

SPECIAL ISSUE ON ADVANCED MATERIALS ON ELECTRONIC AND MECHANICAL DEVICES AND THEIR APPLICATION ON SENSORS: PART 1

PREFACE



In recent years, applications of advanced materials for electronic and mechanical devices, and optical sensors have been fast developing fields. Owing to the flexibility and of such lightweight materials, they have potential applications for daily use. The scope of this special issue “Advanced Materials on Electronic and Mechanical Devices and Their Application on Sensors” covers fundamental materials of electronic, mechanical, and optical engineering, including their synthesis engineering, their integration with many elements, the designs of electronic or optical devices, evaluation of various performances, and exploration of their broad applications in industry, environmental control, and material analyses among others. In Part 1 of this special issue, 12 excellent papers were selected and categorized into four fields of *Sensors and Materials*:

(1) Physical/Mechanical Sensors: “Determination of the Refractive Index of Molybdenum Using a Spectrophotometry Method” by Chiang *et al.*, “Determination of Deformation Characteristics of Bionic Periodic Isolation Unit for Ship Engine from Vibration of Sensor” by Jianbin *et al.*, and “Effects of Supersonic Vibration Field on Flow Characteristics and Filling Behavior of Glass-fiber-enhanced Polybutylene Terephthalate Microstructural Injection Molding Melt” by Wei *et al.*

(2) Related Technologies: “Hybrid Medium Access Control for Time-switching Simultaneous Wireless Information and Power Transfer” by Kim *et al.* and “Design of Ultrasound-assisted Microinjection Mold and Cavity Pressure Measurement System” by Lin *et al.*

(3) Sensor Applications: “Implementation of an Add-on Device that Monitors the Sound of a Machine Tool and Automatically Suppresses Chatter” by Lee *et al.*, “ Application of Supercapacitors in Photovoltaic Power Generation System” by Wu *et al.*, “Applications of Expert Diagnosis Learning Defense System with Technology of Cloud Sensors to Enhance the Reliabilities of Machines” by Zheng *et al.*, and “One-third Octave Bandpass Filter Algorithm of Overall Frequency-weighted Root Mean Square for Comfort Index Applied to Acceleration Sensor” by Jin *et al.*

(4) Materials: “Effect of Deposition Parameters on Hydrothermal Method to Synthesis of ZnO-based Nanowires” by Wei *et al.*, and “Mechanical Properties of Ti–6Al–4V Alloys Prepared by Selective Laser Melting and Post Heat Treatments” by Lui *et al.*, and “Improvement in Performance of Cold-drawn SCM435 Alloy Steel Wires through Optimization of Intercritical Annealing Parameters” by Yang *et al.*

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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