Registration Desk Opening Times
- Monday, 26 March: 7:30 am – 5 pm
- Tuesday, 27 March: 8 am – 5 pm
- Wednesday, 28 March: 8 am – 12:30 pm

Welcome Reception
17:00-19:00
Monday 26th March
Jones Room (the room next door) and Terrace
Ticketed entry (ticket in your registration pack)

Conference Banquet
18:00-21:00
Tuesday 27th March
Sydney Harbour Cruise and Dinner on board the MV Morpheus
Board at Darling Harbour Convention Jetty
20 minutes easy walk from the conference site
Meet at Registration desk at 17:10 and 17:20 for escorted walks to the boat
Ticketed entry (ticket in your registration pack)
MONDAY 26 MARCH 2018

9:00 – 10:30 Harris Room

Opening: Prof. Eryk Dutkiewicz, University of Technology Sydney, Australia

Keynote Session:

Speaker: Prof. Branko Celler, University of New South Wales, Australia

Title: Innovations in Health Technologies and data analytics for remote monitoring. Business models and regulatory issues

Speaker: Dr. Federico Girosi, Western Sydney University, Australia

Title: The doable, conceivable and improbable of health analytics

Chair: Prof. Ren Ping Liu, University of Technology Sydney, Australia

10:30 – 11:00 Foyer

Morning Tea

11:00 – 12:00 Harris Room

Panel: “Should you care about your health data? How to provide privacy-aware solutions for data collection?”

Chairs: A/Prof. Valerie Gay and Dr Zenon Chaczko, University of Technology Sydney, Australia

Panelists:

- Prof. Branko Celler, University of New South Wales, Australia
- Dr. Federico Girosi, Western Sydney University, Australia
- Prof. Prasuna Reddy, University of Technology Sydney, Australia
- Assoc. Prof. Gyorgy Hutvagner, University of Technology Sydney, Australia

12:00 – 12:30 Harris Room

Students Posters Session:

1. Rida Khan (Tallinn University of Technology, Estonia & Istanbul Technical University, Turkey), Muhammad Mahtab Alam (Tallinn University of Technology, Estonia), “Body-to-Body Communication: Applications, System Design Aspects and Performance Evaluation”

2. Atsushi Niino, Shintaro Yamaguchi, Kazuki Okita, Hiroyuki Yomo (Kansai University, Japan), “Performance Comparison of Routing Protocols for Vital Data Monitoring from a Large Number of Exercisers”

3. Hongyun Zhang, Farzad Safaei, Le Chung Tran (University of Wollongong, Australia), “Autocorrelation Based Transmission Power Control in WBANs”
12:30 – 13:30 Foyer

Lunch

13:30 – 15:00 Harris Room

**Session 1: “Data Science in Medical and Healthcare Applications”**

**Chair:** Prof. Nguyen Linh-Trung, Vietnam National University, Vietnam

1. Yoshitomo Sakuma (Yokohama National University, Japan); Ryuji Kohno (Yokohama National University, Japan & University of Oulu, Finland), “A Dynamic Model Estimation Scheme for Model Predictive Control of Anesthesia Using Recurrent Neural Network”


3. Thuy T. Pham (University of Technology Sydney & Garvan Medical Institute, Australia); Diep N. Nguyen and Eryk Dutkiewicz (University of Technology Sydney, Australia); Alistair McEwan and Philip Leong (The University of Sydney, Australia); Andrew Fuglevand (University of Arizona, USA), “Feature Analysis for Discrimination of Motor Unit Action Potentials”

4. Edmond Zhang and Reece Robinson (Orion Health, New Zealand); Bernhard Pfahringer (University of Waikato, New Zealand), “Deep Holistic Representation Learning from HER”

5. Dong Do Duc (VNU, Hanoi, Vietnam); Phuc Thai Dinh (Vietnam National University Hanoi, Vietnam); Ngọc Anh Vũ (Hanoi College of Industrial Economics, Vietnam); Nguyen Linh-Trung (Vietnam National University, Hanoi, Vietnam), “An Efficient Ant Colony Optimization Algorithm for Protein Structure Prediction”

