of Trajectory Optimization for Path-Following Problems of Redundant Manipulators, pp. 9686-9692. Attachment

Yoon, Minsung — Korea Advanced Institute of Science and Technology (KAIST)
Kang, Mincheul — KAIST
Park, Daehyung — Korea Advanced Institute of Science and Technology, KAIST
Yoon, Sung-eui — KAIST

ThPO1S-13 — Room T8
Kinematics (Poster Session)

09:00-10:40 — ThPO1S-13.1

Kinematic Analysis and Design of a Novel (6+3)-DoF Parallel Robot with Fixed Actuators, pp. 9693-9699. Attachment

Yigit, Arda — Universite Laval
Breton, David — Laval University
Zhou, Zhou — University Laval
Laliberte, Thierry — Universite Laval
Gosselin, Clement — Université Laval

09:00-10:40 — ThPO1S-13.2

RangedIK: An Optimization-Based Robot Motion Generation Method for Ranged-Goal Tasks, pp. 9700-9706. Attachment

Wang, Yeping — University of Wisconsin-Madison
Praveena, Pragathi — University of Wisconsin-Madison
Rakita, Daniel — University of Wisconsin-Madison
Gleicher, Michael — University of Wisconsin - Madison

09:00-10:40 — ThPO1S-13.3

Contact Based Turning Gait of a Novel Legged-Wheeled Quadruped, pp. 9707-9713.

Yeldan, Alper — Singapore University of Technology and Design
Arora, Abhimanyu — Singapore University of Technology and Design
Soh, Gim Song — Singapore University of Technology and Design

09:00-10:40 — ThPO1S-13.4

Computational Modeling in System with Non-Circular Timing Pulleys, pp. 9714-9720. Attachment

Caballero, Renzo — King Abdullah University of Science and Technology
Coronado Preciado, Angelica — King Abdullah University of Science and Technology
Feron, Eric — King Abdullah University of Science and Technology

ThPO1S-14 Room T8

Parallel Robots (Poster Session)

09:00-10:40 ThPO1S-14.1

The New Exhibition {em Blind Machines}, a Large 3D Printing Machine, pp. 9721-9727.

Merlet, Jean-Pierre — INRIA

Papegay, Yves — INRIA

09:00-10:40 ThPO1S-14.2

New Bracket Polynomials Associated with the General Gough-Stewart Parallel Robot Singularities, pp. 9728-9734.

Thomas, Federico — CSIC-UPC

09:00-10:40 ThPO1S-14.3

Output Mode Switching for Parallel Five-Bar Manipulators Using a Graph-Based Path Planner, pp. 9735-9741. Attachment

Edwards, Parker — University of Notre Dame

Baskar, Aravind — University of Notre Dame

Hills, Caroline — University of Notre Dame

Plecnik, Mark — University of Notre Dame

Hauenstein, Jonathan — University of Notre Dame

09:00-10:40 ThPO1S-14.4

Dimensional Optimization and Anti-Disturbance Analysis of an Upgraded Feed Mechanism in FAST, pp. 9742-9748.

Wang, Xiaoyan — University of Science and Technology of China

Zhang, Bin — University of Science and Technology of China

Li, Zhaoyang — University of Science and Technology of China

Gao, Xinyu — University of Science and Technology of China

Zhang, Fei — University of Science and Technology of China

Ma, Yifan — University of Science and Technology of China

Yao, Rui — National Astronomical Observatories, Chinese Academy of Sciences

Yin, Jia-Ning — National Astronomical Observatories, Chinese Academy of Sciences

Li, Hui — National Astronomical Observatories, Chinese Academy of Sciences

Yang, Qingge — National Astronomical Observatories, Chinese Academy of Sciences

Li, Qingwei — National Astronomical Observatories, Chinese Academy of Sciences

Shang, Weiwei — University of Science and Technology of China

ThPO1S-15 Room T8

Human-Robot Collaboration II (Poster Session)

09:00-10:40 ThPO1S-15.1

Online Social Robot Navigation in Indoor, Large and Crowded Environments, pp. 9749-9756. Attachment

Silva Mendoza, Steven Alexander — Cardiff University

VERDEZOTO DIAS, NERVO XAVIER — Cardiff University

Paillacho, Dennys — Espol Polytechnic University

Millan-Norman, Samuel — Cardiff University

Hernández, Juan D. — Cardiff University

09:00-10:40 ThPO1S-15.2

Learning Responsibility Allocations for Safe Human-Robot Interaction with Applications to Autonomous Driving, pp. 9757-9763. Attachment

Cosner, Ryan — California Institute of Technology

Chen, Yuxiao — Nvidia Research

Leung, Karen — Stanford University, NVIDIA Research, University of Washington

Pavone, Marco — Stanford University

09:00-10:40 ThPO1S-15.3

Efficient Inference of Temporal Task Specifications from Human Demonstrations Using Experiment Design, pp. 9764-9770. Attachment

Sobti, Shlok — Rice University

Shome, Rahul — The Australian National University

Kavraki, Lydia — Rice University

09:00-10:40 ThPO1S-15.4

On the Impact of Interruptions During Multi-Robot Supervision Tasks, pp. 9771-9777. Attachment

Dahiya, Abhinav	University of Waterloo
Cai, Yifan	University of Waterloo
Schneider, Oliver	University of Waterloo
Smith, Stephen L.	University of Waterloo

09:00-10:40 ThPO1S-15.5

System Configuration and Navigation of a Guide Dog Robot: Toward Animal Guide Dog-Level Guiding Work, pp. 9778-9784.

Hwang, Hochul	University of Massachusetts Amherst
Xia, Tian	University of Massachusetts at Amherst
Keita, Ibrahima	University of Massachusetts, Amherst
Suzuki, Ken	University of Massachusetts Amherst
Biswas, Joydeep	University of Texas at Austin
Lee, Sunghoon Ivan	UMass Amherst
Kim, Donghyun	University of Massachusetts Amherst

09:00-10:40 ThPO1S-15.6

Human Non-Compliance with Robot Spatial Ownership Communicated Via Augmented Reality: Implications for Human-Robot Teaming Safety, pp. 9785-9792. Attachment

Chang, Christine T	University of Colorado Boulder
Luebbers, Matthew	University of Colorado Boulder
Hebert, Mitchell	Draper
Hayes, Bradley	University of Colorado Boulder

09:00-10:40 ThPO1S-15.7

Robust Robot Planning for Human-Robot Collaboration, pp. 9793-9799.

You, Yang	Inria Nancy Grand Est
Thomas, Vincent	LORIA - Universite De Lorraine
Colas, Francis	Inria Nancy Grand Est
Alami, Rachid	CNRS
Buffet, Olivier	LORIA/INRIA

09:00-10:40 ThPO1S-15.8

Natural Language Instruction Understanding for Robotic Manipulation: A Multisensory Perception Approach, pp. 9800-9806. Attachment

Wang, Weihua	Yantai University
Li, Xiaofei	Taiyuan University of Technology
Dong, Yanzhi	Yantai University
Xie, Jun	Taiyuan University of Technology
Guo, Di	Beijing University of Posts and Telecommunications
Liu, Huaping	Tsinghua University

09:00-10:40 ThPO1S-15.9

EgoHMR: Egocentric Human Mesh Recovery Via Hierarchical Latent Diffusion Model, pp. 9807-9813. Attachment

Liu, Yuxuan	Shanghai Jiao Tong University
Yang, Jianxin	Shanghai Jiao Tong University
Gu, Xiao	Imperial College London
Guo, Yao	Shanghai Jiao Tong University
Yang, Guang-Zhong	Shanghai Jiao Tong University

09:00-10:40 ThPO1S-15.10

Telerobot Operators Can Account for Varying Transmission Dynamics in a Visuo-Haptic Object Tracking Task, pp. 9814-9820.

Singhala, Mohit	Johns Hopkins University
Brown, Jeremy DeLaine	Johns Hopkins University

09:00-10:40 ThPO1S-15.11

Hierarchical Intention Tracking for Robust Human-Robot Collaboration in Industrial Assembly Tasks, pp. 9821-9828.

Huang, Zhe	University of Illinois at Urbana-Champaign
Mun, Ye-Ji	University of Illinois at Urbana-Champaign
Li, Xiang	University of Illinois Urbana-Champaign
Xie, Yiqing	University of Illinois at Urbana-Champaign
Zhong, Ninghan	University of Illinois at Urbana-Champaign

Liang, Weihang	University of Illinois at Urbana-Champaign
Geng, Junyi	Pennsylvania State University
Chen, Tan	Michigan Technological University
Driggs-Campbell, Katherine	University of Illinois at Urbana-Champaign

09:00-10:40 ThPO1S-15.12

CoGrasp: 6-DoF Grasp Generation for Human-Robot Collaboration, pp. 9829-9836. Attachment

Keshari, Abhinav	Purdue University
Ren, Hanwen	Purdue University
Qureshi, Ahmed H.	Purdue University

ThPO1S-16 Room T8

Intent Recognition (Poster Session)

09:00-10:40 ThPO1S-16.1

Can We Use Diffusion Probabilistic Models for 3D Motion Prediction?, pp. 9837-9843. Attachment

Ahn, Hyemin	Ulsan National Institute of Science and Technology
Valls Mascaro, Esteve	Technische Universitat Wien
Lee, Dongheui	Technische Universität Wien (TU Wien)

09:00-10:40 ThPO1S-16.2

PedFormer: Pedestrian Behavior Prediction Via Cross-Modal Attention Modulation and Gated Multitask Learning, pp. 9844-9851.

Rasouli, Amir	Huawei Technologies Canada
Kotseruba, Iuliia	Lassonde School of Engineering

09:00-10:40 ThPO1S-16.3

Robot-Assisted Eye-Hand Coordination Training System by Estimating Motion Direction Using Smooth-Pursuit Eye Movements, pp. 9852-9857. Attachment

Li, Xiao	School of Instrument Science and Engineering, Southeast Universit
Zeng, Hong	Southeast University
Yang, Chenhua	Southeast University
Song, Aiguo	Southeast University

09:00-10:40 ThPO1S-16.4

Generalizable Movement Intention Recognition with Multiple Heterogeneous EEG Datasets, pp. 9858-9864. Attachment

Gu, Xiao	Imperial College London
Han, Jinpei	Imperial College London
Yang, Guang-Zhong	Shanghai Jiao Tong University
Lo, Benny Ping Lai	Imperial College London

ThPO1S-17 Room T8

Physical Human-Robot Interaction I (Poster Session)

09:00-10:40 ThPO1S-17.1

Bi-Manual Manipulation of Multi-Component Garments towards Robot-Assisted Dressing, pp. 9865-9871. Attachment

Kotsovolis, Stelios	Imperial College London
Demiris, Yiannis	Imperial College London

09:00-10:40 ThPO1S-17.2

Humans Need Augmented Feedback to Physically Track Non-Biological Robot Movements, pp. 9872-9878. Attachment

Edraki, Mahdiar	Northeastern University
Maurice, Pauline	Cnrs - Loria
Sternad, Dagmar	Northeastern University

09:00-10:40 ThPO1S-17.3

Robot Mimicry Attack on Keystroke-Dynamics User Identification and Authentication System, pp. 9879-9884. Attachment

Yu, Rongyu	University of Glasgow
Kizilkaya, Burak	University of Glasgow
Meng, Zhen	University of Glasgow
Li, Liying Emma	University of Glasgow
Zhao, Guodong	University of Glasgow, UK
Imran, Muhammad Ali	University of Glasgow

09:00-10:40 ThPO1S-17.4

In-Mouth Robotic Bite Transfer with Visual and Haptic Sensing, pp. 9885-9895. Attachment

Shaikewitz, Lorenzo	California Institute of Technology
Wu, Yilin	Stanford University
Belkhale, Suneel	Stanford University
Grannen, Jennifer	Stanford University
Sundaresan, Priya	Stanford University
Sadigh, Dorsa	Stanford University

09:00-10:40 ThPO1S-17.5

Robot Trust and Self-Confidence Based Role Arbitration Method for Physical Human-Robot Collaboration, pp. 9896-9902.

Wang, Qiao	University of Technology Sydney
Liu, Dikai	University of Technology, Sydney
Carmichael, Marc	Centre for Autonomous Systems
Lin, Chin-Teng	UTS

09:00-10:40 ThPO1S-17.6

Design Optimization and Data-Driven Shallow Learning for Dynamic Modeling of a Smart Segmented Electroadhesive Clutch, pp. 9903-9909.

Feizi, Navid	University of Western Ontario
Bahrami, Zahra	Institute of Geography, University of Erlangen-Nuremberg
Atashzar, S. Farokh	New York University (NYU), US
Kermani, Mehrdad R.	University of Western Ontario
Patel, Rajnikant V.	The University of Western Ontario

09:00-10:40 ThPO1S-17.7

Learning from Physical Human Feedback: An Object-Centric One-Shot Adaptation Method, pp. 9910-9916. Attachment

Shek, Alvin	Carnegie Mellon University
Su, Bo Ying	Carnegie Mellon University
Chen, Rui	Carnegie Mellon University; University of Michigan;
Liu, Changliu	Carnegie Mellon University

09:00-10:40 ThPO1S-17.8

Touch Classification on Robotic Skin Using Multimodal Tactile Sensing Modules, pp. 9917-9923. Attachment

Yang, Min Jin	Korea Advanced Institute of Science and Technology (KAIST)
Cho, Junhwi	KAIST
Chung, Hyunjo	Korea Advanced Institute of Science and Technology (KAIST)
Park, Kyungseo	University of Illinois at Urbana-Champaign
Kim, Jung	KAIST

ThPO1S-18 Room T8

Legged Motion Analysis and Synthesis (Poster Session)

09:00-10:40 ThPO1S-18.1

Distributed Data-Driven Predictive Control for Multi-Agent Collaborative Legged Locomotion, pp. 9924-9930. Attachment

Fawcett, Randall	Virginia Polytechnic Institute and State University
Amanzadeh, Leila	Virginia Tech University
Kim, Jeeseop	Caltech
Ames, Aaron	Caltech
Akbari Hamed, Kaveh	Virginia Tech

09:00-10:40 ThPO1S-18.2

On the Use of Torque Measurement in Centroidal State Estimation, pp. 9931-9937.

Khorshidi, Shahram	Max Planck Institute
Gazar, Ahmad	Max-Planck Institute for Intelligent Systems
Rotella, Nicholas	University of Southern California
Naveau, Maximilien	LAAS/CNRS
Righetti, Ludovic	New York University
Bennewitz, Maren	University of Bonn
Khadiv, Majid	Max Planck Institute for Intelligent Systems

09:00-10:40 ThPO1S-18.3

DMMGAN: Diverse Multi Motion Prediction of 3D Human Joints Using Attention-Based Generative Adversarial Network, pp. 9938-9944. Attachment

Nikdel, Payam	Simon Fraser University/Waymo
Mahdavian, Mohammad	Simon Fraser University
Chen, Mo	Simon Fraser University

09:00-10:40 ThPO1S-18.4

Contact Optimization for Non-Prehensile Loco-Manipulation Via Hierarchical Model Predictive Control, pp. 9945-9951. Attachment

Rigo, Alberto	USC
Chen, Yiyu	University of Southern California
Gupta, Satyandra K.	University of Southern California
Nguyen, Quan	University of Southern California

09:00-10:40 ThPO1S-18.5

Optimal Scheduling of Models and Horizons for Model Hierarchy Predictive Control, pp. 9952-9958. Attachment

Khazoom, Charles	Massachusetts Institute of Technology
Heim, Steve	Massachusetts Institute of Technology
Gonzalez-Diaz, Daniel	Massachusetts Institute of Technology
Kim, Sangbae	Massachusetts Institute of Technology

09:00-10:40 ThPO1S-18.6

STPOTR: Simultaneous Human Trajectory and Pose Prediction Using a Non-Autoregressive Transformer for Robot Follow-Ahead, pp. 9959-9965. Attachment

Mahdavian, Mohammad	Simon Fraser University
Nikdel, Payam	Simon Fraser University/Waymo
Taherahmadi, Mahdi	Simon Fraser University
Chen, Mo	Simon Fraser University

09:00-10:40 ThPO1S-18.7

Visual-Inertial and Leg Odometry Fusion for Dynamic Locomotion, pp. 9966-9972. Attachment

Dhedin, Victor	Max Planck Institute for Intelligent Systems
Li, Haolong	Max Planck Institute for Intelligent Systems
Khorshidi, Shahram	Max Planck Institute
Mack, Lukas	Max Planck Institute for Intelligent Systems
Chinnakkonda Ravi, Adithya Kumar	Max Planck Institute for Intelligent Systems
Meduri, Avadesh	New York University
Shah, Paarth	University of Oxford
Grimminger, Felix	Max Planck Institute for Intelligent Systems
Righetti, Ludovic	New York University
Khadiv, Majid	Max Planck Institute for Intelligent Systems
Stueckler, Joerg	Max Planck Institute for Intelligent Systems

09:00-10:40 ThPO1S-18.8

Getting Air: Modelling and Control of a Hybrid Pneumatic-Electric Legged Robot, pp. 9973-9979. Attachment

Mailer, Christopher	University of Cape Town
Shield, Stacey Leigh	University of Cape Town
Govender, Reuben	University of Cape Town,
Patel, Amir	University of Cape Town

09:00-10:40 ThPO1S-18.9

Enhanced Balance for Legged Robots Using Reaction Wheels, pp. 9980-9987. Attachment

Lee, Chi-Yen	Carnegie Mellon University
Yang, Shuo	Carnegie Mellon University
Benjamin, Bokser	Carnegie Mellon University
Manchester, Zachary	Carnegie Mellon University

09:00-10:40 ThPO1S-18.10

Versatile Real-Time Motion Synthesis Via Kino-Dynamic MPC with Hybrid-Systems DDP, pp. 9988-9994. Attachment

Li, He	University of Notre Dame
Zhang, Tingnan	Google
Yu, Wenhao	Google
Wensing, Patrick M.	University of Notre Dame

09:00-10:40 ThPO1S-18.11

Distributed Model Predictive Formation Control with Gait Synchronization for Multiple Quadruped Robots, pp. 9995-10002. Attachment

Xu, Shaohang — Huazhong University of Science and Technology
Zhang, Wentao — Huazhong University of Science and Technology
Zhu, Lijun — Huazhong University of Science and Technology
Ho, Chin Pang — City University of Hong Kong

ThPO1S-19 Room T8

Autonomous Navigation (Poster Session)

09:00-10:40 ThPO1S-19.1

Video Waterdrop Removal Via Spatio-Temporal Fusion in Driving Scenes, pp. 10003-10009. Attachment

Wen, Qiang — Hong Kong University of Science and Technology
Wu, Yue — Hong Kong University of Science and Technology
Chen, Qifeng — HKUST

09:00-10:40 ThPO1S-19.2

Unsupervised Learning of Depth and Pose Based on Monocular Camera and Inertial Measurement Unit (IMU), pp. 10010-10017.

Wang, Yanbo — Shanghai Jiao Tong University
Yang, Hanwen — Shanghai JiaoTong University
Cai, Jianwei — Shanghai Jiao Tong University
Wang, Guangming — Shanghai Jiao Tong University
Wang, Jingchuan — Shanghai Jiao Tong University
Huang, YI — Shanghai Weitong Vision Technology Co. , Ltd

09:00-10:40 ThPO1S-19.3

Self-Supervised Multi-Frame Monocular Depth Estimation with Pseudo-LiDAR Pose Augmentation, pp. 10018-10025.

Wu, Wenhua — Shang Hai Jiao Tong University
Wang, Guangming — Shanghai Jiao Tong University
Zhong, Jiquan — Shanghai Jiaotong University
Wang, Hesheng — Shanghai Jiao Tong University
Liu, Zhe — University of Cambridge

09:00-10:40 ThPO1S-19.4

Anomaly Detection Based Robust Autonomous Navigation, pp. 10026-10032.

