[IEEE IFETC2019] August 11-14, 2019 Detailed Program

Sunday, August 11th 2019

15:00 - 18:00	Conference registration (Harbour Centre Concourse)

Monday, August 12th 2019

7:30	Conference registration (Harbour Centre Concourse)			
8:30	Opening remarks (Fletcher Challenge Theatre)			
8:45 - 9:45	**Plenary Talk #1 (Fletcher Challenge Theatre) Porf. John A. Rogers: "Flexible Electronics in Digital Medicine"**			
9:45 - 10:10	Coffee Break (Harbour Centre Concourse)			
10:10 - 11:10	**Plenary Talk #2 (Fletcher Challenge Theatre) Porf. Arokia Nathan: "Integration Strategies for Ultra Low Power Flexible Electronics"**			
	Room 1400 & 1410		**Room 1420 & 1430**	
11:10-12:10	**Tutorial #1: Prof. Peyman Servati, UBC Canada, "Stretchable electronic skin and smart textile for health and medical applications"**		**Tutorial #2: Dr. Guozhen Shen in Chinese Science Academy, China, "Tuning nanowire photodetectors for flexible image sensors"**	
12:10 - 1:15	Lunch			
	Room 1400	**Room 1410**	**Room 1420**	**Room 1430**
1:15 - 3:20 PM	**Session 1.1 Flexible Sensors and Smart IoTs I, Chair: Prof. Byron Gates** **1:15-1:40 [Invited]** Printed Electronic Sensor Applications: From Simple to Extreme Environments, Prof. Harish Subbaraman	**Session 1.2 Flexible Sensors and Smart IoTs II, Chair: Prof. Irene Goldthorpe** **1:15-1:40 [Invited]** Fully Printable and Autonomously Powered Electronic Nodes for the Internet of Everything, Prof. Paul R.Berger	**Session 2.1 Flexible Thin Film Circuits I, Chair: Prof Bonnie Gray** **1:15-1:40 [Invited]** Low Power Organic Interface Electronics, Prof. Xiaojun Guo	**Session 2.2 Flexible Thin Film Circuits II, Chair: Dr. Ta-Ya Chu** **1:15-1:40 [Invited]** Essential requirements for the commercialization of organic printed transistors and integrated circuits, Prof. Sungjune Jung
	1:40-2:05 [Invited] Flexible Printed Acoustic Sensors . Prof. Sharmistha Bhadra	**1:40-2:05 [Invited]** 3D-printed Flexible Chemical Sensing Solutions for Internet-of-Things, Prof. Woo Soo Kim	**1:40-2:05 [Invited]** Interface abd sub-gap states density extraction model from the field effect Characteristics of amorphous thin film transistors, Prof. Ling Li	**1:40-2:05 [Invited]** Passive Sensing with Embroidered Electronics, Prof. Terry Ye
	2:05-2:20 1570548371 Fall Detection with Neural Networks, Gaojing Wang	**2:05-2:20** 1570544114 New Ion-selective Sensing Platform: Additively Manufactured Flexible Digital Microfluidic System, Xin Min	**2:05-2:20** 1570539636 A Study on Pentacene OTFTs by Using NdTiON as Gate Dielectric, Y. X. Ma	**2:05-2:20** 1570539640 Flexible Printed Top-Contact Organic Thin-Film Transistors, Yongwoo Lee
	2:20-2:35 1570539537 A Fully Inkjet-Printed Flexible Microwave Multiresonator Circuit for Concentration Measurements of Liquid Solutions, Zonghao Li	**2:20-2:35** 1570547217 3D Printed Disposable Wireless Ion Selective Sensing Platform, Taeil Kim	**2:20-2:35** 1570541656 Island Thickness Effects for Stretchable InGaZnO Thin Film Transistors on Wavy-Dimensional Elastomer Substrate, Hye-Won Jang	**2:20-2:35** 1570548956 Heterogeneous Integration of InGaN Micro-LEDs with a:si TFT Arrays on Flexible Substrates, Mohsen Asad
	2:35-2:50 1570548948 Development of Capacitive Wearable Patches and Bands for Data Fusion in Complex Physical Activities, Akanksha Rohit	**2:35-2:50** 1570539225 Peptide-functionalized Single-walled Carbon Nanotube Field-effect Transistors for Monitoring Volatile Organic Compounds in Breath, Daniel Sim	**2:35-2:50** 1570548946 2-Volt Solution-Processed, Indium Oxide (In2O3) Thin Film Transistors on Flexible Kapton, Sagar R. Bhalerao	**2:35-2:50** 1570549003 Sigma-Delta Modulation for SMES-Based DVR, Pooya Taheri
	2:50-3:05 1570539735 Smart Contact Lenses Integrated on Soft Contact Lenses for Wireless Ocular Diagnostics, Joohee Kim	**2:50-3:05** 1570543765 Smart Thread Based pH Sensitive Antimicrobial Wound Dressing, Lucas R. Karperien	**2:50-3:05** 1570548947 Characteristics of Single Crystal MoS2 TFTs Using Inkjet-Printed Electrodes, M. Nouri	**2:50-3:05** 1570537461 Flexible Circuits Based on Aluminum Conductor and Nonwoven Substrate, Xiaotian Li