6. Norhaslinda Kamaruddin (MARA University of Technology, Malaysia); Mohd Hafiz Mohd Nasir (Universiti Teknologi MARA, Malaysia); Abdul Wahab Abdul Rahman (IIUM, Malaysia), “EEG Affective Modelling for Dysphoria Understanding”

15:00 – 15:30 Foyer

Afternoon Tea
15:30 – 17:00 Harris Room

Session 2: “Privacy and Security: Medical Data Collecting and Storage”,

Chair: Dr Zenon Chaczko, University of Technology Sydney, Australia

1. Anders Bjørnevik (Kongsberg Seatex, Norway); Pål Anders Floor (Oslo University Hospital, Norway); Ilangko Balasingham (Norwegian University of Science & Technology & Oslo University Hospital, Norway), “On Path Length Estimation for Wireless Capsule Endoscopy”

2. Edward Mrema and Vimal Kumar (University of Waikato, New Zealand), “Fine Grained Attribute Based Access Control of Healthcare Data”

3. Junaid Chaudhry (Embry-Riddle Aeronautical University Prescott AZ, USA); Michael Crowley (ECU, Australia); Peter Roberts (Edith Cown University, Australia); Craig Valli (Edith Cowan University, Australia); Jon Jon Haass (Embry-Riddle Aeronautical University, USA), “POStCODE Middleware for Post-market Surveillance of Medical Devices for Cyber Security in Medical and Healthcare Sector in Australia”

4. Zenon D Chaczko (University of Technology, Sydney, Faculty of Engineering and IT, School of Data and Electronic Engineering); Shaher Slehat (Faculty of Engineering and Information Technology, University of Technology, Sydney, Australia); Tamer Shnoudi (University of Technology, Sydney, Australia), “Game-Theory Based Cognitive Radio Policies for Jamming and Anti-Jamming in the IoT”

5. Yuto Omuro, Kento Takabayashi and Katsumi Sakakibara (Okayama Prefectural University, Japan), “Detection Scheme of Selfish Node in WBAN Utilizing CSMA/CA Based on IEEE 802.15.6”

17:00 – 19:00 Jones Room and Terrace

Welcome Reception
TUESDAY 27 MARCH 2018

9:00 – 10:30 Harris Room

Keynote Session:

Speaker: Dr Ian Oppermann, NSW Data Analytics Centre, Australia

Title: The Power of Diversity – Examining non-traditional data in Health

Speaker: Prof. Ryuji Kohno, Yokohama National University, Japan

Title: Medical Healthcare Big Data Mining and Managing by Integrated ICT and Data Science for Regulatory and Commercial Uses

Chair: Prof. Eryk Dutkiewicz, University of Technology Sydney, Australia

10:30 – 11:00 Foyer

Morning Tea

11:00 – 12:30 Harris Room

Special Session “Emerging Technologies in Biomedical Devices, Systems and Applications”

Chairs: Dr Forest Zhu and Dr Yang Yang, University of Technology Sydney, Australia


2. Ha Mai (Garvan Medical Institute, Australia); Thuy T. Pham (University of Technology Sydney & Garvan Medical Institute, Australia); Diep N. Nguyen and Eryk Dutkiewicz (University of Technology Sydney, Australia), “Non-Laboratory-Based Risk Factors for Automated Heart Disease Detection”


4. Yinliang Diao (City University of Hong Kong), Mengze Li (Xiamen University), Yixin Cai, Weinong Sun, Sai Wing Leung (City University of Hong Kong), Xi Zhu and Yang Yang (University of Technology Sydney), “Safety Consideration for Emerging Wireless Technologies - Evaluations of Temperature Rise in Eyes for RF Radiations Up to 10GHz”


6. Anindya Nag (Macquarie University, Australia), “Development of Novel Gold/PDMS Sensors for Medical Applications”
12:30 – 13:30 Foyer
Lunch

13:30 – 15:00 Harris Room
Workshop: Medical Device Regulatory Science Workshop (Part 1)
Organizer: Prof. Masayuki Fujise, Yokohama National University, Japan
Keynote Speakers:
Dr. Seigo Hara, MD, CEO of MICIN, Inc. Japan
Prof. Dr. Yi Qian, Professor of Biomechanics, the Faculty of Medicine and Health Sciences, Macquarie University, Australia

