SPECIAL ISSUE ON INNOVATIONS OF SENSOR APPLICATIONS AND RELATED TECHNOLOGIES IN IOT: PART 2-2

PREFACE

In recent years, applications of novel sensors and related technologies in electronic and mechanical devices have become rapidly developing fields. The booming economic development in Asia, particularly in leading manufacturing industries such as automobiles, machinery, computers, communications, flat panel displays, semiconductors, and micro/nanoscale technologies, has attracted intense attention among universities, research institutions, and many industrial corporations. Manufacturing is the economic lifeline of a country and has been regarded as a labor intensive industry. To cut production costs, devices for the Internet of Things (IoT) have been widely developed. IoT systems can be 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 aim 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 a country's economy. Therefore, the key to maintaining a competitive advantage in domestic manufacturing in the future is still to promote the development of novel manufacturing and precision-machinery-related technologies.

The scope of this Special Issue, "Innovations of Sensor Applications and Related Technologies in IoT," 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; the evaluation of various performance characteristics; and the exploration of their broad applications to industry, environmental control, materials analyses, and so forth. The part 2(2) of this special issue selects 10 excellent papers about four categories of sensors and materials fields:

(1) Physical Mechanical Sensors: "High-precision Elevation Sensor Based on Atmospheric Pressure" presented by Jie *et al.*, and "Microwave Dielectric Properties of Sn-substituted

Nd(Ti0.5Mo0.5)O$_4$ Ceramics for Use in Patch Antenna Liquid Sensor" presented by Chen and Lin.

(2) Bio/Chemical Sensors: "Convolutional Fuzzy Neural Predictor for Blood Pressure Estimation from Electrocardiography and Photoplethysmography Signals" presented by Lin *et al.*

(3) Related Technologies: "Distributed Computing Approach for Wireless Sensor Network Design in a Wire Harness Testing System" presented by Jin *et al.*, and "Automatic Construction of U-Net Network Based on Genetic Algorithm for Medical Image Segmentation" presented by Gong *et al.*, and "Fuzzy Spatiotemporal Representation Model for Human Trajectory Classification" presented by Chen *et al.*, and "Smart Sprinkler System on Smart Campus" presented by Pan *et al.*, and "Real-time Hand Movement Trajectory Tracking with Deep Learning" presented by Wang *et al.*, and "Drivetrain and Powertrain Thermal Analyses of a Tesla Model 3 Electric Vehicle" presented by Lin *et al.*

(4) Sensor Applications: "Use of IoT Sensors to Build an Intelligent Monitoring and Control System for Poultry House Environment" presented by Chang and Tu.

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