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**Marseille, France
23-25 November 2022**



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Technical Program for Wednesday November 23, 2022

WeAA		Room Thym-Romarin
Switched Systems: Overview and New Developments (Invited Session)		
Chair: Haidar, Ihab		ENSEA
Co-Chair: Chitour, Yacine		Universit'e Paris-Sud, CNRS, Supelec
Organizer: Haidar, Ihab		ENSEA
Organizer: Chitour, Yacine		Universit'e Paris-Sud, CNRS, Supelec
10:30-10:50		WeAA.1
<i>Some Remarks on the Stabilisation Problem and the Stabilisability Radius for Linear Switched Systems (I)</i> , pp. 1-5.		
Mason, Paolo		CNRS, Laboratoire Des Signaux Et Systèmes, Supélec
10:50-11:10		WeAA.2
<i>Stability Criteria for Singularly Perturbed Linear Switching Systems (I)</i> , pp. 6-11.		
Chitour, Yacine		Universit'e Paris-Sud, CNRS, Supelec
Haidar, Ihab		ENSEA
Mason, Paolo		CNRS, Laboratoire Des Signaux Et Systèmes, Supélec
Sigalotti, Mario		INRIA Paris
11:10-11:30		WeAA.3
<i>Memory-Based Lyapunov Functions and Path-Complete Framework: Equivalence and Properties (I)</i> , pp. 12-17.		
Della Rossa, Matteo		LAAS-CNRS
Jungers, Raphaël		Université Catholique De Louvain
11:30-11:50		WeAA.4
<i>Non-Coercive Lyapunov–Krasovskii Functionals for Exponential Stability of Time-Varying Delay Systems: A Switched System Approach (I)</i> , pp. 18-22.		
Haidar, Ihab		ENSEA
11:50-12:10		WeAA.5
<i>Construction of Dead-Beat Switched Automata: Application to Cryptography (I)</i> , pp. 23-30.		
Boukerrou, Hamid		Université De Lorraine
Millerioux, Gilles		Université De Lorraine
Minier, Marine		Université De Lorraine, Inria, Loria
Fiacchini, Mirko		GIPSA-Lab, CNRS
12:10-12:30		WeAA.6
<i>A Fourth Order Semi-Implicit Homogeneous Differentiator (I)</i> , pp. 31-35.		
Michel, Loïc		Ecole Centrale De Nantes
Ghanes, Malek		Centrale Nantes, LS2N
Aoustin, Yannick		Université De Nantes
Barbot, Jean Pierre		CNRS
Messaoudi, Souhir		LS2N-CNRS-Centrale Nantes
Laaziz, Marouane		LS2N-CNRS-Centrale Nantes
WeAB		Room Origan
Modeling, Estimation and Control for Fractional Order Systems I (Invited Session)		
Chair: Liu, Da-Yan		INSA Centre Val De Loire, Campus De Bourges
Co-Chair: Maamri, Nezha		Ecole Nationale Supérieure d'Ingénieurs De Poitiers
Organizer: Liu, Da-Yan		INSA Centre Val De Loire, Campus De Bourges
Organizer: Maamri, Nezha		Ecole Nationale Supérieure d'Ingénieurs De Poitiers
Organizer: Boutat, Driss		INSA Centre Val De Loire
10:30-10:50		WeAB.1
<i>Time Domain Impedance Parameters Identification Using Fractional Modeling Applied to Li-Ion Batteries (I)</i> , pp. 36-41.		
Nasser Eddine, Achraf		Université De Poitiers
Arahbi, Omar		Université De Poitiers
Huard, Benoît		University of Poitiers
Gabano, Jean-Denis		University of Poitiers
Poinot, Thierry		Université De Poitiers

10:50-11:10	WeAB.2
<i>Modelling and Initialization of Fractional Order Nonlinear Systems: The Infinite State Approach (I)</i> , pp. 42-47.	
Maamri, Nezha	Ecole Nationale Supérieure d'Ingénieurs De Poitiers
Trigeassou, Jean-claude	University of Poitiers
11:10-11:30	WeAB.3
<i>Algebraic Pseudo-State Estimation for a Linear Fractional-Order Time-Delay System (I)</i> , pp. 48-53.	
Wang, Zhi-Bo	INSA-CVL
Liu, Da-Yan	INSA Centre Val De Loire, Campus De Bourges
Boutat, Driss	INSA Centre Val De Loire
Wei, Xing	Anyang Institute of Technology
11:30-11:50	WeAB.4
<i>Application of Fractional-Order Partial Pole-Zero-Cancelation to an Inverted Pendulum (I)</i> , pp. 54-59.	
Voß, Benjamin	TU Ilmenau
Weise, Christoph	TU Ilmenau
Reger, Johann	TU Ilmenau
11:50-12:10	WeAB.5
<i>State Estimation for a Class of Fractional-Order Linear Systems by the Generalized Modulating Functions Method (I)</i> , pp. 60-65.	
Liu, Chang	University of Science and Technology of China
Liu, Da-Yan	INSA Centre Val De Loire, Campus De Bourges
Boutat, Driss	INSA Centre Val De Loire
Wang, Yong	University of Science and Technology of China
12:10-12:30	WeAB.6
<i>Output-Based Algebraic Disturbance Estimation Method for a Class of Disturbed Fractional Order Linear Systems (I)</i> , pp. 66-71.	
Wei, Yan-Qiao	Yanshan University
Liu, Da-Yan	INSA Centre Val De Loire, Campus De Bourges
Hua, Changchun	Yanshan University