15:00 – 15:30 Foyer
Afternoon Tea

15:30 – 16:30 Harris Room
Workshop: Medical Device Regulatory Science Workshop (Part 2)
Panel: Medical Network Therapy & Big Data Registry
Panel Moderator: Prof. Ryuji Kohno, Yokohama National University, Japan
Panelists:
1. Dr. Ian Oppermann, NSW Data Analytics Centre, Australia
2. Prof. Dr. Yi Qian, Professor of Biomechanics, the Faculty of Medicine and Health Sciences, Macquarie University, Australia
3. Prof. Lucila Ohno-Machado, MD, PhD, Division of Biomedical Informatics, University of California San Diego, USA
4. Dr. Seigo Hara, MD, CEO of MICIN, Inc. Japan
5. Prof. Jari Iinatti, Dr.Sc. (Tech.), Centre for Wireless Communications, University of Oulu, Finland
6. Prof. Chika Sugimoto, PhD., Medical ICT Center, Yokohama National University, Japan

18:00-21:00 Darling Harbour Convention Jetty (MV Morpheus)
Conference Banquet
WEDNESDAY 28 MARCH 2018

9:00 – 10:00 Harris Room

Keynote Session:

Speaker: Prof. Lucila Ohno-Machado, University of California San Diego, USA (by video link)

Title: Precision Medicine: Combining Electronic Health Records, Genomics, Wearable and Sensor Data

Chair: Prof. Ryuji Kohno, Yokohama National University, Japan

10:00 – 10:30 Foyer

Morning Tea

10:30 – 12:30 Harris Room

Session 3: “IoT Applications in Medical and Health Care Fields - I”

Chair: Prof. Ilango Balasingham, Oslo University Hospital and NTNU, Norway


2. Anindya Nag (Macquarie University, Australia), “Development of Printed Sensors for Shoe Sensing Applications”

3. Hirofumi Ogura (Osaka City University, Japan); Takuma Hamagami (Oki Electric Industry Co., Ltd., Japan); Ryusuke Miyamoto (Meiji University & School of Science and Technology, Japan); Hiroyuki Yomo (Kansai University, Japan); Shinsuke Hara (Osaka City University, Japan), “A Network Simulator to Develop Wireless Networking Protocols Suited for Vital Information Collection from a Group of Exercisers”

4. Nguyen Linh-Trung (Vietnam National University, Hanoi, Vietnam); Truong Minh-Chinh (Hue University of Education, Vietnam); Viet-Dung Nguyen (University of Paris Saclay, France); Karim Abed-Meraim (Polytech’Orléans & University of Sharjah, UAE, France), “A Non-Linear Tensor Tracking Algorithm for Analysis of Incomplete Multi-Channel EEG Data”

5. Hangyang Ye and Jin Zhu (Tongji University, P.R. China); Yongqiang Cheng (University of Hull, United Kingdom), “PPG Based Respiration Signal Estimation Using VMD-PCA”

6. Nikita Isaac (University of Technology, Sydney, Australia); Naveenaa Sampath (University of Technology, Sydney, Australia) and Valérie Gay (University of Technology Sydney, Australia), “SAM:Smart Asthma Monitoring: Focus on Air Quality Data and Internet of Things (IoT)”

7. Adeniyi Onasanya and Maher N Elshakankiri (University of Regina, Canada), “Secured Cancer Care and Cloud Services in IoT/WSN Based Medical Systems”

**Session 4: “Body Area Networks: PHY and MAC Layers”,**

**Chair:** Prof. Jari Iinatti, University of Oulu, Finland

1. Rida Khan (Tallinn University of Technology, Estonia & Istanbul Technical University, Turkey); Muhammad Mahtab Alam (Tallinn University of Technology, Estonia), “Joint PHY-MAC Realistic Performance Evaluation of Body-to-Body Communication in IEEE 802.15.6 and SmartBAN”

2. Andrea D'Souza (University of Florence, Italy); Harri Viittala and Matti Hämäläinen (University of Oulu, Finland); Lorenzo Mucchi (University of Florence, Italy), “Performance Comparison Between ETSI SmartBAN and Bluetooth”

