Tuesday, February 18

09:00 - 09:10
Opening Remarks
Room: *Queenstown Room*

09:10 - 10:10
Keynote Speaker: *Dr. Alan Finkel*
Characterization of currents in nature's ion-flow nanomachines underpins development of new medicines
Chair: *Serge Demidenko (Massey University, New Zealand)*
Room: *Queenstown Room*

10:10 - 10:30   **Morning Break**

10:30 - 12:10
Special Session: Systems with Multiple Electromagnetic Sensors
Session Chairs*: Vedran Bilas (University of Zagreb, Croatia)*
                    Mohd Zaid Abdullah (University Sains Malaysia)
Room: *Queenstown Room*

10:30   **Wide-Slot Antenna for Breast Imaging Applications**
                    S.S. Tiang (Universiti Sains Malaysia, Malaysia)
                    M.S. Hathal (University Sains Malaysia, Malaysia)
                    N.S. Nik Anwar (Universiti Sains Malaysia, Malaysia)
                    M.F. Ain (Universiti Sains Malaysia, Malaysia)
                    M.Z. Abdullah (Universiti Sains Malaysia, Malaysia)

10:50   **Measurement Uncertainties in Differential Radar Applied to Breast Imaging**
                    E. Porter (McGill University, Canada)
                    A. Santorelli (McGill University, Canada)
                    M. Popović (McGill University, Canada)

11:10   **Contactless Determination of Gas Concentration and Pressure Based on a Low Jitter mmWave FMCW Radar**
                    Christoph Baer (Institute of Electronic Circuits, Ruhr-University Bochum, Germany)
                    Thomas Musch (Institute of Electronic Circuits, Ruhr-University Bochum, Germany)
                    Timo Jaeschke (Institute for Integrated Systems, Ruhr-University Bochum, Germany)
                    Nils Pohl (Fraunhofer FHR, Germany)

11:30   **Simple Linear Inversion of Soil Electromagnetic Properties from Analytical Model of Electromagnetic Induction Sensor**
                    Darko Vasić (University of Zagreb, Croatia)
                    Davorin Ambruš (University of Zagreb, Croatia)
                    Vedran Bilas (University of Zagreb, Croatia)

11:50   **A Water Content Sensor for Baked Products**
                    Ian Woodhead (Lincoln Agritech Limited, New Zealand)
                    John Christie (Lincoln Agritech Limited, New Zealand)
                    Kenji Irie (Lincoln Agritech Limited, New Zealand)
                    Richard Fenton (Automation Design Limited, New Zealand)

10:30 - 12:10
Nondestructive Evaluation and Remote Sensing
Session Chair: *Salvatore Baglio (University of Catania, Italy)*
Room: *Clancys Room*

10:30 **Structural Health Monitoring of Bridges Using Cost-Effective 1-axis Accelerometers**
Chih-Hsing Lin (National Chip Implementation Center, Taiwan)
Ssu-Ying Chen (National Chip Implementation Center, Taiwan)
Chih-Chyau Yang (National Chip Implementation Center, Taiwan)
Chien-Ming Wu (National Chip Implementation Center, Taiwan)
Chun-Ming Huang (National Chip Implementation Center, Taiwan)
Chih-Ting Kuo (National Chip Implementation Center, Taiwan)
Yu-Da Huang (National Chip Implementation Center, Taiwan)

10:50 **Development of a Frequency-Shifted Feedback Fiber Laser at 777.5 nm for Range Sensing Applications**
Michael Hofbauer (Vienna University of Technology, Austria)
Johannes Seiter (Vienna University of Technology, Austria)
Horst Zimmermann (Vienna University of Technology, Austria)

11:10 **Solar Panel Sensor Modeling and Fiscal Modeling**
Steven T. Griffin (University of Memphis, USA)
Thomas E. Wyatt (University of Memphis, USA

11:30 **2-D Vector Field Visualization of Corrosion in a Small-bore Piping System using Bobbin-type Integrated Hall and GMR Sensors Arrays**
Minhhuy Le (Chosun University, Korea)
Hwa Sik Do (KEPCO Plant Service & Engineering Co., LTD, Korea)
Jungmin Kim (Chosun University, Korea)
Jinyi Lee (Chosun University, Korea)

