



# 16<sup>th</sup> IEEE International Conference on Smart Cities: Improving Quality of Life using ICT, IoT and AI

## Program

October 06 - 09, 2019  
Charlotte NC, USA  
[honet-ict.org](http://honet-ict.org)

| DAY-0<br>SUNDAY<br>OCTOBER 06, 2019 |   |  |
|-------------------------------------|---|--|
| 14:00 - 17:00                       | Workshop on Role of Smarts in IoT and Smart City Infrastructure and their Projected Applications  | EPIC G287                                |
| 17:00 - 18:00                       | Plenary Talk 1: Ian T. Ferguson<br><b>Topic:</b> A Novel Field-Effect Approach to Improving the Photovoltaic Properties of III-V based Schottky Solar Cells | EPIC G287                                |
| 18:00 - 19:30                       | Tour/Reception  | EPIC Atrium<br>EPIC Rooms<br>Grigg Rooms |

| DAY-1         | MONDAY<br>OCTOBER 07, 2019   |  |             |
|---------------|--|--|-------------|
| TIME          | EVENT  |  | LOCATION    |
| 08:00 - 08:15 | Registration (ongoing)   |  | EPIC G287   |
| 08:15 - 08:30 |  |  |             |
| 08:30 - 08:45 | Welcome  |  | EPIC G287   |
| 08:45 - 09:00 |  |  |             |
| 09:00 - 09:15 | Keynote 1: Jian-Jang Huang<br><b>Topic:</b> Role of solid-state lighting in smart street lamps and IoT applications                    |  | EPIC G287   |
| 09:15 - 09:30 |  |  |             |
| 09:30 - 09:45 |  |  |             |
| 09:45 - 10:00 | Coffee Break & Transition  |  | EPIC Atrium |
| 10:00 - 10:15 | Technical Session 1<br><b>AI for Smart Cities</b><br><br>Venue: EPIC G287  | Technical Session 2<br><b>Computer and Communication Networks /<br/>Wireless Networks</b><br><br>Venue: EPIC G222        |             |
| 10:15 - 10:30 |  |  |             |
| 10:30 - 10:45 |  |  |             |
| 10:45 - 11:00 |  |  |             |
| 11:00 - 11:15 |  |  |             |
| 11:15 - 11:30 |  |  |             |
| 11:30 - 11:45 |  |  |             |
| 11:45 - 12:00 |  |  |             |
| 12:00 - 13:00 | Lunch and Birds of a feather discussion  |  | EPIC Atrium |
| 13:00 - 13:15 | Keynote 2: Hussein Mouftah<br><b>Topic:</b> Connected and Autonomous Electric Vehicles in Smart Cities                                 |  | EPIC G287   |
| 13:15 - 13:30 |  |  |             |
| 13:30 - 13:45 |  |  |             |
| 13:45 - 14:00 | Transition   |  |             |
| 14:00 - 14:15 | Symposium on Photonics for Future<br>Technologies<br>Venue: EPIC G287  | Poster Session<br><br>Venue: EPIC Atrium<br><small>(All posters to be displayed. Authors must accompany posters)</small> | EPIC Atrium |
| 14:15 - 14:30 |  |  |             |
| 14:30 - 14:45 |  |  |             |
| 14:45 - 15:00 |  |  |             |
| 15:00 - 15:15 | Coffee Break   |  |             |
| 15:15 - 15:30 |  |  |             |
| 15:30 - 15:45 | Symposium on Photonics for Future<br>Technologies contd...   | Technical Session 3<br><b>Energy and Power Technologies</b><br><br>Venue: EPIC G222                                      |             |
| 15:45 - 16:00 |  |  |             |
| 16:00 - 16:15 |  |  |             |
| 16:15 - 16:30 |  |  |             |
| 16:30 - 16:45 |  |  |             |
| 16:45 - 17:00 |  |  |             |
| 17:00 - 17:15 |  |  |             |
| 17:15 - 17:30 |  |  |             |
| 17:30 - 17:45 | Break  |  |             |
| 17:45 - 18:00 |  |  |             |
| 18:00 - 20:30 | Banquet &<br>Keynote 3: Kamal Alameh<br><b>Topic:</b> Building-Integrated Photovoltaics (BIPV) for Future<br>Zero-Net-Energy Buildings |  | Portal      |

