



**International Conference on Internet of Things
Research and Practice (iCIOTRP)**

24-28 November 2019

Sydney, Australia

5th GCSTMR World Congress

Western Sydney University, Parramatta South Campus, Sydney, Australia

[Corner of Victoria Road and James Ruse Drive (entry via Victoria Road), Parramatta]

Organized by:

School of Computing, Engineering and Mathematics

Western Sydney University

and

Global Circle for Scientific, Technological and Management Research (GCSTMR)

Sponsored by:



Day 1 – Sunday 24 Nov 2019

Time	Event	Remark
6:00 pm - 8:00 pm	Registration, Refreshments and Networking (Room EA.G.32)	<p>Conference General Chair: Prof Ataur Rahman</p> <p>Conference Chairs: Prof Yang Xiang Prof Richard Yang A/Prof Mahmood Nagrial Prof Gu Fang A/Prof Bahman Javadi</p> <p>Conference Co-Chairs: A/Prof Ming Zhao Dr Rafiqul Islam A/Prof Surendra Shrestha A/Prof Olivia Mirza A/Prof Sarah Zhang A/Prof MD Rafiqul Islam (iCIOTRP)</p> <p>Conference Co-Secretaries: Dr Ranjith Liyanapathirana Dr Rodrigo Calheiros (iCIOTRP) Dr Rezaul Bashar Dr Ee Loon Tan Dr Leo Zhang Md Mainul Islam</p> <p>Catering: Dr Hasan Rahman</p> <p>Exhibition Area: Dr Tosin Famakinwa</p> <p>IT Services: Dr Rezaul Bashar</p> <p>Conference Management Coordinator: Ms Jenis Islam</p>

Day 2 – Monday 25 November 2019

Time	Session
8:00 – 9:00 am	Registration Room EB.G.02, Parramatta South Campus, Building EB
9:00 – 9:30 am	Conference Opening Room EA.G.18, Parramatta South Campus
9.30-10.00 am	Plenary Session 1 – Chair: Prof Yang Xiang (Room EA.G.18)
9.30-10.00 am	Plenary 1: Advanced Technologies to Engineering a Better Sustainable World , Dr Marlene Kanga, President, World Federation of Engineering Organisations (WFEO), UK
10:00 –10:30 am	Panel Discussion – Sustainability in Education , Moderator A/Prof Sarah Zhang (Room EA.G.18)
10:30-11:00 am	Morning Tea (Room EB.G.02)
11:00 am-12:30pm	Plenary Session 2 – Chair: A/Prof Bahman Javadi and Prof Richard Yang (Room EA.G.18)
11:00-11:30	Plenary 2: Microservice for the convergence of IT technologies , Prof Massimo Villari, University of Messina, Italy
11:30-12:00	Plenary 3: Electrical Engineering and Tensors , Prof Godfrey Lucas, Former Dean of Engineering, Western Sydney University, Australia
12:00-12:30	Plenary 4: Augmenting Laboratories: improved linking of theory and reality , Prof David Lowe, The University of Sydney, Australia
12:30 -1:30 pm	Lunch (Room EB.G.02)
1:30-3:00 pm	Plenary Session 3 – Chair: A/Prof Mahmood Nagrial (Room EA.G.18)
1:30-2:00	Plenary 5: Blockchain for the Internet of Things: Challenges and Solutions , Prof Salil Kanhere, University of New South Wales, Sydney, Australia
2:00 – 2:30	Keynote 1: Power System Planning: The Art of Raising a Phoenix Dr Nalin Pahalawaththa, Senior Technical Director, Power Systems, GHD, Australia

2:30 -3:00	Keynote 2: Emerging trends in communications: 5G and beyond , Dr Nikhil Sharma, LNMIIT, India
3:00 -3.30 pm	Afternoon Tea (Room EB.G.02)
3:30 – 5:00 pm	Plenary Session 4 – Chairs: A/Prof Surendra Shrestha and A/Prof Sarah Zhang (Room EA.G.18)
3:30 – 4:00	Plenary 6: Curriculum Innovation of Undergraduate Engineering Courses: A Practice on Sustainability Embedment , Prof Richard Yang, Western Sydney University, Australia
4:00-4:30	Keynote 3: Engineering Education in Bangladesh , Prof Muhammed Alamgir, University Grants Commission, Bangladesh
4:30-5:00	Plenary 7: Fusion Bonding and Consolidation of 3D Printed Continuous Carbon Fibre Reinforced Polyamide Composites, Prof Lin Ye, The University of Sydney, Australia
5:00 -5:30	Keynote 4: Nonlinear behaviours of wave-induced fluid oscillations in the gap between two fixed barges, Prof Lin Lu, Dalian University of Technology, China