WeAC	Room Cumin-Safran
Electrolyzers: Modeling, Control, and Fault-Diagnosis & Degradation Modelling and Maintenance (Invited Session)	
Chair: Zasadzinski, Michel	Université De Lorraine, CRAN, CNRS UMR 7039
Organizer: Zasadzinski, Michel	Université De Lorraine, CRAN, CNRS UMR 7039
Organizer: Rafaralahy, Hugues	Lorraine-University
Organizer: Boutat-Baddas, Latifa	Centre De Recherche d'Automatique De Nancy (CRAN)
Organizer: Guilbert, Damien	Université De Lorraine, GREEN, F-54000 Nancy, France
Organizer: Outbib, Rachid	Lis
10:30-10:50	WeAC.1
<i>Transport Speed Estimation for a 1-D Hyperbolic PDE Based on Output Flow Measurement (I)</i> , pp. 72-77.	
Bezerra Rufino Ferreira Paiva, Eduardo	IFP Energies Nouvelles
Lepreux, Olivier	IFP
Bresch-Pietri, Delphine	MINES ParisTech
10:50-11:10	WeAC.2
<i>Modeling of the Dynamic Behavior of a PEM Electrolyzer (I)</i> , pp. 78-84.	
Guilbert, Damien	Université De Lorraine, GREEN, F-54000 Nancy, France
Zasadzinski, Michel	Université De Lorraine, CRAN, CNRS UMR 7039
Rafaralahy, Hugues	Lorraine-University
Boutat-Baddas, Latifa	Centre De Recherche d'Automatique De Nancy (CRAN)
11:10-11:30	WeAC.3
<i>Multi-Component System Maintenance Optimisation and Masked Data (I)</i> , pp. 85-89.	
Misaii, Hasan	University of Tehran and University of Technology of Troyes
Haghighi, Firoozeh	University of Tehran
Fouladirad, Mitra	Université de technologie de Troyes
11:30-11:50	WeAC.4
<i>Degradation Analysis in a Controlled Flexible Drive Train Subject to Torsional Phenomena under Different Wind Speed Conditions (I)</i> , pp. 90-95.	

Spinola Félix, Mônica Martinez Molina, John Jairo Berenguer, Christophe Tidiri, Khaoula	Université Grenoble Alpes, CNRS, Grenoble INP, GIPSA-Lab Univ. Grenoble Alpes, CNRS, Grenoble-INP, Gipsa-Lab Univ. Grenoble Alpes - Grenoble INP - CNRS GIPSA-LAB, Grenoble, France
11:50-12:10	WeAC.5
<i>A Bayesian-Based Optimization Approach for Accelerated Degradation Test Plan of a LED Component with Self-Heating Impact (I)</i> , pp. 96-101.	
Truong, Minh-Tuan Do, Phuc Mendizabal, Laurent lung, Benoit	Université De Lorraine Lorraine University, France CEA Tech Leti Université De Lorraine
12:10-12:30	WeAC.6
<i>Performance Evaluation of the Anion Exchange Membrane Based Water Electrolysis (I)</i> , pp. 102-107.	
Panda, RONIT kumar Serre, Guillaume Frederic, Fouda-Onana, Fouda-Onana Yann, Bultel Schott, Pascal	Cea Liten CEA CEA/Liten LEPMI CEA
WeBA	Room Thym-Romarin
Power Systems (Regular Session)	
Chair: Aitouche, Abdel	CRISTAL/JUNIA
14:15-14:35	WeBA.1
<i>Radial Basis Function Approximation in Gas Turbine Overspeed Analysis</i> , pp. 108-113.	
Peters, Lukas Göbel, Vincent Kutzner, Rüdiger Hofmann, Lutz Schäfer, Marc Schoof, Sönke	Hochschule Hannover Hochschule Hannover Hochschule Hannover Leibniz Universität Hannover Siemens Energy Hochschule Hannover
14:35-14:55	WeBA.2
<i>Study of the Impact of SCIG Wind Farm Integration and the Effect of the Location Bus in Dynamic Grid Enhancement</i> , pp. 114-118.	
Hafaiedh, Hajer Saoudi, Yahia Benamor, Anouar Chrifi-Alaoui, Larbi	Laboratory of Automatic Signal and Image Processing, National Sc Laboratory of Control and Energy Management Laboratory, NSES FSm Université De Picardie Jules Verne
14:55-15:15	WeBA.3
<i>Maximum Power Point Tracking of a Photovoltaic System Using State Feedback Gain Fuzzy Control</i> , pp. 119-124.	
Chaibi, Redouane El Bachtiri, Rachid El Hammoum, Karima Yagoubi, Mohamed	Faculty of Sciences EST; Université Sidi Mohamed Ben Abdellah; Industrial Technologies and Services Laboratory, Higher School O IMT Atlantique (LS2N)/ARMINES
15:15-15:35	WeBA.4
<i>Study of the Correlation between Server Resources Utilization and Energy Consumption</i> , pp. 125-130.	
Meryeme, El Yadari Yahyaouy, Ali Le Masson, Stephane El Fazazy, Khalid Gualous, Hamid	University of Caen Normandy USMBA Fes Orange USMBA Fes Laboratoire LUSAC - Université De Caen Basse Normandie
15:35-15:55	WeBA.5
<i>Characterization of the Power Quality in the Electric Distribution Networks Using Data Mining with K-Means Clustering</i> , pp. 131-136.	
Galbau, Stefania Grigoras, Gheorghe Neagu, Bogdan	"Gheorghe Asachi" Technical University of Iasi "Gheorghe Asachi" Technical University of Iasi "Gheorghe Asachi" Technical University of Iasi

Scarlatache, Florina	"Gheorghe Asachi" Technical University of Iasi
Lucache, Dorin	"Gheorghe Asachi" Technical University of Iasi
Hustiuc, Vlad	"Gheorghe Asachi" Technical University of Iasi

15:55-16:15 WeBA.6

Predicting Energy Consumption in Wastewater Treatment Plants through Light Gradient Boosting Machine: A Comparative Study, pp. 137-142.

Alali, Yasminah	King Abdullah University of Science and Technology (KAUST)
Harrou, Fouzi	King Abdullah University of Science and Technology (KAUST)
Sun, Ying	King Abdullah University of Science and Technology

WeBB	Room Origan
Modeling, Estimation and Control for Fractional Order Systems II & Reliability Analysis and Improvement Methods for Industrial Systems (Invited Session)	

Chair: Li, Zhongliang	Aix-Marseille University
Organizer: Li, Zhongliang	Aix-Marseille University

14:15-14:35 WeBB.1

A New Robust Observer Design for Disturbed Fractional-Order Systems with Time-Delay (I), pp. 143-148.