| DAY-2         | TUESDAY<br>OCTOBER 08, 2019  |   |             |
|---------------|--|---|-------------|
| TIME          | EVENT  |   | LOCATION    |
| 08:00 - 08:15 | Registration (ongoing)   |   | EPIC G287   |
| 08:15 - 08:30 |  |   |             |
| 08:30 - 08:45 | Keynote 4: Abdallah Ougazzaden   |   | EPIC G287   |
| 08:45 - 09:00 | Topic: Novel Pick-and-place technology of III-N  |   |             |
| 09:00 - 09:15 | semiconductors for heterogeneous integration of photonic and electronic components   |   |             |
| 09:15 - 09:30 | Coffee Break   |   | EPIC Atrium |
| 09:30 - 09:45 |  |   |             |
| 09:45 - 10:00 |  |   |             |
| 10:00 - 10:15 | Technical Session 4<br><b>Enabling Technologies</b><br><br>Venue: EPIC G287  |   |             |
| 10:15 - 10:30 |  |   |             |
| 10:30 - 10:45 |  |   |             |
| 10:45 - 11:00 |  |   |             |
| 11:00 - 11:15 |  |   |             |
| 11:15 - 11:30 |  |   |             |
| 11:30 - 11:45 |  |   |             |
| 11:45 - 12:00 |  |   |             |
| 12:00 - 13:00 | Lunch and Birds of a feather discussions   |   | EPIC Atrium |
| 13:00 - 13:15 | Technical Session 5<br><b>IoT for Smart Cities</b><br><br>Venue: EPIC G222   | Poster Session<br><br>Venue: EPIC Atrium<br>(All posters to be displayed. Authors must accompany posters) |             |
| 13:15 - 13:30 |  |   |             |
| 13:30 - 13:45 |  |   |             |
| 13:45 - 14:00 |  |   |             |
| 14:00 - 14:15 |  |   |             |
| 14:15 - 14:30 |  |   |             |
| 14:30 - 14:45 | Coffee Break   |   | EPIC Atrium |
| 14:45 - 15:00 |  |   |             |
| 15:00 - 15:15 | Technical Session 6<br><b>Solar Cells / Photovoltaics</b><br><br>Venue G222  |   |             |
| 15:15 - 15:30 |  |   |             |
| 15:30 - 15:45 |  |   |             |
| 15:45 - 16:00 |  |   |             |
| 16:00 - 16:15 |  |   |             |
| 16:15 - 16:30 |  |   |             |
| 16:30 - 16:45 | Plenary Talk 2: Prof. Dr. Mohammad Shahidepour<br><br>Topic: Flexible Division and Unification Control Strategies for Resilience Enhancement in Networked Microgrids<br>& Closing Ceremony |   | EPIC G287   |
| 16:45 - 17:00 |  |   |             |
| 17:00 - 17:15 |  |   |             |
| 17:15 - 17:30 |  |   |             |

DAY-3

WEDNESDAY  
OCTOBER 09, 2019

Workshop on AI for Smart Cities  
Technology for Good: Can smart city tech & A.I. transform Charlotte?

Venue: Auditorium, Center City Building

TIME

EVENT

|               |   |
|---------------|---|
| 08:00 - 08:30 | Doors Open - Coffee + Networking  |
| 08:30 - 08:40 | Welcome - Doug Shoemaker, on behalf of our UNCC-based S&CC Research Team    |
| 08:40 - 08:50 | Welcome - Reenie Askew, CIO, City of Charlotte                              |
| 08:50 - 09:10 | Keynote - NSF Smart and Connected Communities Program Manager               |
| 09:15 - 10:10 | Panel #1: The Future of Cities: Innovating with Intention                   |
| 10:15 - 11:10 | Panel #2: The Smart City Grows Up: Obstacles and Opportunities              |
| 11:15 - 12:10 | Panel #3 - Scaling Urban Solutions: Entrepreneurship as a Vehicle of Change |
| 12:10 - 12:20 | Wrap-Up comments from the morning session (Doug Shoemaker)                  |
| 12:20 - 13:00 | Lunch   |
| 13:00 - 13:55 | <b>Workshop 1</b> - Responsible AI for Social Good                          |
| 13:55 - 14:10 | Coffee Break  |
| 14:15 - 15:10 | <b>Workshop 2</b> - Smart Mobility and Data-driven Design                   |
| 15:15 - 16:10 | <b>Workshop 3</b> - Intelligent Algorithms for Intelligent Power Networks   |
| 16:15         | Conclusion/ Wrap Up   |