11:50 **Non-Destructive Evaluation of Far-Side Corrosion around the Multi-Layered Rivet by using the Solid-State Hall Sensor Array**
Jungmin Kim (Chosun University, Korea)
Jinyi Lee (Chosun University, Korea)
Minhhuy Le (Chosun University, Korea)

12:10 - 13:20 **Lunch**

13:20 – 15:00
Special Session: Efficient Sensor Network Processing
Session Chair: *Matthias Vodel (Chemnitz University of Technology, Germany)*
Room: *Queenstown Room*

13:20   **Modelling, Quantification, Optimisation - Energy Efficiency in Distributed, Embedded Systems**
Matthias Vodel (Chemnitz University of Technology, Germany)
René Bergelt (Chemnitz University of Technology, Germany)
Wolfram Hardt (Chemnitz University of Technology, Germany)

13:40   **Energy Efficient Handling of Big Data in Embedded, Wireless Sensor Networks**
René Bergelt (Chemnitz University of Technology, Germany)
Matthias Vodel (Chemnitz University of Technology, Germany)
Wolfram Hardt (Chemnitz University of Technology, Germany)

14:00   **FPGA-based Approach for Runway Boundary Detection in High-resolution Colour Images**
Stephan Blokzyl (Chemnitz University of Technology, Germany)
Matthias Vodel (Chemnitz University of Technology, Germany)
Wolfram Hardt (Chemnitz University of Technology, Germany)

14:20   **Distributed Detection in Neural Network based Multihop Wireless Sensor Network**
Jabal Raval (TCS Innovation Labs Mumbai, Tata Consultancy Services, India)
Bhushan Jagyasi (TCS Innovation Labs Mumbai, Tata Consultancy Services, India)

14:40   **Investigation into the Impact of Protocol Design on Energy Consumption of Low Power Wireless Sensors**
Debraj Basu (Massey University, New Zealand)
Gourab Sen Gupta (Massey University, New Zealand)
Giovanni Moretti (Massey University, New Zealand)
Xiang Gui (Massey University, New Zealand)

13:20 – 15:00
Sensors in Biomedical Applications
Session Chair: *Alessandra Flammini (University of Brescia, Italy)*
Room: *Clancys Room*

13:20   **A Compact Back-Plaster Sensor Node for Dementia and Alzheimer Patient Care**
Andre Schwarzmeier (Institute for Electronics Engineering, University of Erlangen- Nuremberg, Germany)
Jürgen Besser (Wilhelm Löhe Hochschule, Germany)
Robert Weigel (Institute for Electronics Engineering, University of Erlangen- Nuremberg, Germany)
Georg Fischer (Institute for Electronics Engineering, University of Erlangen- Nuremberg, Germany)
Dietmar Kissinger (Institute for Electronics Engineering, University of Erlangen- Nuremberg, Germany)

13:40	**High Inductance Coil Embedded On On-chip Magnetic Sensor for Biomagnetism Measurements**
	HyunJune Lyu (Kyungpook National University, Korea)
	Yun Sik Bae (Kyungpook National University, Korea)
	Vijith Vijayakumaran Nair (Kyungpook National University, Korea)
	Jun Rim Choi (Kyungpook University, Korea)

14:00	**Acquisition and Elaboration of Cardiac Signal in Android Smartphone Devices**
	C.M. De Dominicis (University of Brescia, Italy)
	A. Depari (University of Brescia, Italy)
	A. Flammini (University of Brescia, Italy)
	S. Rinaldi (University of Brescia, Italy)
	E. Sisinni (University of Brescia, Italy)
	A. Vezzoli (University of Brescia, Italy)

14:20	**Real-time remote vital sign detection using a portable Doppler sensor system**
	Wei Hu (University of Science and Technology of China, P.R. China)
	Haiying Zhang (University of Science and Technology of China, P.R. China)
	Zhangyan Zhao (Institute of Microelectronics of CAS, P.R. China)
	Yunfeng Wang (Institute of Microelectronics of CAS, P.R. China)
	Xize Wang (Institute of Microelectronics of CAS, P.R. China)