3. Jiayia Mei, Jie Zeng, Bei Liu, Xin Su and Chang Wang (Tsinghua University, P.R. China); Qi Liu (China Unicom Company, P.R. China); Shihai Shao (University of Electronic Science and Technology of China, P.R. China), “A New Optimal Relay Selection Strategy for the Coincident Multi-user Access”

4. Mariella Särestöniemi (University of Oulu, Finland); Carlos Pomalaza Raez (Purdue University, USA); Timo Kumpuniemi, Matti Hämäläinen and Jari Iinatti (University of Oulu, Finland), “Impact of the Sternotomy Wires and Aortic Valve Implant on the On-Body UWB Radio Channels”

5. Minseok Kim and Yuki Ichikawa (Niigata University, Japan), “Simulation-based Body Motion Classifier Using Radio Channel Characteristics”


7. Nikita Isaac (University of Technology, Sydney, Australia); Naveenaa Sampath (University of Technology, Sydney, Australia); Valérie Gay (University of Technology, Sydney, Australia), “Modernising Asthma Management: Personalised Asthma Action Plans Using a Smartphone Application”

8. Hadri Hussain (Faculty of Biosciences and Medical Engineering & Universiti Teknologi Malaysia, Malaysia); Sh-Hussain Salleh and Chee-Ming Ting (Universiti Teknologi Malaysia, Malaysia); Fuad Noman (UTM & UTM, Malaysia); Mohd Muradha Mohamed (Universiti Teknologi Malaysia, Malaysia); Zubaidi Abdul Latif (Universiti Sultan Zainal Abidin, Malaysia); Osamah Al-Hamdani (Cisco System, Malaysia), “Performance Study for Multimodel Client Identification System Using Cardiac and Speech Signals”

**Session 5: “IoT Applications in Medical and Health Care Fields - II”,**

**Chair:** Dr Diep Nguyen, University of Technology Sydney, Australia

1. Hidetoshi Ohta (Sapporo Orthopaedics and Cardiovascular Hospital, Japan), “Monitoring and Controlling Two Applications of a Magnetic Screw in the Gastrointestinal Tract”

2. Shintaro Yamaguchi and Atsushi Niino (Kansai University, Japan); Hiroyuki Ogura (Osaka City University, Japan); Hiroyuki Yomo (Kansai University, Japan); Ryusuke Miyamoto (Meiji University & School of Science and Technology, Japan); Shinsuke Hara (Osaka City University, Japan); Takashi Kawahata (Kansai University, Japan), “Applying Multi-channel Flooding to Vital Data Monitoring of a Large Number of Exercisers: Mobility and Link Modeling and Performance Evaluation”

4. Kento Kadoya, Shigehiko Kaneko (University of Tokyo, Japan), “Modeling of a Cardiovascular System to Investigate Factors Affecting Hypertension”

5. Luu Manh Ha (University of Technology and Engineering, VNU, Hanoi & AVITECH, Vietnam); Son Hoang (AVITECH, UET, VNU, Hanoi, Vietnam); Hong Thinh Nguyen (University of Engineering and Technology, VNU Hanoi & Signal and System Laboratory, Vietnam); Adriaan Moelker (Erasmus MC, The Netherlands); Tan Duc Tran (University of Technology and Engineering, VNU, Hanoi, Vietnam); Theo van Walsum (Erasmus MC, The Netherlands), “Impact of Enhancement Features on Image Registration for Liver Cancer Interventions Using CT Images”

6. Asad Hameed, Nabeel Kamal and Osman Hasan (National University of Sciences and Technology, Pakistan); Saad Qaiser (NUST, Pakistan); Nasir Jalal (School of Pharmaceutical Science and Technology Tianjin University, P.R. China), “Electronic Design of a Semi-Automated Micromanipulator Cell Injection System”

13:30 – 15:00 Jones Room

**Session 6:** “Human Body Wireless Communications”

**Chair:** Dr Matti Hamalainen, University of Oulu, Finland

1. Chang Wang, Jie Zeng, Bei Liu, Mingyao Peng and Xin Su (Tsinghua University, P.R. China); Shihai Shao (University of Electronic Science and Technology of China, P.R. China); Qi Liu (China Unicom Company, P.R. China), “Resource Allocation in PDMA with Wireless Information and Power Transmission”

