

2023 IEEE International Flexible Electronics Technology Conference (IFETC 2023)

**San Jose, California, USA
13 – 16 August 2023**



**IEEE Catalog Number: CFP23M87-POD
ISBN: 979-8-3503-3210-0**

**Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP23M87-POD
ISBN (Print-On-Demand):	979-8-3503-3210-0
ISBN (Online):	979-8-3503-3209-4

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

IFETC 2023- Monday, August 14, 2023

8:00 – 8:30

Opening Remarks

Room: Oak Fir

Speakers: IFETC 2023 General Chair, Samar Saha, Prospicient Devices, Milpitas, CA, USA
IEEE EDS President – EDS Awards Presentation, Ravi Todi, Rivos Inc., Mountain View, CA, USA

8:30 – 11:15

Plenary Session

Room: Oak Fir

Chair: Muhammad Mustafa Hussain, Purdue University, West Lafayette, IN, USA

Soft, Wireless Skin-Interfaced Devices for Health Monitoring and Haptic Interactions...N/A

John Rogers, Querrey Simpson Institute for Bioelectronics, Northwestern University, Evanston, IL, USA

Flexible Substrates for Fabrication of Electronic Devices...N/A

Jeffrey King, Corning West Technology Center, Palo Alto, CA, USA

Plasma Jet Printing for Printed Electronics...1

Dennis Nordlund, Space Foundry, San Jose, CA, USA

11:15 – 11:30

Exhibitors Presentation

Room: Oak Fir

Chair: Aabid Husain, Atomera, Los Gatos, CA, USA; Linrun Feng, LinkZill, China

11:30 – 12:30

Lunch

Room: Pine Cedar

12:30 – 14:25

Session 1SJ: Materials, Devices, and Processing I

Room: San Jose

Chairs: Sungjune Jung, Pohang University of Science and Technology, Pohang, South Korea; Tina Ng, University of California, San Diego, USA

Perovskite and 2D Semiconductor Integration Into Flexible Transistors and Sensors (Invited)...4

Alwin Daus{2}, Quỳnh Thị Phùng{1}

{1}RWTH Aachen University, Germany; {2}University of Freiburg, Germany

In-Ga-Zn-O Source-Gated Transistors with 3nm SiO₂ Tunnel Layer on a Flexible Polyimide Substrate...7

Dianne Corsino{1}, Eva Bestelink{3}, Federica Catania{1}, Radu Sporea{3}, Niko Münzenrieder{1}, Giuseppe Cantarella{2}

{1}Free University of Bozen-Bolzano, Italy; {2}University of Modena and Reggio Emilia, Italy; {3}University of Surrey, United Kingdom

Flexible and Printed Integrated Circuits and Sensors (Invited)...10

Sungjune Jung

Pohang University of Science and Technology, Korea

12:30 – 14:20

Session 1SC: Energy Harvesting and Storage I

Room: Santa Clara

Chairs: Nazek El-Atab, King Abdullah University of Science and Technology, Saudi Arabia; Wenzhuo Wu, Purdue University, USA

Transition Metal Dichalcogenide Solar Cells Enabling Widespread Solar Adoption (Invited)...13

Koosha Nassiri Nazif, Eric Pop, Krishna Saraswat

Stanford University, United States

III-V Materials Development Using Dynamic Hydride Vapor Phase Epitaxy (Invited)...N/A

John Simon, Kevin Schulte, Aaron Ptak

National Renewable Energy Laboratory, United States

Development of Triboelectric Nanogenerator Using Flexible 3D Printed Polyamide...16

Muhammad Wajahat{1}, Abbas Z. Kouzani{1}, Sui Yang Khoo{1}, M. A. Parvez Mahmud{2}
{1}Deakin University, Australia; {2}University of Melbourne, Australia

Flexible Zinc-Ion Hybrid Supercapacitor with High Areal Capacitance Based on a Redox Iodide Ion Electrolyte and High Mass Loading Cathode...19