14:40	**Patch Type Integrated Sensor System for Measuring Electrical and Mechanical Cardiac Activities**
	Eunjeh Hyun (Seoul National University, Korea)
	Seungwoo Noh (Seoul National University, Korea)
	Chiyul Yoon (Seoul National University, Korea)
	Hee Chan Kim (Seoul National University, Korea)

15:00 - 15:20	**Afternoon Break**

15:20 – 17:00
Sensors and Systems for Homeland Security
Session Chair: *Donald Bailey (Massey University, New Zealand)*
Room: *Queenstown Room*

15:20	**Probabilistic Method to Determine Human Subjects for Low-Resolution Thermal Imaging Sensor**
	Yongwoo Jeong (Samsung S1 Corporation, South Korea)
	Kwanwoo Yoon (Samsung S1 Corporation, South Korea)
	KyoungHo Joung (Samsung S1 Corporation, South Korea)

15:40	**Two-Frequency Surveillance Technique for Intrusion- Detection Sensor with Leaky Coaxial Cables**
	Kenji Inomata (Mitsubishi Electric Corp., Japan)
	Wataru Tsujita (Mitsubishi Electric Corp., Japan)
	Takashi Hirai (Mitsubishi Electric Corp., Japan)

16:00	**Emergency Management through Sensors of Enterprise Systems**
	Deniz Gurkan (University of Houston, USA)
	Kiran Vemuri (University of Houston, USA)
	Parth Gala (University of Houston, USA)
	Anatoliy Malishevski (University of Houston, USA)
	Anand Daga (University of Houston, USA)

16:20	**High-Resolution Measurement of Magnetic Field Generated from Cryptographic LSIs**
	Nguyen Ngoc Mai-Khanh (VLSI Design and Education Center (VDEC), The University of Tokyo, Japan)
	Tetsuya Iizuka (The University of Tokyo, Japan)
	Akihiko Sasaki (Morita-Tech Co., Ltd, Japan)
	Makoto Yamada (Morita-Tech Co., Ltd, Japan)
	Osamu Morita (Morita-Tech Co., Ltd, Japan)
	Kunihiro Asada (VLSI Design and Education Center (VDEC), The University of Tokyo, Japan)

16:40	**A Novel Cataluminescence (CTL) Sensor System Based on Two Sensing Units to Detect and Distinguish Ketone Vapors**
	Ruiya Xing (Guangzhou University, P.R. China)
	Xiaoan Cao (Guangzhou University, P.R. China)
	Ling Xu (Guangzhou University, P.R. China)
	Zhengni Wang (Guangzhou University, P.R. China)
	Yonghui Liu (Guangzhou University, P.R. China)

15:20 – 17:00
Sensor Array and Multisensor Data Fusion
Session Chairs: *Vedran Bilas (University of Zagreb, Croatia)*
Mohd Zaid Abdullah (University Sains Malaysia)
Room: *Clancys Room*

15:20	**Design and Implementation of Array Readout Integrated Circuit and Image System for Current Mode Sensors**
	Tai Ping Sun (National Chi Nan University Nantou County,& Nan Kai University of Technology Nantou County, Taiwan)
	Jia-Hao Li (National Chi Nan University Nantou County, Taiwan)
	Hsiu-Li Shieh (National Chi Nan University Nantou County, Taiwan)
	Lai-Li Kang (National Chi Nan University Nantou County, Taiwan)
	Yi-Chuan Lu (National Chi Nan University Nantou County, Taiwan)
	Teng-Yi Wang (National Chi Nan University, Taiwan)

15:40	**Expansion of Sound Source Emphasis to Multiple Areas**
	Marco Politakis (University of Canterbury, New Zealand)
	Yusuke Hioka (University of Canterbury, New Zealand)

16:00	**Localisation of a Sound Source in Different Positions Using Kinect Sensors**
	Jason Orchard (University of Canterbury, New Zealand)
	Yusuke Hioka (University of Canterbury, New Zealand)