## Keynotes and Plenary Talks

| Paper                 | Title  | Authors   |
|-----------------------|--|---|
| <b>Keynote 1</b>      | <b>Jian-Jang Huang</b><br><i>Role of solid-state lighting in smart street lamps and IoT applications</i>   | Prof., Graduate Institute of Photonics and Optoelectronics &<br>Department of Electrical Engineering<br>National Taiwan University<br>Taiwan  |
| <b>Keynote 2</b>      | <b>Hussein Mouftah</b><br><i>Connected and Autonomous Electric Vehicles in Smart Cities</i>  | Fellow IEEE<br>Prof. and Canada Research Chair and Distinguished University Professor<br>School of Electrical Engineering and Computer Science<br>University of Ottawa, Ontario, Canada |
| <b>Keynote 3</b>      | <b>Kamal Alameh</b><br><i>Building-Integrated Photovoltaics (BIPV) for Future</i>  | Prof and Director,<br>Electron Science Research Institute<br>Edith Cowan University<br>Joondalup, WA, Australia   |
| <b>Keynote 4</b>      | <b>Abdallah Ougazzaden</b><br><i>Novel Pick-and-place technology of III-N semiconductors for heterogeneous integration of photonic and electronic components</i> | Prof and Director, Georgia Tech Lorraine<br>Co-President, Institut Lafayette<br>Georgia Institute of Technology   |
| <b>Plenary Talk 1</b> | <b>Ian T. Ferguson</b><br><i>A Novel Field-Effect Approach to Improving the Photovoltaic Properties of III-V based Schottky Solar Cells</i>                      | FRSA, Fellow of IEEE, IOP and SPIE<br>Prof and Dean SPCEET,<br>Kennesaw State University<br>Kennesaw, GA, USA   |
| <b>Plenary Talk 2</b> | <b>Mohammad Shahidehpour</b><br><i>Flexible Division and Unification Control Strategies for Resilience Enhancement in Networked Microgrids</i>                   | IEEE Fellow<br>Bodine Chair Professor, ECE<br>Director of the Robert W. Galvin Center for Electricity Innovation<br>Illinois Institute of Technology, Chicago, US                       |

## Technical Session 1

| Paper | Title  | Authors  |
|-------|--|--|
| TS1-1 | Classification and Temporal Localization of Robbery Events in CCTV Videos through Multi-Stream Deep Networks | Muhammad Muneeb Ullah and Zakia Yahya (NUST-SEECS, Pakistan)   |
| TS1-2 | Urban Intelligence: a Modular, Fully Integrated, and Evolving Model for Cities Digital Twinning              | Giordana Castelli (Consiglio Nazionale delle Ricerche, Italy); Amedeo Cesta (CNR - National Research Council of Italy, Italy); Matteo Diez and Marco Padula (Consiglio Nazionale delle Ricerche, Italy); Paolo Ravazzani (CNR, Italy); Giovanni Rinaldi (Consiglio Nazionale delle Ricerche, Italy); Stefano Savazzi (Consiglio Nazionale delle Ricerche CNR, Italy); Michela Spagnuolo and Lucanos Strambini (Consiglio Nazionale delle Ricerche, Italy); Gabriella Tognola (CNR IEIT - CNR Institute of Electronics, Computer and Telecommunication Engineering, Italy); Emilio F Campana (National Research Council, Italy) |
| TS1-3 | Learning-based Model Predictive Control for Smart Building Thermal Management                                | Roja Eini and Sherif Abdelwahed (Virginia Commonwealth University, USA)  |
| TS1-4 | Smart Living: Ubiquitous Services Powered by Ambient Intelligence (AmI)                                      | Shaftab Ahmed (Bahria University Islamabad, Pakistan); Mohammad Ilyas (Florida Atlantic University, USA); M. Yasin Akhtar Raja (University of North Carolina at Charlotte, USA)  |