Jin, Kefan — Shanghai Jiao Tong University
Fun, Mu — Shanghai Jiao Tong University
Han, Xingyao — Shanghai Jiao Tong University
Wang, Guangming — Shanghai Jiao Tong University
Liu, Zhe — University of Cambridge

09:00-10:40 ThPO1S-19.5

Learning Perceptual Hallucination for Multi-Robot Navigation in Narrow Hallways, pp. 10033-10039. Attachment

Park, Jin — The University of Texas at Austin
Xiao, Xuesu — George Mason University
Warnell, Garrett — U.S. Army Research Laboratory
Yedidsion, Harel — University of Texas at Austin
Stone, Peter — University of Texas at Austin

09:00-10:40 ThPO1S-19.6

Multi-Head Attention Machine Learning for Fault Classification in Mixed Autonomous and Human-Driven Vehicle Platoons, pp. 10040-10046. Attachment

Wu, Theodore — University of Toronto
Acharya, Satvick — University of Toronto
Khalil, Abdelrahman — Memorial University of Newfoundland
AlJanaideh, Ahmed — Bentley University
Al Janaideh, Mohammad — Memorial University &University of Toronto
Kundur, Deepa — University of Toronto

09:00-10:40 ThPO1S-19.7

GP-Frontier for Local Mapless Navigation, pp. 10047-10053. Attachment

Ali, Mahmoud — IU
Liu, Lantao — Indiana University

09:00-10:40 ThPO1S-19.8

Image Masking for Robust Self-Supervised Monocular Depth Estimation, pp. 10054-10060.

Chawla, Hemang — Navinfo Europe
Jeeveswaran, Kishaan — Navinfo Europe
Arani, Elahe — Navinfo Europe
Zonooz, Bahram — Navinfo Europe

09:00-10:40 ThPO1S-19.9

Learning-Based Uncertainty-Aware Navigation in 3D Off-Road Terrains, pp. 10061-10068. Attachment

Lee, Hojin — Ulsan National Institute of Science and Technology
Kwon, Junsung — Ulsan National Institute of Sience and Technology
Kwon, Cheolhyeon — Ulsan National Institute of Science and Technology

09:00-10:40 ThPO1S-19.10

Safe Real-World Autonomous Driving by Learning to Predict and Plan with a Mixture of Experts, pp. 10069-10075.

Pini, Stefano — Woven Planet United Kingdom Limited
Perone, Christian — Woven Planet UK
Ahuja, Aayush — Woven Planet
Rufino Ferreira, Ana Sofia — Woven Planet Holdings, Inc
Niendorf, Moritz — Woven Planet
Zagoruyko, Sergey — Woven Planet

09:00-10:40 ThPO1S-19.11

Interpretable and Flexible Target-Conditioned Neural Planners for Autonomous Vehicles, pp. 10076-10082. Attachment

Liu, Haolan — University of California San Diego
Zhao, Jishen — UC San Diego
Zhang, Liangjun — Baidu

09:00-10:40 ThPO1S-19.12

Visibility-Aware Navigation among Movable Obstacles, pp. 10083-10089. Attachment

Muguira Iturralde, Jose — Massachusetts Institute of Technology
Curtis, Aidan — MIT
Du, Yilun — MIT
Kaelbling, Leslie — MIT
Lozano-Perez, Tomas — MIT

ThPO1S-20 Room T8
Trajectory Optimization (Poster Session)

09:00-10:40 ThPO1S-20.1

Trajectory Error Compensation for Optimal Control of UMA-2 – a Climbing Robot Executing Maintenance Operation in Harsh Environment, pp. 10090-10096.

Gitardi, Diego — SUPSI - University of Applied Sciences and Arts of Southern Swit
Sabbadini, Simone — SUPSI - University of Applied Sciences and Arts of Southern Swit
Valente, Anna — SUPSI-ISTePS

09:00-10:40 ThPO1S-20.2

Obstacle-Aware Topological Planning Over Polyhedral Representation for Quadrotors, pp. 10097-10103. Attachment

Gao, Junjie — Harbin Institute of Technology
He, Fenghua — Harbin Institute of Technology
Zhang, Wei — Harbin Institute of Technology
Yao, Yu — Harbin Institute of Technology

09:00-10:40 ThPO1S-20.3

Trajectory Optimization for 3D Shape-Changing Robots with Differential Mobile Base, pp. 10104-10110. Attachment

Zhang, Mengke — Zhejiang University
Xu, Chao — Zhejiang University
Gao, Fei — Zhejiang University
Cao, Yanjun — Zhejiang University, Huzhou Institute of Zhejiang University

09:00-10:40 ThPO1S-20.4

Trajectory Optimization for Distributed Manipulation by Shaping a Physical Field, pp. 10111-10117. Attachment

Uchytil, Adam — Faculty of Electrical Engineering, Czech Technical University In
Zemanek, Jiri — Czech Technical University in Prague

09:00-10:40 ThPO1S-20.5

Globally Guided Trajectory Planning in Dynamic Environments, pp. 10118-10124. Attachment

de Groot, Oscar	Delft University of Technology
Ferranti, Laura	Delft University of Technology
Gavrila, Dariu	Delft University of Technology
Alonso-Mora, Javier	Delft University of Technology

09:00-10:40 ThPO1S-20.6

VP-STO: Via-Point-Based Stochastic Trajectory Optimization for Reactive Robot Behavior, pp. 10125-10131. Attachment

Jankowski, Julius	Idiap Research Institute and EPFL
Brudermüller, Lara	University of Oxford
Hawes, Nick	University of Oxford
Calinon, Sylvain	Idiap Research Institute

09:00-10:40 ThPO1S-20.7

Modular and Parallelizable Multibody Physics Simulation Via Subsystem-Based ADMM, pp. 10132-10138. Attachment

Lee, Jeongmin	Seoul National University
Lee, Minji	Seoul National University
Lee, Dongjun	Seoul National University

09:00-10:40 ThPO1S-20.8

Real-Time Unified Trajectory Planning and Optimal Control for Urban Autonomous Driving under Static and Dynamic Obstacle Constraints, pp. 10139-10145. Attachment

Dempster, Rowan	University of Waterloo
Alsharman, Mohammad	University of Waterloo
Rayside, Derek	University of Waterloo
Melek, William	University of Waterloo

ThPO1S-21 Room T8

Integrated Planning and Control (Poster Session)

09:00-10:40 ThPO1S-21.1

A General Locomotion Approach for a Novel Multi-Legged Spherical Robot, pp. 10146-10152. Attachment

Yang, Dun	Beihang University
Liu, Yunfei	Beihang University
Yu, Yang	Beihang University

09:00-10:40 ThPO1S-21.2

A Coarse-To-Fine Framework for Dual-Arm Manipulation of Deformable Linear Objects with Whole-Body Obstacle Avoidance, pp. 10153-10159. Attachment

Yu, Mingrui	Tsinghua University
Lv, Kangchen	Tsinghua University
Wang, Changhao	University of California, Berkeley
Tomizuka, Masayoshi	University of California
LI, Xiang	Tsinghua University

09:00-10:40 ThPO1S-21.3

Adaptive Approximation of Dynamics Gradients Via Interpolation to Speed up Trajectory Optimisation, pp. 10160-10166. Attachment

Russell, David Mackenzie Charles	University of Leeds
Papallas, Rafael	University of Leeds
Dogar, Mehmet R	University of Leeds

09:00-10:40 ThPO1S-21.4

Learning Augmented, Multi-Robot Long-Horizon Navigation in Partially Mapped Environments, pp. 10167-10173. Attachment

Khanal, Abhish	George Mason University
Stein, Gregory	George Mason University

09:00-10:40 ThPO1S-21.5

Switching Attention in Time-Varying Environments Via Bayesian Inference of Abstractions, pp. 10174-10180. Attachment

Booker, Meghan	Princeton University
Majumdar, Anirudha	Princeton University

09:00-10:40 ThPO1S-21.6

Hierarchical Policy Blending As Inference for Reactive Robot Control, pp. 10181-10188.

Hansel, Kay — Intelligent Autonomous Systems Group, Technical University Darms
Urain De Jesus, Julen — TU Darmstadt
Peters, Jan — Technische Universität Darmstadt
Chalvatzaki, Georgia — Technische Universität Darmastadt

09:00-10:40 ThPO1S-21.7

Efficient Learning of High Level Plans from Play, pp. 10189-10196. Attachment

Armengol Urpí, Núria — ETH Zurich
Bagatella, Marco — Max Planck Institute for Intelligent Systems
Hilliges, Otmar — ETH Zurich
Martius, Georg — Max Planck Institute for Intelligent Systems
Coros, Stelian — ETH Zurich

ThPO1S-22 Room T8

Learning for Motion and Path Planning (Poster Session)

09:00-10:40 ThPO1S-22.1

Multi-Objective Ergodic Search for Dynamic Information Maps, pp. 10197-10204. Attachment

Rao, Ananya — Carnegie Mellon University
Breitfeld, Abigail — Carnegie Mellon University
Candela, Alberto — NASA Jet Propulsion Laboratory, Caltech
Jensen, Benjamin — Carnegie Mellon University
Wettergreen, David — Carnegie Mellon University
Choset, Howie — Carnegie Mellon University

09:00-10:40 ThPO1S-22.2

Safety-Critical Ergodic Exploration in Cluttered Environments Via Control Barrier Functions, pp. 10205-10211. Attachment

Lerch, Cameron — Yale University
Dong, Dayi, E — Yale University
Abraham, Ian — Yale University

09:00-10:40 ThPO1S-22.3

GuILD: Guided Incremental Local Densification for Accelerated Sampling-Based Motion Planning, pp. 10212-10218.

Scalise, Rosario — University of Washington
Mandalika, Aditya — University of Washington
Hou, Brian — University of Washington
Choudhury, Sanjiban — Cornell University
Srinivasa, Siddhartha — University of Washington

09:00-10:40 ThPO1S-22.4

ARiADNE: A Reinforcement Learning Approach Using Attention-Based Deep Networks for Exploration, pp. 10219-10225. Attachment

Cao, Yuhong — National University of Singapore
Hou, Tianxiang — National University of Singapore
Wang, Yizhuo — National University of Singapore
Yi, Xian — National University of Singapore
Sartoretti, Guillaume Adrien — National University of Singapore (NUS)

09:00-10:40 ThPO1S-22.5

On Shortest Arc-To-Arc Dubins Path, pp. 10226-10232.

Manyam, Satyanarayana Gupta — Infoscitex Corp
Casbeer, David — AFRL

09:00-10:40 ThPO1S-22.6

Robust Navigation with Cross-Modal Fusion and Knowledge Transfer, pp. 10233-10239. Attachment

Cai, Wenzhe — Southeast University
Cheng, Guangran — Southeast University
Kong, Lingyue — Southeast University
Dong, Lu — Southeast University
Sun, Changyin — Southeast University

09:00-10:40 ThPO1S-22.7

Contextual Multi-Objective Path Planning, pp. 10240-10246.

Nickelson, Anna — Oregon State University
Tumer, Kagan — Oregon State University
Smart, William — Oregon State University

09:00-10:40 ThPO1S-22.8

A Continuous Off-Policy Reinforcement Learning Scheme for Optimal Motion Planning in Simply-Connected Workspaces, pp. 10247-10253.

Rousseas, Panagiotis — National Technical University of Athens
Bechlioulis, Charalampos — University of Patras
Kyriakopoulos, Kostas — National Technical Univ. of Athens

ThPO1S-23 Room T8

Grasping and Manipulation II (Poster Session)

09:00-10:40 ThPO1S-23.1

Towards Robust Autonomous Grasping with Reflexes Using High-Bandwidth Sensing and Actuation, pp. 10254-10260. Attachment

SaLoutos, Andrew — Massachusetts Institute of Technology
Kim, Hongmin — Seoul National University
Stanger-Jones, Elijah — Massachusetts Institute of Technology
Guo, Menglong — University of California Berkeley
Kim, Sangbae — Massachusetts Institute of Technology

09:00-10:40 ThPO1S-23.2

High-Speed Scooping: An Implementation through Stiffness Control and Direct-Drive Actuation, pp. 10261-10267. Attachment

Mak, Ka Hei — The Hong Kong University of Science and Technology
XU, PU — Hong Kong University of Science and Technology
Seo, Jungwon — Pusan National University

09:00-10:40 ThPO1S-23.3

GraspAda: Deep Grasp Adaptation through Domain Transfer, pp. 10268-10274.

Chen, Yiting — Wuhan University
Jiang, Junnan — Wuhan University
Lei, Ruiqi — Tsinghua University
Bekiroglu, Yasemin — Chalmers University of Technology, University College London
Chen, Fei — The Chinese University of Hong Kong
Li, Miao — Wuhan University

09:00-10:40 ThPO1S-23.4

Task-Oriented Stiffness Setting for a Variable Stiffness Hand, pp. 10275-10281. Attachment

Huezo Martin, Ana Elvira — German Aerospace Center (DLR)
Sundaram, Ashok M. — German Aerospace Center (DLR)
Friedl, Werner — German AerospaceCenter (DLR)
Ruiz Garate, Virginia — University of Mondragon
Roa, Maximo A. — DLR - German Aerospace Center

09:00-10:40 ThPO1S-23.5

Flipbot: Learning Continuous Paper Flipping Via Coarse-To-Fine Exteroceptive-Proprioceptive Exploration, pp. 10282-10288. Attachment

Zhao, Chao — Hong Kong University of Science and Technology
Jiang, Chunli — The Hong Kong University of Science and Technology
Cai, Junhao — Hong Kong University of Science and Technology
Yu, Hongyu — The Hong Kong University of Science and Technology
Wang, Michael Yu — Monash University
Chen, Qifeng — HKUST

09:00-10:40 ThPO1S-23.6

Anthropomorphic Robot Hand Using the Principle of Sweat and Fingerprints of Human Hands, pp. 10289-10295.

Kim, Donghyun — Daegu Gyeongbuk Institute of Science and Technology
Yang, Junmo — Daegu Gyeongbuk Institute of Science and Technology (DGIST)
Yun, Dongwon — Daegu Gyeongbuk Institute of Science and Technology (DGIST)

09:00-10:40 ThPO1S-23.7

In-Hand Manipulation in Power Grasp: Design of an Adaptive Robot Hand with Active Surfaces, pp. 10296-10302. Attachment

Cai, Yilin — Carnegie Mellon University
Yuan, Shenli — SRI International

09:00-10:40 ThPO1S-23.8

Passive Robotic Gripper Using a Contact-Based Locking Mechanism, pp. 10303-10309. Attachment

NATE, Issei — Ritsumeikan University
Wang, Zhongkui — Ritsumeikan University
Hirai, Shinichi — Ritsumeikan Univ

09:00-10:40 ThPO1S-23.9

The New Dexterity Adaptive Humanlike Robot Hand: Employing a Reconfigurable Palm for Robust Grasping and Dexterous Manipulation, pp. 10310-10316. Attachment

Gao, Geng — Acumino Inc
Dwivedi, Anany — University of Auckland
Liarokapis, Minas — The University of Auckland

09:00-10:40 ThPO1S-23.10

Picking by Tilting: In-Hand Manipulation for Object Picking Using Effector with Curved Form, pp. 10317-10323. Attachment

SONG, Yanshu — CUHK(Chinese University of Hong Kong)
Nazir, Syed Abdullah — Hong Kong Centre for Logistics Robotics and the Chinese Universi
Lau, Darwin — The Chinese University of Hong Kong
Liu, Yunhui — Chinese University of Hong Kong

09:00-10:40 ThPO1S-23.11

Linear Delta Arrays for Compliant Dexterous Distributed Manipulation, pp. 10324-10330. Attachment

Patil, Sarvesh — Carnegie Mellon University School of Computer Science
Tao, Long — Carnegie Mellon University
Hellebrekers, Tess — Meta AI Research
Temel, Zeynep — Carnegie Mellon University
Kroemer, Oliver — Carnegie Mellon University

09:00-10:40 ThPO1S-23.12

A Tactile-Enabled Hybrid Rigid-Soft Continuum Manipulator for Forceful Enveloping Grasps Via Scale Invariant Desgin, pp. 10331-10337. Attachment

Taylor, Ian — Massachusetts Institute of Technology
Bawa, Maheera — MIT
Rodriguez, Alberto — Massachusetts Institute of Technology

ThPO1S-24 Room T8
Force and Tactile Sensing I (Poster Session)

09:00-10:40 ThPO1S-24.1

Adaptive Optimal Electrical Resistance Tomography for Large-Area Tactile Sensing, pp. 10338-10344.

Zheng, Wendong — Tsinghua University
Liu, Huaping — Tsinghua University
Guo, Di — Beijing University of Posts and Telecommunications
Yang, Wuqiang — The University of Manchester

09:00-10:40 ThPO1S-24.2

Towards Open-Set Material Recognition Using Robot Tactile Sensing, pp. 10345-10351.

Liu, Kun-Hong — Xiamen University
Yang, Qianhui — Xiamen University
XIE, Yu — Xiamen University
Huang, Xiangyi — Xiamen University

09:00-10:40 ThPO1S-24.3

RobotSweater: Scalable, Generalizable, and Customizable Machine-Knitted Tactile Skins for Robots, pp. 10352-10358. Attachment

Si, Zilin — Carnegie Mellon University
Yu, Tianhong — Cornell University
Morozov, Katrene — University of California, Santa Barbara
McCann, James — Carnegie Mellon University

Yuan, Wenzhen	Carnegie Mellon University

09:00-10:40 ThPO1S-24.4

DTact: A Vision-Based Tactile Sensor That Measures High-Resolution 3D Geometry Directly from Darkness, pp. 10359-10366. Attachment

LIN, CHANGYI	Shanghai Qi Zhi Institute
Lin, Ziqi	Tsinghua University
Wang, Shaoxiong	MIT
Xu, Huazhe	Tsinghua University

09:00-10:40 ThPO1S-24.5

MagTac: Magnetic Six-Axis Force/Torque Fingertip Tactile Sensor for Robotic Hand Applications, pp. 10367-10372. Attachment

Park, Sungwoo	Korea University, KIST
Oh, Sang-Rok	KIST
Hwang, Donghyun	Korea Institute of Science and Technology

09:00-10:40 ThPO1S-24.6

Tac-VGNN: A Voronoi Graph Neural Network for Pose-Based Tactile Servoing, pp. 10373-10379. Attachment

FAN, WEN	University of Bristol
Yang, Max	University of Bristol
Xing, Yifan	University of Bristol
Lepora, Nathan	University of Bristol
Zhang, Dandan	University of Bristol

09:00-10:40 ThPO1S-24.7

Safe Self-Supervised Learning in Real of Visuo-Tactile Feedback Policies for Industrial Insertion, pp. 10380-10386. Attachment

Fu, Letian	UC Berkeley
Huang, Huang	University of California at Berkeley
Berscheid, Lars	Karlsruhe Institute of Technology
Li, Hui	Autodesk Research
Goldberg, Ken	UC Berkeley
Chitta, Sachin	Autodesk Inc

09:00-10:40 ThPO1S-24.8

In-Situ Mechanical Calibration for Vision-Based Tactile Sensors, pp. 10387-10393. Attachment

Zhao, Can	Shanghai Jiao Tong University
Ren, Jieji	Shanghai Jiao Tong University
Yu, Hexi	Shanghai Jiao Tong University
Ma, Daolin	Shanghai Jiao Tong University

09:00-10:40 ThPO1S-24.9

Tactile-Driven Gentle Grasping for Human-Robot Collaborative Tasks, pp. 10394-10400. Attachment

Ford, Christopher	University of Bristol
Li, Haoran	University of Bristol
Lloyd, John	University of Bristol
Catalano, Manuel Giuseppe	Istituto Italiano Di Tecnologia
Bianchi, Matteo	University of Pisa
Psomopoulou, Efi	University of Bristol
Lepora, Nathan	University of Bristol

09:00-10:40 ThPO1S-24.10

TANDEM3D: Active Tactile Exploration for 3D Object Recognition, pp. 10401-10407. Attachment

Xu, Jingxi	Columbia University
Lin, Han	Columbia University
Song, Shuran	Columbia University
Ciocarlie, Matei	Columbia University

09:00-10:40 ThPO1S-24.11

Cable Routing and Assembly Using Tactile-Driven Motion Primitives, pp. 10408-10414. Attachment

Wilson, Achu	Carnegie Mellon University
Jiang, Helen	Carnegie Mellon University
Lian, Wenzhao	Google X
Yuan, Wenzhen	Carnegie Mellon University

09:00-10:40 ThPO1S-24.12

A Tactile Feedback Insertion Strategy for Peg-In-Hole Tasks, pp. 10415-10421.