Yinghao Xie{1}, Guoshen Yang{1}, Gangrui Qu{1}, Xiaohong Tan{1}, Shiqiang Luo{2}, Hang Zhou{1}
{1}Peking University Shenzhen Graduate School, China; {2}Zinergy Shenzhen Ltd., China

12:30 – 14:25**Session 1CA: Sensors, Actuators, and Bioelectronics I****Room: Carmel****Chairs: Siddhartha Panda, Indian Institute of Technology Kanpur, India; Amay Bhandodkar, North Carolina State University, USA****Wearable Sensors for Non-Invasive Sport Monitoring: an Overview of the STEX Project (Invited)...22**

Martina Aurora Costa Angeli{1}, Mattia Petrelli{1}, Alessandra Scarton{2}, Silvia Pogliaghi{3}, Luca Ferrari{3}, Gianluca Bochicchio{3}, Akm Sarwar Inam{1}, Antonio Altana{1}, Mallikarjun Madagalam{1}, Roberto Biasi{2}, Luisa Petti{1}, Paolo Lugli{1}
{1}Free University of Bozen-Bolzano, Italy; {2}Microgate Srl, Italy; {3}University of Verona, Italy

Characteristics of Flexible Pressure Sensors Based on Multi-Level Textures Film Generated by Fabric Mold...25

Rui Zhu, Ziling Jiang, Lihong Kang, Jie Zhang
Jiangnan University, China

Biomimetic Polymer Electronics for Intimate biointerfaces (Invited)...N/A

Sihong Wang
The University of Chicago, United States

12:30 – 13:50**Session 1MO: Circuits and Systems Integration****Room: Monterey****Chairs: Min Zhang, Peking University Shenzhen Graduate School, Shenzhen, China; Harish Subbaraman, Oregon State University, Corvallis, OR, USA****An Intrinsically Flexible All-Carbon Differential Amplifier with High Gain and Bandwidth...28**

Tianyu Zhu, Wanting Wang, Jiahao Zhu, Min Zhang
Peking University Shenzhen Graduate School, China

Fully-Printed Flexible Indium-Tin-Oxide Thin-Film Transistors and Logic Circuits...31

Kun Liang, Huihui Ren, Bowen Zhu
Westlake University, China

Seamless, Soft and Battery-Free Organ Interfaces (Invited)...N/A

Philipp Gutruf
The University of Arizona, United States

14:25 – 15:10**Poster Session and Break****Room: Gateway Foyer****Improving the Electrical Performance of RF-Sputtered InSnZnO Thin-Film Transistors via Octadecylphosphonic Acid Self-Assembled Monolayer...33**

Feilian Chen{2}, Yunhao Wan{2}, Zhiying Chen{1}, Dongbu Yang{2}, Zhendong Jiang{2}, Guanming Zhu{2}, Meng Zhang{2}
{1}Nanyang Technological University, Singapore; {2}Shenzhen University, China

Low Power 30 MHz D Flip-Flop in a Flexible a-IGZO Thin-Film Transistor Technology...37

Lautaro Nicolas Petruskas{1}, Bahman Kheradmand Boroujeni{2}, Frank Ellinger{3}
Technische Universität Dresden, Iran{2}; Technische Universität Dresden, Germany{3}; Technische Universität Dresden, Lithuania{1}

Instrumented Glove Assessment of Asymmetric Spasticity Progression...40

Jiaxi Liu{2}, Andrew Skalsky{1}, Alyssa Wieand{1}, Anna Jensen{1}, Cagri Yalcin{2}, Mya Verrett{2}, Harinath Garudadri{2}, Tse Nga Ng{2}
{1}Rady Children's Hospital, United States; {2}University of California San Diego, United States

A Low-Cost Flexible Wrist ECG Sensor for Wearable Devices Application...43

Taeil Kim{1}, Qian Yi{2}, Sina Hassanpoor{1}, Rahim Esfandyarpour{2}
{1}Baylor University, United States; {2}University of California Irvine, United States

A Segmented DAC Using a-IGZO TFTs for Memristor Based Neural Network Accelerators...46