Haddi, Ahmed	Department of Mathematics, Faculty of Sciences, Chouaib Doukkali
El Azzouzi, Mohamed	Cadi Ayyad University Marrakech
Laabissi, Mohamed	Université Chouaïb Doukkali
Boukal, Yassine	R&I Departement, Capgemini Engineering

14:35-14:55 WeBB.2

Asymptotic Stability of Switched 2D Fractional Order Positive Systems, pp. 149-155.

Dami, Laila	Cadi Ayad University
Benzaouia, Abdellah	Faculty of Science Semlalia
Benhayoun, Mohamed	University Cadi Ayyad, Faculty of Sciences Semlalia Marrakech

14:55-15:15 WeBB.3

Screening Indicators Analysis for the Echelon Utilization of Lithium-Ion Batteries (I), pp. 156-160.

Chen, Xi	Sichuan University
Meng, Jinhao	Sichuan University
Lin, Mingqiang	Quanzhou Institute of Equipment Manufacturing, Fujian Institute
Peng, Jichang	Nanjing Institute of Technology
Ji, Wu	Hefei University of Technology

15:15-15:35 WeBB.4

A Lifetime Extended Energy Management Strategy for Fuel Cell Hybrid Electric Vehicles Via Self-Learning Fuzzy Reinforcement Learning (I), pp. 161-167.

Guo, Liang	Aix-Marseille University
Li, Zhongliang	Aix-Marseille University
Outbib, Rachid	Lis

15:35-15:55 WeBB.5

Cross-Entropy Based Feature Selection for Lithium-Ion Battery State of Health Estimation (I), pp. 168-173.

Ji, Wu	Hefei University of Technology
Cheng, Zhen	Hefei University of Technology
Zhang, Xu	Anhui University of Science and Technology
Wang, Li	Hefei University of Technology

15:55-16:15 WeBB.6

A Hybrid Method for Remaining Useful Life Prediction of Fuel Cells under Variable Loads (I), pp. 174-177.

Wang, Chu	Aix-Marseille University
Li, Zhongliang	Aix-Marseille University
Outbib, Rachid	Lis
Dou, Manfeng	Northwestern Polytechnical University

WeBC	Room Cumin-Safran
Nonlinear Observers (Invited Session)	

Chair: Farza, Mondher	Universite De Caen, Ensicaen, Cnrs
Organizer: Hammouri, Hassan	Univ. Claude Bernard
Organizer: Farza, Mondher	Universite De Caen, Ensicaen, Cnrs
Organizer: M'saad, Mohammed	ENSICAEN

14:15-14:35 WeBC.1

Active Fault Tolerant Control through Sparse Recovery Diagnosis (I), pp. 178-183.

Makni, Mariem	Quartz EA 7393
Haidar, Ihab	ENSEA
Barbot, Jean Pierre	CNRS
Plestan, Franck	Ecole Centrale De Nantes-CNRS

14:35-14:55 WeBC.2

Peaking Phenomenon Inhibition in High Gain Observer Design: Application to Speed-Sensorless Induction Motors (I), pp. 184-189.

Ragoubi, Aziza	Université De Monastir
Hadj Said, Salim	School of Engineering of Monastir (ENIM)
Farza, Mondher	Universite De Caen, Ensicaen, Cnrs

14:55-15:15 WeBC.3

On High Gain Observer Redesign with Respect to the Nature of the Available Outputs (I), pp. 190-195.

Ramírez-Rasgado, Felipe	Tecnológico Nacional De México - Cenidet
Hernandez Gonzalez, Omar	TECNM
Farza, Mondher	Universite De Caen, Ensicaen, Cnrs
M'saad, Mohammed	ENSICAEN
Astorga-Zaragoza, Carlos	Tecnológico Nacional De México - Cenidet
Dahhou, Boutaieb	LAAS-CNRS

15:15-15:35 WeBC.4

Immersion of Nonlinear Systems into Normal Form of Observability (I), pp. 196-200.

Hammouri, Hassan	Univ. Claude Bernard
Ahmed, Fayez Shakil	Université Claude Bernard Lyon 1

WeCB Room Origan
Industrial Robotics for Future Technology & Hybrid Dynamical Systems and Systems on Non-Uniform Time Domain (Invited Session)

Chair: Kanso, Ali	ZeMA GGmbH
Co-Chair: Djemai, Mohamed	INSA Hauts-De-France
Organizer: Raharijaona, Thibaut	University of Lorraine
Organizer: Kanso, Ali	ZeMA GGmbH

16:45-17:05 WeBC.1

A Concept to Solve Bin Picking Problem in the Robotics Based on CAD Model and Measurement Data (I), pp. 201-206.

Kanso, Ali	ZeMA GGmbH
Xu, Xiaomei	Saarland University
Rekik, Khansa	ZeMA GGmbH
Müller, Rainer	ZeMA GGmbH

17:05-17:25 WeBC.2

Controllability and Observability of Piecewise Impulsive Systems on Arbitrary Time Domains (I), pp. 207-212.

Vipin, Kumar	Indian Institute of Technology Mandi
Djemai, Mohamed	INSA Hauts-De-France

17:25-17:45 WeBC.3

Kalman Filter Design for Intermittent Optical Wireless Communication Systems on Time Scales, pp. 213-220.

Cai, Wenqi	Norwegian University of Science and Technology
Ben Nasser, Bacem	KAUST
Djemai, Mohamed	INSA Hauts-De-France
Laleg, Taous-Meriem	KAUST

WeCC Room Cumin-Safran
Robust Control and Hinfity Control I (Regular Session)

16:45-17:05

WeCC.1

Robust Stabilization Control of a Two-Axis Gimbaled Seeker Considering Parameter Uncertainties, pp. 221-226.

Lee, H. P.

Agency for Defense Development

17:05-17:25

WeCC.2

First-Order Sliding Mode Control for Second Order Systems with Assymetric Constraints, pp. 227-232.