	3:05-3:20 1570546938 Characterization of Rigid and Flexible 3D Printed Planar Antennas, T. Searles	**3:05-3:20** 1570541307 Flexible BaTiO3-PDMS Composite Thin Films for Sensing Applications, Kiran Kumar Sappati	**3:05-3:20** 1570548322 Thin-film Transistor Electrical Performance of Hybrid MoS2-P3HT Semiconductor Layers, Naeun Kim	**3:05-3:20** 1570547342 3D Printed Flexible Integrated LC Circuits, C. Bao
3:20 - 3:45 PM	Coffee Break (Harbour Centre Concourse)			
	Room 1400	**Room 1410**	**Room 1420**	**Room 1430**
3:45 - 5:45 PM	**Session 3.1 Material Innovations in Flexible Electronics I, Chair: Prof. Sungjune Jung** **3:45-4:10 [Invited]** Printable Silicon for a novel RFID system approach on flexible substrates, Prof. Niels Benson	**Session 3.2 Material Innovations in Flexible Electronics II, Chair: Prof. Paul R.Berger** **3:45-4:10 [Invited]** Siloxane Based Flexible Hard Coating on Cover Window Plastic Film for Implementation of Reliable Foldable Smartphone, Prof Byeong-Soo Bae	**Session 1.3 Flexible Sensors and Smart IoTs III, Chair: Prof. Xiaojun Guo** **3:45-4:10 [Invited]** Biomarker Sensor Development for Human Performance and Protection, Dr. Steve S. Kim	**Session 1.4 Flexible Sensors and Smart IoTs IV, Chair: Dr. Patrick Malenfant** **3:45-4:10 [Invited]** Transforming Soft Bioelectronics with Nanomeshed Material Components, Prof. Hui Fang
	4:10-4:35 [Invited] Silver nanowires for printable, flexible electronics: transparent electrodes and e-textiles, Prof. Irene Goldthorpe	**4:10-4:35 [Invited]** Tuning the Surface Chemistry of Materials through the Alcohol Condensation Reaction, Prof. Byron Gates	**4:10-4:35 [Invited]** High-Resolution Printing Methods for Flexible Sensor Platforms, Prof Jang-Ung Park	**4:10-4:35 [Invited]** Integrated microfluidic and electronic platforms for flexible and wearable devices and systems, Prof Bonnie Gray
	4:35-4:50 1570548376 Nanowoven Electrospun Nanofibers, Mikhail Kanygin	**4:35-4:50** 1570540637 Photodetector Based on All-inorganic Perovskite Quantum Dots with Ring Electrode, Qing Li	**4:35-4:50** 1570549315 A Low-Cost Chalcogenide Ion Sensitive Electrode for Copper Sensing with an LoD < 20 Ppb, Priya Vinayak	**4:35-4:50** 1570547467 Bending and Frequency Response of Piezo-sensor, C. Rokaya
	4:50-5:05 1570548390 Laser Scribed Carbon Layers: Process Optimization & Sensor Applications, Tianyi Cai	**4:50-5:05** 1570549075 Resistive Switching Behaviour of PVP/HfOx Hybrid RRAM on Flexible Substrate, Ishan Varun	**4:50-5:05** 1570549182 Synthesis of Monodisperse Ag2Se Quantum Dots with Elevated Precursor Reactivity for the Application in near Infrared Photodetectors, Jianying Ouyang	**4:50-5:05** 1570548161 All-solid dual-pH Electrolyte Electrochemical Capacitor, Haoran Wu
	5:05-5:20 1570548417 Modeling the Mechanical Performance of Foldable Display Under Cyclic Loading, Mukunda Madhava Nath	**5:05-5:20** 1570541372 Effect of Mechanical Cycling on the Magnetic Properties of Permalloy Films Electroplated on Stretchable Substrates, Connor S. Smith	**5:05-5:20** 1570549274 Thin Film GaAs Devices on Epi-Ready Metal Substrates for Flexible Photovoltaics and Flexible Electronics, V. Selvamanickam	**5:05-5:20** 1570549816 Signal Quality Analysis of Electrocardiogram Textile Electrodes for Smart Apparel Applications, Katherine Le
	5:20-5:35 1570547893 A Phase-Separated Polymer Blocking Layer for Enhancing Data Retention in Flexible Printed Nonvolatile Organic Memories, Woojo Kim	**5:20-5:35** 1570549180 Construction and Testing of a Functional Multilayer Demonstration Circuit Made with Gallium Indium Tin Metal Gel and Non-Silicone Stretchable Thermosetting Film, Mark Ronay	**5:20-5:35** 1570544558 Artificial Neural Network Modelling and Simulation of Organic Field Effect Transistors and Circuits, Ryan H. Griffin	**5:20-5:35** 1570548412 Ion Penetration Model of SiO2/SiNx/SiO2 Barrier Trilayer for Implantable Electronics, Chen Liu
5:45 - 7:00 PM	**Poster session & Welcome reception (Harbour Centre Concourse)**			

