IEEE INTERNATIONAL CONFERENCE ON ULTRA-WIDEBAND

15 - 18 SEPTEMBER 2013 | SYDNEY, AUSTRALIA

ICUWB 2013 will be held at The Menzies Hotel, Sydney, Australia on the 15th to 18th of September 2013. This Conference provides a forum for the latest UWB systems, technologies, and applications in both microwave and millimeter wave bands. ICUWB 2013 is a continuation of a series of annual internatinal UWB conferences held in Syracuse-NY, Baltimore, Reston-VA, Oulu, Kyoto, Zürich, Waltham, Singapore, Hannover, Vancouver, Nanjing, and Bologna, from 2002 to 2012. This event is co-sponsored by CSIRO, Macquarie University, IEEE Microwave Theory and Techniques Society (MTT), IEEE Communications Society and NSW Trade & Investment.

ICUWB 2013 welcomes previously unpublished original research and development related to ultra wide band technologies, systems and networks. All accepted papers presented at the conference will be submitted to the IEEE Xplore Digital Library for publication. The manuscript template and complete information about the electronic paper submission process can be found at www.ICUWB2013.org.

Topics of Interest include, but are not limited to:

ANTENNAS AND PROPAGATION
- UWB antennas and arrays
- Field trials and measurements
- Channel measurements and modeling

UWB COMMNICATIONS SYSTEMS AND SIGNAL PROCESSING
- Modulation and dectection
- Interference and capacity
- Synchronisation
- Coding and decoding
- Ranging, localisation, and positioning
- Multiple access schemes
- MIMO systems
- Time reversal
- 60 GHz systems

HARDWARE ARCHITECTURE AND IMPLEMENTATION
- RF modules, circuits, and systems
- Low-power consumption techniques
- Wireless access protocols and architectures
- Cooperative communications
- Energy efficient cross layer design

STANDARDISATION AND REGULATORY ISSUES
- Spectral management
- Emerging wireless standardisations
- Measurement for type approval
- Co-existence

UWB COGNITIVE AND CO-OPERATIVE
- Cognitive wireless networks
- Energy efficient cross layer design
- Wireless access protocols and architectures
- Co-operative communications
- Spectrum sensing and dynamic spectrum sharing

APPLICATIONS
- Wireless personal/body area network
- Consumer electronics
- Home networking
- 60 GHz millimeter wave and beyond
- Wireless UWB
- THz imaging/sensing/communications
- Healthcare and medical imaging
- UWB communications over power lines
- Collision, ground-penetrating and through wall radars
- Remote sensing
- Green communications
- RF identification
- Automative radars and sensors
- UWB for inter-chip and intra-chip communications
- UWB for satellite communications

Exhibition: An exhibition of research achievements and commercial products will be held concurrently.

IMPORTANT DATES

Tutorial / Workshop Proposal Submission	Technical Paper Submission Close	Acceptance Notification	Final Manuscript Submission
1 February 2013	5 April 2013	17 May 2013	14 June 2013

GENERAL CHAIR
» **Dr Ian Oppermann**
CSIRO, Australia

HONORARY CHAIR
» **Prof. Ryuji Kohno**
Yokohama National University, Japan

TECHNICAL PROGRAM CHAIR
» **Prof. Eryk Dutkiewicz**
Macquarie University, Australia

INTERNATIONAL TPC CO-CHAIRS
» **Prof. Maria-Gabriella Di Benedetto**
Sapienza University of Rome
» **Dr Matti Hamalainen**
University of Oulu, Finland
» **Prof. Yukitoshi Sanada**
Keio University, Japan
» **Prof. Honggang Zhang**
Université Européenne de Bretagne (UEB) & Supelec, France

LOCAL TPC CO-CHAIRS
» **Prof. Michael Heimlich**
Macquarie University, Australia
» **Dr Xiaojing Huang**
CSIRO ICT Centre, Australia

PUBLICATIONS CHAIR
» **Dr Ren Liu**
CSIRO ICT Centre, Australia

MEMBER AT LARGE
» **Dr James Rautio**
Sonnet Software, USA

STUDENT TRAVEL GRANT CHAIR
» **Dr Kumudu Munasinghe**
University of Canberra, Australia

WORKSHOP CHAIR
» **Dr. Hans Schantz**
The Q-Track Corporation, USA

KEYNOTE SPEAKERS INCLUDE:
» **Prof. Ryuji Kohno**
Yokohama National University, Japan
» **Dr Jim Lansford**
CSR Technology Inc.
» **Prof. Robert Scholtz**
University of Southern California, USA
» **Prof. Stan Skafidas**
University of Melbourne, Australia

INVITED SPEAKERS INCLUDE:
» **Prof. Norman Beaulieu**
University of Alberta
» **Prof. Matti Latva-aho**
University of Oulu, Finland
» **Prof. Andreas F. Molisch**
University of Southern California, USA