Sagar Das{2}, Suyash Shrivastava{2}, Pydi Bahubalindrani{2}, Asal Kiazadeh{1}
{1}i3N/CENIMAT, Universidade Nova de Lisboa, Portugal; {2}Indian Institute of Science Education and Research, Bhopal, India

Plasma Jet Deposition and Self-Sintering of Gold Nanoparticle Ink for Flexible Electronics...49

Jacob Manzi{2}, Tony Varghese{1}, Anupama Dhamala{1}, Lakshmi Prakasan{2}, Josh Eixenberger Eixenberger{1}, Nirmala Kandadai{2}, David Estrada{1}, Harish Subbaraman{2}
{1}Boise State University, United States; {2}Oregon State University, United States

Technology Development of High-Performance Printed Organic Thin-Film Transistors...52

Woojo Kim{1}, Keehoon Kang{3}, Christian Nielsen{2}, Sungjune Jung{1}
{1}Pohang University of Science and Technology, Korea; {2}Queen Mary University of London, United Kingdom; {3}Seoul National University, Korea

Direct Synthesis of Printable 2D Material Inks Using LASIS...55

Devyn Z. Duryea, Nirmala Kandadai
Oregon State University, United States

A 66.67Khz 4.953 nJ/Conv-Step 5B Fully Integrated Asynchronous SAR ADC Using 4μm LTPS TFTs...58

Hongtian Li{3}, Jianglong Liu{1}, Wenjun Tang{1}, Huazhong Yang{1}, Chen Jiang{1}, Sheng Zhang{2}, Xueqing Li{1}
{1}BNRist, Tsinghua University, China; {2}Tsinghua Shenzhen International Graduate School, China; {3}Tsinghua University, China

Design and Optimization of Inkjet-Printed Electrodes for Flexible Thin-Film Transistors...61

Gyungin Ryu, Youngmin Jo, Woojo Kim, Sungjune Jung
Pohang University of Science and Technology, Korea

Always-on Low Standby Power Active Pressure Sensor Pixel Based on LTPO Hybrid Thin Film Transistor Integration...64

Chengrong Zhang, Bang Ouyang, Li'ang Deng, Xiaojun Guo
Shanghai Jiao Tong University, China

Flexible Active-Matrix Photo-Sensing Array Based on Solution-Processed Organic Thin-Film Transistors...67

Xiaokuan Yin, Wei Tang, Lei Han, Jun Li, Yukun Huang, Yuezeng Su, Xiaojun Guo
Shanghai Jiao Tong University, China

Simulating the Geometry Dependence in Heat Generation During Photonic Curing: Enabling High-Temperature Processing of TFTs on Plastic...70

Neel Chatterjee, Sarah Swisher
University of Minnesota, Twin Cities, United States

Thermal Conductivity of Printed Thin Metals Using Modulated Photothermal Radiometry...73

Javier Corona, Nirmala Kandadai
Oregon State University, United States

Solar Energy in Kingdom of Saudi Arabia in New Plan and the Effect of High Temperature on Efficiency...76

Osama Al Salman, Ahmed Telba
King Saud University, Saudi Arabia

A Comparative Analysis of Trust Management Models for Wireless Sensor Networks...81

Pranav Gangwani, Alexander Perez-Pons, Himanshu Upadhyay
Florida International University, United States

Direct Ink-Writing Extrusion-Based Additive Manufacturing of Silver Nanowire Composite Flexible Neuroelectrodes for Epidural Neuromodulation Applications...N/A

James Britton
University of Galway, Ireland

High Performance Ultra-Flexible Organic Electrochemical Transistors Through Reduction Parasitic Resistance...N/A

Inho Lee, Dongjoon Shin, Sungjun Park
Ajou University, Korea

Highly Sensitive and Wide-Range of SARS-CoV-2 Detection via Recyclable Electrolyte-Gate IGZO Thin-Film Transistors...N/A

Chuljin Hwang{1}, Seokhyeon Baek{1}, Won-June Lee{2}, Sungjun Park{1}
{1}Ajou University, Korea; {2}Purdue University, United States

