

SPECIAL ISSUE ON ADVANCED MATERIALS AND SENSING TECHNOLOGIES ON IOT APPLICATIONS: PART 2-2

PREFACE



In recent years, applications of advanced materials and sensing technologies in electronic and mechanical devices have become rapidly developing fields. Manufacturing is the economic lifeline of a country and has been regarded as a labor-intensive industry. Therefore, to cut production costs, devices for the internet of things (IoT) have been widely developed. IoT is composed of most integrated end devices and facilities, such as intelligent sensors for internal control, industrial systems, mobile terminal systems, floor control systems, and home intelligent facilities. Smart devices and external control information are utilized with the hope of attracting companies that manufacture high-value-added products in the fields of aerospace, automotive, IT molds, textiles, optoelectronics, watches, medical devices, defense, automation, energy, and semiconductor-related parts and components to drive the country's economy. Therefore, the key to maintaining a competitive advantage in domestic manufacturing in the future is still to rely on the development of advanced manufacturing and precision machinery-related technologies. The scope of this Special Issue, "Advanced Materials and Sensing Technologies on IoT Applications", covers fundamental materials used in electronic, mechanical, and electrical engineering including their synthesis and integration with many elements, the design of electronic and optical devices, sensing technologies, evaluation of various performance characteristics, and exploration of their broad applications to industry, environmental control, materials analyses, and so forth. Part 2-2 of this

special issue selects 10 excellent papers about four categories of sensors and materials fields:

- (1) Physical/Mechanical Sensors: "Simulation and Analysis of Power-point Tracking via Photovoltaic Sensors" presented by Zhang *et al.* and "EfficientNet: A Low-Bandwidth IoT Image Sensor Framework for Cassava Leaf Disease Classification" presented by Chen *et al.*
- (2) Bio/Chemical Sensors: "Portable Pulse Meter with Simple Design" presented by Lan *et al.*
- (3) Related Technologies: "Realization of Initiative Repair of Power Distribution Network Based on Back Propagation Neural Network Optimization" presented by Guo *et al.*, "Recognition of Vehicle License Plate Based on Hopfield Artificial Neural Network" presented by Lan *et al.*, "Terahertz Imaging of ICs Using K -means Clustering for SIFT Feature and Fusion Model of Wavelet Transform" presented by Pu *et al.*, "Elimination of Motion Artifacts in Photoplethysmography Signals by Analytical Method" presented by Guo *et al.*, and "Hyperspectral

Image Classification Based on Visible–Infrared Sensors and Residual Generative Adversarial Networks” presented by Su *et al.*

(4) Sensors Applications: “Interactive Sound Generation to Aid Visually Impaired People via Object Detection Using Touch Screen Sensor” presented by Kurniati *et al.* and “Designing, Manufacturing, and Testing a Voice-controlled Intelligent Drawer” presented by Yang *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 efforts in the publication of this special issue for *Sensors and Materials*.

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