Day 3 – Tuesday 26 Nov 2019

Time	Session
8:00 – 9:00 am	Registration Room EB.G.02, Parramatta South Campus, Building EB
9:00-10:30 am	iCEERP/iCIOTRP: Joint Technical Session 1 (Room EA.G.18) Internet of Things (IoT) Chair: A/Prof Bahman Javadi
9:00 – 9:30	Keynote: Engineering Education in Australia: Current Trends <i>Prof Roger Hadgraft, University of Technology Sydney, Australia</i>
9:30 – 10:00	Keynote: Sensing and Making Sense of Cybersecurity in Internet of Things Networks <i>Prof Alana Maurushat, Western Sydney University, Australia</i>
10:00 – 10:20	IoT Enabled Smart School Bag with Cloud support for students, parents and school, <i>Jayadev Ajayakumar, Hamid Abdi and Naga Venkata Durga Surendra Anna</i>

10:20 – 10:40	Application of IoT and Crowdsensing to Better Manage Agriculture Pest Outbreaks, <i>Janagan Sivagnanasundaram, Athula Ginige and Jeevani Goonetillake</i>
10:40 – 11:00 am	Morning Tea (Room EB.G.02)
11:00 am–12:30 pm	iCIOTRP: Workshop Session (Room EB.G.36) Smart Cities: Opportunities and Challenges Chair: A/Prof Bahman Javadi Presenters: Prof Massimo Villari, University of Messina, Italy Prof Alana Maurushat, Western Sydney University, Australia
12:30-1:30 pm	Lunch (Room EB.G.02)
1:30-3:00 pm	iCEERP: Technical Session 3 (Room EA.G.18) Energy Systems I Chair: Dr Jeffrey Zou
1:30-1:50	(17) Technical and Non-Technical losses in Single Phase Energy Metering, <i>Ranjit Perera, Nilush Jayawardane and Tilak Siyambalapitiya</i>
1:50-2:10	(4) Advanced HV Earthing System for Smart Substations, <i>Mohamad Nassereddine, Mahmood Nagrial, Jamal Rizk and Ali Hellany</i>
2:10-2:30	(40) Design optimization and simulation of Hybrid Renewable Energy Systems, <i>Mario Trape and Ali Hellany</i>
2:30-2:50	(38) Analysis of the Benefits of Switching Controlled Load for Solar PV, Prosumers, <i>Keith Mitchell and Mahmood Nagrial</i>
3:00-3:30 pm	Afternoon Tea (Room EB.G.02)
3:30-4:30 pm	iCEERP: Technical Session 4 (Room EA.G.18) Biomedical Engineering I Chair: Dr Ganesh Naik
3:30-3:50	(10) Characterization of Coated Piezo-resistive Fabric for Respiration Sensing, <i>Sami El Arja, Titus Jayarathna and Gaetano Gargiulo</i>
3:50-4:10	(9) Comparison of bi-wavelength and tri-wavelength photoplethysmography sensors placed on the forehead, <i>Sally Longmore, Bin Jalaludin, Paul Breen and Gaetano Gargiulo</i>
4:10-4:30	(8) Einthoven Unipolar Leads: Towards better understanding of Wilson Central Terminal, <i>Hossein Moeinzadeh, Joseph Assad, Paolo Bifulco, Mario Cesarelli, Aiden O’loughlin, Ibrahim Shugman and Gaetano Gargiulo</i>

4:30-5:30 pm	iCEERP: Poster Session 1 (Room EA.G.18) Chair: Md Mainul Islam
4:30-4:45	(45) Design of an IoT-based Vehicle State Monitoring System Using Raspberry Pi, <i>Ahmed Binmasoud and Qi Cheng</i> (Poster 1)
4:45-5:00	(48) Dual-Band RFID Antenna Design for Infrastructure Health Monitoring, Robert Salama, <i>Ranjith Liyanapathirana and Sarhan Missalot</i> (Poster 2)
5:00-5:15	(1) Photovoltaic-Based Distribution Generation System Integration Effects on the Power Quality Issues on Riyadh Electrical Distribution Network, <i>Meshal Al Shammari and Wonsuk Ko</i> (Poster 3)
5:15-5:30	(44) A real Case Study on Black Start Capability Assessment, Salem Shuaib and Ali Asheibi (Poster 4)
7:30 – 9:30 pm	CONFERENCE DINNER (Only for the CONFERENCE DINNER ticket holders)

Day 4: Wednesday 27 Nov 2019

Time	Event
8:00 – 9:00	Registration Room EB.G.02, Parramatta South Campus, Building EB
9:00-10:30	iCEERP/iCIOTRP: Joint Technical Session 5 (Room EA.G.18) Biomedical Engineering and IoT Chair: A/Prof Mahmood Nagrial
9:00-9:30	Plenary: Neuromorphic Engineering and Intelligent Sensors , <i>Prof Andre van Schaik, Director,</i> <i>International Centre for Neuromorphic Systems (ICNS), Sydney,</i> <i>Australia</i>
9:30-10:00	Industry Speech: Using Machine Learning, Edge Computing and IoT to rapidly build Video Analytics Solutions <i>Craig Lawton</i> <i>IoT & Smart Cities Specialist, Amazon Web Services</i>