Gibbons, Oliver — University of Oxford
Albini, Alessandro — University of Oxford
Maiolino, Perla — University of Oxford

ThPO1S-25 Room T8

Rehabilitation and Augmentation I (Poster Session)

09:00-10:40 ThPO1S-25.1

Coupled, Closed-System Fluidic Actuators for Use in Wearable Rehabilitation Devices, pp. 10422-10428. Attachment

Greig, James — University of Aberdeen
Giannaccini, Maria Elena — University of Bristol
Chadwick, Edward — University of Aberdeen

09:00-10:40 ThPO1S-25.2

Emulating Human Kinematic Behavior on Lower-Limb Prostheses Via Multi-Contact Models and Force-Based Nonlinear Control, pp. 10429-10435. Attachment

Gehlhar, Rachel — California Institute of Technology
Ames, Aaron — California Institute of Technology

09:00-10:40 ThPO1S-25.3

Simplified Motor Primitives for Gait Symmetrization: Pilot Study with an Active Hip Orthosis, pp. 10436-10442. Attachment

Laloyaux, Henri — Université Catholique De Louvain
Livolsi, Chiara — IUVO S.r.l, Scuola Superiore Sant'Anna of Pisa
Pergolini, Andrea — Scuola Superiore Sant'Anna of Pisa
Crea, Simona — Scuola Superiore Sant'Anna, the BioRobotics Institute
Vitiello, Nicola — Scuola Superiore Sant Anna
Ronsse, Renaud — Université Catholique De Louvain

09:00-10:40 ThPO1S-25.4

A Preliminary Study of the Effects of Active Recovery Reflexes on Stumble Recovery in a Swing-Assist Knee Prosthesis, pp. 10443-10448. Attachment

Lee, Jantzen — Vanderbilt University
King, Shane — Vanderbilt University
Eveld, Maura — Vanderbilt University
Goldfarb, Michael — Vanderbilt University

09:00-10:40 ThPO1S-25.5

Exploring Multimodal Gait Rehabilitation and Assistance through an Adaptable Robotic Platform, pp. 10449-10456. Attachment

Otalora, Sophia — Federal University of Espírito Santo
Sierra M., Sergio D. — University of Bristol
Ballen-Moreno, Felipe — Vrije Universiteit Brussel, R&MM, Brubotics, Flanders Make
Munera, Marcela — Escuela Colombiana De Ingeniería Julio Garavito
Cifuentes, Carlos A. — University of the West of England, Bristol

09:00-10:40 ThPO1S-25.6

Bilateral Asymmetric Hip Stiffness Applied by a Robotic Hip Exoskeleton Elicits Kinematic and Kinetic Adaptation, pp. 10457-10463. Attachment

Abdikadirova, Banu — University of Massachusetts Amherst
Price, Mark — University of Massachusetts Amherst
Moreno Jaramillo, Jonaz — University of Massachusetts Amherst
Hoogkamer, Wouter — University of Massachusetts, Amherst
Huber, Meghan — University of Massachusetts Amherst

09:00-10:40 ThPO1S-25.7

Gait Event Detection with Proprioceptive Force Sensing in a Powered Knee-Ankle Prosthesis: Validation Over Walking Speeds and Slopes, pp. 10464-10470. Attachment

Keller, Emily G. — University of Michigan
Laubscher, Curt A. — University of Michigan
Gregg, Robert D. — University of Michigan

09:00-10:40 ThPO1S-25.8

Towards a Finned-Swimming Exoskeleton: A Robotic Flutter Kicking Testbed and Its Corresponding Thrust Generation, pp. 10471-10477. Attachment

Johnson, Beau — Vanderbilt University
Goldfarb, Michael — Vanderbilt University

09:00-10:40 ThPO1S-25.9

Continuous Prediction of Leg Kinematics During Walking Using Inertial Sensors, Smart Glasses, and Embedded Computing, pp. 10478-10482.

Tsepa, Oleksii — Igor Sikorsky Kyiv Polytechnic Institute
Burakov, Roman — National University of Kyiv-Mohyla Academy
Laschowski, Brokoslaw — University of Toronto
Mihailidis, Alex — University of Toronto

09:00-10:40 ThPO1S-25.10

Trajectory and Sway Prediction towards Fall Prevention, pp. 10483-10489. Attachment

Wang, Weizhuo — Stanford University
Raitor, Michael — Stanford University
Collins, Steven H. — Stanford University
Liu, Karen — Stanford University
Kennedy, Monroe — Stanford University

09:00-10:40 ThPO1S-25.11

Multi-Modal Learning and Relaxation of Physical Conflict for an Exoskeleton Robot with Proprioceptive Perception, pp. 10490-10496. Attachment

Zhang, Xuan — Tsinghua University
Shu, Yana — Tsinghua University
Chen, Yu — Tsinghua University
Chen, Gong — Shenzhen MileBot Robotics
ye, jing — Shenzhen MileBot Robotics Co. Ltd
LI, Xiang — Tsinghua University

09:00-10:40 ThPO1S-25.12

Learning Personalised Human Sit-To-Stand Motion Strategies Via Inverse Musculoskeletal Optimal Control, pp. 10497-10503.

Gordon, Daniel F. N. — University of Edinburgh
Christou, Andreas — The University of Edinburgh
Stouraitis, Theodoros — Honda Research Institute EU and the University of Edinburgh
Gienger, Michael — Honda Research Institute Europe
Vijayakumar, Sethu — University of Edinburgh

ThPO1S-26 Room T8

Safety and Trustworthy Robotics I (Poster Session)

09:00-10:40 ThPO1S-26.1

Robust Human Pose Estimation under Gaussian Noise, pp. 10504-10510. Attachment

Schlosser, Patrick — Karlsruhe Institute of Technology
Ledermann, Christoph — Karlsruhe Institute of Technology

09:00-10:40 ThPO1S-26.2

Enforcing Safety for Vision-Based Controllers Via Control Barrier Functions and Neural Radiance Fields, pp. 10511-10517. Attachment

Tong, Mukun — Tsinghua University
Dawson, Charles — MIT
Fan, Chuchu — Massachusetts Institute of Technology

09:00-10:40 ThPO1S-26.3

Mimicking Real Forces on a Drone through a Haptic Suit to Enable Cost-Effective Validation, pp. 10518-10524. Attachment

Hildebrandt, Carl — University of Virginia
Ying, Wen — University of Virginia
Heo, Seongkook — University of Virginia
Elbaum, Sebastian — University of Virginia

09:00-10:40 ThPO1S-26.4

Generating Formal Safety Assurances for High-Dimensional Reachability, pp. 10525-10531.

Lin, Albert — Princeton University
Bansal, Somil — University of Southern California

09:00-10:40 ThPO1S-26.5

Safety Evaluation of Robot Systems Via Uncertainty Quantification, pp. 10532-10538. Attachment

Baek, Woo-Jeong — Karlsruhe Institute of Technology (KIT)
Kroeger, Torsten — Karlsruher Institut Für Technologie (KIT)

09:00-10:40 ThPO1S-26.6

Safety-Critical Controller Verification Via Sim2Real Gap Quantification, pp. 10539-10545. Attachment

Akella, Prithvi — California Institute of Technology
Ubellacker, Wyatt — California Institute of Technology
Ames, Aaron — Caltech

09:00-10:40 ThPO1S-26.7

One-Shot Reachability Analysis of Neural Network Dynamical Systems, pp. 10546-10552.

Chen, Shaoru — University of Pennsylvania
Preciado, Victor — University of Pennsylvania
Fazlyab, Mahyar — Johns Hopkins University

09:00-10:40 ThPO1S-26.8

Parameter-Conditioned Reachable Sets for Updating Safety Assurances Online, pp. 10553-10559.

Borquez, Javier — University of Southern California
Bansal, Somil — University of Southern California
Nakamura, Kensuke — Princeton University

09:00-10:40 ThPO1S-26.9

Hazard Analysis of Collaborative Automation Systems: A Two-Layer Approach Based on Supervisory Control and Simulation, pp. 10560-10566. Attachment

Huck, Tom Philip — Karlsruhe Institute of Technology
Selvaraj, Yuvaraj — Zenseact
Cronrath, Constantin — Chalmers University of Technology
Ledermann, Christoph — Karlsruhe Institute of Technology
Fabian, Martin — Department of Electrical Engineering
Lennartson, Bengt — Chalmers University of Technology
Kroeger, Torsten — Karlsruher Institut Für Technologie (KIT)

09:00-10:40 ThPO1S-26.10

SmartRainNet: Uncertainty Estimation for Laser Measurement in Rain, pp. 10567-10573.

ZHANG, chen — National University of Singapore
Huang, Zefan — National University of Singapore
Tung, Beatrix — Singapore-MIT Alliance for Research and Technology
Ang Jr, Marcelo H — National University of Singapore
Rus, Daniela — MIT

09:00-10:40 ThPO1S-26.11

Data-Driven Optimal Control under Safety Constraints Using Sparse Koopman Approximation, pp. 10574-10579.

Yu, Hongzhe — Georgia Institute of Technology
Moyalan, Joseph — Clemson University
Vaidya, Umesh — Clemson University
Chen, Yongxin — Georgia Institute of Technology

09:00-10:40 ThPO1S-26.12

Predictive Runtime Verification of Skill-Based Robotic Systems Using Petri Nets, pp. 10580-10586. Attachment

Pelletier, Baptiste — ONERA/DTIS, University of Toulouse
Lesire, Charles — ONERA/DTIS, University of Toulouse
Grand, Christophe — ONERA
Doose, David — Onera - the French Aerospace Lab
ROGNANT, Mathieu — ONERA

ThPO1S-27 Room T8

Localization and Mapping V (Poster Session)

09:00-10:40 ThPO1S-27.1

CIOT: Constraint-Enhanced Inertial-Odometric Tracking for Articulated Dump Trucks in GNSS-Denied Mining Environments, pp. 10587-10593. Attachment

Benz, David	RWTH Aachen University
Weseloh, Jonathan Thomas	RWTH Aachen University
Abel, Dirk	RWTH Aachen University
Vallery, Heike	TU Delft

09:00-10:40 ThPO1S-27.2

Wide-Area Geolocalization with a Limited Field of View Camera, pp. 10594-10600. Attachment

Downes, Lena	Massachusetts Institute of Technology
Steiner, Ted	Draper
Russell, Rebecca	Draper
How, Jonathan	Massachusetts Institute of Technology

09:00-10:40 ThPO1S-27.3

Probabilistic Plane Extraction and Modeling for Active Visual-Inertial Mapping, pp. 10601-10607. Attachment

Usayiwevu, Mitchell	University of Technology Sydney
Sukkar, Fouad	University of Technology Sydney
Vidal-Calleja, Teresa A.	University of Technology Sydney

09:00-10:40 ThPO1S-27.4

Visual Language Maps for Robot Navigation, pp. 10608-10615. Attachment

Huang, Chenguang	University of Freiburg
Mees, Oier	University of Freiburg
Zeng, Andy	Google
Burgard, Wolfram	University of Technology Nuremberg

09:00-10:40 ThPO1S-27.5

Asynchronous State Estimation of Simultaneous Ego-Motion Estimation and Multiple Object Tracking for LiDAR-Inertial Odometry, pp. 10616-10622. Attachment

Lin, Yu-Kai	National Yang Ming Chiao Tung University
Lin, Wen-Chieh	National Yang Ming Chiao Tung University
Wang, Chieh-Chih	National Yang Ming Chiao Tung University

09:00-10:40 ThPO1S-27.6

Pose-Graph SLAM Using Multi-Order Ultrasonic Echoes and Beamforming for Long-Range Inspection Robots, pp. 10623-10629. Attachment

Ouabi, Othmane-Latif	Umi 2958 Gt-Cnrs
Zeghidour, Neil	Google Brain
Declercq, Nico F.	Georgia Institute of Technology, Atlanta, Georgia 30332–0250
Geist, Matthieu	Université De Lorraine
Pradalier, Cedric	GeorgiaTech Lorraine

09:00-10:40 ThPO1S-27.7

EdgeVO: An Efficient, Accurate, and Robust Edge-Based Visual Odometry, pp. 10630-10636.

Zhao, Hui	College of Computer Science, China University of Geoscience
Shang, Jianga	College of Computer Science, China University of Geoscience
Liu, Kai	Chongqing University
Chen, Chao	Chongqing University
Gu, Fuqiang	Chongqing University

09:00-10:40 ThPO1S-27.8

SCORE: A Second-Order Conic Initialization for Range-Aided SLAM, pp. 10637-10644.

Papalia, Alan	Massachusetts Institute of Technology
Morales, Joseph	Massachusetts Institute of Technology
Doherty, Kevin	Massachusetts Institute of Technology
Rosen, David	Northeastern University
Leonard, John	MIT

ThPO1S-28 Room T8

Aerial Systems: Mapping and Localization (Poster Session)

09:00-10:40 ThPO1S-28.1

A Real-Time Dynamic Obstacle Tracking and Mapping System for UAV Navigation and Collision Avoidance with an RGB-D Camera, pp. 10645-10651. Attachment

Xu, Zhefan	Carnegie Mellon University
Zhan, Xiaoyang	Carnegie Mellon University
Chen, Baihan	Carnegie Mellon University
Xiu, Yumeng	Carnegie Mellon University
Yang, Chenhao	Carnegie Mellon University
Shimada, Kenji	Carnegie Mellon University

09:00-10:40 ThPO1S-28.2

Resilient Terrain Navigation with a 5 DOF Metal Detector Drone, pp. 10652-10658. Attachment

Pfreundschuh, Patrick	ETH Zurich
Bähnemann, Rik	ETH Zürich
Kazik, Tim	ETH Zürich
Mantel, Thomas	ETH Zurich
Siegwart, Roland	ETH Zurich
Andersson, Olov	ETH Zürich

09:00-10:40 ThPO1S-28.3

Efficient Visual-Inertial Navigation with Point-Plane Map, pp. 10659-10665.

Hu, Jiaxin	Meituan
Ren, Kefei	Meituan
Xu, Xiaoyu	University of Electronic Science and Technology of China
Zhou, Lipu	MeiTuan
Lang, Xiaoming	Meituan
Mao, Yinian	Meituan-Dianping Group
Huang, Guoquan	University of Delaware

09:00-10:40 ThPO1S-28.4

CAROM Air - Vehicle Localization and Traffic Scene Reconstruction from Aerial Videos, pp. 10666-10673. Attachment

Lu, Duo	Rider University
Eaton, Eric	Rider University
Weg, Matt	Rider University
Wang, Wei	Arizona State University
Como, Steven	Arizona State University
Wishart, Jeffrey	Arizona State University
Yu, Hongbin	Arizona State University
Yang, Yezhou	Arizona State University

ThBT1 ICC Cap Suite 7-9

SLAM & Navigation (Oral Session)

Chair: Isler, Volkan	University of Minnesota
Co-Chair: Fallon, Maurice	University of Oxford

15:00-15:10 ThBT1.1

Control of Rough Terrain Vehicles Using Deep Reinforcement Learning, N/A.

Wiberg, Viktor	Umeå Univsersity
Wallin, Erik	Umeå University
Nordfjell, Tomas	Swedish University of Agricultural Sciences
Servin, Martin	Umeå University

15:10-15:20 ThBT1.2

DynaVINS: A Visual-Inertial SLAM for Dynamic Environments, N/A.

Song, Seungwon	KAIST
LIM, HYUNGTAE	Korea Advanced Institute of Science and Technology
Lee, Alex	Hyundai Motor Company
Myung, Hyun	KAIST (Korea Advanced Institute of Science and Technology)

15:20-15:30 ThBT1.3

Visual-Inertial Odometry with Online Calibration of Velocity-Control Based Kinematic Motion Models, N/A.

Li, Haolong	Max Planck Institute for Intelligent Systems

Stueckler, Joerg	Max Planck Institute for Intelligent Systems

15:30-15:40 ThBT1.4

Learning Setup Policies: Reliable Transition between Locomotion Behaviours, N/A.

Tidd, Brendan	CSIRO
Leitner, Jurgen	LYRO Robotics & Monash University
Cosgun, Akansel	Monash University
Hudson, Nicolas	X, the Moonshot Factory

15:40-15:50 ThBT1.5

MMDF: Multi-Modal Deep Feature Based Place Recognition of Mobile Robots with Applications on Cross-Scene Navigation, N/A.

Yu, Xiang	Southeast University
Zhou, Bo	Southeast University
Chang, Zeqing	Southeast University
Qian, Kun	Southeast University
fang, fang	Southeast University

15:50-16:00 ThBT1.6

Deep IMU Bias Inference for Robust Visual-Inertial Odometry with Factor Graphs, N/A. Attachment

Buchanan, Russell	University of Edinburgh
Agrawal, Varun	Georgia Institute of Technology
Camurri, Marco	Free University of Bozen-Bolzano
Dellaert, Frank	Georgia Institute of Technology
Fallon, Maurice	University of Oxford

16:00-16:10 ThBT1.7

Hierarchical Motion Planning for Autonomous Vehicles in Unstructured Dynamic Environments, N/A.

Qi, Yao	Army Military Transportation University
He, Binbing	Institute of Military Transportation, Army Military Transportati
Tai, Yang	Tianjin Navigation Instruments Research Institute
Wang, Rendong	Military Transportation University
Wang, Le	Army Military Transportation University
Xu, Youchun	Military Transportation University

16:10-16:20 ThBT1.8

SOFT2: Stereo Visual Odometry for Road Vehicles Based on a Point-To-Epipolar-Line Metric (I), N/A.

Cvišić, Igor	University of Zagreb, Faculty of Electrical Engineering and Comp
Markovic, Ivan	University of Zagreb Faculty of Electrical Engineering and Compu
Petrovic, Ivan	University of Zagreb

16:20-16:30 ThBT1.9

Winding Through: Crowd Navigation Via Topological Invariance, N/A. Attachment

Mavrogiannis, Christoforos	University of Washington
Balasubramanian, Krishnan	University of Washington
Poddar, Sriyash	Indian Institute of Technology Kharagpur
Gandra, Anush	University of Washington
Srinivasa, Siddhartha	University of Washington

ThBT2 Theatre 1

Force and Tactile Sensing and Haptics and Haptic Interfaces (Oral Session)

Chair: Maiolino, Perla	University of Oxford
Co-Chair: Wang, Michael Yu	Monash University

15:00-15:10 ThBT2.1

Tactile-Based Task Description through Edge Contact Formation Setpoints for Object Exploration and Manipulation, N/A.

Kappassov, Zhanat	Nazarbayev University
Corrales Ramon, Juan Antonio	Universidade De Santiago De Compostela
Perdereau, Véronique	Sorbonne University

15:10-15:20 ThBT2.2

3D Contact Point Cloud Reconstruction from Vision-Based Tactile Flow, N/A.

Du, Yipai	HKUST
Zhang, Guanlan	The Hong Kong University of Science and Technology

Wang, Michael Yu	Monash University

15:20-15:30 ThBT2.3

Visuo-Tactile Recognition of Partial Point Clouds Using PointNet and Curriculum Learning (I), N/A.

Parsons, Christopher	University of Oxford
Albini, Alessandro	University of Oxford
De Martini, Daniele	University of Oxford
Maiolino, Perla	University of Oxford

15:30-15:40 ThBT2.4

Bidirectional Sim-To-Real Transfer for GelSight Tactile Sensors with CycleGAN, N/A. Attachment

Chen, Weihang	Tsinghua University
XU, YUAN	Southern University of Science and Technology
Chen, Zhenyang	Southern University of Science and Technology
Zeng, Peiyu	Tsinghua University
Dang, Renjun	Tsinghua University
Chen, Rui	Tsinghua University
Xu, Jing	Tsinghua University

15:40-15:50 ThBT2.5

Development of a Novel 2-Dimensional Neck Haptic Device for Gait Balance Training, N/A.

Lee, Hosu	Gwangju Institute of Science and Technology
Eizad, Amre	Gwangju Institute of Science and Technology
Park, Jiho	GIST
Kim, Yeongmi	MCI
Hwang, Sunwoo	Gyeongsang National University Hospital
Oh, Min-Kyun	Gyeongsang National University Hospital
Yoon, Jungwon	Gwangju Institutue of Science and Technology

15:50-16:00 ThBT2.6

Communicating Inferred Goals with Passive Augmented Reality and Active Haptic Feedback, N/A.

Mullen, James	University of Maryland
Mosier, Josh	Virginia Tech
Chakrabarti, Sounak	Virginia Polytechnic Institute and State University
Chen, Anqi	Virginia Polytechnic Institute and State University
White, Tyler	Virginia Tech
Losey, Dylan	Virginia Tech

16:00-16:10 ThBT2.7

Touching the Sound: Audible Features Enable Haptics for Robot Control (I), N/A.

Shi, Hongshen	University of Nottignham
Russo, Matteo	University of Rome Tor Vergata
de la Torre, Juan	University of Nottingham
Mohammad, Abdelkhalick	University of Nottingham
Dong, Xin	University of Nottingham
Axinte, Dragos	University of Nottingham

16:10-16:20 ThBT2.8

Haptify: A Measurement-Based Benchmarking System for Grounded Force-Feedback Devices (I), N/A.