15:10 – 17:00

Session 2SJ: Functionalities, Performance, and Reliability I

Room: San Jose

Chairs: Debkalpa Goswami, Cleveland Clinic, USA; Peyman Servati, University of British Columbia, Canada

Printed 2D WS2 Based Photodetectors and 2D MXene-Based Electromagnetic Interference Shields (Invited)...84

Subhankar Debnath, Sanjoy Sur Roy, Meyya Meyyappan, Pravat Kumar Giri
Indian Institute of Technology Guwahati, India

Reliability Analysis of Laminated Oxide/Metal/Oxide Flexible Conductors Through Cyclic Bending After Accelerated Weathering...87

Yu-Han Kao, Hung-Shuo Chang, Chiao-Chi Lin
Feng Chia University, Taiwan

High Quality-Factor Planar Inductors Compatible with Flexible Large-Area Electronics for Integrated IoT and 5G/6G Applications...90

Yue Ma, Sigurd Wagner, Naveen Verma, James Sturm
Princeton University, United States

15:10 – 16:55

Session 2SC: Heterogeneous Integration and Manufacturing

Room: Santa Clara

Chairs: Arokia Nathan, Shandong University, Qingdao, China; Woo Soo Kim, Simon Fraser University, Vancouver, Canada

Plasma Jet Printing for Flexible Hybrid Electronics – a Review (Invited)...93

Jacob Manzi{2}, David Estrada{1}, Harish Subbaraman{2}
{1}Boise State University, United States; {2}Oregon State University, United States

Sub-Micron Oxide TFT for the Era of Oxide-Based Display...96

Yuqing Zhang{3}, Jiye Li{1}, Jilin Li{1}, Huan Yang{1}, Mansun Chan{2}, Xinwei Wang{1}, Shengdong Zhang{1}, Lei Lu{4}
{1}Hong Kong University of Science and Technology, China; {2}Peking University, China; {3}Peking University / Hong Kong University of Science and Technology, China; {4}Peking University Shenzhen Graduate School, China

Laser Sintering of Various Film Compositions Used in Flexible Printed Electronics...99

Ellie Schlake, Javier Corona, Nirmala Kandadai
Oregon State University, United States

Functional Composite Silicone Made by Roll-to-Roll Manufacturing for Sensing Applications and Circular Economy...102

Padmanabh Pancham{3}, Anupam Mukherjee{2}, Boong Yuan{4}, Peichen Yu{4}, Gufran Ahmad{1}, Sandipan Mallik{5}, Cheng-Yao Lo{3}
{1}Dayalbagh Educational Institute, India; {2}General Silicones, Taiwan; {3}National Tsing Hua University, Taiwan; {4}National Yang Ming Chiao Tung University, Taiwan; {5}NIST, India

15:10 – 16:35

Session 2CA: Emerging Application and Products I

Room: Carmel

Chairs: Sanjiv Sambandan, Indian Institute of Science, India; Martina Costa Angeli, Free University of Bozen-Bolzano, Italy

Reservoir Computing Based on a Solid Electrolyte ZnO TFT : an Attractive Platform for Flexible Edge Computing (Invited)...105

Xiaoyao Song{2}, Ankit Gaurav{1}, Premlal B Pillai{2}, Ashwani Kumar{2}, Sanjeev Manhas{1}, Aditya Gilra{2}, Eleni Vasilaki{2}, Maria Merlyne De Souza{2} {1}Indian Institute of Technology Roorkee, India; {2}University of Sheffield, United Kingdom

Direct Ink Writing of Stretchable Organic Thermoelectrics (Invited)...108

Hasan Emre Baysal, Francisco Molina-Lopez
Katholieke Universiteit Leuven, Belgium

Security Enhanced Hybrid Electronic System in Foil for Temperature Sensing...111

Alexander Scholz{5}, Tim Wolfer{1}, Martin Friedrich{2}, Björn Albrecht{4}, Sophie Sauva{5}, Thomas Kister{3}, Makara Lay{3}, Saeed Abdolnizhad{6}, Wacime Hadrich{6}, Shawon Alam{5}, Georg Dost{7}, Christine Harendt{4}, Axel Sikora{6}, Tobias Kraus{3}, J {1}CFPT, Continental AG, Germany; {2}Cyient GmbH, Germany; {3}INM Leibniz Institute for New Materials gGmbH, Germany; {4}Institut für Mikroelektronik Stuttgart, Germany; {5}INT, Karlsruhe Institute of Technology, Germany; {6}ivESK, Offenburg University of Applied Sciences

