

Report on 8th IEEE Conference on Industrial Electronics and Applications (ICIEA 2013)

(Submitted by Dr. Y.S. Brar)

The 8th IEEE Conference on Industrial Electronics and Applications (ICIEA 2013) was held during 19-21 June 2013, in Melbourne, Australia. The Conference was organized by IEEE Industrial Electronics (IE) Chapter of Singapore Section and Swinburne University of Technology, Australia. IEEE Industrial Electronics Society was the financial and technical sponsor.

Conference Tracks

ICIEA 2013 is a premier conference, providing an excellent forum for scientists, researchers, engineers and industrial practitioners throughout the world to present and discuss the latest technology advancement as well as future directions and trends in Industrial Electronics. Authors were invited to submit full papers describing original research work in areas including, but not limited to,

Industrial Informatics: Human-machine interactions, Diagnosis and prognosis, Intelligent automation, Intelligent transportation system, Manufacturing execution systems, Networked embedded controllers, Machine-to-machine, Condition based maintenance, SOA, Multi-agent systems.

Computational Intelligence: Artificial neural network, Fuzzy systems, Genetic algorithm, Evolutionary computing, Machine learning, Data mining

Control and Systems: Adaptive and intelligent control, Hybrid control, Digital control theory and development, Robust control, Nonlinear systems and control, Process control, Networked control, Cooperative control, Bio-control

Energy and Environment: Energy management and control systems, Energy distribution, storage and recovery, Alternative and green energy, Waste management, Waste treatment and recycling, Water network and security, Sensor technologies, Intelligent micro-grids

Mechatronics: Robotics, Sensors and actuators, Sensor fusion, High precision motion control, Micro electromechanical systems, Industrial automation, Remote operation

Power Electronics: Power devices and components, Power quality control, FACTS, PFC, STATCOM. Harmonic analysis and compensations, Switching circuits and power converters, Motors and drives, Smart grid, Distribution generation and electrical vehicles

Signal and Information Processing: Image processing, Computer vision, Bio-image processing, Audio/video processing, Data processing, Estimation and identification, Remote sensing, Information fusion

Network and Communication Technologies: Network protocols, Mobile computing, Mobile ad hoc networks, Mobile agents, Network architectures, Quality of services, Cross-layer design/optimization, Design and performance evaluation, Traffic control, Wireless systems

The detail of conference programme is shown in Table below:

Date	Time	Session	Title	Venue
June 18, 2013	14:00-17:30	---	Pre-Conference Registration	Auditorium
June 19, 2013	08:30-09:00		Opening Ceremony	Auditorium
June 19, 2013	09:00-10:00	Keynote Speech 1 - Prof. Linda Kristjanson Vice – Chancellor of Swinburne University of Technology	The Importance of Universities, Innovation and Research to the Development of a Nation	Auditorium
June 19, 2013	10:00-10:20	Distinguished Invited Lecture Prof. Hong Ren Wu Royal Melbourne Institute of Technology Australia	Perceptual Coding of Digital Pictures - A leap of insight	Auditorium
June 19, 2013	10:20-12:00	Technical Session	<u>WeA1 - Control Session</u>	ATC205
June 19,	10:20-	Technical		AD102

2013	12:00	Session	<u>WeA2 - Power Electronics</u>	
June 19, 2013	10:20-12:00	Technical Session	<u>WeA3 - Energy</u>	ATC101
June 19, 2013	10:20-12:00	Technical Session	<u>WeA4 - Intelligent System</u>	AD208
June 19, 2013	10:20-12:00	Technical Session	<u>WeA5 - Artificial Neural Network</u>	AD209
June 19, 2013	12:00-13:00	Technical Session	<u>WeM1 - Control Session</u>	ATC205
June 19, 2013	13:00-15:00	Technical Session	<u>WeM2 - Invited Electrical Design</u>	AD102
June 19, 2013	"	"	<u>WeM3 - Invited Biomedical Electronics</u>	ATC101
June 19, 2013	"	"	<u>WeM4 - Diagnosis &</u>	AD208