Fazlollahi, Farimah	Max Planck Institute for Intelligent Systems
Kuchenbecker, Katherine J.	Max Planck Institute for Intelligent Systems

ThBT3 ICC Cap Suite 2-4

Bioinspiration and Biomimetics (Oral Session)

Chair: Wang, Ning	University of the West of England
Co-Chair: Ramezani, Alireza	Northeastern University

15:00-15:10 ThBT3.1

Biomimetic Force and Impedance Adaptation Based on Broad Learning System in Stable and Unstable Tasks (I), N/A.

Lu, Zhenyu	Bristol Robotics Laboratory
Wang, Ning	University of the West of England

15:10-15:20 ThBT3.2

CPG-RL: Learning Central Pattern Generators for Quadruped Locomotion, N/A. Attachment

Bellegarda, Guillaume EPFL
Ijspeert, Auke EPFL

15:20-15:30 ThBT3.3

Research on Target Tracking for Robotic Fish Based on Low-Cost Scarce Sensing Information Fusion, N/A.

Zhong, Yong South China University of Technology
Chen, Youdong South China University of Technology
Wang, Chengcai Peking University
Wang, Qixing South China University of Technology
Yang, Jiawei South China University of Technology

15:30-15:40 ThBT3.4

An Anthropomorphic Robotic Finger with Innate Human-Finger-Like Biomechanical Advantages Part I: Design, Ligamentous Joint and Extensor Mechanism (I), N/A.

Zhu, Yingmin School of Mechano-Electronic Engineering, Xidian University
Wei, Guowu Salford University
Ren, Lei University of Manchester
Luo, Zirong National University of Defense Technology
Shang, Jianzhong National University of Defense Technology

15:40-15:50 ThBT3.5

An Anthropomorphic Robotic Finger with Innate Human-Finger-Like Biomechanical Advantages Part II: Flexible Tendon Sheath and Grasping Demonstration (I), N/A.

Zhu, YIMING The University of Manchester
Wei, Guowu Salford University
Ren, Lei University of Manchester
Luo, Zirong National University of Defense Technology
Shang, Jianzhong National University of Defense Technology

15:50-16:00 ThBT3.6

Sim-To-Real: Learning Energy-Efficient Slithering Gaits for a Snake-Like Robot (I), N/A.

Bing, Zhenshan Technical University of Munich
Cheng, Long Wenzhou University
Huang, Kai Sun Yat-Sen University
Knoll, Alois Tech. Univ. Muenchen TUM

16:00-16:10 ThBT3.7

S2worm: A Fast-Moving Untethered Insect-Scale Robot with 2-DoF Transmission Mechanism, N/A.

Liu, Yide Zhejiang University
Chen, Yanhong Zhejiang University
Feng, Bo Zhejiang University
Wang, Dongqi Zhejiang University
Liu, Taishan Zhejiang University
Zhou, Haofei Zhejiang University
Li, Hua Zhejiang University
Qu, Shaoxing Zhejiang University
Yang, Wei Zhejiang University

16:10-16:20 ThBT3.8

Towards a Discrete Snake-Like Robot Based on SMA-Actuated Tristable Modules for Follow the Leader Control Strategy, N/A.

Calmé, Benjamin LIRMM, Univ Montpellier, CNRS
Rubbert, Lennart INSA - Strasbourg
Haddab, Yassine University of Montpellier

16:20-16:30 ThBT3.9

Three-Dimensional Modeling and Kinematic Analysis of Human Elbow Joint Axis Based on Anatomy and Screw Theory, N/A.

Gao, Yongsheng Harbin Institute of Technology
Lang, Guodong Harbin Institute of Technology
Shen, Wenpeng Harbin Institute of Technology
Zhao, Jie Harbin Institute of Technology

16:30-16:40 ThBT3.10

High-Performance Six-DOF Flight Control of the Bee++: An Inclined-Stroke-Plane Approach (I), N/A.

Bena, Ryan	University of Southern California
Yang, Xiufeng	University of Southern California
Calderon, Ariel, A	University of Southern California
Perez-Arancibia, Nestor O	Washington State University (WSU)

ThBT4 South Gallery Rms 20-22

Sensing and Control (Oral Session)

Chair: Vidal-Calleja, Teresa A.	University of Technology Sydney
Co-Chair: Rodriguez-Seda, Erick J.	United States Naval Academy

15:00-15:10 ThBT4.1

Autonomous Dozer Sand Grading under Localization Uncertainties, N/A. Attachment

Miron, Yakov	Bosch
Goldfracht, Yuval	BCAI
Ross, Chana	BCAI
Di Castro, Dotan	Bosch
Klein, Itzik	University of Haifa

15:10-15:20 ThBT4.2

Self-Triggered Coverage Control for Mobile Sensors (I), N/A.

Rodriguez-Seda, Erick J.	United States Naval Academy
Xu, Xiaotian	University of Maryland, College Park
Olm, Josep M.	Universitat Politecnica De Catalunya
Doria-Cerezo, Arnau	Polytechnic University of Catalonia
Diaz-Mercado, Yancy	University of Maryland

15:20-15:30 ThBT4.3

Constrained Gaussian Processes with Integrated Kernels for Long-Horizon Prediction of Dense Pedestrian Crowd Flows, N/A.

Kiss, Stefan H.	University of Technology Sydney
Katuwandeniya, Kavindie	University of Technology Sydney
Alempijevic, Alen	University of Technology Sydney
Vidal-Calleja, Teresa A.	University of Technology Sydney

15:30-15:40 ThBT4.4

Large-Workspace Polyarticulated Micro-Structures Based-On Folded Silica for Tethered Nanorobotics, N/A.

Lei, Yuning	University of Burgundy Franche-Comté
Clévy, Cédric	Franche-Comté University
Rauch, Jean-Yves	FEMTO-ST Institute
LUTZ, Philippe	Femto-St - Umr Cnrs 6174 - Ufc/ensmm/utbm

15:40-15:50 ThBT4.5

Direction and Trajectory Tracking Control for Nonholonomic Spherical Robot by Combining Sliding Mode Controller and Model Prediction Controller, N/A.

Liu, Yifan	Zhejiang University
Wang, Yixu	Zhejiang University
Guan, Xiaoqing	Zhejiang University
hu, tao	Zhejiang University
Zhang, Ziang	Zhejiang University
Jin, Song	Zhejiang University
Wang, You	Zhejiang University
Hao, Jie	Luoteng Hangzhou Techonlogy Co., Ltd
Li, Guang	Zhejiang University

15:50-16:00 ThBT4.6

Advanced Manufacturing Configuration by Sample-Efficient Batch Bayesian Optimization, N/A.

Guidetti, Xavier	ETH Zürich
Rupenyan, Alisa	ETH Zürich
Fassl, Lutz	Equipment Digitalization Team, Oerlikon Metco
Nabavi, Majid	Equipment Digitalization Team, Oerlikon Metco
Lygeros, John	ETH Zurich

16:00-16:10 ThBT4.7

Automatically Deployable Robust Control of Modular Reconfigurable Robot Manipulators, N/A.

Nainer, Carlo — Fraunhofer Italia Research
Giusti, Andrea — Fraunhofer Italia Research

16:10-16:20 ThBT4.8

Velocity Following Control of a Pseudo-Driven Wheel for Reducing Internal Forces between Wheels, N/A.

Qi, Huanan — Harbin Institute of Technology
Ding, Liang — Harbin Institute of Technology
You, Bo — Harbin University of Science and Technology
Huang, Lan — Harbin Institute of Technology
An, Xin — Tsinghua University
Li, Shu — Harbin Institute of Technology
Liu, Guangjun — Ryerson University

16:20-16:30 ThBT4.9

Adaptive Tracking Control with Uncertainty-Aware and State-Dependent Feedback Action Blending for Robot Manipulators, N/A. Attachment

Wu, Xuwei — German Aerospace Center (DLR)
Kirner, Annika — TU Wien
Garofalo, Gianluca — ABB AB
Ott, Christian — TU Wien
Kotyczka, Paul — Technische Universität München
Dietrich, Alexander — German Aerospace Center (DLR)

ThBT5 ICC Cap Suite 10-12

Kinematics, Dynamics, and Motion Control (Oral Session)

Chair: Burgner-Kahrs, Jessica — University of Toronto
Co-Chair: Kyriakopoulos, Kostas — New York University - Abu Dhabi

15:00-15:10 ThBT5.1

Kinetostatic Modeling of Tendon-Driven Parallel Continuum Robots (I), N/A.

Lilge, Sven — University of Toronto Mississauga
Burgner-Kahrs, Jessica — University of Toronto

15:10-15:20 ThBT5.2

Globally Optimal Solution to Inverse Kinematics of 7DOF Serial Manipulator, N/A.

Trutman, Pavel — Czech Technical University in Prague
Safey El Din, Mohab — Sorbonne Univ
Henrion, Didier — University of Toulouse
Pajdla, Tomas — Czech Technical University in Prague

15:20-15:30 ThBT5.3

Kinematic Redundancy Analysis for (2n+1)R Circular Manipulators (I), N/A.

Li, Zijia — Chinese Academy of Sciences
Brandstötter, Mathias — JOANNEUM RESEARCH Forschungsgesellschaft mbH - ROBOTICS
Hofbaur, Michael — JOANNEUM RESEARCH Forschungsgesellschaft MbH

15:30-15:40 ThBT5.4

Adaptive Constrained Kinematic Control Using Partial or Complete Task-Space Measurements (I), N/A.

Marques Marinho, Murilo — The University of Tokyo
Adorno, Bruno Vilhena — The University of Manchester

15:40-15:50 ThBT5.5

Connecting Gaits in Energetically Conservative Legged Systems, N/A.

Raff, Maximilian — University of Stuttgart
Rosa, Nelson — University of Stuttgart
Remy, C. David — University of Stuttgart

15:50-16:00 ThBT5.6

Reduced Euler-Lagrange Equations of Floating-Base Robots: Computation, Properties & Applications (I), N/A.

Mishra, Hrishik — German Aerospace Center (DLR)
Garofalo, Gianluca — ABB AB

Giordano, Alessandro Massimo	DLR (German Aerospace Center)
De Stefano, Marco	German Aerospace Center (DLR)
Ott, Christian	TU Wien
Kugi, Andreas	TU Wien

16:00-16:10 ThBT5.7

Model-Based Policy Search Using Monte Carlo Gradient Estimation with Real Systems Application (I), N/A.

Romeres, Diego	Mitsubishi Electric Research Laboratories
Amadio, Fabio	Leonardo Labs - IIT
Dalla Libera, Alberto	University of Padova
Antonello, Riccardo	University of Padova
Nikovski, Daniel	MERL
Carli, Ruggero	University of Padova

16:10-16:20 ThBT5.8

Hybrid Learning of Time-Series Inverse Dynamics Models for Locally Isotropic Robot Motion, N/A.
Attachment

Çallar, Tolga-Can	Universität Zu Lübeck
Böttger, Sven	University of Luebeck

16:20-16:30 ThBT5.9

A Joint Acceleration Estimation Method Based on a High-Order Disturbance Observer, N/A.

Zhang, Jiexin	Shanghaijiaotong University
Nie, Pingyun	Shanghai Jiao Tong University
Chen, Yuhang	Shanghai Jiao Tong University
Zhang, Bo	Shanghai Jiao Tong University

16:30-16:40 ThBT5.10

A Sampling-Based Motion Assignment Strategy with Multi-Performance Optimization for Macro-Micro Robotic System, N/A.

Zhou, Yaohua	Ningbo Institute of Materials Technology and Engineering
Chen, Chin-Yin	Ningbo Institute of Material Technology and Engineering, CAS
Yang, Guilin	Ningbo Institute of Material Technology and Engineering, Chines
Li, Yaonan	Shenzhen Academy of Robotics

ThBT6 — ICC Cap Suite 14-16

Swarms and Multi Agent Systems (Oral Session)

Chair: Ansari, Azadeh	Georgia Institute of Technology
Co-Chair: Sabattini, Lorenzo	University of Modena and Reggio Emilia

15:00-15:10 ThBT6.1

Offline Programming Guidance for Swarm Steering of Micro/Nano Magnetic Particles in a Dynamic Multichannel Vascular Model, N/A.

Park, Myungjin	Gwangju Institute of Science and Technology
Tuan-Anh, Le	Gwangju Institute of Science and Technology
Yoon, Jungwon	Gwangju Institutue of Science and Technology

15:10-15:20 ThBT6.2

Mean Field Behaviour of Collaborative Multi-Agent Foragers (I), N/A.

Jarne Ornia, Daniel	Delft University of Technology
Zufiria, Pedro J.	Universidad Politecnica De Madrid
Mazo Jr, Manuel	Delft University of Technology

15:20-15:30 ThBT6.3

Closed-Loop Motion Control of Robotic Swarms – a Tether-Based Strategy (I), N/A.

Eshaghi, Kasra	University of Toronto
Rogers, Andrew	University of Toronto
Nejat, Goldie	University of Toronto
Benhabib, Beno	University of Toronto

15:30-15:40 ThBT6.4

Controlling Collision-Induced Aggregations in a Swarm of Micro Bristle-Robots (I), N/A.

Hao, Zhijian	Georgia Institute of Technology
Mayya, Siddharth	Amazon Robotics
Notomista, Gennaro	University of Waterloo
Hutchinson, Seth	Georgia Institute of Technology

Egerstedt, Magnus	University of California, Irvine
Ansari, Azadeh	Georgia Institute of Technology

15:40-15:50 ThBT6.5

Multi-Robot Pickup and Delivery Via Distributed Resource Allocation (I), N/A.

Camisa, Andrea	University of Bologna
Testa, Andrea	University of Bologna
Notarstefano, Giuseppe	University of Bologna

15:50-16:00 ThBT6.6

Deep Reinforcement Learning for Decentralized Multi-Robot Exploration with Macro Actions, N/A.

Tan, Aaron Hao	University of Toronto
Pizarro Bejarano, Federico	University of Toronto
Zhu, Yuhan	University of Toronto
Ren, Richard	University of Toronto
Nejat, Goldie	University of Toronto

16:00-16:10 ThBT6.7

Time-Inverted Kuramoto Model Meets Lissajous Curves: Multi-Robot Persistent Monitoring and Target Detection, N/A. Attachment

Boldrer, Manuel	Delft University of Technology
Lyons, Lorenzo	Delft University of Technology
Palopoli, Luigi	University of Trento
Fontanelli, Daniele	University of Trento
Ferranti, Laura	Delft University of Technology

16:10-16:20 ThBT6.8

A Decentralized Multi-Robot Spatio-Temporal Multi-Task Assignment Approach for Perimeter Defense (I), N/A.

Velhal, Shridhar	Indian Institute of Science
Sundaram, Suresh	Indian Institute of Science
Narasimman, Sundararajan	Nanyang Technological University

16:20-16:30 ThBT6.9

Reinforcement Learned Distributed Multi-Robot Navigation with Reciprocal Velocity Obstacle Shaped Rewards, N/A.

Han, Ruihua	University of Hong Kong
Chen, Shengduo	Southern University of Science and Technology
Wang, Shuaijun	Southern University of Science and Technology
Zhang, Zeqing	The University of Hong Kong
Gao, Rui	Southern University of Science and Technology
HAO, QI	Southern University of Science and Technology
Pan, Jia	University of Hong Kong

16:30-16:40 ThBT6.10

Chance-Constrained Iterative Linear-Quadratic Stochastic Games, N/A. Attachment

Zhong, Hai	Tsinghua University
Shimizu, Yutaka	TIER IV
Chen, Jianyu	Tsinghua University

ThPO2S-01 Room T8

Software Tools II (Poster Session)

15:00-16:40 ThPO2S-01.1

The SLAM Hive Benchmarking Suite, pp. 11257-11263. Attachment

Yang, Yuanyuan	ShanghaiTech University
Xu, Bowen	ShanghaiTech University
Li, Yinjie	ShanghaiTech University
Schwertfeger, Sören	ShanghaiTech University

15:00-16:40 ThPO2S-01.2

Discovering Multiple Algorithm Configurations, pp. 11264-11271.

Keselman, Leonid	Carnegie Mellon University
hebert, martial	CMU

15:00-16:40 ThPO2S-01.3

Aquarium: A Fully Differentiable Fluid-Structure Interaction Solver for Robotics Applications, pp. 11272-11279. Attachment

Lee, Jeong Hun	Carnegie Mellon University
Michelis, Mike Yan	ETH Zurich
Katzschmann, Robert Kevin	ETH Zurich
Manchester, Zachary	Carnegie Mellon University

15:00-16:40 ThPO2S-01.4

Robust Co-Design of Robots Via Cascaded Optimisation, pp. 11280-11286. Attachment

Sathuluri, Akhil	Technical University of Munich
Vazhapilli Sureshbabu, Anand	Technische Universität München
Zimmermann, Markus	Technical University of Munich

15:00-16:40 ThPO2S-01.5

Autotuning Symbolic Optimization Fabrics for Trajectory Generation, pp. 11287-11293. Attachment

Spahn, Max	TU Delft
Alonso-Mora, Javier	Delft University of Technology

15:00-16:40 ThPO2S-01.6

Auto-Assembly: A Framework for Automated Robotic Assembly Directly from CAD, pp. 11294-11300. Attachment

Chervinskii, Fedor	Arrival
Zobov, Sergei	Micropsi Industries Gmbh
Rybnikov, Aleksandr	ARRIVAL
Petrov, Danil	Arrival
Vendidandi, Komal Sai Reddy	Arrival

15:00-16:40 ThPO2S-01.7

General, Single-Shot, Target-Less, and Automatic LiDAR-Camera Extrinsic Calibration Toolbox, pp. 11301-11307. Attachment

Koide, Kenji	National Institute of Advanced Industrial Science and Technology
Oishi, Shuji	National Institute of Advanced Industrial Science and Technology
Yokozuka, Masashi	Nat. Inst. of Advanced Industrial Science and Technology
Banno, Atsuhiko	National Instisute of Advanced Industrial Science and Technology

15:00-16:40 ThPO2S-01.8

GaPT: Gaussian Process Toolkit for Online Regression with Application to Learning Quadrotor Dynamics, pp. 11308-11314. Attachment

Crocetti, Francesco	University of Perugia
Mao, Jeffrey	New York University
Saviolo, Alessandro	New York University
Costante, Gabriele	University of Perugia
Loianno, Giuseppe	New York University

ThPO2S-02 Room T8

Data Sets II (Poster Session)

15:00-16:40 ThPO2S-02.1

Transferring Implicit Knowledge of Non-Visual Object Properties across Heterogeneous Robot Morphologies, pp. 11315-11321.

Tatiya, Gyan	Tufts University
Francis, Jonathan	Bosch Center for Artificial Intelligence
Sinapov, Jivko	Tufts University

15:00-16:40 ThPO2S-02.2

Wild-Places: A Large-Scale Dataset for Lidar Place Recognition in Unstructured Natural Environments, pp. 11322-11328.

Knights, Joshua Barton	Queensland University of Technology
Vidanapathirana, Kavisha	Queensland University of Technology
Ramezani, Milad	CSIRO
Sridharan, Sridha	Queensland University of Technology
Fookes, Clinton	Queensland University of Technology
Moghadam, Peyman	CSIRO

15:00-16:40 ThPO2S-02.3

On Human Grasping and Manipulation in Kitchens: Automated Annotation, Insights, and Metrics for Effective Data Collection, pp. 11329-11335. Attachment

Elangovan, Nathan — University of Auckland
de Godoy, Ricardo — The University of Auckland
Sanches, Felipe Padula — University of Auckland
Wang, Ke — AI Data Innovations
White, Tom — Acumino
Jarvis, Patrick — AI Data Innovations
Liarokapis, Minas — The University of Auckland

15:00-16:40 ThPO2S-02.4

Visual Backtracking Teleoperation: A Data Collection Protocol for Offline Image-Based Reinforcement Learning, pp. 11336-11342. Attachment

Brandfonbrener, David — New York University
Tu, Stephen — Google
Singh, Avi — Google
Welker, Stefan — Google
Boodoo, Chad — Google
Matni, Nikolai — University of Pennsylvania
Varley, Jacob — Google

15:00-16:40 ThPO2S-02.5

COLA: COarse LAbel Pre-Training for 3D Semantic Segmentation of Sparse LiDAR Datasets, pp. 11343-11350.

Sanchez, Jules — Mines Paris - PSL University
GOULETTE, François — MINES ParisTech
Deschaud, Jean-Emmanuel — Mines Paris - PSL University

15:00-16:40 ThPO2S-02.6

Enhancing the Efficacy of Lower-Body Assistive Devices through the Understanding of Human Movement in the Real World, pp. 11351-11358.