16:20	**Power Sensor Applications in a Load Management Network for a Residential Microgrid**
	Philip Diefenderfer (Bucknell University, USA)
	Peter Mark Jansson (Bucknell University, USA)

16:40	**An Advanced Tracking Solution Fully Based on Native Sensing Features of Smartphone**
	Bruno Andò (University of Catania, Italy)
	Salvatore Baglio (University of Catania, Italy)
	Cristian O. Lombardo (University of Catania, Italy)
	V. Marletta (University of Catania, Italy)

Wednesday, February 19

08:15 - 09:00
Workshop Tutorial
Room: *Wakatipu Room*

09:00 - 10:00
Plenary Speaker: *Commander Blake McBride*
An Overview of ONR Global's Science Support Tools and an update on the renewed Arctic focus
Session Chair: *Salvatore Baglio (University of Catania, Italy)*
Room: *Queenstown Room*

09:00 - 11:30
Sensor Application Development Workshop
Room: *Wakatipu Room*

10:00 - 10:20   **Morning Break**

10:20 – 12:00
Special Session: Environmental and Agritech Related Sensors I
Session Chairs: *Ian Woodhead (Lincoln Agritech Limited, New Zealand)*
                      Ian Platt (Lincoln Agritech, Limited, New Zealand)
Room: *Queenstown Room*

10:20   **Free-Space Microwave Moisture Content Measurement of Moist Sand**
                   Sean Richards (Lincoln Agritech Limited, New Zealand)
                   Adrian Tan (Lincoln Agritech Limited, New Zealand)
                   Ian G Platt (Lincoln Agritech Limited, New Zealand)
                   Ian M Woodhead (Lincoln Agritech Limited, New Zealand)

10:40   **Antenna Design for a Proximal Soil Moisture Mapping Sensor**
                   Adrian Eng-Choon Tan (Lincoln Agritech Limited, Lincoln University, New Zealand)
                   Sean Richards (Lincoln Agritech Limited, Lincoln University, New Zealand)
                   Ian Platt (Lincoln Agritech Limited, Lincoln University, New Zealand)
                   Ian Woodhead (Lincoln Agritech Limited, Lincoln University, New Zealand)

11:00   **RFID Coordinate Registration for Agricultural Process Sensing**
                   Ian G. Platt (Lincoln Agritech Limited, New Zealand)
                   Ian M Woodhead (Lincoln Agritech Limited, New Zealand)
                   Adrian Tan (Lincoln Agritech Limited, New Zealand)
                   Sean Richards (Lincoln Agritech Limited, New Zealand)
                   Michael Hagedorn (Lincoln Agritech Limited, New Zealand)

11:20   **Moisture Content: What is it and how can it be measured?**
                   John Christie (Lincoln Agritech Limited, New Zealand)
                   Ian G. Platt (Lincoln Agritech Limited, New Zealand)

11:40   **Using Directional Antennas as Sensors to Assist Fire-fighting Robots in Large Scale Fires**
                   Byung-Cheol Min (M2M Lab-RICE Research Center, Purdue University, USA)
                   Eric T. Matson (M2M Lab-RICE Research Center, Purdue University, USA)
                   Anthony Smith (M2M Lab-RICE Research Center, Purdue University, USA)
                   J. Eric Dietz (Purdue Homeland Security Institute, Purdue University, USA)

10:20 – 12:00
Micro and Nano-Sensors I
Session Chairs: *Serge Demidenko (RMIT International University, Vietnam)*
                           Melanie Ooi (Monash University, Malaysia)
Room: *Clancys Room*

10:20   **Anti-Phase Coupled Bistable Transducers: a review of recent progress**
                   C. Trigona (DIEEI, University of Catania, Italy)
                   F. Giusa (DIEEI, University of Catania, Italy)
                   F. Maiorca (DIEEI, University of Catania, Italy)
                   A. Noto (DIEEI, University of Catania, Italy)
                   B. Andò (DIEEI, University of Catania, Italy)
                   S. Baglio (DIEEI, University of Catania, Italy)

