

## Preface

I am honored as guest editor to present the special thematic issue (Volume 16, No 5) of the journal “Cybernetics and Information Technologies” on “Application of Advanced Computing and Simulation in Information Systems”. The special issue is sponsored by 13th Global Congress on Manufacturing and Management (GCMM), Zhengzhou, China, 28-30 November 2016.

The advanced computing and simulation technology provides effective means for making progress of information system and this topic is popular in China, many researchers and engineers make contributions to this field. This special issue’s main purpose is to discuss the advanced computing and simulation technology and methods (modeling and optimization) in engineering applications, and 16 excellent papers are selected for readers.

The papers concern popular applications fields in China, which are supported by computing and simulation technology. Some of the selected papers make contribution to control system design (“PID Controller Design Based on Radial Basis Function Neural Networks for the Steam Generator Level Control”, “Compound Controller for DC Motor Servo System Based on Inner-Loop Extended State Observer”). A group of papers cover computing and modeling methods in recognition and image processing area (“ICA-ASIFT-Based Multi-Temporal Matching of High-Resolution Remote Sensing Urban Images”, “Research on the Image Denoising Method Based on Partial Differential Equations”, “New Mixed Kernel Functions of SVM Used in Pattern Recognition”, “Triangulation Reconstruction for 3D Surface Based on Information Model”, “Research on the Novel Method of Edge Detection Based on the Isotropic Diffusion Model and Total Variation Model”, “Nighttime Pedestrian Ranging Algorithm Based on Monocular Vision” and “Research on the Image Denoising Method Based on Partial Differential Equations”). Another group of papers introduce the data analysis in different areas (“Using Fitness Value for Monitoring Kiwifruit’s Variant Seedling in Tissue Culture”, “Novel Stream Data Mining Framework Under the Background of Big Data” and “Analysis of an Optimal Measurement Index Based on the Complex

Network”). Some of the selected papers discuss new computing methods in information systems (“Research on the Distribution System Simulation of Large Company’s Logistics under Internet of Things Based on Traveling Salesman Problem Solution” and “Synchronous Rendezvous Based on Cluster in Low-Duty-Cycle Wireless Sensor Network”). Some papers deal with interdisciplinary research fields (“Capacity of Right-Turn Lane at Signalized Intersection under Pedestrian-Bicycle Effect”, “New Localization Algorithm Based on Taylor Series Expansion for NLOS Environment” and “Research on QPM and Its Cascaded Structure Applied in FOPA”).

I hope that this special issue makes a good reference for the research area of computing and simulation in information systems.

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