Caridad, Mireles

IPN-CIDETEC

Manuela, Gómez

IPN-CIDETEC

Cruz Ortiz, David

UPIITA-IPN

Ballesteros, Mariana

Instituto Politécnico Nacional

Salgado, Ivan

Upibi - Ipn

17:25-17:45

WeCC.3

Robust Finite-Frequency Observer-Controller of Continuous-Time Systems, pp. 233-238.

Frih, Abderahim

USMBA

Zoulagh, Taha

Department of Electrical Engineering, University of Santiago De

El Haiek, Badreddine

Faculty of Science Dhar El Mahrz

Er Rachid, Ismail

Faculty of Sciences Dhar El Mehrz

Tadeo, Fernando

Univ. of Valladolid

Barbosa, Karina A.

Universidad De Santiago De Chile

Technical Program for Thursday November 24, 2022

ThAA	Room Thym-Romarin
Linear and Nonlinear Systems I (Regular Session)	
Chair: Zasadzinski, Michel	Université De Lorraine, CRAN, CNRS UMR 7039
10:30-10:50	ThAA.1
<i>Finite-Time Stability Analysis for Piecewise Linear Systems</i> , pp. 239-243.	
BenKhaled, Sana	Université De Gabes, Ecole National d'Ingenieurs De Gabes (ENIG)
Delattre, Cédric	Université De Lorraine
Bhiri, Bassem	LTDS UMR 5513 CNRS Universit\{e} De Lyon, ENISE/CONPRI-Universi
Zasadzinski, Michel	Université De Lorraine, CRAN, CNRS UMR 7039
Kamel, Abderrahim	National School of Engineers of Gabes
10:50-11:10	ThAA.2
<i>Minimizing Oscillations for Magnitude and Rate-Saturated Discrete-Time Systems by a $\\$D_R\\$ Region Pole Placement</i> , pp. 244-249.	
Lerch, Sabine	University of Wuppertal
Dehnert, Robert	Wuppertal University
Rosik, Michelle	Bergische Universität Wuppertal
Tibken, Bernd	Wuppertal University
11:10-11:30	ThAA.3
<i>Stabilization of Singular T-S Fuzzy Continuous-Time Systems</i> , pp. 250-255.	
El Asraoui, Abderrahim	Dept. of Physics, Faculty of Science, University Sidi Mohammed B
Hmamed, Abdelaziz	Private University of Fez
Boukili, Bensalem	Sidi Mohamed Ben Abdellah University, Faculty of Sciences Dhar E
Chaibi, Noredine	Faculty of Sciences, University of Sidi Mohamed Ben Abdellah, Fe
11:30-11:50	ThAA.4
<i>Robust H^∞ Performance of Uncertain System Based on Lyapunov Functions Using Non-monotonic Terms</i> , pp. 256-262.	
El Fadili, Yattou	Sidi Mohamed Ben Abdellah University, Faculty of Sciences Dhar E
Hmamed, Abdelaziz	Private University of Fez
Boukili, Bensalem	Sidi Mohamed Ben Abdellah University, Faculty of Sciences Dhar E
Boumhidi, Ismail	University of Sidi Mohammed Ben Abdellah, Faculty of Sciences Dha
11:50-12:10	ThAA.5
<i>PI Output Feedback for the Wave PDE with Second Order Dynamical Boundary Conditions</i> , pp. 263-270.	
Roman, Christophe	Université Aix Marseille, Laboratoire Informatique Et Système UM
12:10-12:30	ThAA.6
<i>Indirect Controllability of Two Interacting Qubits in Presence of Dissipation: A First Analysis</i> , pp. 271-276.	
Verzhanska, Kateryna	LIS, UMR CNRS 7020, Université De Toulon
Chittaro, Francesca Carlotta	Université De Toulon
ThAB	Room Origan
Fault Diagnosis and Fault Tolerant Control for Complex Systems Subject to Faults (Invited Session)	
Chair: Aitouche, Abdel	CRISTAL/JUNIA
Co-Chair: El Hajjaji, Ahmed	Univ. De Picardie-Jules Verne
Organizer: Aitouche, Abdel	CRISTAL/JUNIA
Organizer: El Hajjaji, Ahmed	Univ. De Picardie-Jules Verne
Organizer: Noura, Hassan	Aix-Marseille University
10:30-10:50	ThAB.1
<i>Analysis of Intake Hydrogen Enrichment on Diesel Engine Combustion Using CFD Modeling (I)</i> , pp. 277-282.	
Mobasheri, Raouf	JUNIA
Aitouche, Abdel	CRISTAL/JUNIA
Bressel, Mathieu	CRISTAL - HEI
Ould Bouamama, Belkacem	Polytech Lille
Mumputu, Jean Baptiste	JUNIA Graduate School of Engineering
10:50-11:10	ThAB.2