Tuesday, August 13th 2019

8:00 - 8:30	Coffee Break (Harbour Centre Concourse)		
8:30 - 9:30	**Plenary Talk #3 (Fletcher Challenge Theatre) Dr. Jupiter Hu, Deputy General Director at ITRI, "Roll-to-roll processes for flexible electronics"**		
	Room 1400	**Room 1410**	**Room 1420 &1430**
9:30 - 12:00 PM	**Session 3.3 Material Innovations in Flexible Electronics III, Chair: Prof. Keryn Lian**	**Session 3.4 Material Innovations in Flexible Electronics IV, Chair: Prof. Fabio Cicoira**	**Special Invited Sesssion #1: Emerging Materials and Devices for Advanced Soft Implantable Systems** Chair: Prof. **Hui Fang**, Northeastern University, USA
	9:30-9:55 [Invited] A Study on the Dynamic Bending Reliability of Chip-in-Flex and -Fabrics(CIFs) Packages using Anisotropic Conductive Films (ACFs) Materials for Flexible Electronic Applications, Prof. Kyung-Wook Paik	**9:30-9:55 [Invited]** Responsive Liquid Metals for Reconfigurable, Ultra-Stretchable, and Self-Healing Electronics, Dr. Christopher Tabor	**9:30-9:55** Microelectrode Arrays for Large Scale Clinical Mapping: Electrochemical and Density Considerations, Prof. Shadi A. Dayeh
	9:55-10:20 [Invited] Light Management in Core-Shell Silicon Nanowire Solar Cells, Prof. Michael Adachi	**9:55-10:20 [Invited]** Strategies for Mechanically Reliable Thin-Film Flexible Electronics, Prof. Taek-Soo Kim	**9:55-10:20** Flexible injectable probe for chronic and acute stress monitoring, Prof. Tae-il Kim
	10:20-10:35 1570539633 Technology Development for Direct-Printed Dual-Gate Organic TFT Circuit Fabrication with 3-D Integration, Jimin Kwon	**10:20-10:35** 1570547844 Collaborative Conception of a R2R Printed Testing Platform for Printed Electronics Standardization, Chloé Bois	**10:20-10:45** Flexible, Hybrid Optoelectronic Implants for Neural Interfaces, Prof. Wen Li
	10:35-10:50 1570544514 TFT Adder Design on Flexible Substrate, Qing Li	**10:35-10:50** 1570548375 Transfer Characteristic of AlGaN/GaN Ridge HEMTs Used for Power Supply Circuits of Flexible Devices, Hitoshi Aoki	**10:45-11:10** Flexible Microsystems for On-Body Sensing and Measuring Tissue Integrated Sensors, Prof. Michael A. Daniele
	10:50-11:05 1570549508 A Flexible Non-Enzymatic Electrochemical Glucose Sensor Using Cu Nanoparticle Graphene Fiber Laser-Induced Graphene Network Electrode, Taeheon Kim	**10:50-11:05** 1570548389 Minimizing Stiction of Microelectromechanical Systems (MEMS) Through Solution.Phase Surface Modification with Alcohols, Austin W.H. Lee	**11:10-11:35** Sticker-like electronics (Sticktronics) for wearable biomedical devices, Prof. Chi Hwan Lee

