

SPECIAL ISSUE ON NOVEL SENSORS AND RELATED TECHNOLOGIES ON IOT APPLICATIONS: PART 2-1

PREFACE



In recent years, applications of novel sensors and related 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, 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 novel manufacturing and precision machinery-related technologies. The scope of this Special Issue, "Novel Sensors and Related Technologies on IoT Applications" covers fundamental sensors and 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 2-1 of this special issue selects seven excellent papers about two categories of sensors and materials fields:

(1) Physical Mechanical Sensors: "Single-layer, Slot-loaded, Substrate-integrated Waveguide Cavity-backed Circularly Polarized Filtering Antenna" presented by Chen *et al.*, "Synchronizations of Nerve-cell Systems via Adaptive Integral-type Quick-time Stabilized Sliding Mode Control Approach" presented by Zhang *et al.*, and "Applications of Common Information Model and Feeder Voltage Sensor to High-penetration Photovoltaic Systems" presented by Ku *et al.*

(2) Related Technologies: "Feasibility of Approximate Model Optimization for Lightweight Design of Vehicle Body Structure Based on Sequential Quadratic Programming Algorithm"

presented by Zhu *et al.*, “Memory-efficient Very Large Scale Integration Architecture of 2D Algebraic-integer-based Daubechies Discrete Wavelet Transform” presented by Lan *et al.*, “Use of Six Plastic Lenses to Design Lens Module with 13 Million Pixels for Application in Cellphone Camera Module” presented by He *et al.*, and “Equivalent Circuit Modeling and Parameter Identification for Lithium-ion Batteries Based on Improved Barnacle Mating Optimizer” presented by Li *et al.*

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