

## SPECIAL ISSUE ON ADVANCED MATERIALS AND SENSING TECHNOLOGIES ON IOT APPLICATIONS: PART 3-2

### 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 3-2 of this

special issue selects nine excellent papers about two categories of sensors and materials fields:

(1) Related Technologies: "Comparative Study of Multiple Fitting Regression and Bayes and Probabilistic Support Vector Machine Methods in Classification of Single-cell RNA Data" presented by Li *et al.*, "Water-cooling Radiator for CPU with Innovative Design: Experiments and Simulation" presented by Lin *et al.*, "Application of Supercapacitor to Photovoltaic Module for Power Generation Compensation" presented by Chen *et al.*, "Millimeter Wave Radar Combines Long Short-term Memory and Energy Storage Embedded System for On-street Parking Space Prediction" presented by Lin *et al.*, "Novel Sub-area Maximum Power Point Tracking Method Based on Improved Variable-step-size Perturbation and Observation" presented by Lei, "Applying Secure Access Based on Lagrange Interpolation Polynomial to Online Learning Sensor Platform" presented by Huang *et al.*, and "Estimation of Lithium

Battery State of Charge by Fusion Algorithm of Forgetting Factor Multi-innovation Least Squares and Extended Kalman Filter” presented by Zhang *et al.*

(2) Sensor Applications: “Performance Evaluation of Remote Monitoring Car-like Mobile Robot System with Grey Prediction Model” presented by Xu and Huang and “Mathematical and Computational Modeling of Inversion of Iron Content Mining in Tailings Reservoir Using Unmanned-aerial-vehicle-enabled Hyperspectral Imaging” presented by Su *et al.*

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