Baroudi, Loubna — University of Michigan
Cain, Stephen — University of Michigan
Shorter, Alex — University of Michigan
Barton, Kira — University of Michigan at Ann Arbor

15:00-16:40 ThPO2S-02.7

DexGraspNet: A Large-Scale Robotic Dexterous Grasp Dataset for General Objects Based on Simulation, pp. 11359-11366. Attachment

Wang, Ruicheng — Peking University
Zhang, Jialiang — Peking University
Chen, Jiayi — Peking University
Xu, Yinzhen — Peking University
Li, Puhao — Tsinghua University
Liu, Tengyu — Beijing Institute for General Artificial Intelligence
Wang, He — Peking University

15:00-16:40 ThPO2S-02.8

ATTACH Dataset: Annotated Two-Handed Assembly Actions for Human Action Understanding, pp. 11367-11373. Attachment

Aganian, Dustin — Ilmenau University of Technology
Stephan, Benedict — Ilmenau University of Technology
Eisenbach, Markus — Ilmenau University of Technology
Stretz, Corinna — University of Technology Ilmenau
Gross, Horst-Michael — Ilmenau University of Technology

15:00-16:40 ThPO2S-02.9

Synthetic-To-Real Domain Adaptation for Action Recognition: A Dataset and Baseline Performances, pp. 11374-11381.

Reddy, Arun — Johns Hopkins University
Shah, Ketul — Johns Hopkins University
Paul, William — Johns Hopkins University Applied Physics Lab
Mocharla, Rohita — Johns Hopkins University Applied Physics Lab
Hoffman, Judy — Georgia Tech
Katyal, Kapil — Johns Hopkins University Applied Physics Lab
Manocha, Dinesh — University of Maryland

de Melo, Celso	CCDC US Army Research Laboratory
Chellappa, Rama	Johns Hopkins University

15:00-16:40 ThPO2S-02.10

Robotic Method and Instrument to Efficiently Synthesize Faulty Conditions and Mass-Produce Faulty-Conditioned Data for Rotary Machines, pp. 11382-11388.

Yeung, Yip Fun	MIT
Xia, Fangzhou	Massachusetts Institute of Technology
Covarrubias, Juliana	Massachusetts Institute of Technology
Mikio, Furokawa	MIT
Takayuki, Hirano	Japan Steel Works
Youcef-Toumi, Kamal	Massachusetts Institute of Technology

15:00-16:40 ThPO2S-02.11

FLYOVER: A Model-Driven Method to Generate Diverse Highway Interchanges for Autonomous Vehicle Testing, pp. 11389-11395.

Zhou, Yuan	Nanyang Technological University
Lin, Gengjie	Shanghai Jiao Tong University
tang, Yun	Nanyang Technological University
YANG, KAIRUI	Damo Academy, Alibaba Group
Jing, Wei	Alibaba
Zhang, Ping	Alibaba
Chen, Junbo	Alibaba Group
Gong, Liang	Shanghai Jiao Tong University
Liu, Yang	Nanyang Technological University

ThPO2S-03 Room T8

Environmental Applications (Poster Session)

15:00-16:40 ThPO2S-03.1

Towards Multi-Day Field Deployment Autonomy: A Long-Term Self-Sustainable Micro Aerial Vehicle Robot, pp. 11396-11403. Attachment

Carlson, Stephen	University of Nevada, Reno
Arora, Prateek	University of Nevada, Reno
Karakurt, Tolga	University of Nevada, Reno
Moore, Brandon	University of Nevada Reno
Papachristos, Christos	University of Nevada Reno

15:00-16:40 ThPO2S-03.2

Stable Station Keeping of Autonomous Sailing Robots Via the Switched Systems Approach for Ocean Observation, pp. 11404-11410. Attachment

Qi, Weimin	The Chinese University of Hong Kong, Shenzhen
Sun, Qinbo	The Chinese Univeristy of Hong Kong, Shenzhen
Cao, Yu	Huawei Technology
Qian, Huihuan (Alex)	The Chinese University of Hong Kong, Shenzhen

15:00-16:40 ThPO2S-03.3

CUREE: A Curious Underwater Robot for Ecosystem Exploration, pp. 11411-11417. Attachment

Girdhar, Yogesh	Woods Hole Oceanographic Institution
McGuire, Nathan	Northeastern University
Cai, Levi	Massachusetts Institute of Technology
Jamieson, Stewart	Massachusetts Institute of Technology
McCammon, Seth	Woods Hole Oceanographic Instituttion
San Soucie, John E.	Massachusetts Institute of Technology
Todd, Jessica	MIT
Claus, Brian	Woods Hole Oceanographic Institution
Mooney, T. Aran	Woods Hole Oceanographic Instituttion

15:00-16:40 ThPO2S-03.4

Multi-Robot 3D Gas Distribution Mapping: Coordination, Information Sharing and Environmental Knowledge, pp. 11418-11424.

Ercolani, Chiara	EPFL
Deshmukh, Shashank Mahendra	EPFL
Peeters, Thomas Laurent	EPFL
Martinoli, Alcherio	EPFL

ThPO2S-04 Room T8

Calibration and Identification (Poster Session)

15:00-16:40 ThPO2S-04.1

L2E: Lasers to Events for 6-DoF Extrinsic Calibration of Lidars and Event Cameras, pp. 11425-11431.

Ta, Kevin	ETH Zurich
Bruggemann, David	ETH Zurich
Broedermann, Tim	ETH Zurich
Sakaridis, Christos	ETH Zurich
Van Gool, Luc	ETH Zurich

15:00-16:40 ThPO2S-04.2

Experimental Evaluation of a Method for Improving Experiment Design in Robot Identification, pp. 11432-11438.

Zimmermann, Stefanie Antonia	Linköping University
Enqvist, Martin	Linköping University
Gunnarsson, Svante	Linköping University
Moberg, Stig	ABB AB
Norrlöf, Mikael	Linköping University

15:00-16:40 ThPO2S-04.3

DEdgeNet: Extrinsic Calibration of Camera and LiDAR with Depth-Discontinuous Edges, pp. 11439-11445.

Hu, Yiyang	Beijing Normal University - Hong Kong Baptist University United
Ma, Hui	Beijing Normal University - Hong Kong Baptist University United
JIE, Leiping	Hong Kong Baptist University
Zhang, Hui	United International College, BNU-HKBU

15:00-16:40 ThPO2S-04.4

Joint Camera Intrinsic and LiDAR-Camera Extrinsic Calibration, pp. 11446-11452.

Yan, Guohang	Shanghai AI Laboratory
HE, FEIYU	Shanghai AI Lab
Shi, Chunlei	Southeast University
Wei, Pengjin	Shanghai Jiao Tong University
Cai, Xinyu	Shanghai AI Laboratory
LI, Yikang	Sensetime Ltd

15:00-16:40 ThPO2S-04.5

Online Hand-Eye Calibration with Decoupling by 3D Textureless Object Tracking, pp. 11453-11460.

jin, li	Shandong University
Xie, Kang	Shandong University
Chen, wenxuan	Zhejiang Lab
Cao, Xin	Shandong University
Li, Yuehua	Zhejiang Lab
Li, Jiachen	Zhejiang University
Qian, Jiankai	ShanDong University
Xueying QIN, Xueying	Shandong University

15:00-16:40 ThPO2S-04.6

Using the Deflection Center to Auto-Calibrate the Pan-Tilt-Zoom Camera Linearly, pp. 11461-11467.

Yu, LIU	United International College, BNU-HKBU
Zhang, Hui	United International College, BNU-HKBU

15:00-16:40 ThPO2S-04.7

Coordinate Calibration of a Dual-Arm Robot System by Visual Tool Tracking, pp. 11468-11473.

Hu, Junlei	University of Leeds
Jones, Dominic	University of Leeds
Valdastri, Pietro	University of Leeds

15:00-16:40 ThPO2S-04.8

A Graph-Based Optimization Framework for Hand-Eye Calibration for Multi-Camera Setups, pp. 11474-11480.

Attachment

Evangelista, Daniele	Università Degli Studi Di Padova
Olivastri, Emilio	University of Padua
Allegro, Davide	University of Padova
Menegatti, Emanuele	The University of Padua
Pretto, Alberto	University of Padova

15:00-16:40 ThPO2S-04.9

Fast Extrinsic Calibration for Multiple Inertial Measurement Units in Visual-Inertial System, pp. 11481-11487.

Yu, Youwei	Shanghai Institute of Microsystem and Information Technology
Liu, Yanqing	Shanghai Institute of Microsystem and Information Technology, Ch
Fu, Fengjie	Shanghai Institute of Microsystem Information and Technology, Ch
He, Sihan	Shanghai Institute of Microsystem and Information Technology, C
Zhu, Dongchen	Shanghai Institute of Microsystem and Information Technology, Chi
Wang, Lei	Shanghai Institute of Microsystem and Information Technology, Ch
Zhang, Xiaolin	Shanghai Institute of Microsystem and Information Technology, Chi
Li, Jiamao	Shanghai Institute of Microsystem and Information Technology, Chi

15:00-16:40 ThPO2S-04.10

Completely Rational SO(n) Orthonormalization, pp. 11488-11494.

Jin, Wu	UESTC
Sarabandi, Soheil	IRI (CSIC-UPC)
JIAO, Jianhao	The Hong Kong University of Science and Technology
Huang, Huaiyang	The Hong Kong University of Science and Technology
Xue, Bohuan	HKUST
GENG, RUOYU	Hong Kong University of Science and Technology
Wang, Lujia	The Hong Kong University of Technology
Liu, Ming	Hong Kong University of Science and Technology

15:00-16:40 ThPO2S-04.11

An Active Learning Based Robot Kinematic Calibration Framework Using Gaussian Processes, pp. 11495-11501.

Das, Ersin	Caltech
Burdick, Joel	California Institute of Technology

15:00-16:40 ThPO2S-04.12

Identification of a Generalized Base Inertial Parameter Set of Robotic Manipulators Considering Mounting Configurations, pp. 11502-11508. Attachment

Troebinger, Mario	Technical University of Munich
Naceri, Abdeldjallil	Technical University of Munich
Chen, Xiao	Technical University of Munich
Sadeghian, Hamid	Technical University of Munich
Haddadin, Sami	Technical University of Munich

ThPO2S-05 Room T8

AI-Enabled Robotics (Poster Session)

15:00-16:40 ThPO2S-05.1

Open-Vocabulary, Queryable Scene Representations for Real World Planning, pp. 11509-11522. Attachment

Chen, Boyuan	Massachusetts Institute of Technology
Xia, Fei	Google Inc
Ichter, Brian	Google Brain
Rao, Kanishka	Google
Gopalakrishnan, Keerthana	Google
Ryoo, Michael S.	Google, Stony Brook University
Stone, Austin	Google
Kappler, Daniel	X (Google)

15:00-16:40 ThPO2S-05.2

ProgPrompt: Generating Situated Robot Task Plans Using Large Language Models, pp. 11523-11530. Attachment

Singh, Ishika	University of Southern California
Blukis, Valts	NVIDIA
Mousavian, Arsalan	NVIDIA
Goyal, Ankit	NVIDIA
Xu, Danfei	Stanford Univesity
Tremblay, Jonathan	Nvidia
Fox, Dieter	University of Washington
Thomason, Jesse	USC Viterbi School of Engineering
Garg, Animesh	University of Toronto

15:00-16:40 ThPO2S-05.3

Guiding Reinforcement Learning with Shared Control Templates, pp. 11531-11537. Attachment

Padalkar, Abhishek — German Aerospace Center, Institute of Robotics and Mechatronics,
Quere, Gabriel — DLR
Steinmetz, Franz — German Aerospace Center (DLR)
Raffin, Antonin — DLR
Nieuwenhuisen, Matthias — Fraunhofer Institute for Communication, Information Processing A
Silvério, João — German Aerospace Center
Stulp, Freek — DLR - Deutsches Zentrum Für Luft Und Raumfahrt E.V

15:00-16:40 ThPO2S-05.4

Anticipatory Planning: Improving Long-Lived Planning by Estimating Expected Cost of Future Tasks, pp. 11538-11545.

Dhakal, Roshan — George Mason University
Stein, Gregory — George Mason University
Talukder, Md Ridwan Hossain — George Mason University

15:00-16:40 ThPO2S-05.5

Differentiable Parsing and Visual Grounding of Natural Language Instructions for Object Placement, pp. 11546-11553. Attachment

Zhao, Zirui — National University of Singapore
Lee, Wee Sun — National University of Singapore
Hsu, David — National University of Singapore

15:00-16:40 ThPO2S-05.6

Data-Efficient Learning of Natural Language to Linear Temporal Logic Translators for Robot Task Specification, pp. 11554-11561. Attachment

Pan, Jiayi — University of Michigan
Chou, Glen — University of Michigan
Berenson, Dmitry — University of Michigan

15:00-16:40 ThPO2S-05.7

Improving the Generalizability of Trajectory Prediction Models with Frenét-Based Domain Normalization, pp. 11562-11568.

YE, Luyao — City University of Hong Kong
Zhou, Zikang — City University of Hong Kong
Wang, Jianping — City University of Hong Kong

15:00-16:40 ThPO2S-05.8

An Open Approach to Energy-Efficient Autonomous Mobile Robots, pp. 11569-11575. Attachment

Liu, Liangkai — Wayne State University
Zhong, Ren — Wayne State University
Willcock, Aaron — Wayne State University
Fisher, Nathan — Wayne State University
Shi, Weisong — University of Delaware

15:00-16:40 ThPO2S-05.9

Grounding Language with Visual Affordances Over Unstructured Data, pp. 11576-11582. Attachment

Mees, Oier — University of Freiburg
Borja Diaz, Jessica — University of Freiburg
Burgard, Wolfram — University of Technology Nuremberg

15:00-16:40 ThPO2S-05.10

Gaka-Chu: A Self-Employed Autonomous Robot Artist, pp. 11583-11589.

Castello, Eduardo — MIT
Berman, Ivan — M2M Economy, MerkleBot Inc
Kapitonov, Aleksandr — M2M Economy, Merklebot Inc
Manaenko, Vadim — M2M Economy, Inc. ("Merklebot"), San Francisco, CA, USA
Cherniaev, Makar — M2M Economy, MerkleBot Inc
Tarasov, Pavel — M2M Economy, MerkleBot Inc

15:00-16:40 ThPO2S-05.11

LEARNEST: LEARNing Enhanced Model-Based State ESTimation for Robots Using Knowledge-Based Neural Ordinary Differential Equations, pp. 11590-11596.

Chee, Kong Yao — University of Pennsylvania
Hsieh, M. Ani — University of Pennsylvania

15:00-16:40 ThPO2S-05.12

A Joint Modeling of Vision-Language-Action for Target-Oriented Grasping in Clutter, pp. 11597-11604. Attachment

Xu, Kechun	Zhejiang University
Zhao, Shuqi	Zhejiang University
Zhou, Zhongxiang	Zhejiang University
Li, Zizhang	Zhejiang University
Pi, Huaijin	Zhejiang University
Zhu, Yifeng	The University of Texas at Austin
Wang, Yue	Zhejiang University
Xiong, Rong	Zhejiang University

ThPO2S-06 Room T8

Virtual Reality and Interfaces (Poster Session)

15:00-16:40 ThPO2S-06.1

A Virtual Reality Framework for Fast Dataset Creation Applied to Cloth Manipulation with Automatic Semantic Labelling, pp. 11605-11611. Attachment

Borràs Sol, Júlia	Institut De Robòtica I Informàtica Industrial (CSIC-UPC)
Boix-Granell, Arnau	Institut De Robòtica I Informàtica Industrial (CSIC-UPC)
Foix, Sergi	CSIC-UPC
Torras, Carme	Csic - Upc

15:00-16:40 ThPO2S-06.2

Skill-Based Robot Programming in Mixed Reality with Ad-Hoc Validation Using a Force-Enabled Digital Twin, pp. 11612-11618. Attachment

Krieglstein, Jan	Fraunhofer IPA
Held, Gesche	Fraunhofer IPA
Bálint, Balázs András	Fraunhofer IPA
Nägele, Frank	Fraunhofer IPA
Kraus, Werner	Fraunhofer IPA

15:00-16:40 ThPO2S-06.3

A Virtual Reality Planning Environment for High-Risk, High-Latency Teleoperation, pp. 11619-11625. Attachment

Pryor, Will	Johns Hopkins University
Wang, Liam	Johns Hopkins University
Chatterjee, Arko	Johns Hopkins University
Vagvolgyi, Balazs	Johns Hopkins University
Deguet, Anton	Johns Hopkins University
Leonard, Simon	The Johns Hopkins University
Whitcomb, Louis	The Johns Hopkins University
Kazanzides, Peter	Johns Hopkins University

15:00-16:40 ThPO2S-06.4

Avatarm: An Avatar with Manipulation Capabilities for the Physical Metaverse, pp. 11626-11632. Attachment

Villani, Alberto	University of Siena
Cortigiani, Giovanni	University of Siena
Brogi, Bernardo	University of Siena
D'Aurizio, Nicole	University of Siena, Istituto Italiano Di Tecnologia
Lisini Baldi, Tommaso	University of Siena
Prattichizzo, Domenico	University of Siena

15:00-16:40 ThPO2S-06.5

Interacting with Multi-Robot Systems Via Mixed Reality, pp. 11633-11639. Attachment

Kennel-Maushart, Florian	ETHZ
Poranne, Roi	ETHZ
Coros, Stelian	ETH Zurich

15:00-16:40 ThPO2S-06.6

PointCloudLab: An Environment for 3D Point Cloud Annotation with Adapted Visual Aids and Levels of Immersion, pp. 11640-11646.

Doula, Achref	Technical University of Darmstadt
Güdelhöfer, Tobias	Technische Universität Darmstadt
Matviienko, Andrii	Technical University of Darmstadt
Mühlhäuser, Max	Technical University of Darmstadt

Sanchez Guinea, Alejandro	TU Darmstadt

15:00-16:40 ThPO2S-06.7

Augmented Reality-Assisted Robot Learning Framework for Minimally Invasive Surgery Task, pp. 11647-11653. Attachment

Fu, Junling	Politecnico Di Milano
Palumbo, Maria Chiara	Politecnico Di Milano
Iovene, Elisa	Politecnico Di Milano
liu, Qingsheng	Ocean University of China
Burzo, Ilaria	Politecnico Di Milano
Redaelli, Alberto	Politecnico Di Milano
Ferrigno, Giancarlo	Politecnico Di Milano
De Momi, Elena	Politecnico Di Milano

15:00-16:40 ThPO2S-06.8

Intuitive Robot Integration Via Virtual Reality Workspaces, pp. 11654-11660. Attachment

TRAM, MINH	University of Texas at Arlington
Cloud, Joseph	University of Texas at Arlington, NASA Kennedy Space Center
Beksi, William	University of Texas at Arlington

ThPO2S-07 Room T8

Simulation and Sim2Real (Poster Session)

15:00-16:40 ThPO2S-07.1

Reconstructing Objects In-The-Wild for Realistic Sensor Simulation, pp. 11661-11668. Attachment

Yang, Ze	University of Toronto
Manivasagam, Siva	University of Toronto
Chen, Yun	Uber Atg R&d
Wang, Jingkang	University of Toronto
Hu, Rui	Uber
Urtasun, Raquel	University of Toronto

15:00-16:40 ThPO2S-07.2

Real-Time Event Simulation with Frame-Based Cameras, pp. 11669-11675. Attachment

Ziegler, Andreas	University of Tuebingen
Teigland, Daniel	University of Tübingen
Tebbe, Jonas	University of Tübingen
Gossard, Thomas	University of Tübingen
Zell, Andreas	University of Tübingen

15:00-16:40 ThPO2S-07.3

PCGen: Point Cloud Generator for LiDAR Simulation, pp. 11676-11682. Attachment

Li, Chenqi	University of Toronto
Ren, Yuan	Noah's Ark Lab, Huawei Technologies Canada Inc
Liu, Bingbing	Huawei Technologies

15:00-16:40 ThPO2S-07.4

Differentiable Dynamics Simulation Using Invariant Contact Mapping and Damped Contact Force, pp. 11683-11689. Attachment

Lee, Minji	Seoul National University
Lee, Jeongmin	Seoul National University
Lee, Dongjun	Seoul National University

15:00-16:40 ThPO2S-07.5

M-EMBER: Tackling Long-Horizon Mobile Manipulation Via Factorized Domain Transfer, pp. 11690-11697.