<i>Deep Reinforcement Learning-Based Approach for Fault-Tolerant Control of PV Systems in Smart Grids (I)</i> , pp. 283-288.	
Karaki, Tala	Lebanese University
Saied, Majd	Lebanese University
Shraim, Hassan	Consulting Company
11:10-11:30	ThAB.3
<i>Finite Frequency Static Output Feedback H^∞ Control Design of a Urea-Selective Catalytic Reduction Aftertreatment System (I)</i> , pp. 289-293.	
El-AMRANI, Abderrahim	University Sidi Mohamed Ben Abdellah
El Hajjaji, Ahmed	Univ. De Picardie-Jules Verne
Aitouche, Abdel	CRISTAL/JUNIA
11:30-11:50	ThAB.4
<i>Fault Detection Observer-Based Controller Design for 2D Continuous Switched Systems (I)</i> , pp. 294-298.	
Ghamgui, Mariem	Université De Sfax
Mehdi, Driss	Université De Poitiers
Bachelier, Olivier	University of Poitiers
Chaabane, Mohamed	National Engineering School of Sfax, Tunisia
11:50-12:10	ThAB.5
<i>Event Triggered Control Based on Interval Observer for Discrete-Time Linear Systems (I)</i> , pp. 299-304.	
Abderrahim, Oumayma	ENIG
Makni, Salama	ENIG
Messaoud, Anis	National School of Engineering of Gabes, Tunisia
El Hajjaji, Ahmed	Univ. De Picardie-Jules Verne
ThAC	Room Cumin-Safran
Control Applications (Regular Session)	
Chair: Tebbani, Sihem	CENTRALESUPELEC Université Paris-Saclay
Co-Chair: Laghrouche, Salah	Université De Technologies De Belfort-Montbéliard (UTBM)
10:30-10:50	ThAC.1
<i>Distributed Multi-Objective State-Dependent MPC for Mapping Mission with Multiple UAVs</i> , pp. 305-310.	
Novak, Dora	Université Paris-Saclay, CentraleSupélec, CNRS, Laboratoire Des
Tebbani, Sihem	CENTRALESUPELEC Université Paris-Saclay
Vande Wouwer, Alain	Université De Mons
10:50-11:10	ThAC.2
<i>New Stability Conditions for Discrete-Time Switched Systems with Time-Varying Delay under Arbitrary Switching Signal and with Average Dwell Time Approach</i> , pp. 311-316.	
Charqi, Mohammed	Faculty of Sciences Dhar Elmehraz, University Sidi Mohammed Ben
Boumhidi, Ismail	University of Sidi Mohammed Ben Abdellah, Faculty of Sciences Dha
Tissir, Elhoussaine	Faculty of Sciences Dhar Elmehraz, University Sidi Mohammed Ben
Hmamed, Abdelaziz	Private University of Fez
11:10-11:30	ThAC.3
<i>Performant Fault Tolerant Control by Using Space Vector Modulation (SVM) Technique of a Five Phases BLDC Motor for Autonomous Driving Applications</i> , pp. 317-322.	
Irimia, Nicolae Daniel	Continental Automotive Romania SRL
Luchian, Marian	Continental Automotive Romania SRL
Lazar, Florin	Continental Automotive Romania
Ipatiov, Alexandru	Continental Automotive Romania SRL Iasi
11:30-11:50	ThAC.4
<i>A Hybrid Asymptotic-Kalman Observer for Estimation of Microalgae Growth in a Closed Photobioreactor</i> , pp. 323-328.	
Arango Restrepo, Juan Pablo	Université Paris Saclay
Titica, Mariana	Université De Nantes
Tebbani, Sihem	CENTRALESUPELEC Université Paris-Saclay
11:50-12:10	ThAC.5
<i>Comparative Study between L1 Adaptive Controller and BL1 Adaptive Controller</i> , pp. 329-333.	
Ghodbane, Azeddine	École De Technologie Supérieure
Bensoussan, David	ETS University of Quebec

Adem Sofiane, Madali
Hammani, Maher

École De Technologie Supérieure, Montreal
Faculte Des Sciences De Sfax - Tunisie

12:10-12:30

ThAC.6

Time Varying Control Design for Small-Time Stabilization of Brockett's Integrator, pp. 334-339.

Saidi, Karima

Laboratoire CRAN, Université De Lorraine

Jammazi, Chaker

Faculté Des Sciences De Bizerte and Ecole Polytechnique De Tunis

Boutayeb, M.

Lorraine University

ThBA

Room Thym-Romarin

Control and Supervision of Hydrogen Energy Systems (Invited Session)

Chair: Djerdir, Abdesslem

UTBM

Co-Chair: Laghrouche, Salah

Université De Technologies De Belfort-Montbéliard (UTBM)

Organizer: Djerdir, Abdesslem

UTBM

Organizer: Laghrouche, Salah

Université De Technologies De Belfort-Montbéliard (UTBM)

14:15-14:35

ThBA.1

Model-Free Fault Detection: Application to Polymer Electrolyte Fuel Cell System (I), pp. 340-345.

Ait Ziane, Meziane

FEMTO-ST & ENERGY-Lab,

Yousfi-steiner, Nadia

University of Bourgogne Franche-Comté

Join, Cédric

Nancy University

Benne, Michel

University of La Réunion

Damour, Cédric

University of La Réunion

Péra, Marie-Cécile

University of Franche-Comte

14:35-14:55

ThBA.2

Diagnosis of PEMFC Based on Autoregressive Model and Voltage Fluctuation (I), pp. 346-351.

Ao, Yunjin

Université De Technologie De Belfort Montbéliard

Laghrouche, Salah

Université De Technologies De Belfort-Montbéliard (UTBM)

Depernet, Daniel

Université De Technologie De Belfort Montbéliard

Candusso, Denis

Univ Gustave Eiffel

14:55-15:15

ThBA.3

Voltage Prognosis of PEMFC Estimated Using Multi-Reservoir Bidirectional Echo State Network (I), pp. 352-359.

Chanal, Damien

Femto-ST

Yousfi-steiner, Nadia

University of Bourgogne Franche-Comté

Chamagne, Didier

UBFC

Péra, Marie-Cécile

University of Franche-Comte

15:15-15:35

ThBA.4

Experimental Characterisation of the Heat Behaviour of a PEMFC in Order to Monitor Its Degradation (I), pp. 360-365.

Suarez, Santiago Hernan

FEMTO-ST Institute, Univ. Bourgogne Franche-Comte, UTBM, CNRS

Chabane, Djafar

FEMTO-ST Institute, Univ. Bourgogne Franche-Comte, UTBM, CNRS

Abdoul, N'Diaye

FEMTO-ST Institute, Univ. Bourgogne Franche-Comte, UTBM, CNRS

Ait-Amirat, Youcef

Femto-St

Djerdir, Abdesslem

UTBM

15:35-15:55

ThBA.5

Experimental Implementation of Fuzzy Logic Control to Track the Maximum Efficiency Point of an Open Cathode Fuel Cell System (I), pp. 366-371.

