

# PROCEEDINGS OF SPIE

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

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

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- 1 Monday morning session (10:00 a.m.–12:00 p.m.)  
**Te-Yuan Chung**, National Central University (Taiwan)
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**Jeerasak Pitakarnnop**, Ministry of Science (Thailand)
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**Te-Yuan Chung**, National Central University (Taiwan)
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## 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**