			Prognosis	
June 19, 2013	"	"	<u>WeM5 - Fuzzy Systems & Evolutional Computing</u>	AD209
June 19, 2013	"	"	<u>WeMP - Interactive Session</u>	ATC103
June 19, 2013	15:00- 15:20	Technical Sessions - WeP	<u>WeP1 Control Session</u>	ATC205
June 19, 2013	15:00- 15:20	Technical Sessions - WeP	<u>WeP2 - Power Electronics</u>	AD102
June 19, 2013	15:20- 17:00	Technical Sessions - WeP	<u>WeP3 - Energy</u>	ATC101
June 19, 2013	"	Technical Sessions - WeP	<u>WeP4 - Remote Sensing</u>	AD208
June 19, 2013	"	Technical Sessions - WeP	<u>WeP5 - Power Electronics</u>	AD209

June 19, 2013	11	Technical Sessions - WeP	<u>WePP - Interactive Session</u>	ATC103
June 20, 2013	09:00-10:00	Keynote Speech 2 - Prof. Gang Tao University of Virginia, Charlottesville, Virginia, USA	Adaptive Fault Accommodation Based Resilient Control Systems	Auditorium
June 20, 2013	10:00-10:20	Distinguished Invited Lecture - Prof. XiaoQi Chen Department of Mechanical Engineering, University of Canterbury, Christchurch, New Zealand	Mobile Robots: A Hard Journey towards the Field	Auditorium (AD103)
June 20, 2013	10:20-12:00	Technical Session	ThA1 - Control Session	ATC205
June 20, 2013	10:20-12:00	Technical Session	<u>ThA2 - Power Electronics</u>	AD102
June 20, 2013	10:20-12:00	Technical Session	<u>ThA3 - Robotics</u>	ATC101
June 20, 2013	10:20-12:00	Technical Session	<u>ThA4 - Image Processing (I)</u>	AD208

June 20, 2013	10:20-12:00	Technical Session	<u>ThA5 - Data Mining</u>	AD209
June 20, 2013	13:00-15:00	Technical Session	<u>ThM1 - Control Session</u>	ATC205
June 20, 2013	13:00-15:00	Technical Session	<u>ThM2 - Invited Electrical Design</u>	AD102
June 20, 2013	13:00-15:00	Technical Session	<u>ThM3 - Energy & Enviroment</u>	ATC101
June 20, 2013	13:00-15:00	Technical Session	<u>ThM4 - Audio / Video Processing</u>	AD208
June 20, 2013	13:00-15:00	Technical Session	<u>ThM5 - Machine Learning</u>	AD209
June 20, 2013	13:00-15:00	Technical Session	<u>ThMP - Interactive Session</u>	ATC103
June 20, 2013	15:20-17:00	Technical Session	<u>ThP1 - System Modeling and</u>	ATC205

			<u>Analysis</u>	
June 20, 2013	15:20- 17:00	Technical Session	<u>ThP2 - Power Electronics</u>	AD102
June 20, 2013	15:20- 17:00	Technical Session	<u>ThP3 - Robotics</u>	ATC101
June 20, 2013	15:20- 17:00	Technical Session	<u>ThP4 - Image Processing (II)</u>	AD208
June 20, 2013	15:20- 17:00	Technical Session	<u>ThP5 - Network & Communication</u>	AD209
June 20, 2013	15:20- 17:00	Technical Session	<u>ThPP - Interactive Session</u>	ATC103
June 21, 2013	09:00- 10:00	Keynote Speech 3 - Prof. Shi Xue Dou University of Wollongong, Australia	Development of nano-materials for energy applications at Institute for Superconducting and Electronic Materials (ISEM)	Auditorium
June 21, 2013	10:20- 12:00	Technical Session	<u>FrA1 - Control</u>	ATC205

			<u>Session</u>	
June 21, 2013	10:20- 12:00	Technical Session	<u>FrA2 - Estimation & Identification</u>	AD102
June 21, 2013	10:20- 12:00	Technical Session	<u>FrA3 - Sensors & Actuator</u>	ATC101
June 21, 2013	10:20- 12:00	Technical Session	<u>FrA4 - Data Processing</u>	AD208
June 21, 2013	10:20- 12:00	Technical Session	<u>FrA5 - Computer Intelligence</u>	AD209
June 21, 2013	10:20- 12:00	Technical Session	<u>FrAP - Interactive Session</u>	ATC103
June 21, 2013	13:00- 15:00	Technical Session	<u>FrM1 - Control Session</u>	ATC205
June 21, 2013	13:00- 15:00	Technical Session	<u>FrM2 - Invited Session Testing & Control</u>	AD102