Zine, Yakoub

Université De Technologie De Belfort Montbéliard

Laurent, Julien

Université De Technologie De Belfort Montbéliard

Iqbal, Mehroze

Université De Technologie De Belfort Montbéliard

Benmouna, Amel

Université De Technologie De Belfort Montbéliard

Becherif, Mohamed

Femto-ST/FCLab UTBM UMR CNRS 6174

Hissel, Daniel

University of Franche-Comte

ThBB

Room Origan

Estimations and Identification (Regular Session)

Co-Chair: Graton, Guillaume

Ecole Centrale De Marseille

14:15-14:35	ThBB.1
<i>Learning Unknown Lagrange Dynamical Systems with Guaranteed Persistency of Excitation</i> , pp. 372-378.	
Samanis, Anagnostis	National Technical University of Athens
Trakas, Panagiotis	University of Patras
Papageorgiou, Xanthi	Cyprus University of Technology
Kyriakopoulos, Kostas J.	National Tech. Univ. of Athens
Bechlioulis, Charalampos	University of Patras
14:35-14:55	ThBB.2
<i>State and Multiplicative Fault Reconstruction for Uncertain Nonlinear System: Takagi-Sugeno Approach</i> , pp. 379-384.	
Bzioui, Sana	Marocaine
Channa, Rafik	Cadi Ayyad University, Faculty of Sciences Marrakesh
14:55-15:15	ThBB.3
<i>Leak Detection and Localization in Pipeline System</i> , pp. 385-390.	
Mursyitah, Dian	UIN Suska Riau, INSA CVL
Delouche, David	Hei Campus Centre
Zhang, Tingting	Xi'an Shiyu University
Kratz, Frederic	INSA Centre Val De Loire
15:15-15:35	ThBB.4
<i>Robust Prescribed Performance Control and Adaptive Learning for the Longitudinal Dynamics of Fixed-Wing UAVs</i> , pp. 391-396.	
Tzeranis, Spyros	National Technical University of Athens
Trakas, Panagiotis	University of Patras
Papageorgiou, Xanthi	Cyprus University of Technology
Kyriakopoulos, Kostas J.	National Tech. Univ. of Athens
Bechlioulis, Charalampos	University of Patras
15:35-15:55	ThBB.5
<i>System Sizing and Energy Management Optimization Using a Hybrid Model</i> , pp. 397-402.	
Toughzaoui, Yassine	University of Caen Normandy
Obeid, Hussein	University of Caen Normandy/ LUSAC Laboratory
Petrone, Raffaele	University of Caen
Louahlia, Hasna	University of Caen Normandy
Gualous, Hamid	Laboratoire LUSAC - Université De Caen Basse Normandie
15:55-16:15	ThBB.6
<i>Modelling and Offset-Free Predictive Control of the Parallel-Type Double Inverted Pendulum</i> , pp. 403-409.	
Ager, Paul	Glasgow Caledonian University
Kucukdemiral, Ibrahim Beklan	Glasgow Caledonian University
Bevan, Geraint	Glasgow Caledonian University
ThBC	Room Cumin-Safran
Control Systems Based on Artificial Intelligence (Regular Session)	
Chair: Zasadzinski, Michel	Université De Lorraine, CRAN, CNRS UMR 7039
14:15-14:35	ThBC.1
<i>Simultaneous Switched Model-Based Fault Detection and MPPT for Photovoltaic Systems</i> , pp. 410-415.	
Ait Ladel, Ayyoub	LIS (UMR 7020) - Aix Marseille University / IIST - Cadi Ayyad Un
Outbib, Rachid	Lis
Benzaouia, Abdellah	Faculty of Science Semlalia
Ouladsine, Mustapha	Université D'aix Marseille III
14:35-14:55	ThBC.2
<i>A Novel Unsupervised Method for Root Cause Analysis of Anomalies Using Sparse Optimization Techniques</i> , pp. 416-422.	
Perepu, Satheesh Kumar	Ericsson
Pinnamaraju, Vivek Shankar	Asea Brown Boveri (ABB)
14:55-15:15	ThBC.3
<i>Learning-Based Observer Evaluated on the Kinematic Bicycle Model</i> , pp. 423-428.	
Bou Ghosn, Agapius	Mines ParisTech

de La Fortelle, Arnaud	MINES ParisTech
Polack, Philip	MINES ParisTech
15:15-15:35	ThBC.4
<i>Control-Oriented Neural State-Space Models for State-Feedback Linearization and Pole Placement</i> , pp. 429-434.	
Hache, Alexandre	IMT Atlantique
Thieffry, Maxime	IMT Atlantique
Yagoubi, Mohamed	IMT Atlantique (LS2N)/ARMINES
Chevrel, Philippe	IMT Atlantique, LS2N (UMR 6004)
15:35-15:55	ThBC.5
<i>A Low-Level Set of Stationary Features Dedicated to Nonintrusive Load Monitoring</i> , pp. 435-441.	
Dinar, Farid	Université De Toulon
Chayla, Romain	Indewatt
Busvelle, Eric	Université De Toulon
Paris, Sebastien	Université Paul Cézane
15:55-16:15	ThBC.6
<i>Finite-Frequency Model Reduction Design for 2D T-S Fuzzy Continuous Systems</i> , pp. 442-447.	
Boualam, Oumaima	Faculty of Sciences Dhar El Mahraz, Laboratoire D'Informatique,
Chaibi, Noredine	Faculty of Sciences, University of Sidi Mohamed Ben Abdellah, Fe
Boukili, Bensalem	Sidi Mohamed Ben Abdellah University, Faculty of Sciences Dhar E
Hmamed, Abdelaziz	Private University of Fez
ThCA	Room Thym-Romarin
Linear and Nonlinear Systems II (Regular Session)	
Chair: Chittaro, Francesca Carlotta	Université De Toulon
16:45-17:05	ThCA.1
<i>Active Queue Management: First Steps Toward a New Control-Theoretic Viewpoint</i> , pp. 448-453.	
Join, Cédric	Nancy University
Mounier, Hugues	Université Paris Sud 11
Delaleau, Emmanuel	IRDL/ENIB
Fliess, Michel	Ecole Polytechnique
17:05-17:25	ThCA.2
<i>Smoothed Spectral Abscissa Tuning of an Observer-predictor for Input Delay Compensation of Distributed Time-Delay Systems</i> , pp. 454-458.	
Vite, Leopoldo	CINVESTAV-IPN
Mondie, Sabine	CINVESTAV-IPN
17:25-17:45	ThCA.3
<i>Stability of Integral Delay Equations and Their Application in Infectious Disease Modeling</i> , pp. 459-464.	
Ortiz, Reynaldo	CINVESTAV-IPN
Mondie, Sabine	CINVESTAV-IPN
ThCB	Room Origan
Industrial Robotics for Future Technology (Invited Session)	
Chair: Raharijaona, Thibaut	University of Lorraine
Co-Chair: Kanso, Ali	ZeMA GGmbH
Organizer: Raharijaona, Thibaut	University of Lorraine
Organizer: Kanso, Ali	ZeMA GGmbH
16:45-17:05	ThCB.1
<i>Optimization of Stable Robotic Grasp in Industrial Pick and Place Application (I)</i> , pp. 465-470.	
Hichri, Bassem	University of Luxembourg
Kedziora, Slawomir	University of Luxembourg
17:05-17:25	ThCB.2
<i>Towards a Generic Risk Assessment for HRC Based on Current Practice (I)</i> , pp. 471-476.	
Hornung, Luisa	Hochschule Karlsruhe - University of Applied Sciences

