

Program

Application of Intelligent Particles and Sensors in Environmental and Process Engineering

August 24-28, 2008

Rasa Sayang Shangri-La Resort
Penang, Malaysia

Chair

Professor Richard A. Williams
University of Leeds, UK

Co-Chairs

Professor Mohammad Zaid Abdullah
Universiti Sains Malaysia, Penang, Malaysia.

Professor Yasushige Mori
Doshisha University, Kyotanabe, Kyoto, Japan.

Professor Prabir Dutta
The Ohio State University, USA



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Sunday, August 24, 2008

5:00 pm – 6:30 pm	Registration
6:30 pm – 7:30 pm	Welcome Reception
7:30 pm – 9:00 pm	Dinner

OVERALL STRUCTURE OF MEETING

Theme A: Enabling Technologies – review lectures (Session 1-3)

Theme B: Applications in Environmental Monitoring and Engineering (Sessions 4-8)

Theme C: Applications in Process and Product Engineering (Session 10-12)

Workshops: Technical Barriers (Session 3)

Roadmap Design (Session 9)

Roadmap to Future/Research Priorities (Session 13)

A poster session will run during the breaks on Tuesday and Wednesday for displaying research on related themes

IMPORTANT ANNOUNCEMENTS

- Audiotaping, videotaping and photography of presentations are strictly prohibited.
- Speakers – Please leave at least 5 minutes for questions and discussion.
- Turn your cellular telephones to vibrate or off during technical sessions.
- Be sure to make any corrections to your name/contact information on the Master Participant List or confirm that the listing is correct. A corrected copy will be sent to all participants after the conference.

Monday, August 25, 2008

7:30 am – 8:15 am	Breakfast Buffet
8:30 am	Opening Remarks by Richard A. Williams (Chair) and Herman Bieber (ECI Technical Liaison)
8:45 am – 10:00 am	<u>Session 1: Enabling Technologies ()</u> Session Chair: R.A. Williams
8:40 am – 9:20 am	<i>“Wireless Sensor networks for industrial processes,”</i> Trevor York (Keynote Lecture)
9:20 am – 10:00 am	<i>“Development and application of gas sensing technologies for combustion processes,”</i> Prabir K. Dutta (Keynote Lecture)
10:00 am - 10:30 am	Coffee Break
10:30 am – 1:00 pm	<u>Session 2: Enabling Technologies ()</u> Session Chair: R.A Williams
10:30 am – 11:10 am	<i>“Nano & Micro-particle Biosensors: Applications in Genetics, Epigenetics, Proteomics, Disease Diagnostics & Personalised Medicine,”</i> Matt Trau (Keynote Lecture)
11:10 am – 12:00 pm	<i>“Polymer particles on air-water interface towards material chemistry”</i> Syuji Fujii (Keynote Lecture)
12:00 pm – 12:40 pm	<i>“Wireless Sensor Networks: From theory to application,”</i> Dharma. P Agrawal (Keynote Lecture)
12:40 pm – 1:00 pm	Discussion
1:00 pm – 2:00 pm	Lunch
2:00 pm – 4:00 pm	<i>ad hoc</i> sessions/free time
4:00 pm – 4:30 pm	Coffee Break
4:30 pm – 7:00 pm	<u>Session 3: Enabling Technologies ()</u> Session Chair: R.A Williams
4:30 pm – 5:10 pm	<i>“Development of Claytronics System,”</i> Seth Copen Goldstein (Keynote Lecture)
5:10 pm – 6:15 pm	Discussion of technological barriers to wireless sensor development (All)
7:00 pm – 7:30 pm	Social period
7:30 pm	Dinner

Tuesday, August 26, 2008

7:00 am – 8:30 am	Breakfast Buffet
	<i>Poster session will run during the day</i>
8:30 am – 10:00 am	<u>Session 4: Environmental Monitoring/Engineering: Case Studies ()</u> Session Chair: P. Dutta
8:30 am – 9:10 am	<i>“Wireless sensor network applications and needs in Mining and Minerals Industry,”</i> Richard. A. Williams (Keynote Lecture)
9:10 am – 9:35 am	<i>“Titania smart nano-structures in biosensing applications,”</i> Alex Simonian
9:35 am – 10:00 am	<i>“Application of Biosensors in Environmental Monitoring,”</i> M. S. Thakur
10:00 am – 10:30 am	Coffee Break
10:30 am – 11:45 am	<u>Session 5: Environmental Monitoring/Engineering: Case Studies ()</u> Session Chair: P. Dutta
10:30 am – 10:55 am	<i>“Magnetically permeable particles embedded in elastomer matrix for intelligent sensing and actuation,”</i> Anna Boczkowska
10:55 am – 11:45 am	Discussions
11:45 am – 1:00 pm	<u>Session 6: Environmental Monitoring/Engineering: Sensor and Systems Development ()</u> Session Chair: P. Dutta
11:45 am – 12:25 pm	<i>“Exhaled Breath Analysis: The New Frontier in Medical Testing,”</i> Raed. A. Dweik (Keynote Lecture)
12:25 pm – 12:50 pm	<i>“Development of immunobiosensor using quantum dots for the detection of pesticides,”</i> M. S. Thakur
12:50 pm – 1:00 pm	Discussions
1:00 pm – 2:00 pm	Lunch
2:00 pm – 7:00 pm	<i>Optional tours</i>
7:00 pm – 7:30 pm	Social period
7:30 pm	Dinner

