

**5th International Conference on Intelligent Sensors, Sensor Networks and
Information Processing
ISSNIP 2009**

7-10 December 2009, Langham Hotel, Melbourne, Australia

CONFERENCE REPORT

General Chair: Prof. M. Palaniswami

Program Summary

- 7th December 2007
 - ISSNIP Collaboration Day
 - Conference Opening
 - Welcome Reception
 - Total keynote talks – 7
 - Oral presentation sessions
 - Poster Session - 9th Dec
 - Conference Banquet – 9th Dec, Eureka Tower, Southbank
 - CREON Workshop - 10th Dec
 - ISSNIP PhD ECR Forum – 10th Dec

Statistics:

- Authors from 25 different countries (Aus – 41.1%, Germany – 12.8%, US – 12.3%, Japan – 7%)
- Proceedings published by IEEE Press and to appear on IEEE Xplore
- 16 Plenary/Keynote talks from top researchers
- Full paper submissions, fully reviewed, 39% accepted (81 Accepted, 126 Rejected, 34 withdrawn)
- 73 oral presentations and 18 poster presentations
- One overall best paper and one student best paper awarded
- About 21947 web hits

As the fifth conference in the ISSNIP series, ISSNIP 2009 was once again a great success attracting a large number of high profile international speakers and quality papers from around the world. The conference featured a technical program made up of a number of symposia, spanning the key research themes of ISSNIP, namely sensor networks technology for defence, healthcare and the environment. These consist of: sensor networks based symposia, addressing networking issues for large scale WSN's; adaptive sensing control and optimisation; middleware; security; information driven spatial representations, and finally application based symposia incorporating RFID, healthcare, autonomous systems, structural health and future networks through the interconnection of the physical and digital world. This year's conference also saw the hosting of a workshop on the development of an Integrated Coral Reef Ecosystem Observing System; PhD/ECR Forum; and the integration of the ISSNIP Collaboration Day.

Symposium Chairs were given the responsibility of putting together a technical program committee and assigning reviewers, as well as the opportunity to nominate keynote speakers. Papers were solicited by the ISSNIP Organising Committee as well as by individual Symposium organisers, utilising all available dissemination networks. The overall quality of paper submissions continues to improve with each conference. Receiving 241 initial paper submissions from 42 countries, submitted full papers were subjected to multiple independent peer review and selected papers recommended by the respective program committees under the guidance of the symposium chairs for presentation at this conference. Of the accepted papers 40 had a student as first author. The quality of accepted papers is

reflected in the acceptance rate of 39% (after withdrawals, 81 accepted papers from 207 valid submissions). The conference also awarded a best paper and best student paper, based on nominations from the Symposium Chairs and further review by the selection committee (including a number of international keynote speakers). The total attendance was 180 delegates.

Following the ISSNIP Collaboration Day program, the official conference opening was given by ISSNIP Executive Committee Chair Dr D. Nandagopal (DSTO) and opening keynote talk was delivered by Prof David Karoly (University of Melbourne). This was followed by a welcome reception at the Langham Hotel's Alto room overlooking the city and the Yarra precinct below. The conference banquet was held at Eureka89, on the 89th floor of Melbourne's tallest building – Eureka Tower – offering sweeping views across the city in all directions, including and Port Phillip Bay and a spectacular sunset. The event also featured an invited talk by Prof Pradeep K. Taneja from the School of Social and Political Sciences at the University of Melbourne.

The success of the conference was greatly assisted by a number of sponsors (in addition to that from ARC RN on ISSNIP). The co-sponsors included the Victorian Government, CSIRO, ACoRN and the University of Melbourne, as well as technical co-sponsorship from IEEE Victoria Section and IEEE Sensors Council.