WWW.ICUWB2013.ORG

General Chair
» Dr Ian Oppermann (CSIRO, Australia)

Honorary Chair
» Prof Ryuji Kohno (Yokohama National University, Japan)

Publications Chair
» Dr Ren Ping Liu (CSIRO, Australia)

Member at Large
» Dr James C. Rautio (Sonnet Softwre, Inc., USA)

Student Travel Grant Chair
» Dr Kumudu S Munasinghe (University of Canberra, Australia)

Workshop Chair
» Dr Hans G Schantz (The Q-Track Corporation, USA)

Technical Program Chair
» Prof Eryk Dutkiewicz (Macquarie University, Australia)

International TPC Co-Chairs
» Dr Matti Hämäläinen (University of Oulu, Finland)
» Prof Yukitoshi Sanada (Keio University, Japan)
» Prof Honggang Zhang (Université Européenne de Bretagne (UEB) and Supelec, France))
» Prof Maria Gabriella Di Benedetto (University of Rome La Sapienza Italy, Italy

Local TPC Co-Chairs
» Dr Michael Heimlich (Macquarie University, Australia)
» Prof Xiaojing Huang (CSIRO ICT Centre, Australia)

Study on Timing Jitter in Clutter Mitigation of Through-Wall Human Indication
Jun Hu (National University of Defense Technology, P.R. China); Guofu Zhu (National University of Defense Technology, P.R. China); Jin Tian (National University of Defense Technology, P.R. China); Liang Wang (National University of Defense Technology, P.R. China); Zhou Zhimin (National University of Defense Technology, P.R. China)
pp. 211-214

A Multipath Suppression Technique for Through-the-wall Radar
Jian Wang (National University of Defense Technology, P.R. China); Pengyu Wang (National University of Defense Technology, P.R. China); Yanghuan Li (National University of Defense Technology, P.R. China); Qian Song (National University of Defense Technology, P.R. China); Zhimin Zhou (National University of Defense Technology, P.R. China)
pp. 215-220

UWB Multi-Channel M-Sequence System for Moisture Measurements
Henning Mextorf (University of Kiel, Germany); Christoph Plüschke (University of Kiel, Germany); Frank Daschner (University of Kiel, Germany); Mike Kent (University of Kiel, Germany); Reinhard Knoechel (CAU Kiel, Germany)
pp. 221-225

W5: UWB Signal Processing - II

Exploration and Performance Evaluation of a Compressed Sensing Based IR-UWB Receiver
Qin Zhou (KTH Royal Institute of Technology, Sweden); Zhuo Zou (KTH-The Royal Institute of Technology, Sweden); Hannu Tenhunen (University of Turku, Finland); Li-Rong Zheng (Royal Institute of Technology (KTH), Sweden)
pp. 226-230

Performance and implementation of a multirate IR-UWB Baseband transceiver for IEEE802.15.4a
Olonbayar Sonom (IHP, Germany); Dan Kreiser (IHP, Germany); Rolf Kraemer (IHP Microelectronics, Frankfurt/Oder, Germany)
pp. 231-237

Maximum Likelihood Detectors for Generalized Code-Multiplexing Ultra-Wideband Systems
Hyunwoo Cho (Georgia Institution of Technology, USA); Qi Zhou (Georgia Institute of Technology, USA); Xiaoli Ma (Georgia Institute of Technology, USA)
pp. 238-242

Performance of Joint Channel and Physical Network Coding Based on Alamouti STBC
Yi Fang (Xiamen University, P.R. China); Lin Wang (Xiamen University, P.R. China); Kai Kit Wong (University College London, United Kingdom); Kin-Fai Tong (UCL, University of London, United Kingdom)
pp. 243-248

Iterative RAKE Reception Scheme Using Multi-carrier Pulse for Pulse Based UWB system
Kohei Ohno (Meiji University, Japan); Makoto Itami (Tokyo University of Science, Japan); Tetsushi Ikegami (Meiji University, Japan)
pp. 249-254

Error Probability of OFDM-based Hybrid Relay Protocols Over Wideband Fading Channels
Ibrahim Sileh (USQ, Australia); Wei Xiang (University of Southern Queenslan, Australia); Andrew Maxwell (University of Southern Queensland, Australia)
pp. 255-260

Time Reversal Beamforming in MISO-UWB Channels
Guido C Ferrante (Sapienza University of Rome, Italy); Jocelyn Fiorina (SUPELEC, France); Maria Gabriella Di Benedetto (University of Rome La Sapienza Italy, Italy)
pp. 261-266

2013 IEEE International Conference on Ultra-Wideband (ICUWB) took place 15-18 September 2013 in Sydney, Australia.

IEEE catalog number:	CFP13UWS-ART
ISBN:	978-1-4799-0969-8