17:25-17:45

ThCB.3

Towards Wood Dust Collection During Robotic Grooving (I), pp. 477-481.

Dong, Yechen	University of Lorraine
Bouali, Anis	Ecole Des Mines De Nantes
Mechbal, Nazih	AMVALOR
Laurent, Bleron	University of Lorraine
Raharijaona, Thibaut	University of Lorraine

ThCC

Room Cumin-Safran

Robust Control and Hinfy Control II (Regular Session)Chair: Mehdi, Driss Université De Poitiers

16:45-17:05

ThCC.1

Robust H^∞ Observer-Controller for 2-D FMII Systems with the Protocol of Round-Robin and Randomly Occurring Uncertainties, pp. 482-488.

Qobbi, Hicham	USMBA
Zoulagh, Taha	Department of Electrical Engineering, University of Santiago De
Barbosa, Karina A.	Universidad De Santiago De Chile
Hmamed, Abdelaziz	Private University of Fez
Boukili, Bensalem	Sidi Mohamed Ben Abdellah University, Faculty of Sciences Dhar E
Chaibi, Noredine	Faculty of Sciences, University of Sidi Mohamed Ben Abdellah, Fe

17:05-17:25

ThCC.2

Robust Observer-Based Adaptive High-Gain Feedback Design for Uncertain Saturated Discrete-Time Linear Systems, pp. 489-495.

Rosik, Michelle	Bergische Universität Wuppertal
Dehnert, Robert	Wuppertal University
Lerch, Sabine	University of Wuppertal
Tacke, Julian	Bergische Universität Wuppertal
Tibken, Bernd	Wuppertal University

17:25-17:45

ThCC.3

An Efficient Distributed Transactive Energy Control Model Using Adaptive Consensus ADMM, pp. 496-501.

Alizadeh, Ali	Laval University, Ph.D. Candidate
Kamwa, Innocent	Laval University, Full Professor
Moeini, Ali	Laval University, Adjunct Professor
Mohseni-Bonab, Seyed Masoud	Laval University, Adjunct Professor

Technical Program for Friday November 25, 2022

FrAA	Room Thym-Romarin
Modeling and Simulation (Regular Session)	
Chair: Noura, Hassan	Aix-Marseille University
10:30-10:50	FrAA.1
<i>Backstepping Control of a Fully-Actuated Surface Vessel for Tracking a Docking Maneuver</i> , pp. 502-507.	
Kinjo, Leticia Mayumi	ENSICAEN
Ménard, Tomas	Ensicaen
Wirtensohn, Stefan	University of Applied Sciences
Gehan, Olivier	ENSICAEN
Reuter, Johannes	HTWG Konstanz
10:50-11:10	FrAA.2
<i>Modelling and Simulation of 2 DOF Gimbal System with Experimental System Identification</i> , pp. 508-515.	
Özçelik, Mert	Aselsan Inc
Kürkçü, Burak	Hacettepe University
Bayraktaroglu, Zeki Yagiz	Istanbul Technical University
11:10-11:30	FrAA.3
<i>Comparison of Commercial Physics-Based Simulation Environments with a Collision-Rich Benchmark</i> , pp. 516-521.	
Hölzer, Christian	Nuremberg Campus of Technology
Ronald, Schmidt-Vollus	Nuremberg Campus of Technology
Gödrich, Axel	Nuremberg Campus of Technology
Helldörfer, Bastian	Schaeffler Technologies AG & Co. KG
Jehle, Georg	Schaeffler Technologies AG & Co. KG
Riedlbauer, Daniel-Rouven	Schaeffler Technologies AG & Co. KG
11:30-11:50	FrAA.4
<i>Linear and Nonlinear Control of a Visual Servoing System with Pan-Tilt Structure</i> , pp. 522-527.	
Hansen, Douglas	Instituto Federal De Santa Catarina
Trentini, Rodrigo	Hochschule Hannover
Salvador, Marcos A.	Instituto Federal De Santa Catarina
Bartsch, Arthur G.	Instituto Federal De Santa Catarina
11:50-12:10	FrAA.5
<i>Modeling Flexible Parts for Robotic Assembly Simulations</i> , pp. 528-533.	
Gödrich, Axel	Nuremberg Campus of Technology
Ronald, Schmidt-Vollus	Nuremberg Campus of Technology
Hölzer, Christian	Nuremberg Campus of Technology
Jehle, Georg	Schaeffler Technologies AG & Co. KG
Helldörfer, Bastian	Schaeffler Technologies AG & Co. KG
12:10-12:30	FrAA.6
<i>A Cyber-Physical Dynamic Control Approach for Smooth Traffic and Clean Urban Networks Using a Bi-Objective Regulation Unction at Signalized Intersections</i> , pp. 534-539.	
Lamghari Elidrissi, Hajar	Cadi Ayyad University
Nait Sidi Moh, Ahmed	Jean Monnet University, St-Etienne
Tajer, Abdelouahed	Cadi Ayyad University
FrAB	Room Origan
Advanced Control and Estimation for Aerial Vehicles in Urbain Air Mobility & Recent Advances in Energy Management of Hybrid Energy Systems (Invited Session)	
Chair: Boukal, Yassine	R&I Departement, Capgemini Engineering
Co-Chair: Zerrougui, Mohamed	Aix Marseille University
Organizer: Boukal, Yassine	R&I Departement, Capgemini Engineering
Organizer: Labbadi, Moussa	Univ. Grenoble Alpes, CNRS, Grenoble INP, GIPSA-Lab, 38000 Grenoble, France
Organizer: Zerrougui, Mohamed	Aix Marseille University
10:30-10:50	FrAB.1