Wu, Bohan	Stanford University
Martín-Martín, Roberto	University of Texas at Austin
Fei-Fei, Li	Stanford University

15:00-16:40 ThPO2S-07.6

Sim2Real^2: Actively Building Explicit Physics Model for Precise Articulated Object Manipulation, pp. 11698-11704. Attachment

Ma, Liqian	Tsinghua University
Meng, Jiaojiao	Beijing University of Posts and Telecommunications
Liu, Shuntao	AVIC Chengdu Aircraft Industrial (Group) Co
Chen, Weihang	Tsinghua University

Xu, Jing	Tsinghua University
Chen, Rui	Tsinghua University

15:00-16:40 ThPO2S-07.7

A Generic Power Wheelchair Lumped Model in the Sagittal Plane: Towards Realistic Self-Motion Perception in a Virtual Reality Simulator, pp. 11705-11711. Attachment

Grzeskowiak, Fabien	INRIA - Rennes
Le Breton, Ronan	UNIV-RENNES - INSA Rennes
Devigne, Louise	IRISA UMR CNRS 6074 - INRIA - INSA Rennes - Rehabilitation Cente
Pasteau, François	INSA Rennes / IRISA Rainbow Team
Babel, Marie	IRISA UMR CNRS 6074 - INRIA - INSA Rennes
Guegan, Sylvain	INSA Rennes

15:00-16:40 ThPO2S-07.8

FRIDA: A Collaborative Robot Painter with a Differentiable, Real2Sim2Real Planning Environment, pp. 11712-11718. Attachment

Schaldenbrand, Peter	Carnegie Mellon University
McCann, James	Carnegie Mellon University
Oh, Jean	Carnegie Mellon University

ThPO2S-08 Room T8

Localization and Learning (Poster Session)

15:00-16:40 ThPO2S-08.1

SAMLoc: Structure-Aware Constraints with Multi-Task Distillation for Long-Term Visual Localization, pp. 11719-11725.

Ning, Jian	Northeastern University
Zhang, Yunzhou	Northeastern University
Zhao, Xinge	Northeastern University
Coleman, Sonya	University of Ulster
Li, Kunmo	Northeastern University
Kerr, Dermot	University of Ulster

15:00-16:40 ThPO2S-08.2

Energy-Based Models for Cross-Modal Localization Using Convolutional Transformers, pp. 11726-11733.

Wu, Alan	Indiana University Bloomington, MIT Lincoln Laboratory
Ryoo, Michael S.	Google, Stony Brook University

15:00-16:40 ThPO2S-08.3

Boosting 3D Point Cloud Registration by Transferring Multi-Modality Knowledge, pp. 11734-11741.

Yuan, Mingzhi	Fudan University
Huang, Xiaoshui	Shanghai AI Laboratory
Fu, Kexue	Fudan University
Li, Zhihao	Fudan University
Wang, Manning	Fudan University

15:00-16:40 ThPO2S-08.4

Local_INN: Implicit Map Representation and Localization with Invertible Neural Networks, pp. 11742-11748. Attachment

Zang, Zirui	University of Pennsylvania
Zheng, Hongrui	University of Pennsylvania
Betz, Johannes	Technical University of Munich
Mangharam, Rahul	University of Pennsylvania

15:00-16:40 ThPO2S-08.5

Combining Scene Coordinate Regression and Absolute Pose Regression for Visual Relocalization, pp. 11749-11755. Attachment

Ruan, Jiahao	Guangdong University of Technology
He, Li	Southern University of Science and Technology
Guan, Yisheng	Guangdong University of Technology
Zhang, Hong	SUSTech

15:00-16:40 ThPO2S-08.6

A Consistency-Based Loss for Deep Odometry through Uncertainty Propagation, pp. 11756-11762.

Damirchi, Hamed	K. N. Toosi University of Technology
Khorrambakht, Rooholla	New York University
Taghirad, Hamid D.	K.N.Toosi University of Technology

Moshiri, Behzad	University of Tehran

15:00-16:40 ThPO2S-08.7

Slice Transformer and Self-Supervised Learning for 6DoF Localization in 3D Point Cloud Maps, pp. 11763-11770. Attachment

Ibrahim, Muhammad	University of Western Australia
Akhtar, Naveed	University of Western Australia
Anwar, Saeed	KFUPM
wise, michael	University of Western Australia
Mian, Ajmal	University of Western Australia

15:00-16:40 ThPO2S-08.8

AANet: Aggregation and Alignment Network with Semi-Hard Positive Sample Mining for Hierarchical Place Recognition, pp. 11771-11778.

Lu, Feng	Tsinghua University
Zhang, Lijun	Chongqing Institute of Green and Intelligent Technology, CAS; Un
Dong, Shuting	Tsinghua University
Chen, Baifan	Central South University
Yuan, Chun	Tsinghua University

ThPO2S-09 Room T8

Agricultural Robotics and Automation II (Poster Session)

15:00-16:40 ThPO2S-09.1

Can Machines Garden? Systematically Comparing the AlphaGarden vs. Professional Horticulturalists, pp. 11779-11785. Attachment

Adebola, Simeon Oluwafunmilore	University of California, Berkeley
Parikh, Rishi	University of California Berkeley
Presten, Mark	University of California, Berkeley
Sharma, Satvik	University of California, Berkeley
Aeron, Shrey	University of California, Berkeley
Rao, Ananth	University of California, Berkeley
Mukherjee, Sandeep	University of California, Berkeley
Qu, Tomson	University of California, Berkeley
Wistrom, Tina	University of California, Berkeley, Rausser College of Natural R
Solowjow, Eugen	Siemens Corporation
Goldberg, Ken	UC Berkeley

15:00-16:40 ThPO2S-09.2

On Domain-Specific Pre-Training for Effective Semantic Perception in Agricultural Robotics, pp. 11786-11793.

Roggiolani, Gianmarco	University of Bonn
Magistri, Federico	University of Bonn
Guadagnino, Tiziano	Sapienza University of Rome
Weyler, Jan	University of Bonn
Grisetti, Giorgio	Sapienza University of Rome
Stachniss, Cyrill	University of Bonn
Behley, Jens	University of Bonn

15:00-16:40 ThPO2S-09.3

Semantic Keypoint Extraction for Scanned Animals Using Multi-Depth-Camera Systems, pp. 11794-11801.

Falque, Raphael	University of Technology Sydney
Vidal-Calleja, Teresa A.	University of Technology Sydney
Alempijevic, Alen	University of Technology Sydney

15:00-16:40 ThPO2S-09.4

Grasp Planning with CNN for Log-Loading Forestry Machine, pp. 11802-11808. Attachment

Ayoub, Elie	McGill University
Levesque, Patrick	FPInnovations
Sharf, Inna	McGill University

15:00-16:40 ThPO2S-09.5

A Hybrid Cable-Driven Robot for Non-Destructive Leafy Plant Monitoring and Mass Estimation Using Structure from Motion, pp. 11809-11816. Attachment

Chen, Gerry	Georgia Institute of Technology
Muriki, Venkata Harsh Suhith	Georgia Institute of Technology

Sharkey, Andrew	Georgia Institute of Technology
Pradalier, Cedric	GeorgiaTech Lorraine
Chen, Yongsheng	Georgia Institute of Technology
Dellaert, Frank	Verdant Robotics/Georgia Tech

15:00-16:40 ThPO2S-09.6

Optimal Multi-Robot Coverage Path Planning for Agricultural Fields Using Motion Dynamics, pp. 11817-11823. Attachment

Choton, Jahid Chowdhury	Kansas State University
Prabhakar, Pavithra	Kansas State University

15:00-16:40 ThPO2S-09.7

CropNav: A Framework for Autonomous Navigation in Real Farms, pp. 11824-11830. Attachment

Valverde Gasparino, Mateus	University of Illinois at Urbana-Champaign
Hisano Higuti, Vitor Akihiro	EarthSense Inc
Sivakumar, Arun Narenthiran	University of Illinois at Urbana Champaign
Baquero Velasquez, Andres Eduardo	Earthsense
Becker, Marcelo	USP
Chowdhary, Girish	University of Illinois at Urbana Champaign

15:00-16:40 ThPO2S-09.8

Tendon-Driven Soft Robotic Gripper with Integrated Ripeness Sensing for Blackberry Harvesting, pp. 11831-11837.

Qiu, Alex	Georgia Institute of Technology
Young, Claire	Georgia Institute of Technology
Gunderman, Anthony	Georgia Institute of Techology
Azizkhani, Milad	Georgia Institute of Technology
Chen, Yue	Georgia Institute of Technology
Hu, Ai-Ping	Georgia Tech Research Institute

ThPO2S-10 Room T8

Space Robotics (Poster Session)

15:00-16:40 ThPO2S-10.1

Motion Planning for a Climbing Robot with Stochastic Grasps, pp. 11838-11844. Attachment

Newdick, Stephanie	Stanford University
Ongole, Nitin	Stanford University
Chen, Tony G.	Stanford University
Schmerling, Edward	Stanford University
Cutkosky, Mark	Stanford University
Pavone, Marco	Stanford University

15:00-16:40 ThPO2S-10.2

RAMP: Reaction-Aware Motion Planning of Multi-Legged Robots for Locomotion in Microgravity, pp. 11845-11851. Attachment

Ribeiro, Warley Francisco Rocha	Tohoku University
Uno, Kentaro	Tohoku University
Imai, Masazumi	Tohoku University
Murase, Koki	Tohoku University
Yoshida, Kazuya	Tohoku University

15:00-16:40 ThPO2S-10.3

Risk-Aware Path Planning Via Probabilistic Fusion of Traversability Prediction for Planetary Rovers on Heterogeneous Terrains, pp. 11852-11858. Attachment

Endo, Masafumi	Keio University
Taniai, Tatsunori	OMRON SINIC X Corporation
Yonetani, Ryo	Omron Sinic X
Ishigami, Genya	Keio University

15:00-16:40 ThPO2S-10.4

A Gravity Compensation Strategy for On-Ground Validation of Orbital Manipulators, pp. 11859-11865. Attachment

De Stefano, Marco	German Aerospace Center (DLR)
Vijayan, Ria	German Aerospace Center (DLR)
Stemmer, Andreas	DLR - German Aerospace Center
Elhardt, Ferdinand	Deutsches Zentrum Für Luft Und Raumfahrt E. V. (DLR)
Ott, Christian	TU Wien

15:00-16:40 ThPO2S-10.5

Towards Bridging the Space Domain Gap for Satellite Pose Estimation Using Event Sensing, pp. 11866-11873. Attachment

Jawaid, Mohsi	The University of Adelaide
Elms, Ethan	University of Adelaide
Latif, Yasir	University of Adelaide
Chin, Tat-Jun	The University of Adelaide

15:00-16:40 ThPO2S-10.6

Hardware-In-The-Loop Simulator with Low-Thrust Actuator for Free-Flying Robot's Omni-Directional Control, pp. 11874-11879. Attachment

Hirano, Daichi	Japan Aerospace Exploration Agency
Mitani, Shinji	JAXA
Nishishita, Taisei	Japan Aerospace Exploration Agency
Saito, Tatsuhiko	Systems Engineering Consultants Co., LTD

15:00-16:40 ThPO2S-10.7

Loitering and Trajectory Tracking of Suspended Payloads in Cable-Driven Balloons Using UGVs, pp. 11880-11886. Attachment

Wanner, Julius	ETH Zurich / California Institute of Technology
Sihite, Eric	California Institute of Technology
Ramezani, Alireza	Northeastern University
Morteza, Gharib	CALTECH

15:00-16:40 ThPO2S-10.8

Design and Validation of a Multi-Arm Relocatable Manipulator for Space Applications, pp. 11887-11893. Attachment

Mingo Hoffman, Enrico	Leonardo S.p.A
Laurenzi, Arturo	Istituto Italiano Di Tecnologia
Ruscelli, Francesco	Istituto Italiano Di Tecnologia
Rossini, Luca	Istituto Italiano Di Tecnologia
Baccelliere, Lorenzo	Istituto Italiano Di Tecnologia
Antonucci, Davide	Istituto Italiano Di Tecnologia
margan, alessio	Istituto Italiano Di Tecnologia
Guria, Paolo	Istituto Italiano Di Tecnologia
Migliorini, Marco	Istituto Italiano Di Tecnologia
Cordasco, Stefano	Istituto Italiano Di Tecnologia (IIT)
Raiola, Gennaro	Leonardo S.p.a
Muratore, Luca	Istituto Italiano Di Tecnologia
Estremera, Joaquín	GMV
Rusconi, Andrea	Selex Galileo
Sangiovanni, Guido	Politecnico Di Milano
Tsagarakis, Nikos	Istituto Italiano Di Tecnologia

ThPO2S-11 Room T8

Modular and Reconfigurable Robots (Poster Session)

15:00-16:40 ThPO2S-11.1

Tentacle-Based Shape Shifting of Metamorphic Robots Using Fast Inverse Kinematics, pp. 11894-11900. Attachment

Mrázek, Jan	Masaryk University
Ondika, Patrick	Masaryk University
Černá, Ivana	Masaryk University
Barnat, Jiri	Masaryk University

15:00-16:40 ThPO2S-11.2

A Non-Planar Assembly of Modular Tetrahedral-Shaped Aerial Robots, pp. 11901-11907. Attachment

Wali, Obadah	KAUST
Shahab, Mohamad T.	KAUST
Feron, Eric	King Abdullah University of Science and Technology

15:00-16:40 ThPO2S-11.3

Learning Modular Robot Visual-Motor Locomotion Policies, pp. 11908-11914. Attachment

Whitman, Julian	Boston Dynamics
Choset, Howie	Carnegie Mellon University

15:00-16:40 ThPO2S-11.4

DisCo: A Multiagent 3D Coordinate System for Lattice Based Modular Self-Reconfigurable Robots, pp. 11915-11921.

Piranda, Benoit — Université De Franche-Comté / FEMTO-ST Institute
Lassabe, Frédéric — FEMTO-ST Institute, Univ. Bourgogne Franche-Comté, CNRS
Bourgeois, Julien — Institut FEMTO-ST

15:00-16:40 ThPO2S-11.5

Finding Optimal Modular Robots for Aerial Tasks, pp. 11922-11928.

Xu, Jiawei — Lehigh University
Saldaña, David — Lehigh University

15:00-16:40 ThPO2S-11.6

Coaxial Modular Aerial System and the Reconfiguration Applications, pp. 11929-11935. Attachment

Baca, José — Texas A&M University-Corpus Christi
Izzat Ullah, Syed — Texas A&M University-Corpus Christi
Rangel, Pablo — Texas A&M Corpus Christi

15:00-16:40 ThPO2S-11.7

ADAPT: A 3 Degrees of Freedom Reconfigurable Force Balanced Parallel Manipulator for Aerial Applications, pp. 11936-11942. Attachment

Suryavanshi, Kartik — TU Delft
Hamaza, Salua — TU Delft
van der Wijk, Volkert — TU Delft
Herder, Just — Delft University of Technology

ThPO2S-12 Room T8
Human-Centered Robotics (Poster Session)

15:00-16:40 ThPO2S-12.1

Rearrange Indoor Scenes for Human-Robot Co-Activity, pp. 11943-11949. Attachment

Wang, Weiqi — University of California, Los Angeles
ZHAO, ZIHANG — Beijing Institute for General Artificial Intelligence
Jiao, Ziyuan — University of California, Los Angeles
Zhu, Yixin — Peking University
Zhu, Song-Chun — UCLA
Liu, Hangxin — Beijing Institute for General Artificial Intelligence (BIGAI)

15:00-16:40 ThPO2S-12.2

Design and Evaluation of an Augmented Reality Head-Mounted Display User Interface for Controlling Legged Manipulators, pp. 11950-11956. Attachment

Chacon Quesada, Rodrigo — Imperial College London
Demiris, Yiannis — Imperial College London

15:00-16:40 ThPO2S-12.3

Exploiting Intrinsic Kinematic Null Space for Supernumerary Robotic Limbs Control, pp. 11957-11963. Attachment

Lisini Baldi, Tommaso — University of Siena
D'Aurizio, Nicole — University of Siena, Istituto Italiano Di Tecnologia
Gurgone, Sergio — University of Messina
Borzelli, Daniele — Fondazione Santa Lucia
d'Avella, Andrea — IRCCS Fondazione Santa Lucia
Prattichizzo, Domenico — University of Siena

15:00-16:40 ThPO2S-12.4

Robot Explanatory Narratives of Collaborative and Adaptive Experiences, pp. 11964-11971.

Olivares-Alarcos, Alberto — Institut De Robòtica I Informàtica Industrial (CSIC-UPC)
Andriella, Antonio — Pal Robotics
Foix, Sergi — CSIC-UPC
Alenyà, Guillem — CSIC-UPC

15:00-16:40 ThPO2S-12.5

Evaluating Immersive Teleoperation Interfaces: Coordinating Robot Radiation Monitoring Tasks in Nuclear Facilities, pp. 11972-11978.

Stedman, Harvey — University College London
Kocer, Basaran Bahadir — Imperial College London
Van Zalk, Nejra — Imperial College London

Kovac, Mirko	Imperial College London
Pawar, Vijay Manohar	University College London

15:00-16:40 ThPO2S-12.6

A Social Referencing Disambiguation Framework for Domestic Service Robots, pp. 11979-11985. Attachment

Fan, Kevin	University of Waterloo
Jouaiti, Melanie	University of Waterloo
Noormohammadi-Asl, Ali	University of Waterloo
Dautenhahn, Kerstin	University of Waterloo
Nehaniv, Chrystopher	University of Waterloo

15:00-16:40 ThPO2S-12.7

Ex(plainable) Machina: How Social-Implicit XAI Affects Complex Human-Robot Teaming Tasks, pp. 11986-11993. Attachment

Matarese, Marco	Italian Institute of Technology
Cocchella, Francesca	Italian Institute of Technology
Rea, Francesco	Istituto Italiano Di Tecnologia
Sciutti, Alessandra	Italian Institute of Technology

15:00-16:40 ThPO2S-12.8

Towards Safe Remote Manipulation: User Command Adjustment Based on Risk Prediction for Dynamic Obstacles, pp. 11994-12000. Attachment

Kang, Mincheul	KAIST
Yoon, Minsung	Korea Advanced Institute of Science and Technology (KAIST)
Yoon, Sung-eui	KAIST

15:00-16:40 ThPO2S-12.9

Computational Methods to Support Prototyping of an Adaptive Robot Joystick Controller for Children with Upper Limb Impairments, pp. 12001-12007.

Jouaiti, Melanie	Imperial College London
Azizi, Negin	University of Waterloo
Dautenhahn, Kerstin	University of Waterloo

15:00-16:40 ThPO2S-12.10

Ethical Assessment of a Hospital Disinfection Robot, pp. 12008-12014.

McGinn, Conor	Trinity College Dublin
Scott, Robert	Akara Robotics
Donnelly, Niamh	Akara Robotics
Cullinan, Michael F.	Trinity College Dublin
Winfield, Alan	University of the West of England, Bristol
Treusch, Patricia	TU Berlin

15:00-16:40 ThPO2S-12.11

Intention Aware Robot Crowd Navigation with Attention-Based Interaction Graph, pp. 12015-12021. Attachment

Liu, Shuijing	University of Illinois at Urbana Champaign
Chang, Peixin	University of Illinois at Urbana Champaign
Huang, Zhe	University of Illinois at Urbana-Champaign
Chakraborty, Neeloy	University of Illinois at Urbana-Champaign
Hong, Kaiwen	University of Illinois at Urbana Champaign
Liang, Weihang	University of Illinois at Urbana-Champaign
McPherson, D. Livingston	University of Illinois
Geng, Junyi	Pennsylvania State University
Driggs-Campbell, Katherine	University of Illinois at Urbana-Champaign

15:00-16:40 ThPO2S-12.12

A Study into Understanding User Requirements to Inform the Design of Customisable Robotic Pain Management Devices, pp. 12022-12030. Attachment

Higgins, Angela	University of Nottingham
Llewellyn, Alison	University of the West of England
Dures, Emma	University of the West of England
Caleb-Solly, Praminda	University of Nottingham

ThPO2S-13 Room T8

Human-Aware Motion Planning (Poster Session)

15:00-16:40 ThPO2S-13.1

Occlusion-Aware Crowd Navigation Using People As Sensors, pp. 12031-12037. Attachment

Mun, Ye-Ji	University of Illinois at Urbana-Champaign
Itkina, Masha	Stanford University
Liu, Shuijing	University of Illinois at Urbana Champaign
Driggs-Campbell, Katherine	University of Illinois at Urbana-Champaign

15:00-16:40 ThPO2S-13.2

Efficiently Approaching Groups of People in a Socially Acceptable Manner in Environments with Obstacles, pp. 12038-12044.