10:40   **Design and Simulation of Nano-mechanical Resonator for Virus Detection**
                   Gaurav Chaudhary (BITS Pilani, Dubai, UAE)
                   K.K. Singh (BITS Pilani, Dubai, UAE)
                   Anyaa Mittal (BITS Pilani, Dubai, UAE)
                   Neeru Sood (BITS Pilani, Dubai, UAE)

11:00   **An Easy-fabricated Hydrogen Gas Sensor Based on Palladium-decorated Polyurethane Nanofibers**
                   Ran Chen (The State Key Lab of Fluid Power Transmission and Control, P.R. China)
                   Weiting Liu (The State Key Lab of Fluid Power Transmission and Control, P.R. China)
                   Xin Fu (The State Key Lab of Fluid Power Transmission and Control, P.R. China)
                   Paolo Dario (Polo Sant'Anna Valdera, Italy)

11:20   **Design and Simulation of a Micro Hotplate for MEMS Based Integrated Gas Sensing System**
                   Hardeep Kumar (BITS Pilani, Dubai, UAE)
                   K.K. Singh (BITS Pilani, Dubai, UAE)
                   Neeru Singh (BITS Pilani, Dubai, UAE)
                   Anuj Kumar (BITS Pilani, Dubai, UAE)
                   R.K. Mittal (BITS Pilani, Dubai, UAE)

11:40   **An Inkjet Printed Sensor for Load Measurement**
                   Bruno Andò (DIEEI, University of Catania, Italy)
                   Salvatore Baglio (DIEEI, University of Catania, Italy)
                   Cristian O. Lombardo (DIEEI, University of Catania, Italy)
                   V. Marletta (DIEEI, University of Catania, Italy)

12:00 - 13:20   **Lunch**

12:00 – 14:30
Sensor Application Development Workshop: App Development
Room: *Wakatipu Room*

13:20 - 14:40
Special Session: Computer Vision and Machine Learning for Vision Based Applications, Organized by TC-32 (Fault-Tolerant Measurement Systems) of IEEE I&M Society
Session Chairs: *Serge Demidenko (RMIT International University, Vietnam)*
Melanie Ooi (Monash University, Malaysia)
Room: *Queenstown Room*

13:20   **Fast and Robust Zebrafish Segmentation and Detection Algorithm under Different Spectrum Conditions**
Jei Shian Tan (Monash University, Malaysia)
Tak Kwin Chang (Monash University, Malaysia)
Melanie Po-Leen Ooi (Monash University, Malaysia)
Ye Chow Kuang (Monash University, Malaysia)
Chee Pin Tan (Monash University, Malaysia)
Takashi Kitahashi (Monash University, Malaysia)

13:40   **Detecting Spongiosis in Stained Histopathological Specimen using Multispectral Imaging and Machine Learning**
Sanush Abeysekera (Monash University, Malaysia)
Melanie Po-Leen Ooi (Monash University, Malaysia)
Ye Chow Kuang (Monash University, Malaysia)
Chee Pin Tan (Monash University, Malaysia)
Sharifah Syed Hassan (Monash University, Malaysia)

14:00   **Vision Inspection System for Pharmaceuticals**
N.M. Duong (RMIT International University Vietnam, Vietnam)
M.T. Chew (RMIT International University Vietnam, Vietnam & Massey University, New Zealand)
S. Demidenko (RMIT International University Vietnam, Vietnam & Massey University, New Zealand)
Q.H. Pham (National Instruments Vietnam, Vietnam)
D.K. Pham (National Instruments Vietnam, Vietnam)
M. P.-L. Ooi (Monash University, Malaysia)
Y.C. Kuang (Monash University, Malaysia)

14:20   **Standard Uncertainty Estimation on Polynomial Regression Models**
Arvind Rajan (Monash University Malaysia, Malaysia)
Ye Chow Kuang (Monash University Malaysia, Malaysia)
Melanie Po-Leen Ooi (Monash University Malaysia, Malaysia)
Serge Demidenko (RMIT International University, Vietnam & Massey University, New Zealand)