	11:05-11:20 1570548972 Enhanced Hybrid Copper Conductive Ink for Low Power Direct Laser Sintering, Chaneel I. Park	**11:05- 11:20** 1570549968 Analysis and Design of high.K Material Nanowire Transistor for Improved Performance, Mohinder Bassi	**11:35- 12:00** Multimaterial multifunctional fiber-based neural interfaces, Prof. Xiaoting Jia
	11:20-11:35 1570549875 Single-pass Spray-coated Flexible Organic Solar Cells Using Graphene Transparent Electrodes, Zenan Jiang	**11:20-11:35** 1570549650 Pinhole-free MAPbI3 Perovskite Synthesis on PbICl Interphase Under Excess Iodide Ions by Vapor-Assisted Solution Process, H.Harun Arkaz	
12:00 - 1:15	Lunch		
1:15 - 2:15	**Plenary Talk #4 (Fletcher Challenge Theatre) Dr. Meyya Meyyappan, "Printed Electronics: Equipment, Processing and Applications"**		
	Room 1400 & 1410		**Room 1420 & 1430**
2:15-3:15	**Tutorial #3: Dr. Ta-ya Chu, National Research Council Canada, "From Vacuum Deposition to Solution Process in Organic Electronics"**		**Tutorial #4: Prof. Mark D. Poliks, Binghamton University, USA, "Materials, Printing and Processing of Flexible Hybrid Electronics"**
3:00 - 3:30 PM	Coffee Break (Harbour Centre Concourse)		
	Room 1400 & 1410		**Room 1420 & 1430**
3:30 - 6:00 PM	**Special Invited Sesssion #2: E-Textiles: Energy devices, sensors, and their integration towards wearable healthcare and soft robotics,** Chair: Prof. **Hyun-Joong Chung**, University of Alberta, Canada		**Special Invited Sesssion #3: Flexible Bio-medial Sensors/Electronics** Chair: Prof. **Tae-il Kim**, Sungkyunkwan University, South Korea
	3:30-3:55 System Design Considerations for Textile-Based Electronics, Prof. Jess Jur		**3:30-3:55** Unconventional Bio-integrated Electronics towards Human-Machine Interface, Department of Electrical and Electronic Engineering, Prof. Ki Jun Yu
	3:55-4:20 Super-elastic multi-material fibers for healthcare, advanced textiles and soft robotics, Prof. Fabien Sorin		**3:55-4:20** Imperceptible sensor foils for soft electronics and machines, Prof. Martin Kaltenbrunner
	4:20-4:45 A Solution for Wearable Electronics: Electroless Nickel-Immersion Gold Coatings for Stretchable Conductors and e-Textiles, Prof. Tricia Breen Carmichael		**4:20-4:45** Soft Sensing Devices and Technologies for Wearables, Robotics and Prosthetics Systems, Prof. Benjamin Tee
	4:45-5:10 Electronic textile for skin-mountable biomedical device, Prof. Kyung-In Jang		**4:45-5:10** Wearable and Implantable Devices 'On the Go', Prof. Canan Dagdeviren
	5:10-5:35 Force myography: a step forward, Prof. Carlo Menon		**5:10-5:35** Point-of-use flexible sensors for health and environmental applications: assessment of motor skills and chemical exposure, Prof. Tina Ng
	5:35-6:00 Elastomer/Textile Composites in Wearable Electronics and in Normothermic Ex-Vivo Organ Perfusion Devices, Prof Hyun-Joong Chung		**5:35-6:00** Self-assembled flexible neural probes for stable neural activity recordings, Prof. Ying Fang
6:00 - 8:30 PM	**Banquet** (Segal Building 500 Granville Street)		

