

## SPECIAL ISSUE ON ADVANCED MATERIALS ON ELECTRONIC AND MECHANICAL DEVICES AND THEIR APPLICATION ON SENSORS: PART 2

### PREFACE



In recent years, applications of advanced materials for electronic and mechanical devices, and optical sensors have been fast-developing fields. Owing to their flexibility and being lightweight for daily use, they have high deployability. The scope of this special issue “Advanced Materials on Electronic and Mechanical Devices and their Application on Sensors” covers fundamental materials for electronic, mechanical, and optical engineering, including their synthesis engineering, integration with many elements, designs for electronic or optical devices, evaluation of various performances, and exploration of their broad applications in, for example, industry, environmental control, and material analyses. Twelve excellent papers in four categories of the fields of sensors and materials are included in Part 2 of this special issue:

(1) Physical/Mechanical Sensors: “Application of Water Tank Employing Smart Sensor for Thermal–Electric Energy Conversion on Vehicles” presented by Chuang *et al.*

(2) Related Technologies: “Scientific Literature Information Extraction Using Text Mining Techniques for Human Health Risk Assessment of Electromagnetic Fields” by Lee *et al.*, “Using Fully Convolutional Networks for Floor Area Detection” by Lin *et al.*, “Detection of Defect Inside Duct Using Recurrent Neural Networks” by Oh *et al.*, “Establishment of Smart Living Environment Control System” by Hsu *et al.*, and “Real-time Alarm, Dynamic GPS Tracking, and Monitoring System for Man Overboard” by Sheu *et al.*

(3) Sensor Applications: “Development of Smoke Detection System with Omnidirectional Telepresence” presented by Lan *et al.*, “Speed Estimation Direct Stator Field-orientation-controlled Induction Motor Drive Using Adaptive Flux Estimator” by Luo *et al.*, “High-voltage Driver with a Switch-capacitor Cell and a Current-sensing Resister for Implementing Functions of Zero-voltage Switching and Overcurrent Protection” by Tsai *et al.*, and “Implementation of a Capacitive Discharge Ignition for Dual-cylinder Motorcycles” by Su *et al.*

(4) Materials: “Syngas Formation by Microwave-induced Platinum/Palladium/Rhodium Spent Catalyst” by Jou *et al.* and “Syngas Formation by Nickel and Iron Catalysts for Partial Oxidation of Methane with Microwave Assistance” by Jou *et al.*

The guest editors would like to thank the authors for their contributions to this special issue and all the reviewers for their constructive reviews. We are also grateful to Ms. Misako Sakano for her time and effort in the publication of this special issue for *Sensors and Materials*.

Teen-Hang Meen  
Distinguished Professor, Department of Electronic Engineering  
National Formosa University, Taiwan

Wenbing Zhao  
Professor, Department of Electrical Engineering and Computer Science  
Cleveland State University, USA

Cheng-Fu Yang  
Professor, Department of Chemical and Materials Engineering  
National University of Kaohsiung, Taiwan