Silva, Aline	UFMG
Almeida, Luciano	Universidade Federal De Minas Gerais
G. Macharet, Douglas	Universidade Federal De Minas Gerais

15:00-16:40 ThPO2S-13.3

SoLo T-DIRL: Socially-Aware Dynamic Local Planner Based on Trajectory-Ranked Deep Inverse Reinforcement Learning, pp. 12045-12051. Attachment

Xu, Yifan	University of Michigan
Chakhachiro, Theodor	American University of Beirut
Kathuria, Tribhi	University of Michigan, Ann Arbor
Ghaffari, Maani	University of Michigan

15:00-16:40 ThPO2S-13.4

Noise and Environmental Justice in Drone Fleet Delivery Paths: A Simulation-Based Audit and Algorithm for Fairer Impact Distribution, pp. 12052-12057.

Zhou, Zewei	King's College London
Brandao, Martim	King's College London

ThPO2S-14 Room T8

Physical Human-Robot Interaction II (Poster Session)

15:00-16:40 ThPO2S-14.1

Actuator Capabilities Aware Limitation for TDPA Passivity Controller Action, pp. 12058-12064.

Porcini, Francesco	PERCRO Laboratory, TeCIP Institute, Sant'Anna School of Advanced
Filippeschi, Alessandro	Scuola Superiore Sant'Anna
Solazzi, Massimiliano	Scuola Superiore Sant'Anna, TeCIP Institute
Avizzano, Carlo Alberto	Scuola Superiore Sant'Anna
Frisoli, Antonio	Scuola Superiore Sant'Anna

15:00-16:40 ThPO2S-14.2

Upper-Limb Geometric MyoPassivity Map for Physical Human-Robot Interaction, pp. 12065-12070.

Zhou, Xingyuan	New York University
Paik, Peter	New York University
Atashzar, S. Farokh	New York University (NYU), US

15:00-16:40 ThPO2S-14.3

Learning and Blending Robot Hugging Behaviors in Time and Space, pp. 12071-12077.

Michael, Drolet	Arizona State University
Campbell, Joseph	Carnegie Mellon University
Ben Amor, Heni	Arizona State University

15:00-16:40 ThPO2S-14.4

Quadruped Guidance Robot for the Visually Impaired: A Comfort-Based Approach, pp. 12078-12084. Attachment

Chen, Yanbo	Harbin Institute of Technology, Shenzhen
Xu, Zhengzhe	Harbin Institute of Technology, Shenzhen
Jian, Zhuozhu	Tsinghua University
Tang, Gengpan	Harbin Institute of Technology, Shenzhen
Yangli, Yunong	Harbin Institute of Technology, Shenzhen
Xiao, Anxing	National University of Singapore
WANG, xueqian	Center for Artificial Intelligence and Robotics, Graduate School
LIANG, bin	Center for Artificial Intelligence and Robotics, Graduate School

15:00-16:40 ThPO2S-14.5

Online Learning and Suppression of Vibration in Collaborative Robots with Power Tools, pp. 12085-12091. Attachment

Solak, Gokhan — Italian Institute of Technology, Genoa
Ajoudani, Arash — Istituto Italiano Di Tecnologia

15:00-16:40 ThPO2S-14.6

Towards Human-Robot Collaboration with Parallel Robots by Kinetostatic Analysis, Impedance Control and Contact Detection, pp. 12092-12098. Attachment

Mohammad, Aran — Leibniz University Hannover
Schappler, Moritz — Institute of Mechatronic Systems, Leibniz Universitaet Hannover
Ortmaier, Tobias — Leibniz University Hanover

15:00-16:40 ThPO2S-14.7

Proprioceptive Sensor-Based Simultaneous Multi-Contact Point Localization and Force Identification for Robotic Arms, pp. 12099-12105. Attachment

Han, SeoWook — Korean Advanced Institute of Science and Technology
Kim, Min Jun — KAIST

ThPO2S-15 Room T8

Legged Robots (Poster Session)

15:00-16:40 ThPO2S-15.1

Nonlinear Model Predictive Control of a 3D Hopping Robot: Leveraging Lie Group Integrators for Dynamically Stable Behaviors, pp. 12106-12112. Attachment

Csomay-Shanklin, Noel — California Institute of Technology
Dorobantu, Victor — California Institute of Technology
Ames, Aaron — California Institute of Technology

15:00-16:40 ThPO2S-15.2

Anchoring Sagittal Plane Templates in a Spatial Quadruped, pp. 12113-12119. Attachment

Greco, Timothy — University of Pennsylvania
Koditschek, Daniel — University of Pennsylvania

15:00-16:40 ThPO2S-15.3

External Force Estimation of Legged Robots Via a Factor Graph Framework with a Disturbance Observer, pp. 12120-12126. Attachment

Kang, Jeonguk — KAIST
Kim, Hyun-Bin — KAIST
Choi, Keun Ha — Korea Advanced Institute of Science and Technology
Kim, Kyung-Soo — KAIST(Korea Advanced Institute of Science and Technology)

15:00-16:40 ThPO2S-15.4

Morphological Characteristics That Enable Stable and Efficient Walking in Hexapod Robot Driven by Reflex-Based Intra-Limb Coordination, pp. 12127-12133. Attachment

Sato, Wataru — Tohoku University
Nishii, Jun — Yamaguchi University
Hayashibe, Mitsuhiro — Tohoku University
Owaki, Dai — Tohoku University

15:00-16:40 ThPO2S-15.5

Efficient Learning of Locomotion Skills through the Discovery of Diverse Environmental Trajectory Generator Priors, pp. 12134-12141. Attachment

Surana, Shikha — Imperial College London
Lim, Bryan Wei Tern — Imperial College London
Cully, Antoine — Imperial College London

15:00-16:40 ThPO2S-15.6

Robust Locomotion on Legged Robots through Planning on Motion Primitive Graphs, pp. 12142-12148. Attachment

Ubellacker, Wyatt — California Institute of Technology
Ames, Aaron — California Institute of Technology

15:00-16:40 ThPO2S-15.7

Learning Arm-Assisted Fall Damage Reduction and Recovery for Legged Mobile Manipulators, pp. 12149-12155. Attachment

MA, YUNTAO — ETH Zürich
Farshidian, Farbod — ETH Zurich
Hutter, Marco — ETH Zurich

15:00-16:40 ThPO2S-15.8

Hierarchical Adaptive Loco-Manipulation Control for Quadruped Robots, pp. 12156-12162. Attachment

Sombolestan, Mohsen — Ph.D. Student, AME Dept., University of Southern California
Nguyen, Quan — University of Southern California

15:00-16:40 ThPO2S-15.9

Probabilistic Contact State Estimation for Legged Robots Using Inertial Information, pp. 12163-12169. Attachment

Maravgakis, Michael — Institute of Computer Science, Foundation for Research and Techn
Argiropoulos, Despina-Ekaterini — (a) Institute of Computer Science Foundation for Research and T
Piperakis, Stylianos — Agility Robotics Inc,
Trahanias, Panos — Foundation for Research and Technology – Hellas (FORTH)

15:00-16:40 ThPO2S-15.10

Learning an Efficient Terrain Representation for Haptic Localization of a Legged Robot, pp. 12170-12176.

Sójka, Damian — Poznan University of Technology
Nowicki, Michal Ryszard — Poznan University of Technology
Skrzypczynski, Piotr — Poznan University of Technology

15:00-16:40 ThPO2S-15.11

Event-Based Agile Object Catching with a Quadrupedal Robot, pp. 12177-12183. Attachment

Forrai, Benedek — ETH Zürich
Miki, Takahiro — ETH Zurich
Gehrig, Daniel — University of Zurich / ETH
Hutter, Marco — ETH Zurich
Scaramuzza, Davide — University of Zurich

15:00-16:40 ThPO2S-15.12

Evaluation of Legged Robot Landing Capability under Aggressive Linear and Angular Velocities, pp. 12184-12190.

Ye, Keran — University of California, Riverside
Karydis, Konstantinos — University of California, Riverside

ThPO2S-16 Room T8
Humanoids and Bipedal Locomotion (Poster Session)

15:00-16:40 ThPO2S-16.1

Bipedal Robot Walking Control Using Human Whole-Body Dynamic Telelocomotion, pp. 12191-12197. Attachment

Colin, Guillermo — University of Illinois at Urbana-Champaign
Sim, Youngwoo — University of Illinois at Urbana-Champaign
Ramos, Joao — University of Illinois at Urbana-Champaign

15:00-16:40 ThPO2S-16.2

Foot Stepping Algorithm of Humanoids with Double Support Time Adjustment Based on Capture Point Control, pp. 12198-12204. Attachment

Kim, Myeong-Ju — Seoul National University
Lim, Daegyu — Seoul National University
Park, Gyeongjae — Seoul National University
Park, Jaeheung — Seoul National University

15:00-16:40 ThPO2S-16.3

Optimizing Bipedal Locomotion for the 100m Dash with Comparison to Human Running, pp. 12205-12211. Attachment

Crowley, Devin — Oregon State University
Dao, Jeremy — Oregon State University
Duan, Helei — Oregon State University
Green, Kevin — Oregon State University
Hurst, Jonathan — Oregon State University
Fern, Alan — Oregon State University

15:00-16:40 ThPO2S-16.4

Effect of the Dynamics of a Horizontally Wobbling Mass on Biped Walking Performance, pp. 12212-12217. Attachment

Kamimura, Tomoya — Nagoya Institute of Technology
Sano, Akihito — Nagoya Institute of Technology

15:00-16:40 ThPO2S-16.5

Robust Bipedal Locomotion: Leveraging Saltation Matrices for Gait Optimization, pp. 12218-12225. Attachment

Tucker, Maegan — California Institute of Technology
Csomay-Shanklin, Noel — California Institute of Technology

Ames, Aaron	Caltech

15:00-16:40 ThPO2S-16.6

Topology-Based MPC for Automatic Footstep Placement and Contact Surface Selection, pp. 12226-12232.

Shim, Jaehyun	University of Edinburgh
Mastalli, Carlos	Heriot-Watt University
Corbères, Thomas	LAAS-CNRS
Tonneau, Steve	The University of Edinburgh
Ivan, Vladimir	Touchlab Limited
Vijayakumar, Sethu	University of Edinburgh

15:00-16:40 ThPO2S-16.7

Online Non-Linear Centroidal MPC for Humanoid Robots Payload Carrying with Contact-Stable Force Parametrization, pp. 12233-12239. Attachment

Elobaid, Mohamed	Fondazione Istituto Italiano Di Tecnologia
Romualdi, Giulio	Fondazione Istituto Italiano Di Tecnologia
Nava, Gabriele	Istituto Italiano Di Tecnologia
Rapetti, Lorenzo	IIT
Mohamed, Hosameldin Awadalla Omer	Italian Institute of Technology
Pucci, Daniele	Italian Institute of Technology

15:00-16:40 ThPO2S-16.8

Holistic View of Inverse Optimal Control by Introducing Projections on Singularity Curves, pp. 12240-12246.

Colombel, Jessica	Université De Lorraine, CNRS, Inria, LORIA, F-54000 Nancy, Franc
Daney, David	Inria Centre at the University of Bordeaux, F-33405 Talence, Fra
Charpillet, Francois	Université De Lorraine, CNRS, Inria, LORIA, F-54000 Nancy, Franc

ThPO2S-17 Room T8

Underactuated Systems (Poster Session)

15:00-16:40 ThPO2S-17.1

The Role of Symmetry in Constructing Geometric Flat Outputs for Free-Flying Robotic Systems, pp. 12247-12253. Attachment

Welde, Jake	University of Pennsylvania
Kvalheim, Matthew	University of Michigan
Kumar, Vijay	University of Pennsylvania

15:00-16:40 ThPO2S-17.2

On the Learned Balance Manifold of Underactuated Balance Robots, pp. 12254-12260.

Han, Feng	Rutgers University
Yi, Jingang	Rutgers University

15:00-16:40 ThPO2S-17.3

Controlling an Underactuated AUV As an Inverted Pendulum Using Nonlinear Model Predictive Control and Behavior Trees, pp. 12261-12267. Attachment

Bhat, Sriharsha	KTH Royal Institute of Technology
Stenius, Ivan	KTH

15:00-16:40 ThPO2S-17.4

Towards Exact Interaction Force Control for Underactuated Quadrupedal Systems with Orthogonal Projection and Quadratic Programming, pp. 12268-12274. Attachment

Wang, Shengzhi	The Chinese University of Hong Kong
CHU, Xiangyu	The Chinese University of Hong Kong
Au, K. W. Samuel	The Chinese University of Hong Kong

ThPO2S-18 Room T8

Industrial Robotics and Automation (Poster Session)

15:00-16:40 ThPO2S-18.1

Reinforcement Learning for Laser Welding Speed Control Minimizing Bead Width Error, pp. 12275-12281.

Kaneko, Toshimitsu	Toshiba Corporation
Minamoto, Gaku	TOSHIBA/RIKEN
Hirose, Yusuke	Toshiba Corporation
Sakai, Tetsuo	Toshiba Corporation

15:00-16:40 ThPO2S-18.2

Real-Time Model Predictive Control for Industrial Manipulators with Singularity-Tolerant Hierarchical Task Control, pp. 12282-12288. Attachment

Lee, Jaemin	California Institute of Technology
Seo, Mingyo	The University of Texas at Austin
Bylard, Andrew	Stanford University
Sun, Zhouwen	Dexterity Inc
Sentis, Luis	The University of Texas at Austin

15:00-16:40 ThPO2S-18.3

High-Speed High-Accuracy Spatial Curve Tracking Using Motion Primitives in Industrial Robots, pp. 12289-12295. Attachment

He, Honglu	Rensselaer Polytechnic Institute
Lu, Chen-Lung	Rensselaer Polytechnic Institute
Wen, Yunshi	Rensselaer Polytechnic Institute
Saunders, Glenn	Rensselaer Polytechnic Institute
Yang, Pinghai	GE Research
Schoonover, Jeffrey	GE Research
Wason, John	Wason Technology, LLC
Julius, Agung	Rensselaer Polytechnic Institute
Wen, John	Rensselaer Polytechnic Institute

15:00-16:40 ThPO2S-18.4

A New Robust Control Framework for Robot Manipulators without Velocity Measurements: A Modified Dual-Loop Control Scheme, pp. 12296-12301.

Park, Hae Yeon	POSTECH
Kim, Jung Hoon	Pohang University of Science and Technology

15:00-16:40 ThPO2S-18.5

Optimal Workpiece Placement Based on Robot Reach, Manipulability and Joint Torques, pp. 12302-12308.

Balci, Baris	Queensland University of Technology
Donovan, Jared	Queensland University of Technology
Roberts, Jonathan	Queensland University of Technology
Corke, Peter	Queensland University of Technology

15:00-16:40 ThPO2S-18.6

Experimental Workflow Implementation for Automatic Detection of Filament Deviation in 3D Robotic Printing Process, pp. 12309-12315. Attachment

YANG, Xinrui	University of Lille
Lakhal, Othman	University Lille, CRIStAL, CNRS-UMR 9189
BELAROUCI, Abdelkader	University of Lille - CRIStAL Lab
Youcef-Toumi, Kamal	Massachusetts Institute of Technology
Merzouki, Rochdi	CRIStAL, CNRS UMR 9189, University of Lille1

15:00-16:40 ThPO2S-18.7

Neuro-Adaptive Dynamic Control with Edge-Computing for Collaborative Digital Twin of an Industrial Robotic Manipulator, pp. 12316-12323. Attachment

Das, Sumit Kumar	University of Louisville
Helal Uddin, Mohammad	University of Louisville
Popa, Dan	University of Louisville
Baidya, Sabur	University of Louisville

15:00-16:40 ThPO2S-18.8

Contact-Based Pose Estimation of Workpieces for Robotic Setups, pp. 12324-12330. Attachment

Kim, Yitaek	University of Southern Denmark
Kramberger, Aljaz	University of Southern Denmark
Buch, Anders Glent	University of Southern Denmark
Sloth, Christoffer	University of Southern Denmark

ThPO2S-19 Room T8

Additive Manufacturing (Poster Session)

15:00-16:40 ThPO2S-19.1

Local Layer Splitting: An Additive Manufacturing Method to Define the Mechanical Properties of Soft Pneumatic Actuators During Fabrication, pp. 12331-12337. Attachment

Parilusyan, Brice	Léonard De Vinci Pôle Universitaire , Research Center
Teyssier, Marc	Saarland University, Saarland Informatics Campus
Guillaume, Zacharie	De Vinci Innovation Center, ESPCI, ENAC
Charlet, Thibault	École Supérieur D'ingénierie Léonard De Vinci
Duhart, Clément	Léonard De Vinci Pôle Universitaire, Research Center, 92 916 Par
Serrano, Marcos	IRIT - University of Toulouse

15:00-16:40 ThPO2S-19.2

Support Generation for Robot-Assisted 3D Printing with Curved Layers, pp. 12338-12344. Attachment

Zhang, Tianyu	The University of Manchester
Huang, Yuming	University of Manchester
Kukulski, Piotr Tomasz	University of Manchester
Dutta, Neelotpal	University of Manchester
Fang, Guoxin	The University of Manchester
Wang, Charlie C.L.	The University of Manchester

15:00-16:40 ThPO2S-19.3

Learning Deposition Policies for Fused Multi-Material 3D Printing, pp. 12345-12352. Attachment

Liao, Kang	Beijing Jiaotong University
Tricard, Thibault	INRIA
Piovarci, Michal	Institute of Science and Technology Austria
Seidel, Hans-Peter	Max Planck Institute for Informatics
Babaei, Vahid	Max Planck Institute for Informatics

ThPO2S-20 Room T8

Logistics (Poster Session)

15:00-16:40 ThPO2S-20.1

Transparent Objects: A Corner Case in Stereo Matching, pp. 12353-12359.

Wu, Zhiyuan	Tongji University
Su, Shuai	Tongji University, China
Chen, Qijun	Tongji University
Fan, Rui	Tongji University

15:00-16:40 ThPO2S-20.2

D2NT: A High-Performing Depth-To-Normal Translator, pp. 12360-12366.

Feng, Yi	Tongji University
Xue, Bohuan	HKUST
Liu, Ming	Hong Kong University of Science and Technology
Chen, Qijun	Tongji University
Fan, Rui	Tongji University

15:00-16:40 ThPO2S-20.3

Security-Aware Reinforcement Learning under Linear Temporal Logic Specifications, pp. 12367-12373.

Cui, Bohan	Shanghai Jiao Tong University
Zhu, Keyi	Shanghai Jiao Tong University
Li, Shaoyuan	Shanghai Jiao Tong University
Yin, Xiang	Shanghai Jiao Tong Univ

15:00-16:40 ThPO2S-20.4

Global Localization in Repetitive and Ambiguous Environments, pp. 12374-12380.

Wu, Zhenyu	Nanyang Technological University
Wang, Wei	Nanyang Technological University
Zhang, Jun	Nanyang Technological University
Lyu, Qiyang	Nanyang Technological University
Zhang, Haoyuan	Nanyang Technological University
Wang, Danwei	Nanyang Technological University

ThPO2S-21 Room T8

Assembly (Poster Session)

15:00-16:40 ThPO2S-21.1

Grey-Box Learning of Adaptive Manipulation Primitives for Robotic Assembly, pp. 12381-12387. Attachment

Braun, Marco — Bielefeld University

Wrede, Sebastian — Bielefeld University

15:00-16:40 ThPO2S-21.2

Speeding up Assembly Sequence Planning through Learning Removability Probabilities, pp. 12388-12394. Attachment

Cebulla, Alexander — Karlsruhe Institute of Technology (KIT)

Asfour, Tamim — Karlsruhe Institute of Technology (KIT)

Kroeger, Torsten — Karlsruher Institut Für Technologie (KIT)

15:00-16:40 ThPO2S-21.3

Planning Assembly Sequence with Graph Transformer, pp. 12395-12401.