10:00-10:20	Invited Speech: Medical sensors for patient-controlled devices , <i>Jerry Zhou, Western Sydney University, Australia</i>
10:20-10:40	An improved PDR algorithm based on inertial sensor in a smart building, <i>Payal Tusharkumar Mahida, Seyed Shahrestani and Hon Cheung</i>
10:40-11:00 am	Morning Tea (Room EB.G.02)
11:00 – 12:30	iCEERP: Technical Session 6 (Room EA.G.18) Biomedical Engineering II Chair: Dr Gaetano Gargiulo
11:00-11:30	Invited Paper: Towards a Low-Power, Minimally-Invasive Nerve Regeneration Implant , <i>A/Prof Tara Hamilton, Macquarie University, Sydney, Australia</i>
11:30-11:50	(24) Biometric Authentication for Dementia Patients with Recurrent Neural Network, <i>Farnaz Farid and Farhad Ahamed</i>
11:50-12:10	(12) Low Cost Analogue Front End for Electronic Stethoscopes Application with Silicone Enclosure, <i>Caitlin Polley, Emilio Andreozzi, Paolo Bifulco, Daniele Esposito, Ganesh Naik, Upul Gunawardana and Gaetano Gargiulo</i>
12:10-12:30	(11) Electrodeless FSR linear envelope signal for muscle contraction measurement, <i>Nawadita Parajuli, Felipe Ulloa, Neethu Sreenivasan, Ganesh Naik, Paolo Bifulco, Daniele Esposito, Sergio Savino, Mario Cesarelli, Tara Hamilton, Upul Gunawardana and Gaetano Gargiulo</i>
12:30-1:30 pm	Lunch (Room EB.G.02)
1:20 – 2:50	iCEERP: Technical Session 7 (Room EA.G.18) Energy Systems II Chair: Dr Ali Hellany
1:20-1:40	(5) Advanced PV System for Sustainable Housing: Maximum Output Power with Low Maintenance for Sandy Area, <i>Mohamad Nassereddine, Mahmood Nagrial, Jamal Rizk and Ali Hellany</i>
1:40-2:00	(16) A Review of Resonant Inductive Power Transfer for Electric Vehicles, <i>Mohammad Zamani, Mahmood Nagrial, Ali Hellany and Jamal Rizk</i>
2:00-2:20	(22) Optimal Sizing of Stand-alone PV System Using Grey Wolf Optimization, <i>Ashraf Khalil and Ali Asheibi</i>
2:20-2:40	(13) Neutral-point Voltage Control of Three-level NPC Inverter for Three-phase APF based on Zero-sequence Voltage Injection, <i>Muhammad Kashif, M.J Hossain, Vivek Sharma, S.M. Nawazish Ali and Asif Khan</i>

2:40-3:00	(19) An Exact Method for Computing the Delay Margin for Power System Using Sweeping Test, Ali Asheibi and Ashraf Khalil
3:00-3:30 pm	Afternoon Tea (Room EB.G.02)
3:30-5:00	iCEERP: Technical Session 8 (Room EA.G.18) Electrical Machines and Drives Chair: Dr Jamal Rizk
3:30-3:50	(6) Examination of Interior Winding Synchronous Motor with Improved Torque and Reduced AC Copper Loss, <i>Tatsuki Suzuki, Masami Nirei, Manabu Horiuchi, Mitsuhide Sato, Yinggang Bu and Tsutomu Mizuno</i>
3:50-4:10	(39) Design of High-Efficiency Synchronous Reluctance Machines, <i>Thushanthan Mohanarajah, Mahmood Nagrial, Jamal Rizk and Ali Hellany</i>
4:10-4:30	(7) Examination on Copper Loss Reduction of High-frequency Transformer for Using Magnetic Flux Path Control Technology, <i>Kazuma Kubota, Kazuhiro Shimura, Kenta Torishima, Mitsuhide Sato, Yinggang Bu, Tsutomu Mizuno, Masayuki Sakurada, Takao Nebashi and Norio Koike</i>
4:30-4:50	(28) Five-Level and Seven-Level DCMI fed to IPMSM, <i>Sree Lakshmi Gundebommu</i>
5:00-5:30	Conference Closing and Awards (Room EA.G.18)

Day 5: Thursday 28 Nov 2019: Sight Seeing

Sight Seeing	Eligibility	Remark
10:00 am to 4:00 pm	Who have registered and paid for the sight visit. Contact: <i>Ms Jenis Islam</i>	The bus will depart from Western Sydney Parramatta South Campus at 10:00 am in front of Building EB (Bus loop) and return the delegates to Western Sydney Parramatta South Campus at 4:00 pm ■