## Technical Session 2

| Paper | Title  | Authors   |
|-------|--|---|
| TS2-1 | Channel Gain Based User Scheduling for 5G Massive MIMO Systems                             | Robin Chataut and Robert Akl (University of North Texas, USA)   |
| TS2-2 | Design and Testing of SNMP/MIB based IoT Control API                                       | Muhammad Zeeshan (National University of Sciences and Technology (NUST), Pakistan); Mohammad Ziad Siddiqui and Farrukh Bin Rashid (National University of Sciences and Technology (NUST) Islamabad, Pakistan)   |
| TS2-3 | Small Scale Field Study of Vehicle-to-Vehicle (V2V) Communications for Safety Applications | Girma Tewolde and Brett Smith (Kettering University, USA)   |
| TS2-4 | Communication Framework of Hybrid Charging/Refueling Stations for Autonomous Vehicles      | Mingyi Gao (Soochow University & Optical Network Technology Research Center (ONTRC), P.R. China); Khurram Kazi (Draper Laboratory, USA); M. Yasin Akhtar Raja (University of North Carolina at Charlotte, USA)  |
| TS2-5 | Survey and Performance Study of Emerging LPWAN Technologies for IoT Applications           | Shobhit Aggarwal and Asis Nasipuri (University of North Carolina at Charlotte, USA)   |
| TS2-6 | Review of Studies that Integrate the Free Space Optics with Fiber Optics                   | Muhammad Salman Khan (National University of Sciences and Technology, Pakistan); Jawad Mirza (HITEC University, Pakistan); Salman Ghafoor (National University of Sciences and Technology, Pakistan); Muhammad Zaidi (National University of Sciences & Technology, Pakistan) |

|              |  |   |
|--------------|--|---|
| <b>TS2-7</b> | Wireless Sensor Localization Using Outlier Detection             | <i>Ndubueze O Chuku (The University of North Carolina at Charlotte, USA); Asis Nasipuri (University of North Carolina at Charlotte, USA)</i>        |
| <b>TS2-8</b> | Sensor networks for hydrometric monitoring of urban watercourses | <i>Vishwas Powar, Christopher Post, Elena Mikhailova, Chuck Cook, Mohammad Mayyan, Akshay Bapat and Clifford Harmstad (Clemson University, USA)</i> |

### Technical Session 3

| <b>Paper</b> | <b>Title</b>   | <b>Authors</b>   |
|--------------|--|--|
| <b>TS3-1</b> | A Novel Control Structure Integrated for SRF Four Wire Active Power Filter for Reduction Of Harmonics  | <i>Zuhair Alqarni (Western Michigan University, USA); Johnson A. Asumadu (WMU, USA)</i>  |
| <b>TS3-2</b> | Mitigating Rebound Effect of Demand Response using Battery Energy Storage and Electric Water Heaters   | <i>Sumedh Halbe (University of North Carolina at Charlotte &amp; University of North Carolina Charlotte, USA); Badrul Chowdhury and Akintonde Abbas (University of North Carolina at Charlotte, USA)</i> |
| <b>TS3-3</b> | Load Management System and Control Strategies of Distributed Energy Resources in an Islanded Microgrid | <i>Mahfuz Ali Shuvra (UNC Charlotte, USA); Badrul Chowdhury (University of North Carolina at Charlotte, USA)</i>   |
| <b>TS3-4</b> | Solid-State Circuit Breakers in Distributed Energy Resources   | <i>Binesh Asok Kumar (UNCC, USA); Davide Leoni (UNCC &amp; Atom Power, USA)</i>  |
| <b>TS3-5</b> | Blockchain-based Mechanisms for Local Energy Trading in Smart Grids                                    | <i>Yassine Abdulsalam, MD Moniruzzaman and Rachid Benlamri (Lakehead University, Canada)</i>   |
| <b>TS3-6</b> | Importance Scaling for Elastic Appliance for Automated Power Management in Smart Homes                 | <i>Yassine Abdulsalam and Andrew Tittaferrante (Lakehead University, Canada)</i>   |