15:10 – 16:55

Session 2MO: Flexible and Printable Solutions for RFID

Room: Monterey

Chairs: Niels Benson, University of Duisburg-Essen, Germany; Jeong Park, University of Nevada, Reno, NV, USA

Organic Electronic Materials in Microwave Metadevices: Challenges and Opportunities (Invited)...114

Giorgio Ernesto Bonacchini

Istituto Italiano di Tecnologia, Italy

Effects of Flexible Plastic Substrate Parameters and Conductive Ink Characteristics on the Performance of a Printed Frequency Selective Surface...116

Kam Kedze{1}, Wenyu Zhou{1}, Gaozhi Xiao{2}, Jafar Shaker{1}, Rony Amaya{1}

{1}Carleton University, Canada; {2}National Research Council of Canada, Canada

Monopole Antenna Modeling and Optimization for 5G Communication System Using Machine Learning...N/A

Meshari Alsharari, Ammar Armghan, Khaled Aliqab

Jouf University, Saudi Arabia

17:00 – 17:30

Break and Author's Interview

Room: Gateway Foyer

17:00 – 19:00

Women in Electron Devices Society and Young Professionals Event

Room: Monterey

19:00 – 21:00

Welcome Reception

Room: Pine Cedar

IFETC 2023- Tuesday, August 15, 2023

8:30 – 11:15

Plenary Session

Room: Oak Fir

Chair: Muhammad Mustafa Hussain, Purdue University, West Lafayette, IN, USA

Electronic Skins for Robotics and Healthcare Applications...N/A

Takao Someya

The University of Tokyo, Japan

9:30 – 9:40

Break

Room: Gateway Foyer

9:40 – 11:10

Session 3SJ: Functionalities, Performance, and Reliability II

Room: San Jose

Chairs: Debkalpa Goswami, Cleveland Clinic, USA; Peyman Servati, University of British Columbia, Canada

3D Printable Hydrogel Bioelectronic Interfaces for Various Organs (Invited)...118

Tao Zhou

Pennsylvania State University, United States

Solvent-Free Manufacturing of Electrodes for Lithium-Ion Batteries (Invited)...N/A

Heng Pan

Texas A&M University, United States

Understanding and Improving Metal Halide Perovskite Stability Across Length Scales (Invited)...N/A

Adam Printz, Yanan Li, Patrick Lohr, Anton Samoylov, Matthew Dailey

University of Arizona, United States

9:40 – 11:35

Session 3SC: Materials, Devices, and Processing II

Room: Santa Clara

Chairs: Tina Ng, University of California, San Diego, USA; Sungjune Jung, Pohang University of Science and Technology, Pohang, South Korea

Fully Printed Nickel Oxide Thermistor Array for Real-Time Temperature Monitoring (Invited)...N/A

Ana Claudia Arias, Jonathan Ting, Natasha Yamamoto, Yasser Khan, Abhinav Gaikwad

University of California Berkeley, United States

Sol-Gel Cupric Oxide Thin Film Transistors: Alkali Metal Doping for Low Temperature Flexible Devices...120

Seokhyeon Baek, Jeongyeon Na, Wonsik Kim, Chuljin Hwang, Sungjun Park

Ajou University, Korea

Flexible Electronics Enabled by Low-Dimensional Materials (Invited)...123

Elisabetta Dimaggio, Gianluca Fiori

University of Pisa, Italy

9:40 – 11:25

Session 3CA: Sensors, Actuators, and Bioelectronics II

Room: Carmel

Chairs: Siddhartha Panda, Indian Institute of Technology, Kanpur, India; Amay Bandodkar, North Carolina State University, USA