In addition to delivering high quality International keynote speakers, invited speakers and quality technical program, the conference provided a foundation for a number of high level meetings around the time of the conference, taking advantage of the presence of a large number of international visitors at the conference. Some of these included: an ISSNIP Executive Committee meeting, ISSNIP ISAC meeting; a DIISR-ISL project (Distributed Sensor Networks) meeting; and ISSNIP - SENSEI (EU 7th FP) meeting, as well as the CREON workshop (and associated meetings). Once again a significant number of new collaborative links have been established. Other direct outcomes include the planning for new events (workshops/meetings) in 2010, as well as new research proposals and corresponding funding applications. The efforts of the Organising Committee, Symposium Chairs, Technical Program Committees and Best Paper Award Committee have once again set high standard for the conference. We would like to thank all those involved in putting the conference together, including reviewers, the keynote speakers for their contributions and all those in attendance for making ISSNIP 2009 a highly successful event.

Best Paper Awards:

Best Paper: *A Multiscale Strategy in Wireless Sensor Networks for Structural Health Monitoring* – Xeufeng Liu, Jiannong Cao, Hejun Wu, Yang Liu (Polytechnic University China)

Best Student Paper: *Camera Calibration in Wireless Sensor Networks* – Junbin Liu, Damien O'Rourke, Tim Wark (CSIRO, Australia), Rual Lakemond, Sridha Sridharan (Queensland University of Technology, Australia)

Keynote speakers:

Prof. David Karoly (The University of Melbourne)

Prof. Guanrong Chen (City University of Hong Kong)

Prof. Anthony Burkitt (The University of Melbourne)

Prof. Mohan Kumar (The University of Texas, Arlington, USA)

Prof. S. S. Iyengar (Louisiana State University, USA)

Prof. Paul Havinga (University of Twente, Netherlands)

Prof. John Langford (The University of Melbourne)

Panel Session Members:

Prof. Mohan Kumar (University of Texas at Arlington, USA)

Prof. Paul Havinga (The University of Twente, Netherlands)

A/Prof. Richard Baker (Murdoch Childrens Research Institute, Australia)

Moderator: Dr Slaven Marusic (University of Melbourne)

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M. Palaniswami, The University of Melbourne, Australia

Organising Committee Chair

Slaven Marusic, The University of Melbourne, Australia

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Symposium on Theoretical and Practical Aspects of Large-scale Wireless Sensor Networks

Paul Havinga, University of Twente, The Netherlands

Symposium on Adaptive Sensing, Control, and Optimization in Sensor Networks

I-Jeng Wang, Johns Hopkins University - Applied Physics Lab, USA

Symposium on Middleware for Sensor Systems (MiSS'09)

Mohan Kumar, The University of Texas, Arlington, USA
Jadwiga Indulska, The University of Queensland, Australia

Symposium on Information Driven Spatial Representations

Pubudu N. Pathirana, Deakin University, Australia
Adrian N. Bishop, Royal Institute of Technology (KTH), Stockholm, Sweden

Symposium on Information Processing and Sensor Technologies in Healthcare

Rezaul Begg, Victoria University, Australia
Daniel T. H. Lai, Victoria University, Australia

Symposium on RFID Technology

Robin Doss, Deakin University, Australia

Symposium on Multimedia Processing on Sensor Networks

Tim Wark, CSIRO, Australia
Branislav Kusy, Stanford University, USA

Symposium on Integration of the Digital and Physical World in the Network of the Future

Srdjan Krco, Ericsson, Serbia
Lareunt Heralut, CEA-LETI, France
Alex Gluhak, University of Surrey, UK

Symposium on Autonomous Systems

Jaime Valls Miro, University of Technology, Sydney
Alen Alempijevic, University of Technology, Sydney

Symposium on Sensor Network Security

Yee Wei Law, University of Melbourne, Australia

Special session on Control theory and optimization applied to mobile ad hoc and sensor networks

Stuart Milner, University of Maryland, USA
Sylvie Perreau, University of South Australia, Australia

Symposium on Structural Health Monitoring

Bijan Samali, University of Technology, Sydney

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