Ma, Lin — Southwestern University of Finance and Ecomonics

Gong, Jiangtao — Tsinghua University

Xu, Hao — Qianzhi Technology

CHEN, Hao — Qianzhi Technology Inc

Zhao, Hao — Tsinghua University

Huang, Wenbing — Renmin University of China

Zhou, Guyue — Tsinghua University

15:00-16:40 ThPO2S-21.4

CFVS: Coarse-To-Fine Visual Servoing for 6-DoF Object-Agnostic Peg-In-Hole Assembly, pp. 12402-12408. Attachment

Lu, Bo-Siang — National Taiwan University

Chen, Tung-I — National Taiwan University

Lee, Hsin-Ying — National Taiwan University

Hsu, Winston — National Taiwan University

ThPO2S-22 Room T8

Formal Methods (Poster Session)

15:00-16:40 ThPO2S-22.1

Probabilistic Rare-Event Verification for Temporal Logic Robot Tasks, pp. 12409-12415. Attachment

Scher, Guy — Cornell University

Sadraddini, Sadra — MIT

Kress-Gazit, Hadas — Cornell University

15:00-16:40 ThPO2S-22.2

Safe Model-Based Control from Signal Temporal Logic Specifications Using Recurrent Neural Networks, pp. 12416-12422. Attachment

Liu, Wenliang — Boston University

Duintjer Tebbens Nishioka, Mirai — Commonwealth School

Belta, Calin — Boston University

15:00-16:40 ThPO2S-22.3

Temporal Logic Swarm Control with Splitting and Merging, pp. 12423-12429.

Cardona, Gustavo A. — Lehigh University

Leahy, Kevin — MIT Lincoln Laboratory

Vasile, Cristian Ioan — Lehigh University

15:00-16:40 ThPO2S-22.4

Synthesizing Reactive Test Environments for Autonomous Systems: Testing Reach-Avoid Specifications with Multi-Commodity Flows, pp. 12430-12436. Attachment

Badithela, Apurva — Caltech

Graebener, Josefine — Caltech

Ubellacker, Wyatt — California Institute of Technology

Mazumdar, Eric — Caltech

Ames, Aaron — Caltech

Murray, Richard — California Institute of Technology

ThPO2S-23 Room T8

Haptics and Haptic Interfaces (Poster Session)

15:00-16:40 ThPO2S-23.1

HaPPArray: Haptic Pneumatic Pouch Array for Feedback in Hand-Held Robots, pp. 12437-12442. Attachment

Luo, Xiaolei	University of California San Diego
Lin, Jui-Te	University of California, San Diego
Morimoto, Tania K.	University of California San Diego

15:00-16:40 ThPO2S-23.2

Vis2Hap: Vision-Based Haptic Rendering by Cross-Modal Generation, pp. 12443-12449.

Cao, Guanqun	University of Liverpool
Jiang, Jiaqi	King's College London
Mao, Ningtao	School of Design, University of Leeds
Bollegala, Danushka	University of Liverpool
Li, Min	Xi'an Jiaotong University
LUO, SHAN	King's College London

15:00-16:40 ThPO2S-23.3

A Plug-In Weight-Shifting Module That Adds Emotional Expressiveness to Inanimate Objects in Handheld Interaction, pp. 12450-12456. Attachment

Noguchi, Yohei	University of Tsukuba
Guo, Yijie	University of Tsukuba
Tanaka, Fumihide	University of Tsukuba

15:00-16:40 ThPO2S-23.4

Model-Mediated Teleoperation for Remote Haptic Texture Sharing: Initial Study of Online Texture Modeling and Rendering, pp. 12457-12463. Attachment

Awan, Mudassir Ibrahim	Kyung Hee University
Ogay, Tatyana	Kyung Hee University
Hassan, Waseem	Kyung Hee University
Ko, Dongbeom	ETRI (Electronics and Telecommunications Research Institute)
Kang, Sungjoo	Electronics and Telecommunications Research Institute (ETRI)
Jeon, Seokhee	Kyung Hee University

15:00-16:40 ThPO2S-23.5

Using a Collaborative Robotic Arm As Human-Machine Interface: System Setup and Application to Pose Control Tasks, pp. 12464-12470. Attachment

Braun, Christian	Karlsruhe Institute of Technology (KIT)
Haide, Ludwig	Karlsruhe Institute of Technology
Fischer, Lars	Karlsruhe Institute of Technology
Kille, Sean	Karlsruhe Institute of Technology
Varga, Balint	Karlsruhe Institute of Technology (KIT), Campus South
Rothfuß, Simon	Karlsruhe Institute of Technology (KIT)
Hohmann, Sören	Institute of Control Systems, Karlsruhe Institute of Technology

15:00-16:40 ThPO2S-23.6

Disturbance Observer Based Contact Detection for Motorized Hydraulic Actuators, pp. 12471-12477. Attachment

Wang, Chunpeng	Northeastern University
Whitney, John Peter	Northeastern University

15:00-16:40 ThPO2S-23.7

A Framework for Active Haptic Guidance Using Robotic Haptic Proxies, pp. 12478-12485.

Williams, Niall L.	University of Maryland, College Park
Rewkowski, Nicholas	UMD College Park
Li, Jiasheng	University of Maryland, College Park
Lin, Ming C.	University of Maryland at College Park

15:00-16:40 ThPO2S-23.8

An Optimized Portable Cable-Driven Haptic Robot Enables Free Motion and Hard Contact, pp. 12486-12492. Attachment

Zhang, Changqi	Southern University of Science and Technology
Wang, Cui	Southern University of Science and Technology
Yang, Qingkai	Southern University of Science and Technology
Zhang, Mingming	Southern University of Science and Technology

15:00-16:40 ThPO2S-23.9

Enable Natural Tactile Interaction for Robot Dog Based on Large-Format Distributed Flexible Pressure Sensors, pp. 12493-12499. Attachment

Zhan, Lishuang — Xiamen University
Cao, Yancheng — Institute for AI Industry Research (AIR), Tsinghua University, C
Chen, QiTai — Guangzhou Maritime University
Guo, Haole — Tsinghua University
Gao, Jiasi — Tsinghua University
Luo, Yiyue — Massachusetts Institute of Technology
Guo, Shihui — Xiamen University
Zhou, Guyue — Tsinghua University
Gong, Jiangtao — Tsinghua University

15:00-16:40 ThPO2S-23.10

Multi-Modal Interactive Perception in Human Control of Complex Objects, pp. 12500-12506. Attachment

Nayeem, Rashida — Northeastern University
Bazzi, Salah — Northeastern University
sadeghi, mohsen — Northeastern University
Sharif Razavian, Reza — Northeastern University
Sternad, Dagmar — Northeastern University

15:00-16:40 ThPO2S-23.11

Soft Sensing Skins for Arbitrary Objects: An Automatic Framework, pp. 12507-12513. Attachment

Groß, Sonja — Technical University of Munich
Hidalgo Carvajal, Diego Xavier — Technical University of Munich
Breimann, Silija — Technical University Munich
Stein, Nicolai — Technische Universität München
Ganguly, Amartya — Munich Institute of Robotics and Machine Intelligence (MIRMI)
Naceri, Abdeldjallil — TUM
Haddadin, Sami — Technical University of Munich

15:00-16:40 ThPO2S-23.12

Error-Domain Conservativity Control to Transparently Increase the Stability Range of Time-Discretized Controllers, pp. 12514-12520. Attachment

Rothammer, Michael — TUM, Munich
Ryu, Jee-Hwan — Korea Advanced Institute of Science and Technology

ThPO2S-24 Room T8

Teleoperation (Poster Session)

15:00-16:40 ThPO2S-24.1

A Digital Twin for Teleoperation of Vehicles in Urban Environments, pp. 12521-12527. Attachment

Kremer, Philipp — Technische Universität Berlin
Nourani-Vatani, Navid — Imperium Drive Ltd
Park, Sangyoung — Technical University of Berlin

15:00-16:40 ThPO2S-24.2

WE-Filter: Adaptive Acceptance Criteria for Filter-Based Shared Autonomy, pp. 12528-12534. Attachment

Bowman, Michael — Colorado School of Mines
Zhang, Xiaoli — Colorado School of Mines

15:00-16:40 ThPO2S-24.3

Monocular Reactive Collision Avoidance for MAV Teleoperation with Deep Reinforcement Learning, pp. 12535-12541. Attachment

Brilli, Raffaele — University of Perugia
Legittimo, Marco — University of Perugia
Crocetti, Francesco — University of Perugia
Leomanni, Mirko — University of Perugia
Fravolini, Mario Luca — University of Perugia
Costante, Gabriele — University of Perugia

15:00-16:40 ThPO2S-24.4

HAT: Head-Worn Assistive Teleoperation of Mobile Manipulators, pp. 12542-12548. Attachment

Padmanabha, Akhil — Carnegie Mellon University
Wang, Qin — Carnegie Mellon University

Han, Daphne	Carnegie Mellon University
Diyora, Jashkumar Rasikbhai	Carnegie Mellon University
Kacker, Kriti	Carnegie Mellon University
Khaild, Hamza	Carnegie Mellon University
Chen, Liang-Jung	Carnegie Mellon University
Majidi, Carmel	Carnegie Mellon University
Erickson, Zackory	Carnegie Mellon University

ThPO2S-25 Room T8

Force and Tactile Sensing II (Poster Session)

15:00-16:40 ThPO2S-25.1

DenseTact 2.0: Optical Tactile Sensor for Shape and Force Reconstruction, pp. 12549-12555. Attachment

Do, Won Kyung	Stanford University
Jurewicz, Bianca	Stanford University
Kennedy, Monroe	Stanford University

15:00-16:40 ThPO2S-25.2

SonicFinger: Pre-Touch and Contact Detection Tactile Sensorfor Reactive Pregrasping, pp. 12556-12562. Attachment

Rupavatharam, Siddharth	Samsung AI Center
Escobedo, Caleb	University of Colorado - Boulder
Lee, Daewon	Samsung AI Center New York
Prepscius, Colin	Samsung
Jackel, Lawrence	North-C Technologies Inc
Howard, Richard	Samsung AI Center
Isler, Volkan	University of Minnesota

15:00-16:40 ThPO2S-25.3

Simultaneous Tactile Estimation and Control of Extrinsic Contact, pp. 12563-12569. Attachment

Kim, Sangwoon	Massachusetts Institute of Technology
Jha, Devesh	Mitsubishi Electric Research Laboratories
Romeres, Diego	Mitsubishi Electric Research Laboratories
Patre, Parag	University of Florida
Rodriguez, Alberto	Massachusetts Institute of Technology

15:00-16:40 ThPO2S-25.4

A Miniaturised Camera-Based Multi-Modal Tactile Sensor, pp. 12570-12575.

Althoefer, Kaspar	Queen Mary University of London
Ling, Yonggen	Tencent
Li, Wanlin	Beijing Institute for General Artificial Intelligence (BIGAI)
Qian, Xinyuan	University of Science and Technology Beijing
Lee, Wang Wei	Tencent
Qi, Peng	Tongji University

15:00-16:40 ThPO2S-25.5

Neural Contact Fields: Tracking Extrinsic Contact with Tactile Sensing, pp. 12576-12582. Attachment

Higuera, Carolina	University of Washington
Dong, Siyuan	MIT
Boots, Byron	University of Washington
Mukadam, Mustafa	Facebook AI Research

15:00-16:40 ThPO2S-25.6

Estimating Tactile Models of Heterogeneous Deformable Objects in Real Time, pp. 12583-12589. Attachment

Yao, Shaoxiong	University of Illinois Urbana-Champaign
Hauser, Kris	University of Illinois at Urbana-Champaign

15:00-16:40 ThPO2S-25.7

Tactile Identification of Object Shapes Via In-Hand Manipulation with a Minimalistic Barometric Tactile Sensor Array, pp. 12590-12596. Attachment

Zhou, Xin	Imperial College London
Spiers, Adam	Imperial College London

15:00-16:40 ThPO2S-25.8

Tactile Tool Manipulation, pp. 12597-12603. Attachment

Shirai, Yuki	University of California, Los Angeles

Jha, Devesh	Mitsubishi Electric Research Laboratories
Raghunathan, Arvind	Mitsubishi Electric Research Laboratories
Hong, Dennis	UCLA

ThPO2S-26 Room T8

Rehabilitation and Augmentation II (Poster Session)

15:00-16:40 ThPO2S-26.1

Preliminary Evaluation of a Wearable Thruster for Arresting Backwards Falls, pp. 12604-12609. Attachment

Finn-Henry, Michael	Vanderbilt
Brenes, Jose Leonardo	Vanderbilt
Baimyshev, Almaskhan	Vanderbilt University
Goldfarb, Michael	Vanderbilt University

15:00-16:40 ThPO2S-26.2

A Method for Selecting Stumble Recovery Response in a Knee Exoskeleton, pp. 12610-12616. Attachment

Eveld, Maura	Vanderbilt University
King, Shane	Vanderbilt University
Zelik, Karl	Vanderbilt University
Goldfarb, Michael	Vanderbilt University

15:00-16:40 ThPO2S-26.3

A Dual-Arm Participated Human-Robot Collaboration Method for Upper Limb Rehabilitation of Hemiplegic Patients, pp. 12617-12623. Attachment

Chen, Lufeng	University of Electronic Science and Technology of China
Qiu, Jing	University of Electronic Science and Technology of China
Zou, Xuan	University of Electronic Science and Technology of China
Cheng, Hong	University of Electronic Science and Technology

15:00-16:40 ThPO2S-26.4

A Force-Sensitive Exoskeleton for Teleoperation: An Application in Elderly Care Robotics, pp. 12624-12630. Attachment

Toedtheide, Alexander	Technical University of Munich, Chair of Robotics and Systems In
Chen, Xiao	Technical University of Munich
Sadeghian, Hamid	Technical University of Munich
Naceri, Abdeldjallil	Technical University of Munich
Haddadin, Sami	Technical University of Munich

15:00-16:40 ThPO2S-26.5

A Model-Based Analysis of the Effect of Repeated Unilateral Low Stiffness Perturbations on Human Gait: Toward Robot-Assisted Rehabilitation, pp. 12631-12637. Attachment

Chambers, Vaughn	University of Delaware
Artemiadis, Panagiotis	University of Delaware

15:00-16:40 ThPO2S-26.6

Shared Control of Assistive Robots through User-Intent Prediction and Hyperdimensional Recall of Reactive Behavior, pp. 12638-12644. Attachment

Menon, Alisha	University of California: Berkeley
Olascoaga, Laura I. Galindez	University of California: Berkeley
Balanaga, Vamshi	University of California: Berkeley
Natarajan, Anirudh	University of California: Berkeley
Ruffing, Jennifer	University of California: Berkeley
Ardalan, Ryan	University of California: Berkeley
Rabaey, Jan M.	University of California: Berkeley

15:00-16:40 ThPO2S-26.7

Towards Predicting Fine Finger Motions from Ultrasound Images Via Kinematic Representation, pp. 12645-12651. Attachment

Zadok, Dean	Technion
Salzman, Oren	Technion
Wolf, Alon	Technion
Bronstein, Alexander	TECHNION

15:00-16:40 ThPO2S-26.8

Enabling Safe Walking Rehabilitation on the Exoskeleton Atalante: Experimental Results, pp. 12652-12658. Attachment

BRUNET, Maxime	MINES Paristech
PETRIAUX, Marine	Wandercraft

Di Meglio, Florent	MINES ParisTech, PSL Research University
PETIT, Nicolas	MINES ParisTech, PSL

15:00-16:40 ThPO2S-26.9

A Probabilistic Model of Activity Recognition with Loose Clothing, pp. 12659-12664. Attachment

Shen, Tianchen	King's College London
Di Giulio, Irene	King's College London
Howard, Matthew	King's College London

15:00-16:40 ThPO2S-26.10

Real-Time Estimation of Walking Speed and Stride Length Using an IMU Embedded in a Robotic Hip Exoskeleton, pp. 12665-12671.

Seo, Keehong	Samsung Research/Samsung Electronics Co., Ltd

15:00-16:40 ThPO2S-26.11

Adaptive Based Assist-As-Needed Control Strategy for Ankle Movement Assistance, pp. 12672-12678.

Jradi, Rami	UPEC
Rifai, Hala	University of Paris Est Créteil
Amirat, Yacine	University of Paris Est Créteil (UPEC)
Mohammed, Samer	University of Paris Est Créteil - (UPEC)

15:00-16:40 ThPO2S-26.12

Anticipation and Delayed Estimation of Sagittal Plane Human Hip Moments Using Deep Learning and a Robotic Hip Exoskeleton, pp. 12679-12685.

Molinaro, Dean	Georgia Institute of Technology
Park, Ethan	University of Illinois Urbana-Champaign
Young, Aaron	Georgia Tech

ThPO2S-27 Room T8

Safety and Trustworthy Robotics II (Poster Session)

15:00-16:40 ThPO2S-27.1

Safety under Uncertainty: Tight Bounds with Risk-Aware Control Barrier Functions, pp. 12686-12692. Attachment

Black, Mitchell	University of Michigan
Fainekos, Georgios	Toyota NA-R&D
Hoxha, Bardh	Southern Illinois University
Prokhorov, Danil	Toyota Tech Center
Panagou, Dimitra	University of Michigan, Ann Arbor

15:00-16:40 ThPO2S-27.2

Distributionally Robust RRT with Risk Allocation, pp. 12693-12699.

Ekenberg, Kajsa	Lund University
Renganathan, Venkatraman	Lund University
Olofsson, Bjorn	Lund University

15:00-16:40 ThPO2S-27.3

Statistical Safety and Robustness Guarantees for Feedback Motion Planning of Unknown Underactuated Stochastic Systems, pp. 12700-12706. Attachment

Knuth, Craig	Johns Hopkins University Applied Physics Lab
Chou, Glen	University of Michigan
Reese, Jamie	Johns Hopkins Applied Physics Lab
Moore, Joseph	Johns Hopkins University Applied Physics Lab

15:00-16:40 ThPO2S-27.4

A Sensitivity-Aware Motion Planner (SAMP) to Generate Intrinsically-Robust Trajectories, pp. 12707-12713. Attachment

Wasiela, Simon	LAAS-CNRS
Robuffo Giordano, Paolo	Irisa Cnrs Umr6074
Cortes, Juan	LAAS-CNRS
Simeon, Thierry	LAAS-CNRS

15:00-16:40 ThPO2S-27.5

Proficiency Self-Assessment without Breaking the Robot: Anomaly Detection Using Assumption-Alignment Tracking from Safe Experiments, pp. 12714-12720.

Cao, Xuan	Brigham Young University
Crandall, Jacob W.	Brigham Young University
Pedersen, Ethan	Brigham Young University
Gautam, Alvika	Texas a & M University

Goodrich, Michael A.	Brigham Young University

15:00-16:40 ThPO2S-27.6

Failure Detection for Motion Prediction of Autonomous Driving: An Uncertainty Perspective, pp. 12721-12728. Attachment

Shao, Wenbo	Tsinghua University
Xu, Yanchao	Beijing Institute of Technology
Peng, Liang	Tsinghua University
Li, Jun	Tsinghua University
Wang, Hong	Tsinghua University

15:00-16:40 ThPO2S-27.7

Analysing the Safety and Security of a UV-C Disinfection Robot, pp. 12729-12736.

Nurchalifah, Desiana	Hochschule Bonn-Rhein-Sieg
Blumenthal, Sebastian	Locomotec
Lo Iacono, Luigi	Hochschule Bonn-Rhein-Sieg University of Applied Sciences
Hochgeschwender, Nico	Bonn-Rhein-Sieg University

15:00-16:40 ThPO2S-27.8

Failure Detection and Fault Tolerant Control of a Jet-Powered Flying Humanoid Robot, pp. 12737-12743. Attachment

Nava, Gabriele	Istituto Italiano Di Tecnologia
Pucci, Daniele	Italian Institute of Technology

15:00-16:40 ThPO2S-27.9

Testing Rare Downstream Safety Violations Via Upstream Adaptive Sampling of Perception Error Models, pp. 12744-12750.

Innes, Craig	University of Edinburgh
Ramamoorthy, Subramanian	The University of Edinburgh

15:00-16:40 ThPO2S-27.10

Learning to Forecast Aleatoric and Epistemic Uncertainties Over Long Horizon Trajectories, pp. 12751-12757.

Acharya, Aastha	University of Colorado Boulder; Draper
Russell, Rebecca	Draper
Ahmed, Nisar	University of Colorado Boulder

15:00-16:40 ThPO2S-27.11

S⋆: On Safe and Time Efficient Robot Motion Planning, pp. 12758-12764.

Laha, Riddhiman	Technical University of Munich
Wu, Wenxi	Technical University of Munich
Sun, Ruiai	Technical University of Munich
Mansfeld, Nico	Franka Emika GmbH
Figueredo, Luis Felipe Cruz	Technical University of Munich (TUM)
Haddadin, Sami	Technical University of Munich

15:00-16:40 ThPO2S-27.12

Online Update of Safety Assurances Using Confidence-Based Predictions, pp. 12765-12771.

Nakamura, Kensuke	Princeton University
Bansal, Somil	University of Southern California