<i>Robust Super Twisting Terminal Sliding Mode Tracking Control for a Quadrotor UAV with Disturbances in Discrete-Time (I)</i> , pp. 540-545.	
Benaddy, Abdellah	Hassan First University of Settat, Faculty of Science and Techno
Labbadi, Moussa	LAMIH, CNRS, UMR-8201, INSA HdF UPHF, Valenciennes 59313, France
Bouzi, Mostafa	Hassan First University of Settat, Faculty of Science and Techno
10:50-11:10	FrAB.2
<i>Discrete-Time Fast Terminal Sliding Mode Control Design for a Quadrotor UAV with Disturbances (I)</i> , pp. 546-551.	
Benaddy, Abdellah	Hassan First University of Settat, Faculty of Science and Techno
Labbadi, Moussa	LAMIH, CNRS, UMR-8201, INSA HdF UPHF, Valenciennes 59313, France
Bouzi, Mostafa	Hassan First University of Settat, Faculty of Science and Techno
11:10-11:30	FrAB.3
<i>Adaptive Recursive Nonsingular Fast Terminal Sliding Mode Control for Tracker Design of Quadrotor with Unknown Disturbances (I)</i> , pp. 552-557.	
Boukal, Yassine	R&I Departement, Capgemini Engineering
Labbadi, Moussa	Univ. Grenoble Alpes, CNRS, Grenoble INP, GIPSA-Lab, 38000 Greno
Zerrougui, Mohamed	Aix Marseille University
Nguyen, Anh Tu	University of Valenciennes and Hainaut Cambrésis
Djemai, Mohamed	INSA Hauts-De-France
11:30-11:50	FrAB.4
<i>A Review of Co-Optimization of Speed Planning and Energy Management for Fuel Cell Electric Vehicles (I)</i> , pp. 558-563.	
Chen, Bo	Northwestern Polytechnical University
Li, Fuzeng	Xinxiang Aviation Industry Group Co., Ltd
Zhang, Zhen	Chang'an University
Zhou, Yang	Northwestern Polytechnical University
Guo, YanSiQi	Northwestern Polytechnical University
Ma, Ruiqing	Northwest Polytechnic University
11:50-12:10	FrAB.5
<i>A Survey on Co-Optimization of Sizing and Energy Management for Fuel Cell Electric Vehicles (I)</i> , pp. 564-569.	
Guo, YanSiQi	Northwestern Polytechnical University
Li, Fuzeng	Xinxiang Aviation Industry Group Co., Ltd
Xianfeng, Xu	School of Energy and Electrical Engineering, Chang'an University
Zhou, Yang	Northwestern Polytechnical University
Ma, Ruiqing	Northwest Polytechnic University
Chen, Bo	Northwestern Polytechnical University
FrAC	Room Cumin-Safran
Diabetes Disease: Mathematical Modeling, Simulation, Signal Processing and Automatic Control (Invited Session)	
Chair: Bondia, Jorge	Universitat Politècnica De Valencia
Co-Chair: Basualdo, Marta S.	UTN-FRRo and UNR_FCElyA
Organizer: Basualdo, Marta S.	UTN-FRRo and UNR_FCElyA
Organizer: Outbib, Rachid	Lis
10:30-10:50	FrAC.1
<i>Glucose Control in Type 2 Diabetes: In Silico Study of Sub-Optimal Adherence to Insulin Therapy (I)</i> , pp. 570-575.	
Visentin, Roberto	University of Padova
Cobelli, Claudio	University of Padova
Sieber, Jochen	Embecta
Dalla Man, Chiara	University of Padova
10:50-11:10	FrAC.2
<i>Characterization of Glycemic Patterns in Type 1 Diabetes without Insulin or Meal Input Data (I)</i> , pp. 576-581.	
Hoyos Giraldo, Juan David	Universidad Politécnica De Valencia
Laguna Sanz, Alejandro J.	CIBER
Carpintero Soares, Alfonso Renato	Universitat Politècnica De Valencia
Sala, Iván	Universitat Politècnica De València

Díez, José Luis
Bondia, Jorge

Universidad Politécnica De Valencia
Universitat Politècnica De Valencia

11:10-11:30

FrAC.3

MPC-Based Artificial Pancreas Accounting for Circadian Variability of Insulin Sensitivity (I), pp. 582-587.

Abuin, Pablo
Ferramosca, Antonio
González, Alejandro H.

CONICET
University of Bergamo
CONICET

11:30-11:50

FrAC.4

Model Personalization in an Advanced Automated Insulin Delivery System: An In-Silico Exploration (I), pp. 588-593.

Villa-Tamayo, Maria Fernanda
Diaz Castaneda, Jenny Lorena
Moscoso-Vasquez, Marcela
Castillo, Alberto
Garcia Tirado, Jose Fernando
Colmegna, Patricio
Breton, Marc

University of Virginia
UVA
University of Virginia
Universitat Politècnica De València
University of Virginia
University of Virginia
University of Virginia

11:50-12:10

FrAC.5

Blood Glucose Regulation by Switching between Adaptive Predictive Control and Robust Filter (I), pp. 594-599.

Griva, Lucas
Outbib, Rachid
Basualdo, Marta S.

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UTN-FRRo and UNR_FCElyA