### Technical Session 4

| <b>Paper</b> | <b>Title</b>   | <b>Authors</b>  |
|--------------|--|---|
| <b>TS4-1</b> | Design and fabrication of dual-spot-size medical laser - handle prototype                              | <i>Nicolas Kudsieh and Zachary Wiley (Towson University, USA)</i>   |
| <b>TS4-2</b> | Investigating the Ability of Spatial Frequency Domain Technology in Tissue Differentiation             | <i>Jala El-Azab (Cairo University, Egypt); Omnia Hamdy (National Institute of Laser Enhanced Sciences, Cairo University, Egypt)</i>   |
| <b>TS4-3</b> | Framework to Develop Computerized Physician Order Entry System for a Medical Specialty                 | <i>Sidra Ejaz (National University of Science and Technology, Pakistan); Muazzam A Khan (NUST School of Electrical Engineering and Computer Science, Pakistan); Shoab A. Khan (Centre for Advanced Studies in Engineering, Islamabad, Pakistan)</i> |
| <b>TS4-4</b> | A Framework for Mapping Crime Data on Sociological Hypothesis  | <i>Sobia Khalid (National University of Science &amp; Technology, Pakistan); Shoab A. Khan (Centre for Advanced Studies in Engineering, Islamabad, Pakistan)</i>  |
| <b>TS4-5</b> | Application of spectral reflectance for increasing plant discrimination speed in precision agriculture | <i>Saman Akbar Zadeh and Selam Ahderom (Edith Cowan University, Australia); Kamal Alameh (Centre for MicroPhotonic Systems, Australia)</i>  |
| <b>TS4-6</b> | A Best-Model-Selecting Hierarchical Approach for Flight Status Classification                          | <i>Jinghua Wang (Zhejiang University, P.R. China)</i>   |
| <b>TS4-7</b> | A Matching Model for Vehicle Sharing Based on User Characteristics and Tolerated-Time                  | <i>Govind Yatnalkar (Computer Science, USA); Husnu S Narman (Marshall University, USA)</i>  |

|              |   |  |
|--------------|---|--|
| <b>TS4-8</b> | Hybrid RF/optical-coherence-tomography catheter for tissue monitoring during Atrial Fibrillation (AF) ablation procedures | <i>Selam Ahderom (Edith Cowan University, Australia); Kamal Alameh (Centre for MicroPhotonic Systems, Australia)</i> |
|--------------|---|--|

### Technical Session 5

| <b>Paper</b> | <b>Title</b>  | <b>Authors</b>  |
|--------------|---|---|
| <b>TS5-1</b> | Intrusion Detection In IoT Using Artificial Neural Networks On UNSW-15 Dataset                | <i>Sohaib Hanif and Tuba Ilyas (National University of Sciences and Technology, Islamabad Pakistan, Pakistan); Muhammad Zeeshan (National University of Sciences and Technology (NUST), Pakistan)</i> |
| <b>TS5-2</b> | Centralized Smart Governance Framework Based on IoT Smart City Using TTG-Classified Technique | <i>Umar Ali and Ali Cenk Calis (TTG International R&amp;D, Turkey)</i>  |
| <b>TS5-3</b> | Data-driven Parking decisions: Proposal of Parking Availability Prediction Model              | <i>Kijun Kim and Noboru Koshizuka (The University of Tokyo, Japan)</i>  |
| <b>TS5-4</b> | AR-IoMT Mental Health Rehabilitation Applications for Smart Cities                            | <i>Nikhil Yadav, Yuchen Jin and Leander Stevano (St. John's University, USA)</i>  |

### Technical Session 6

| <b>Paper</b> | <b>Title</b>  | <b>Authors</b>  |
|--------------|---|---|
| <b>TS6-1</b> | Perspective of Full Renewable Energy in Smart Grid Based on Distinctive Topology              | <i>Jianlong Bai (CSSC-CMXD, P.R. China)</i>   |
| <b>TS6-2</b> | Analysis of Solar PV and Wind Power Penetration into Nigeria Electricity System               | <i>Olusola Bamisile (University of Electronic Science and Technology of China, P.R. China); Qi Huang (University of Electronic Science and Technology of China, Hong Kong); Weihao Hu (University of Electronic Science and Technology of China, P.R. China); Mustafa Dagbasi (Cyprus International University, Turkey)</i> |
| <b>TS6-3</b> | Novel Direct Power Control Strategy for Single-Phase Photovoltaic Inverters                   | <i>Zaid H Ali (Northern Technical University, Iraq)</i>   |
| <b>TS6-4</b> | A Cost-Effective Alternative to Dispensing Ag Ink for Highly Efficient Si Solar Cell Contacts | <i>Luke A Caplice and Sandra Huneycutt (University of North Carolina at Charlotte, USA); Shagufta Raja (University of North Carolina at Charlotte &amp; CSTEM, USA); Abasifreke Ebong (University of North Carolina at Charlotte, USA)</i>  |



