

# PROCEEDINGS OF SPIE

## ***Southeast Asian International Advances in Micro/Nanotechnology***

**Waleed S. Mohammed  
Te-Yuan Chung**  
*Editors*

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# Contents

vii	<i>Conference Committees</i>
ix	<i>Introduction</i>

---

## SOUTHEAST ASIAN INTERNATIONAL ADVANCES IN MICRO/NANOTECHNOLOGY

---

7743 02	<b>Fabrication of holographic lens as a coupling device in surface plasmon resonance biosensor</b> [7743-05] P. Junlabhut, National Science and Technology Development Agency (Thailand) and King Mongkut's Institute of Technology Ladkrabang (Thailand); S. Phoojaruenchanachai, National Science and Technology Development Agency (Thailand); W. Pecharapa, King Mongkut's Institute of Technology Ladkrabang (Thailand); S. Boonruang, National Science and Technology Development Agency (Thailand)
7743 03	<b>Fabrication of optical comb filter using tapered fiber based ring resonator</b> [7743-14] S. W. Harun, K. S. Lim, A. A. Jasim, H. Ahmad, Univ. of Malaya (Malaysia)
7743 04	<b>Determination of oxide barrier-film thickness of anodized aluminum by electrochemical impedance spectroscopy at the nanometer scale</b> [7743-13] K. Habib, Kuwait Institute for Scientific Research (Kuwait)
7743 05	<b>Vertically aligned silicon nanowires fabricated by electroless etching of silicon wafer</b> [7743-09] S. D. Hutagalung, A. S. Y. Tan, R. Y. Tan, Univ. Sains Malaysia (Malaysia); Y. Wahab, Univ. Teknologi Malaysia (Malaysia)
7743 06	<b>Effects of dispersion solvent on the formation of silicon nanoparticles synthesized via microemulsion route</b> [7743-18] W. L. Liong, S. Sreekantan, S. D. Hutagalung, Univ. Sains Malaysia (Malaysia)
7743 07	<b>Analysis of photothermally induced vibration in metal coated AFM cantilever (Best Paper Award)</b> [7743-06] S. Kadri, H. Fujiwara, K. Sasaki, Hokkaido Univ. (Japan)
7743 08	<b>Asymmetric brightness of transparent organic emitting device with passivation layer by annealing</b> [7743-19] C.-J. Lee, Korea Electronics Technology Institute (Korea, Republic of) and Hanyang Univ. (Korea, Republic of); D.-K. Choi, Hanyang Univ. (Korea, Republic of); J.-N. Lee, Korea Electronics Technology Institute (Korea, Republic of)
7743 09	<b>Band structures and density of state of Ge/GeSiSn type-I quantum wells</b> [7743-07] W. J. Fan, Nanyang Technological Univ. (Singapore)
7743 0A	<b>Photoluminescent studies of nanocrystalline thin films prepared by chemical bath deposition technique</b> [7743-25] A. Khare, S. K. Pandey, National Institute of Technology Raipur (India)