Thin-Film Temperature Sensor on Flexible Peek Fabric...126

Albert Heinrich Lanthaler^{1}, Federica Catania^{1}, Hugo De Souza Oliveira^{1}, Carlos Ballardin Beltrami^{1}, Alejandro Carrasco-Pena^{1}, Michael Haller^{1}, Niko Müntenrieder^{1}, Giuseppe Cantarella^{2} ^{1}Free University of Bozen-Bolzano, Italy;

^{2}University of Modena and Reggio Emilia, Italy

Flexible Conjugated Polymer Based Vertical Diode Temperature and Ammonia Gas Sensors for Medical Applications...129

Annelot Nijkoops{1}, Manuela Ciocca{1}, Paolo Mariani{2}, Soufiane Krik{1}, Enrico Avancini{1}, Jessica Barichello{2}, Fabio Matteocci{2}, Martina Aurora Costa Angeli{1}, Paolo Lugli{1}, Luisa Petti{1}

{1}Free University of Bozen-Bolzano, Italy; {2}University of Rome Tor Vergata, Italy

Battery-Free Wearable Electrochemical Sweat Sensors...132

Jihong Min, Wei Gao

California Institute of Technology, United States

11:35 – 12:35

Luncheon Talk: Marketing the Unknown

Room: Pine Cedar

Speaker: Sri Peruvemba, Marketer International, Inc., San Ramon, USA

12:40 – 14:10

Session 4S1: Functionalities, Performance, and Reliability III

Room: San Jose

Chairs: Debkalpa Goswami, Cleveland Clinic, USA; Peyman Servati, University of British Columbia, Canada

Conductive Atomic Force Microscopy for Flexible Electronics Research (Invited)...N/A

Mario Lanza

King Abdullah University of Science and Technology, Saudi Arabia

12:40 – 14:30

Session 4SC: Emerging Applications and Products II

Room: Santa Clara

Chairs: Sanjiv Sambandan, Indian Institute of Science, India; Saptarshi Das, Pennsylvania State University, University Park, PA, USA

Possibility of Using Fractal Web Based Interconnects in Smart Textiles in Terms of Mechanical and Electrical Performance...137

Ananya Bhattacharjee, Ratul Kumar Baruah

Tezpur University, India

A Robust Printed Strain Sensor for Large-Area Structural Health Monitoring...140

Md Farhad Hassan, Zijie Li, Mohammad Shafiqul Islam, Kathryn Keenan, Cevina Manzano, Yasser Khan, Sifat Muin University of Southern California, United States

12:40 – 14:35

Session 4CA: Sensors, Actuators, and Bioelectronics III

Room: Carmel

Chairs: Siddhartha Panda, Indian Institute of Technology Kanpur, India; Amay Bandodkar, North Carolina State University, USA

Skin-Like, Scalable, and Accessible Wearables for Mental Health (Invited)...N/A

Yasser Khan University of Southern California, United States

All-Printed Smart Dressing for Chronic Wound Monitoring (Invited)...143

Nga Dau Thi Ngoc{1}, Thu Vu Thi{2}, Vincent Noël{1}, Benoît Piro{1}, Giorgio Mattana{1} {1}Université Paris Cité, France; {2}University of Science and Technology of Hanoi, Vietnam 3D Printing of Highly Sensitive Multi-Layered Flexible Tactile Sensors

Meshari Alsharari Jouf University, Saudi Arabia

14:35 – 15:30

Poster Session and Break

Room: Gateway Foyer

15:30 – 16:50

Session 5SJ: Energy Harvesting and Storage II

Room: San Jose

Chairs: Nazek El-Atab, King Abdullah University of Science and Technology, Saudi Arabia; Wenzhuo Wu, Purdue University, USA

Improving Electro-Deposition of Manganese Oxide Cathode by Chloride Anions for Ultra-Thin Flexible Zinc Battery...146

Shiqiang Luo{2}, Shiwei Liu{2}, Guoshen Yang{1}, Yinghao Xie{1}, Pritesh Hiralal{2}, Zanxiang Nie{2}, Gehan A.J. Amaratunga{2}, Hang Zhou{1} {1}Peking University Shenzhen Graduate School, China; {2}Zinergy Shenzhen Ltd., China