June 21, 2013	13:00- 15:00	Technical Session	<u>FrM3 - Mechatronics</u>	ATC101
June 21, 2013	13:00- 15:00	Technical Session	<u>FrM4 - Computer Vision</u>	AD208
June 21, 2013	13:00- 15:00	Technical Session	<u>FrM5 - Network & Communication</u>	AD209
June 21, 2013	13:00- 15:00	Technical Session	<u>FrMP - Interactive Session</u>	ATC103
June 21, 2013	15:20- 17:00	Technical Session	<u>FrP1 - Control Session</u>	ATC205
June 21, 2013	15:20- 17:00	Technical Session	<u>FrP2 - Power Electronics</u>	AD102
June 21, 2013	15:20- 17:00	Technical Session	<u>FrP3 - Mechatronics</u>	ATC101
June 21,	15:20-	Technical		AD208

2013	17:00	Session	<u>FrP4 - System Modeling and Analysis</u>	
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The detail of the session in paper is presented is given below

WeM5 - Fuzzy Systems & Evolutional Computing

Wednesday, June 19, 2013 13:00-15:00

AD209

Session Chair: HARINDER PAL SINGH / Santoso WIBOWO

WeM5.1 13:00-13:20 4271

MULTIOBJECTIVE LOAD DISPATCH USING PARTICLE SWARM OPTIMIZATION
HARINDER PAL SINGH, BHAI GURDAS INSTITUTE OF ENGG. & TECHNOLOGY,
SANGRUR, PUNJAB, India
YADWINDER SINGH BRAR, GURU NANAK DEV ENGG. COLLEGE, LUDHIANA,
PUNJAB, India

D. P. Kothari, J B Group of Institutions, India

WeM5.2 13:20-13:40 4055

A Fuzzy Multicriteria Approach for Evaluating the Sustainability Performance of Semiconductor Companies

Santoso Wibowo, Central Queensland University, Australia
Hepu Deng, RMIT University, Australia

WeM5.3 13:40-14:00 4295

Fuzzy Logic Based Load Balancing for An Online Medical Consultation System

Uthpala Premaratne, RMIT University, Australia
Fengling Han, RMIT University, Australia
Ibrahim Khalil, RMIT University, Australia
Zahir Tari, RMIT University, Australia

WeM5.4 14:00-14:20 4507

Fuzzy Multiattribute Evaluation of Green Supply Chain Performance

Santoso Wibowo, Central Queensland University, Australia

WeM5.5 14:20-14:40 4570

Automated Recognition of Ficus Deltoidea Using Ant Colony Optimization Technique

Asnor Ishak, Faculty of Engineering, Universiti Putra Malaysia, Malaysia
Azura Che Soh, Universiti Putra Malaysia, Malaysia
Mohammad Hamiruce Marhaban, Faculty of Engineering, Universiti Putra Malaysia, Malaysia
Shamsul Khamis, Institute of Bioscience, Universiti Putra Malaysia, Malaysia
Mohammad Ali Jan Jan Ghasab, Faculty of Engineering, Universiti Putra Malaysia, Malaysia

WeM5.6 14:40-15:00 4533

A hybrid search strategy based particle swarm optimization algorithm

Qian Wang, Southeast University, China

Peihong Wang, Southeast University, China

Zhigang Su, Southeast University, China

With attending this conference, sharing of ideas with other researchers and attending other sessions leads improve in knowledge. This knowledge will help in guiding students for their Ph.D and research activities. This visit also leads to increase in subject knowledge which will be transferred to students and teachers of the institute. During the visit I also visited other Australian universities which leads to increase in awareness regarding technical educations.

A handwritten signature in black ink, consisting of a stylized 'Z' followed by a long horizontal stroke that curves upwards at the end.