Special Issue on Advanced Materials and Sensing Technologies on IoT Applications: Part 4-1

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. The Special Issue Part 4-1 selects 12 excellent papers in four categories of sensors and materials fields:

(1) Physical Mechanical Sensors: "Analysis of Adhesion Strength between Silver Film and Substrate in Plain Silver Surface Plasmon Resonance Imaging Sensor" presented by Wang *et al*., "Real-time Detection and Classification of Porous Bone Structures Using Image Segmentation and Opening Operation Techniques" presented by Hung *et al*., and "Using Overall Transfer Matrix to Simulate a Blue-light Bragg Reflector with Optimization Properties" presented by Yang *et al*.

(2) Bio/Chemical Sensors: "Decomposition System That Automatically Tracks Ammonia Concentration" presented by Tang and Hu.

(3) Related Technologies: "Effects of Forced Convection on the Deformation Values of 3D-printed Nylon Thin-walled Specimens" presented by Yang *et al*., "Effect of Temperature

Field on Deformation of 3D-Printed Polylactic Acid Objects under Forced Convection" presented by Yang *et al*., "Design of 13 Million Pixel Camera for Cellphone Applications" presented by He *et al*., "A Smart Control Circuit with Break down and Charging Completion Detection to Implement Power-off Function for Lithium-iron Phosphate Battery Charger" presented by Su *et al*., "Delphi and Analytical Hierarchy Process Fuzzy Model for Auxiliary Decision-making for Cross-field Learning in Landscape Design" presented by Hsueh *et al*., "Design and Analysis of New Electric Motorcycle: Analysis of Bending Moment Stiffness" presented by Dai *et al*., and "Misleading Video Detection Using Deep Image Retrieval and Dual-stage Confidence Filtering" presented by Yang *et al*.

(4) Sensor Applications: "Remote-control System for Elevator with Sensor Technology" presented by Lai *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