Electro-Polymerization Process with Double-Sided Electrodes for Supercapacitors...149

Nandu Koripally{2}, Lulu Yao{2}, Naresh Eedugurala{1}, Jason Azoulay{1}, Tse Nga Ng{2} {1}Georgia Institute of Technology, United States; {2}University of California San Diego, United States

15:30 – 17:25

Session 5SC: Emerging Applications and Products III

Room: Santa Clara

Chairs: Sanjiv Sambandan, Indian Institute of Science, India; Yasser Khan, University of Southern California, Los Angeles, USA

Thin Film Optoelectronic Devices Based on Chitosan and Carbon Dots from Biowaste Upcycling (Invited)...152

Giovanni Antonio Salvatore, Jacopo Nicoletti, Domenico De Fazio
University Ca Foscari of Venice, Italy

Unobtrusive Thin-Film Devices and Sustainable Green Electronics (Invited)...155

Giuseppe Cantarella{2}, Federica Catania{1}, Dianne Corsino{1}, Niko Münzenrieder{1} {1}Free University of Bozen-Bolzano, Italy; {2}University of Modena and Reggio Emilia, Italy

Parallel Input Serial Output a-Si TFT Digital Microfluidic Goa Shift Register...158

Wenyue Zhao{2}, Dongping Wang{1}, Shengzhe Jiang{2}, Yingbo Wei{2}, Tianqi Yang{2}, Hanbin Ma{1}, Jun Yu{2} {1}CAS Key Lab of Bio-Medical Diagnostics, Suzhou Institute of Biomedical Engineering & Technology, China; {2}Shandong University, China

Rubbery Electronics Toward Seamless Integration with Soft Deformable Tissues (Invited)...N/A

Cunjiang Yu
Pennsylvania State University, United States

17:25 – 18:00

Break and Authors' Interview

Room: Gateway Foyer

18:00 – 19:30

Evening Discussion Panel: Why and How Investment Would Accelerate Growth in Flexible/Printable Electronics Industry

Room: Oak Fir

Moderator: Aabid Husain, Atomera, Los Gatos, CA, USA Panelists: Kris Vulgan, Founding Partner, Ferocity Capital LLC, Alameda, CA, USA; Ekta Dang, CEO and Founder, U First Capital, Silicon Valley, CA, USA

IFETC 2023- Wednesday, August 16, 2023

8:30 – 9:30

Plenary Session

Room: Oak Fir

Chair: Muhammad Mustafa Hussain, Purdue University, West Lafayette, IN, USA

Skin-Inspired Sensors, Integrated Circuits and Bioelectronics...N/A

Zhenan Bao Stanford University

9:30 – 9:40

Break

Room: Gateway Foyer

9:40 – 11:10

Session 6G: Selected Topics on Flexible Electronics

Room: Oak Fir

Chairs: Jeong Park, University of Nevada, Reno, NV, USA; Arokia Nathan, Shandong University, Qingdao, China

The Textile Is the Substrate: Challenges of Direct-on-Fabric Wearables (Invited)...160

Bonnie Gray

Simon Fraser University, Canada

Self-Driving Laboratory for Polymer Electronics (Invited)...N/A

Jie Xu

Argonne National Laboratory, United States

Smart Wearable Electronics for Chronic Disease Management (Invited)...N/A

Simiao Niu

Rutgers University, United States

11:10 – 12:00

Session 7G: CAD-TFT Workshop I

Room: Oak Fir

Chairs: Arokia Nathan, Shandong University, Qingdao, China; Samar Saha, Prospicient Devices, Milpitas, CA, USA

12:00 – 13:00

Lunch

Room: Pine Cedar

13:00 – 15:30

Session 8G: CAD-TFT Workshop II

Room: Oak Fir

Chairs: Arokia Nathan, Shandong University, Qingdao, China; Samar Saha, Prospicient Devices, Milpitas, CA, USA

15:30 – 15:45

Closing

Room: Oak Fir