Wednesday, August 14th 2019

8:00 - 8:30	Coffee Break (Harbour Centre Concourse)	
8:30-9:30	**Plenary Talk #5 (Fletcher Challenge Theatre) Dr. Ye Tao, "Printable Electronics and Its Role in the Development Power Autonomous Sensors"**	
	Room 1400 & 1410	**Room 1420 & 1430**
9:30-12PM	**Special Invited Sesssion #4: Stretchable electronics and energy devices** Chair: Prof. **Pooi See Lee,** Nanyang Technical University, Singapore	**Special Invited Sesssion #5: Flexible and Stretchable Electronics Technologies and Sensors** Chair: Prof. **Matti Mäntysalo**, Tampere University of Technology, Finland
	9:30-9:55 Adding a new sensing dimension to soft sensors: from the skin to below the skin, Prof. Sheng Xu	**9:30-9:55** Stretchable free-form circuits based on conventional electronic assembly and polymer processing technologies, Prof. Jan Vanfleteren
	9:55-10:20 Recent Progress on Highly Compliant Polymer Electronic and Electromechanically Responsive Materials and Device Explorations, Prof. Qibing Pei	**9:55-10:20** Flexible Printed Organic Electronics and their IoT Sensor Applications, Prof. Shizuo Tokito, Research Centor for Organic Electronics
	10:20-10:45 Powered Platform for All-stretchable Electronics, Prof. Unyong Jeong	**10:20-10:45** Facile Fabrication of Highly Soft Tactile Sensor based on Porous Sponge with Geometry Effect on Sensing Characteristics, Prof. Geng Yang
	10:45-11:10 Flexible, stretchable and healable electronics, Prof. Fabio Cicoira	**10:45-11:10** Printed and Flexible NTC Thermistors Suitable for On-Skin Temperature Monitoring, Dr. Terho Kololuoma
	11:10-11:35 Fully Rubbery Stretchable Electronics and Integrated Devices, Prof. Cunjiang Yu	**11:10-11:35** Performance of fully printed ultra-thin inverter for on-skin biosignal measurements, Mr. Mika-Matti Laurila
	11:35- 12:00 Stretchable and deformable materials and devices for wearable technology, Prof Pooi See Lee	**11:35-12:00** Printed Elastronics for Wearable Biomedical Applications. Prof. Matti Mäntysalo
12:00-1 PM	Lunch	
1:00 - 2:00	**Plenary Talk #6 (Fletcher Challenge Theatre) Prof. Leena Ukkonen, "Reliability of wireless communication and power transfer to small biomedical implants"**	
2:00 - 2:30 PM	Coffee Break (Harbour Centre Concourse)	
	Room 1400 & 1410	**Room 1420 & 1430**
2:30 - 5:00 PM	**Special Invited Sesssion #6: From the Laboratory to the Manufacturing Floor: Scalable Processes for Flexible Electronics** Chairs: Dr. **Scott Miller**, NextFlex and Dr. **Benjamin Leever**, AFRL, USA	**Special Invited Sesssion #7: Material & Process Innovations in Flexible Printed Electronics** Chairs: Prof. **Jie Zhang**, Jiangnan University, China and Prof. **Gyoujin Cho**
	2:30-2:55 Next Generation Process for Electronics, Dr. Jaons Veres	**2:30-2:55** Development of flexible tactile sensor using hybrid manufacturing technologies, Prof. Dr. Toshihide Kamata
	2:55-3:20 Materials & Multi-Scale Patterning Approaches to Inspire Printed Electronics Solutions, Dr. Adam Cook	**2:55-3:20** The Impact of polymer electrolytes on the performace and longevity of solid flexible supercapacitors, Prof. Keryn Lian
	3:20-3:45 Printed Hyrbid Electronics: From Printed Interconnects to Multi-Layer Printed Circuitization and 3D Hybrid Electronics, Dr. Daniel Hines	**3:20-3:45** Nanomaterials for printed electronics", Dr. Patrick Malenfant
	3:45-4:10 Material Challenges for Printed Electronics in the Microwave Domain, Prof. Craig Armiento	**3:45-4:10** Fabricating high performance FACsPb(I/Br)3 perovskite films through printing tehnologies, Prof. Frank Peng
	4:10-4:35 Essential Technologies for the Future of Scalable FHE and Energy Device Additive Manufacturing, Prof. Devin MacKenzie	**4:10-4:35** R2R gravure printed IGZO based rectenna for NFC sensor tags, Dr. Yeonsu Joung
	4:35-5:00 A Manufacturing Case Study: Design & Fabrication of an FHE Programmable Microcontroller, Mr. Wilfried Bair	**4:35-5:00** Fabrication of High-Performance Soft Composites 3D Electronics by Hybrid Modes with Direct Ink Writing, Prof. Yu Liu
6:00 - 8:30 PM	**Invitee Dinner**	

List of Poster papers
1570538580 Flexible Printed Capacitive Force Sensors Based Beehive Weight Monitoring System
1570539633 Technology Development for Direct-Printed Dual-Gate Organic TFT Circuit Fabrication with 3-D Integration
1570539640 Flexible Printed Top-Contact Organic Thin-Film Transistors
1570540637 Photodetector Based on All-inorganic Perovskite Quantum Dots with Ring Electrode
1570548375 Transfer Characteristic of AlGaN/GaN Ridge HEMTs Used for Power Supply Circuits of Flexible Devices
1570548417 Modeling the Mechanical Performance of Foldable Display Under Cyclic Loading
1570548946 2-Volt Solution-Processed, Indium Oxide (In2O3) Thin Film Transistors on Flexible Kapton
1570549003 Sigma-Delta Modulation for SMES-Based DVR
1570550277 Keyboard Mouse Glove with Bluetooth Capabilities for the Physically Impaired