13:20 – 14:40
Magnetic Sensors and Applications
Session Chair: *Salvatore Baglio (University of Catania, Italy)*
Room: *Clancys Room*

13:20   **Microfluidic Injector Simulation with SAW Sensor for 3D Integration**
Hang Bui Thu (University of Engineering and Technology, Vietnam National University, Vietnam)
Trinh Chu Duc (University of Engineering and Technology, Vietnam National University, Vietnam)

13:40	**Predicting Cole-Cole Parameters of Microfluids with Microstrip Technology**
	Adam Santorelli (McGill University, Canada)
	Joshua Schwartz (Trinity University, USA)

14:00	**A Coupled Nonlinear Circuit for E-field and B-field Detection**
	B. Andò (University of Catania, Italy)
	S. Baglio (University of Catania, Italy)
	A. Beninato (University of Catania, Italy)
	A.R. Bulsara (Space and Naval Warfare Center, San Diego, USA)
	T. Emery (Space and Naval Warfare Center, San Diego, USA)
	C. Jenkins (Advanced Light Source, Lawrence Berkeley National Laboratory, USA)
	V. Palkar (Indian Institute of Technology, Mumbai, India)

14:20	**Applications of Nanoparticle-based Fluxgate Magnetometers for Positioning and Location**
	John Kennedy (GNS Science, New Zealand)
	Jérôme Leveneur (GNS Science, New Zealand)
	James Turner (GNS Science, New Zealand)
	John Futter (GNS Science, New Zealand)
	Grant V.M. Williams (Victoria University, New Zealand)

14:40 - 15:10	**Afternoon Break**

15:10 – 15:20
SAS 2015 Presentation
Vedran Bilas (University of Zagreb, Croatia)
Room: *Queenstown Room*

15:20 – 17:00
Special Session: Environmental and Agritech Related Sensors II
Session Chairs: *Ian Woodhead (Lincoln Agritech Limited, New Zealand)*
Ian Platt (Lincoln Agritech Limited, New Zealand)
Room: *Queenstown Room*

15:20	**A Miniaturized Soil Moisture Sensor Based on Time Domain Transmissometry**
	Bianca Will (Ruhr-University Bochum, Germany)
	Ilona Rolfes (Ruhr-University Bochum, Germany)

15:40	**Spatial Time Domain Reflectometry (spatial TDR) in Geo-environmental Engineering**
	A.Scheuermann (The University of Queensland, Australia)
	C. Gonzales (The University of Queensland, Australia)
	J. Fan (The University of Queensland, Australia)
	B. Braga (The University of Queensland, Australia)
	T. Baumgartl (The University of Queensland, Australia)
	D. Lockington (The University of Queensland, Australia)
	S. Schlaeger (sceme GmbH, Germany)
	R. Becker (Rhein-Waal University of Applied Science, Germany)
	N. Wagner (Bauhaus-University Weimar, Germany)
	C. Hübner (University of Applied Sciences Mannheim, Germany)

16:00	**Estimation of the Soil Water Characteristics from Dielectric Relaxation Spectra** *Norman Wagner (Bauhaus-University Weimar, Germany)* *Frank Daschner (University of Kiel, Germany)* *Alexander Scheuermann (The University of Queensland, Australia)* *Moritz Schwing (University of Queensland, Australia)*
16:20	**Non-destructive Coaxial Transmission Line Measurements for Dielectric Soil Characterization** *M. Schwing (The University of Queensland, Australia)* *Z. Chen (The University of Queensland, Australia)* *A. Scheuermann (The University of Queensland, Australia)* *N. Wagner (Bauhaus-University Weimar, Germany)*
16:40	**A Comparison of Two Ranging Approaches in an Active, Optical Plant Canopy Sensor** *Michael T. Schaefer (University of New England & CSIRO, Australia)* *David W. Lamb (University of New England & Precision Agriculture Research Group, Australia)* *Ron Bradbury (University of New England, Australia)*

15:20 – 17:00
Sensors Applications in Robotics and Automation
Session Chair: *Gourab Sen Gupta (Massey University, New Zealand)*
Room: *Clancys Room*