## Poster Session

| Paper | Title  | Authors  |
|-------|--|--|
| PS-1  | Ramp Characteristics of Photovoltaic and Wind Power in South Korea   | <i>Shin Young Kim (Korea Institute of Energy Research (KIER), Korea University, Korea)</i>   |
| PS-2  | Vision-Guided Robot for Planetary Habitat Assembly   | <i>Kohl A Whitlow and Aidan Browne (University of North Carolina at Charlotte, USA)</i>  |
| PS-3  | Gridless Spectrum Map Transformation   | <i>Khaled Maamoun, Ahmad Abdo, Hussein T. Mouftah and Claude D'Amours (University of Ottawa, Canada)</i>   |
| PS-4  | A Key Update Scheme for Side-Channel Attack Mitigation   | <i>Yutian Gui (University NC- Charlotte, USA); Suyash Mohan Tamore (The University of North Carolina at Charlotte, USA); Ali Shuja Siddiqui (University NC-Charlotte, USA); Fareena Saqib (University of North Carolina at Charlotte, USA)</i>   |
| PS-5  | Boot time Bitstream Authentication for FPGAs   | <i>Ali Shuja Siddiqui and Yutian Gui (University NC-Charlotte, USA); Fareena Saqib (University of North Carolina at Charlotte, USA)</i>  |
| PS-6  | Renewable Energy Resources and Microgrid Management with Smart Battery Storage Control Considering Load Demand of Smart City | <i>Habib Ur Rahman Habib (Huazhong University of Science and Technology, Wuhan, P.R. China &amp; University of Engineering and Technology, Taxila, Pakistan); Shaorong Wang (Huazhong University of Science and Technology, Wuhan, P.R. China); Muhammad Tajamul Aziz (SKM Air-conditioning Sharjah UAE, United Arab Emirates)</i> |
| PS-7  | Distributed Middleware for Edge Vision Systems   | <i>Anjus George and Arun Ravindran (University of North Carolina at Charlotte, USA)</i>  |
| PS-8  | Loss Estimation and Visualization in Distribution Systems using Smart Meter and Recloser Data                                | <i>Tumininu A Lawson, Kiran Ravikumar and Dominik Schulz (University of North Carolina at Charlotte, USA); Valentina Cecchi (UNiversity of North Carolina at Charlotte, USA)</i>   |
| PS-9  | Information Based Smart RF Energy Harvesting in Wireless Sensor Networks   | <i>Asheesh Tripathi and Asis Nasipuri (University of North Carolina at Charlotte, USA)</i>   |
| PS-10 | Information Flow Tracking in RISC-V  | <i>Geraldine Shirley Nicholas (UNCC, USA)</i>  |
| PS-11 | The use of nanoparticles to improve light assisted drying of small volume biologics  | <i>Daniel P Furr (University of North Carolina at Charlotte, USA)</i>  |
| PS-12 | A hyper spectral imaging system based on a single pixel camera design  | <i>Cobey L McGinnis and Susan Trammell (University of North Carolina Charlotte, USA)</i>   |
| PS-13 | PEDOT:PSS/n-Si Hybrid Solar Cells with Al <sub>2</sub> O <sub>3</sub> Interfacial Passivation Layer                          | <i>Amirhossein Ghods (Missouri University of Science and Technology, USA); Chuanle Zhou (Missouri S&amp;T, USA); Chang-Soo Kim (Missouri University of Science and Technology, USA); Ian Ferguson (University of North Carolina Charlotte, USA)</i>  |
| PS-14 | GaN-based Room Temperature Spintronics for Next Generation Low Power Consumption Electronic Devices                          | <i>Vishal G Saravade, Amirhossein Ghods and Andrew Woode (Missouri University of Science and Technology, USA); Chuanle Zhou (Missouri S&amp;T, USA); Ian Ferguson (Kennesaw State University, USA)</i>   |
| PS-15 | Enhanced Double Random Phase Encoding Systems with Multi-Wavelength Interferometry techniques                                | <i>Ana Hiza Ramirez Andrade and Rosario Porras-Aguilar (University of North Carolina at Charlotte, USA); Konstantinos Falaggis (UNC Charlotte, USA)</i>  |