Wednesday, August 27, 2008

- 7:00 am – 8:30 am Breakfast Buffet
- Poster session will run during the day*
- 8:30 am – 10:10 am **Session 7: Environmental Monitoring/Engineering: Sensor and Systems Development ()**
Session Chair: T.A York
- 8:30 am – 8:55 am *“Synthesis of magnetic nano-particles for biological sensor applications,”*
Marcin Leonowicz
- 8:55 am – 9:20 am *“Microstructure, Composition and Application of Oxides in Mixed Potential Gas Sensors”*
Girish Kale
- 9:20 am – 9:45 am *“Performance of titania based thick film catalytic pellet for detection of gaseous organics under UV light,”*
M. Z. Abu Bakar
- 9:45 am – 10:10 am *“Silver ion doped nickel molybdate – Nickel oxide composites as sensor materials for ammonia,”*
Boniface Jeyaraj
- 10:10 am – 11:00 am Coffee Break
- 11:00 am – 11:50 am **Session 8: Environmental Monitoring/Engineering: Sensor and Systems Development ()**
Session Chair: T.A York
- 11:00 am – 11:25 am *“Synthesis of metal (Au, Pt, Pd) – doped iron oxide nanoparticles for gas sensing application,”*
Xuchuan Jiang
- 11:25 am – 11:50 am *“Systems engineering and information processing in wireless sensor networks,”*
Xue Wang
- 11:50 am – 12:50 am **Session 9: Workshop on use of Roadmaps to assist in predicting future of Intelligent Sensor Applications**
Led by: Professor B.S Hoyle and M Manga
- All delegates participate
- 12:50 pm – 1:50pm Lunch
- 1:50 pm - 2:30 pm Break

Wednesday, August 27, 2008 (continued)

- 2:30 pm – 5:10 pm **Session 10: Application in Process and Product Engineering: Case Studies**
Session Chair: M. Zaid
- 2:30 pm – 3:10 pm *“Spatial Intelligence in environmental and process engineering sensor and actuation networks,”*
Brian. S. Hoyle (Keynote Lecture)
- 3:10 pm – 3:35 pm *“Experimental measurement of mixing rates of granular materials using a new bulk radioactive particle tracking method (BRPT),”*
Jamal Chaouki
- 3:35 pm – 4:00 pm *“Application of smart process environment sensors and actuators in the process industry,”*
M. Motegh
- 4:00 pm – 4:25 pm *“The future of intelligent technology in pharmaceutical applications,”*
Mohamed. S. Manga
- 4:25 pm – 4:50 pm *“Miniaturised electrical tomography,”*
Trevor York
- 4:50 pm – 5:00 pm Discussion
- 5:00 pm – 5:10 pm Informal address by invited guest Professor Abdul Razak, Vice Chancellor
- 5:10 pm – 6:30 pm Break
- 6:30 pm – 10:00 pm Reception and Malaysian Conference Dinner

Thursday, August 28, 2008

7:30 am – 9:00 am	Breakfast Buffet
9:00 am – 10:30 am	<u>Session 11: Application in Process and Product Engineering: Engineering of Functional Particles ()</u> Session Chair: Y. Mori
9:00 am – 9:40 am	<i>“The intelligent nanoparticle units with local Plasmon resonance in the near infra-red region,”</i> Takao Fukuoka
9:40 am – 10:05 am	<i>“Selective adsorption of lithium on 1D manganese dioxide nanorods,”</i> Qin-Hui Zhang
10:05 am – 10:30 am	<i>“Gold nano-particle patterning using combination of self-assembly and 2-step transfer,”</i> Koji Sugano
10:30 am – 11:15 am	Coffee Break
11:15 am – 12:00 pm	<u>Session 12: Application in Process and Product Engineering: Engineering of Functional Particles ()</u> Session Chair: Y. Mori
11:15 am – 11:35 am	<i>“Applications of poly(N-isopropyl acrylamide) as a temperature responsive flocculant and dewatering aid,”</i> John-Paul O’Shea
11:35 am – 12:00 pm	<i>“Silver nanoplates: synthesis, structure and functionality,”</i> Xuchuan Jiang
12:00 pm – 1:10 pm	<u>Session 13: Workshop: Delivering the Roadmap: Research Priorities</u> Led by: Professor B.S Hoyle and M Manga All delegates participate
1:10 pm – 1:15 pm	Closing remarks
1:15 pm	Lunch
2:00 pm	Depart

Poster Session Contribution (Tuesday and Wednesday)

"Hydroxyapatite-coated biodegradable nanocomposite microspheres,"

Syuji Fujii

"Stimuli-responsive macroazoinitiator synthesized by atom transfer radical polymerization and their use as an initiator towards stimuli-responsive latex particles,"

Syuji Fujii

"Advances and Future Directions in Morphology Monitoring and Control of Organic Crystals Grown from Solution,"

Xue Wang