- 7743 0B **Numerical simulations of electrokinetic transport of a particle in a microfluidic confined domain** [7743-11]  
Q. Liang, C. Zhao, C. Yang, J. Miao, Nanyang Technological Univ. (Singapore)
- 7743 0C **Towards low-cost transpiration-based microfluidics** [7743-40]  
S. D. Murtyas, Univ. Gadjah Mada (Indonesia)
- 7743 0D **Influence of palmitoyl pentapeptide and Ceramide III B on the droplet size of nanoemulsion** [7743-23]  
D. Sondari, A. Haryono, S. B. Harmami, A. Randy, Indonesian Institute of Sciences (Indonesia)
- 7743 0E **Noninvasive vital signal monitoring** [7743-20]  
Z. Wang, Nanyang Technological Univ. (Singapore); J. Chee, K. P. Chua, Z. Chen, Ngee Ann Polytechnic (Singapore)
- 7743 0F **Analysis of fuel oxidation reaction steps in Ni/GDC anode electrode of solid oxide fuel cells by using palladium nanoparticles** [7743-24]  
A. Babaei, S. P. Jiang, Nanyang Technological Univ. (Singapore)
- 7743 0G **Effects of fluorescent lighting on in vitro micropropagation of *Lemna minor*** [7743-08]  
K. Somsri, P. Pinyopich, W. S. Mohammed, Chulalongkorn Univ. (Thailand)
- 7743 0H **Antimicrobial effect of nylon fiber immersed with nano-silver** [7743-21]  
A. Haryono, S. B. Harmami, D. Sondari, Indonesian Institute of Sciences (Indonesia)
- 7743 0I **Numerical modeling of scanning near-field optical microscopy for fluorescence-less DNA detection** [7743-33]  
C. Poosri, A. Chanjavanakul, W. S. Mohammed, Chulalongkorn Univ. (Thailand)
- 7743 0J **Monte Carlo modeling (MCML) of light propagation in skin layers for detection of fat thickness** [7743-34]  
C. Nilubol, K. Treerattrakoon, W. S. Mohammed, Chulalongkorn Univ. (Thailand)
- 7743 0K **Influence resistance on human health** [7743-37]  
A. H. M., Y. Bahtiar, M. S. Achdan, Sunarno, Univ. Gadjah Mada (Indonesia)
- 7743 0L **Numerical simulation of single electron transistor using master equation** [7743-22]  
R. Nuryadi, Agency for Assessment and Application of Technology (Indonesia); A. Haryono, Indonesian Institute of Sciences (Indonesia)
- 7743 0M **Dispersion compensation for optical coherence tomography** [7743-35]  
R. Wongpiya, W. Mohammed, Chulalongkorn Univ. (Thailand); S. Sherif, Univ. of Manitoba (Canada)
- 7743 0N **Pupil masks for 2-D intensity synthesis in a high numerical aperture focusing system** [7743-38]  
L. Rattanavija, Chulalongkorn Univ. (Thailand); S. S. Sherif, Univ. of Manitoba (Canada); W. S. Mohammed, Chulalongkorn Univ. (Thailand)

- 7743 00 **Creating a smart environment using optical wireless (Best Paper Award)** [7743-31]  
C. Viphavakit, Chulalongkorn Univ. (Thailand); M. Sohail, N. Shrestha, P. Saengudomlert,  
Asian Institute of Technology (Thailand); W. S. Mohammed, Chulalongkorn Univ. (Thailand)
- 7743 0P **Schematic-based 4/16/64 order quadrature amplitude modulation mapper-demapper  
implementation for 256 subchannel orthogonal frequency division multiplexing model on  
FPGA Xilinx SPARTAN 3E** [7743-39]  
Imaduddin, B. Setiyanto, Litasari, Univ. Gadjah Mada (Indonesia)

*Author Index*



# Conference Committees

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## *Session Chairs*

- 1 Monday morning session (10:00 a.m.–12:00 p.m.)  
**Te-Yuan Chung**, National Central University (Taiwan)
- 2 Monday afternoon session I (1:00 p.m.–3:00 p.m.)  
**Jeerasak Pitakarnnop**, Ministry of Science (Thailand)
- 3 Monday afternoon session II (3:15 p.m.–5:15 p.m.)  
**Te-Yuan Chung**, National Central University (Taiwan)
- 4 Tuesday morning session I (8:00 a.m.–10:00 a.m.)  
**Fola Soares**, Chulalongkorn University (Thailand)