## Workshop on Role of Smarts in IoT and Smart City Infrastructure

| Paper     | Title   | Authors  |
|-----------|---|--|
| <b>W1</b> | Piezoelectric Energy Harvesting system for floors generator                                   | <i>Carlos Alonso Mamani Diaz (Universidad Nacional Tecnologica de Lima Sur, Peru)</i>  |
| <b>W2</b> | Highly Stable Thin-Film Multilayers For Thermal Regulation and Energy Savings In Smart Cities | <i>Mikhail Vasiliev, Mohammad Nur-E-Alam and Kamal Alameh (Edith Cowan University, Australia)</i>  |
| <b>W3</b> | A Tutorial on Current Controlled DC-DC Converter used in Microgrid System                     | <i>Irfan A Khan (Texas A&amp;M University USA, USA); Xinyue Chen (Texas A&amp;M University, USA)</i>   |
| <b>W4</b> | Graphical User Interface for OpenThread   | <i>Jitendra Gopaluni (University of Houston Clear Lake, USA); Ishaq Unwala (University Of Houston Clear Lake, USA); Jiang Lu (University of Houston Clear Lake, USA); Xiaokun Yang (University of Houston - Clear Lake, USA)</i> |
| <b>W5</b> | Smart Plant Life Monitoring System  | <i>Girma Tewolde, Jeremy R Maxey-Vesperman and Zachary Goldasich (Kettering University, USA)</i>   |
| <b>W6</b> | Your flight data is on us!!   | <i>Junaid Zubairi (Fredonia, USA)</i>  |

## Symposium on Photonics for Future Technologies

| Paper     | Title   | Authors   |
|-----------|---|---|
| <b>S1</b> | Determination of Micro-Lens Array-Averaged Spherical Aberrations  | <i>Menelaos K. Poutous and Abigail Peltier (University of North Carolina at Charlotte, USA)</i>   |
| <b>S2</b> | Bi-Directional Scatter and Single-Surface Reflectivity of Random Anti-Reflective Nanostructured Surfaces              | <i>Menelaos K. Poutous and David Gonzalez (University of North Carolina at Charlotte, USA); Jesus Meza-Galvan and Karun Vijayraghavan (Nanohmics Inc., USA)</i>               |
| <b>S3</b> | Fabrication of optical components with nm- to mm-scale critical features using three-dimensional direct laser writing | <i>Yanzeng Li, Serang Park, Michael McLamb and Marc Lata (University of North Carolina at Charlotte, USA); Darrell Childers (US Conec); Tino Hofmann (UNC Charlotte, USA)</i> |
| <b>S4</b> | A Stereolithographically Fabricated Polymethacrylate Broadband THz Absorber   | <i>Serang Park, Zackery Clark, Yanzeng Li and Michael McLamb (University of North Carolina at Charlotte, USA); Tino Hofmann (UNC Charlotte, USA)</i>                          |
| <b>S5</b> | Diffraction Gratings for Uniform Light Extraction from Light Guides   | <i>Michael McLamb, Yanzeng Li, Serang Park and Marc Lata (University of North Carolina at Charlotte, USA); Tino Hofmann (UNC Charlotte, USA)</i>                              |
| <b>S6</b> | Optical Scattering of Deterministic Diffractive Elements with Antireflective Structured Surfaces                      | <i>Menelaos K. Poutous, Praneeth Gadamsetti and Karteek Kunala (University of North Carolina at Charlotte, USA)</i>   |
| <b>S7</b> | Mechanism of Gold-Thiol Interactions in Formation of Nano-Materials for Plasmonics                                    | <i>Gabriel A Palermo and Shunji Egusa (The University of North Carolina Charlotte, USA)</i>   |