15:20	**Direction of Arrival Estimation of Kiwi Call in Noisy and Reverberant Bush** *Craig Gray (University of Canterbury, New Zealand)* *Yusuke Hioka (University of Canterbury, New Zealand)*
15:40	**A New Approach On Advanced Compact Plasma Sensors for Industrial Plasma Applications** *Christian Schulz (Ruhr-University Bochum, Germany)* *Ilona Rolfes (Ruhr-University Bochum, Germany)*
16:00	**Real-time Classification of Industrial Products Based on the Photonic-mixer-device Sensor Technology** *Stephan Hussmann (West Coast University of Applied Sciences, Germany)* *Jörn Sandner (West Coast University of Applied Sciences, Germany)*
16:20	**Phase-Height Relationship by Plane Analysis in 3D Shape Measurement using Fringe Pattern Projector** *Byeong-Mook Chung (Yeungnam University, South Korea)* *Yoon-Chang Park (Sunmoom University, South Korea)* *Jin-Yeong Do (AVACO Co., Ltd, South Korea)*
16:40	**PointsBug Versus TangentBug Algorithm, A Performance Comparison In Unknown Static Environment** *N. Buniyamin (Universiti Teknologi MARA, Malaysia)* *W.A.J. Wan Ngah (Universiti Teknologi MARA, Malaysia)* *Zainuddin Mohamad (Universiti Teknologi MARA, Malaysia)*

17:00
Sensor Application Development Workshop: 5 Minute Pitches
Room: *Queenstown Room*

19:00	**Symposium Dinner** *Skyline Queenstown Restaurant*

Thursday, February 20

08:45 - 09:00
Closing Remarks
Room: *Queenstown Room*

09:00 - 10:20
Sensors Applications in Robotics and Automation II
Session Chair: *Gourab Sen Gupta (Massey University, New Zealand)*
Room: *Queenstown Room*

09:00	**Sensing and Processing of Bio-metric Signals for use in Low Cost Bio-robotic Systems** *Christopher Scott (Massey University, New Zealand)* *Gourab Sen Gupta (Massey University, New Zealand)* *Liqiong Tang (Massey University, New Zealand)*
09:20	**Investigation of Force Sensors for use in Bipedal Humanoid Dynamic Gait Generation** *Rick Pierce (Massey University, New Zealand)* *Gourab Sen Gupta (Massey University, New Zealand)*
09:40	**Sensor Signal Filtering in Quadrotor Control** *S.T. Pham (RMIT International University Vietnam, Vietnam)* *M.T. Chew (RMIT International University Vietnam, Vietnam)*
10:00	**Automating Monitoring of Cat Feeding Behaviour** *Donald Bailey (Massey University, New Zealand)* *David Thomas (Massey University, New Zealand)* *Michelle Cho (Massey University, New Zealand)* *Said Al-Souti (Massey University, New Zealand)*

9:00 - 10:40
Wireless Sensor Networks I
Session Chair: *Alessandra Flammini (University of Brescia, Italy)*
Room: *Clancys Room*

09:00	**Wireless Aircraft Fuel Quantity Indication System** *Jason Bommer (The Boeing Company, USA)* *Andy Robb (The Boeing Company, USA)* *René Martinez (Intermec Technologies Corp., USA)* *Shashi Ramamurthy (Intermec Technologies Corp., USA)* *Jason Harrigan (Intermec Technologies Corp., USA)* *Harikiran Muniganti (Indian Institute of Science, India)* *Vivekanand Mannangi (Indian Institute of Science, India)* *K.J. Vinoy (Indian Institute of Science, India)*
09:20	**Mobility-Aware Hybrid Medium Access Control Protocol for Wireless Sensor Network (WSN)** *Abdul Razaque (University of Bridgeport, USA)* *Khaled M. Elleithy (University of Bridgeport, USA)*