- 5 Tuesday morning session II (10:15 a.m.–12:15 p.m.)  
**Josee Adamson**, Chulalongkorn University (Thailand)
- 6 Tuesday afternoon session I (1:15 p.m.–3:15 p.m.)  
**Fola Soares**, Chulalongkorn University (Thailand)
- 7 Tuesday afternoon session II (3:30 p.m.–5:30 p.m.)  
**Josee Adamson**, Chulalongkorn University (Thailand)
- 8 Wednesday morning session I (8:00 a.m.–10:00 a.m.)  
**Te-Yuan Chung**, National Central University (Taiwan)
- 9 Wednesday morning session II (10:15 a.m.–12:15 p.m.)  
**David Banjerdpongchai**, Chulalongkorn University (Thailand)
- 10 Wednesday afternoon session I (1:15 p.m.–3:15 p.m.)  
**Fola Soares**, Chulalongkorn University (Thailand)
- 11 Wednesday afternoon session II (3:30 p.m.–5:30 p.m.)  
**Thomas Gale**, Chulalongkorn University (Thailand)
- 12 Thursday morning session I (8:00 a.m.–10:00 a.m.)  
**Te-Yuan Chung**, National Central University (Taiwan)
- 13 Thursday morning session II (10:15 a.m.–12:15 p.m.)  
**Josee Adamson**, Chulalongkorn University (Thailand)
- 14 Thursday afternoon session I (1:15 p.m.–3:15 p.m.)  
**David Banjerdpongchai**, Chulalongkorn University (Thailand)



## Introduction

Micro/Nanotechnology is a rapidly growing field of research that attracts many academic institutions and companies in many developed and developing nations worldwide. This growing interest was the main motive behind establishing the nano-engineering program at the International School of Engineering (ISE), Faculty of Engineering, Chulalongkorn University. During the past few years, ISE has gained a valuable experience in this field through several international collaborations in the form of internships, exchange programs, guest speakers, and sending students to international conferences. This experience is reflected clearly in the growing educational and research effort inside the school in different aspects of micro/nanotechnology such as photonics, biomedical, and chemical trends. The school has placed itself as an essential element in promoting and developing nanotechnology nationwide through well-designed curriculum, quality graduates, and gradually increasing research work.

As the program progresses and excels nationwide, it has started to gain recognition on the international platform. ISE finds it is the proper time to take its international effort one step further by initiating the Southeast Asian International Advances in Micro/Nanotechnology Workshop (SAIAM). The workshop is mainly sponsored by the Faculty of Engineering of Chulalongkorn University, with the help of Ambassade de France en Thaïlande, SPIE, the International Centre for Theoretical Physics (ICTP), and PTT Company Ltd. The main purpose of this workshop is to introduce Thai and international participants to the concepts of nanotechnology and its applications and developments in the different areas and specialties through a series of short courses given by well known academic professors and researchers in the different fields of nanotechnology.

The workshop is the first international event on this scale to be held by ISE. Focusing on the international school goal to become a nanotechnology outreach center in the Southeast Asian region, the workshop provided several types of financial support for all the participants. Full financial support was provided to selected participants through ICTP. The faculty of engineering provided the rest of applicants with partial and minimal support. The workshop also provides a chance for the participants with on-going research to publish their work in a SPIE proceedings volume dedicated to the workshop. SPIE has kindly offered best paper awards for three papers:

“Continuous sorting and separation of microparticles using dielectrophoresis in a PDMS-based microfluidic device with 3D PDMS composite electrodes,”  
Nuttawut Lewpiriyawong, Nanyang Technological University, Singapore

"Analysis of photothermally induced vibration in metal coated AFM cantilever," Shahrul Kadri, Hideki Fujiwara, Keiji Sasaki, Hokkaido University, Japan

"Creating a smart environment using multiple channels white light LED optical wireless," Charusluk Viphavakit, Waleed Mohamed, Chulalongkorn University, Thailand; Mohammed Sohail, Natasha Shrestha, Poompat Saengudomlert, Asian Institute of Technology (Thailand).

As a first experience, we at the International School of Engineering, Faculty of Engineering, Chulalongkorn University hope this workshop provides maximum benefit for the participants.

**Tassana Pitakarnnop**