2. Zenon D Chaczko (University of Technology, Sydney & SEDE, Australia); Kevin Casareo (University of Technology, Sydney, Australia), “Beacon-based Localization Middleware for Tracking in Medical and Healthcare Environments”

3. Mingyao Peng, Jie Zeng, Bei Liu, Jiajia Mei, Xin Su, Xibin Xu and Limin Xiao (Tsinghua University, P.R. China), “Resource Allocation in Multi-user NOMA Wireless Systems”

4. Shuliang Hao (Chongqing University of Posts and Telecommunications, P.R. China); Xin Su and Jie Zeng (Tsinghua University, P.R. China); Xin Ma (Shenzhen Gongjin Electronics Co., Ltd, P.R. China); Tiejun Lv (Beijing University of Posts and Telecommunications, P.R. China), “A Low Complexity SCMA Detector Based on Avoiding Redundant Iterations”

5. ZhenFeng Zhang (Chongqing University of Posts and Telecommunications, P.R. China); Limin Xiao, Xin Su, Jie Zeng and Xibin Xu (Tsinghua University, P.R. China), “A Channel Estimation Method Based on the Improved LMS Algorithm for MIMO-OFDM Systems”

6. Bin Fan (Chongqing University of Posts and Telecommunications, P.R. China); Xin Su and Jie Zeng (Tsinghua University, P.R. China); Xin Ma (Shenzhen Gongjin Electronics Co., Ltd, P.R. China); Tiejun Lv (Beijing University of Posts and Telecommunications, P.R. China), “Method of CS-IC Detection in Grant-Free NOMA System”

15:00 – 15:30 Foyer

Afternoon Tea

15:30 – 17:00

UTS Tech Lab tours (on request)
## ISMICT 2018 PROGRAM AT A GLANCE

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<th>Time</th>
<th>Monday 26 March</th>
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<th>Wednesday 28 March</th>
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<tbody>
<tr>
<td>09:00 – 10:30</td>
<td><strong>Keynotes Session</strong></td>
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<td><strong>Keynote Session</strong></td>
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<td>10:30 – 11:00</td>
<td><strong>Morning tea</strong></td>
<td><strong>S3:</strong> IoT Applications in Medical and Healthcare Fields - I</td>
<td><strong>S4:</strong> Body Area Networks – PHY and MAC Layers</td>
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<tr>
<td>11:00 – 12:30</td>
<td><strong>Health Data Panel</strong></td>
<td><strong>Special Session:</strong> Emerging Technologies in Biomedical Devices</td>
<td><strong>S1:</strong> Data Science in Medical and Healthcare Applications</td>
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<td><strong>Student Posters Session</strong> (12:00 – 12:30)</td>
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<td><strong>S5:</strong> IoT Applications in Medical and Healthcare Fields - II</td>
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<td><strong>S6:</strong> Human Body Wireless Communications</td>
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<td>12:30 – 13:30</td>
<td><strong>Lunch</strong></td>
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<tr>
<td>13:30 – 15:00</td>
<td><strong>S1:</strong> Data Science in Medical and Healthcare Applications</td>
<td><strong>MDRS Workshop - Part 1</strong></td>
<td><strong>UTS Tech Lab tour (on request)</strong></td>
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<tr>
<td>15:00 – 15:30</td>
<td><strong>Afternoon tea</strong></td>
<td><strong>S5:</strong> IoT Applications in Medical and Healthcare Fields - II</td>
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<td>15:30 – 17:00</td>
<td><strong>S2:</strong> Privacy and Security: Medical Data Collecting and Storage</td>
<td><strong>MDRS Workshop - Part 2</strong></td>
<td><strong>S6:</strong> Human Body Wireless Communications</td>
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<td><strong>Welcome Reception</strong> (17:00 - 19:00)</td>
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<td></td>
<td><strong>Banquet – Harbour Cruise</strong> (18:00 - 21:00)</td>
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