09:40	**Low-power Wireless Interface for Handheld Smart Metering Devices**
	L. Berghella (University of Brescia, Italy)
	A. Depari (University of Brescia, Italy)
	P. Ferrari (University of Brescia, Italy)
	A. Flammini (University of Brescia, Italy)
	S. Rinaldi (University of Brescia, Italy)
	E. Sisinni (University of Brescia, Italy)
	A. Vezzoli (University of Brescia, Italy)

10:00	**An Empirical Path Loss Model for Wireless Sensor Network Deployment in a Dense Tree Environment**
	Abdulaziz Al-Sayyari (Florida Institute of Technology, USA)
	Ivica Kostanic (Florida Institute of Technology, USA)
	Carlos E. Otero (Florida Institute of Technology, USA)

10:20	**BlurSense: Dynamic Fine-Grained Access Control for Smartphone Privacy**
	Justin Cappos (NYU-Poly, USA)
	Lai Wang (NYU-Poly, USA)
	Richard Weiss (Evergreen State College, USA)
	Yi Yang (Fontbonne University, USA)
	Yanyan Zhuang (University of British Columbia, Canada)

10:40 – 11:00   Morning Break

11:00 – 12:40
Wireless Sensor Networks II
Session Chair: *Bruno Andò (University of Catania, Italy)*
Room: *Queenstown Room*

11:00	**What is the First Step in Designing an Application Protocol for Wireless Sensor Networks (WSNs)?**
	Quazi Mamun (Charles Sturt University, Australia)
	Mohammed Kaosar (Charles Sturt University, Australia)

11:20	**UWB Sensor Network on 2-D Waveguide Sheet**
	Yuta Kudo (University of Tokyo, Japan)
	Akihito Noda (University of Tokyo, Japan)
	Hiroyuki Shinoda (University of Tokyo, Japan)

11:40	**A Networked High-Speed Vision System for Vehicle Tracking**
	Akihito Noda (The University of Tokyo, Japan)
	Masahiro Hirano (The University of Tokyo, Japan)
	Yuji Yamakawa (The University of Tokyo, Japan)
	Masatoshi Ishikawa (The University of Tokyo, Japan)

12:00	**Fuzzy Logic Control Mechanism for Flash Flood Monitoring Station**
	Supamit Jankoo (Chiang Mai University, Thailand)
	Paskorn Champrasert (Chiang Mai University, Thailand)
	Benya Suntaranont (Chiang Mai University, Thailand)

12:20   **A Processing Approach for a Correlating Time-of-Flight Range Sensor Based on a Least Squares Method**
Michael Hofbauer (Vienna University of Technology, Austria)
Johannes Seiter (Vienna University of Technology, Austria)
Milos Davidovic (Vienna University of Technology, Austria)
Horst Zimmermann (Vienna University of Technology, Austria)

11:00 – 12:20
Special Session: Sensors and Systems for Emergency and First Response
Session Chairs: *Eric T. Matson (M2M Lab-RICE Research Center, Purdue University, USA)*
Room: *Clancys Room*

11:00   **An Efficient Area Coverage Algorithm using Passive RFID System**
Sangyup Lee (Kyunghee University, Korea)
Choong-Yong Lee (Kyunghee University, Korea)
Wonse Jo (Kyunghee University, Korea)
Dong-Han Kim (Kyunghee University, Korea)

11:20   **Infrared Depth Sensor Kinect™-based Smart Room Controller**
Arthur Silitonga (President University, Indonesia)
Sugianto Thoeng (President University, Indonesia)

11:40   **Fluvial Monitoring and Flood Response**
Shi-Wei Lo (National Center for High-Performance Computing, Taiwan)
Jyh-Horng Wu (National Center for High-Performance Computing, Taiwan)
Lun-Chi Chen (National Center for High-Performance Computing, Taiwan)
Chien-Hao Tseng (National Center for High-Performance Computing, Taiwan)
Fang-Pang Lin (National Center for High-Performance Computing, Taiwan)

12:00   **Uncertainty analysis for optical time-of-flight sensors based on four-phase-shift range calculation**
Torsten Edeler (University of Applied Sciences Hamburg, Germany)
Stephan Hussmann (West Coast University of Applied Sciences, Germany)
Florian Knoll (West Coast University of Applied Sciences, Germany)