

SPECIAL ISSUE ON ADVANCED MATERIALS ON ELECTRONIC AND MECHANICAL DEVICES AND THEIR APPLICATION ON SENSORS: PART 4

PREFACE



In recent years, applications of advanced materials for electronic and mechanical devices, and optical sensors have been fast developing fields. Owing to their flexibility and light weight for daily use, they have the potential to be deployable. The scope of this special issue “Advanced Materials on Electronic and Mechanical Devices and Their Application on Sensors” covers fundamental materials of electronic, mechanical, and optical engineering, including their synthesis, integration with many elements, designs of electronic or optical devices, evaluation of various performances, and broad applications in industry, environmental control, materials analyses, and so forth. Part 4 of this special issue selects 11 excellent papers in four categories of sensors and materials fields:

(1) Physical/Mechanical Sensors: “Intelligent Dumbbell Based on Multiple Sensors” by Liu *et al.*, “Direct Torque Control Induction Motor Drive for Speed Estimation Using Modified Particle Swarm Optimization Algorithm” by Luo *et al.*, and “Image Shadow Detection and Removal in Autonomous Vehicle Based on Support Vector Machine” by Zhu *et al.*

(2) Related Technologies: “Forward Collision Warning and Lane-mark Recognition Systems Based on Deep Learning” by Pai *et al.*, “Application of Convolutional Neural Network (CNN)–AdaBoost Algorithm in Pedestrian Detection” by Li *et al.*, “Wearable Devices to Control Objects in Virtual Reality” by Perng *et al.*, and “Sensing and Controlling with Markov Process for Locally Independent Fractal Image” by Zhang *et al.*

(3) Sensor Applications: “Navigation System for Indoor Parking Based on Visible Light Communication” by Mai *et al.*, “Bridgeless Single-stage Step-down Power Factor Corrector under Synchronous Switching Control Scheme” by Shen *et al.*, and “Design and Development of Portable LoRa-based Teleoperation Controller” by Lin *et al.*

(4) Materials: “Fabrication of Integrated Device Comprising Flexible Dye-sensitized Solar Cell and Graphene-doped Supercapacitor” by Chuang *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 on the publication of this special issue for Sensors and Materials.

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