

## GUEST EDITORIAL PREFACE

# Special Issue on Advanced Telecommunications Technologies and Applications

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Welcome to the special issue of the International Journal of Interdisciplinary Telecommunications & Networking. This is a special issue that addresses, wireless telecommunications from a broad interdisciplinary perspective. In keeping with the journal's mission this issue is dedicated to new results from high-quality original interdisciplinary academic and practitioner research, surveys, and case studies which address advanced telecommunications issues, answer telecommunications questions, or solve telecommunications problems. The aim of this special issue is to bring together interdisciplinary researchers and professionals of both advanced telecommunications technology and applications. Topics addressed include advanced telecommunications technologies and applications, wired/wireless telecommunications systems/networks, and other key technologies which include networking, business, policy, computing, security, and related applications. Eight articles are included from open submissions and selected articles from the 13th Annual Wireless Telecommunications Symposium 2014 (WTS 2014), an interdisci-

plinary mobile communications and wireless networking conference, which was held on April 9-11, 2014, Washington DC, USA. All articles were refereed.

The papers included in this special issue are more technical in nature. The first article, by B. Shen, investigates a novel approach to extract JavaScript (JS) codes in the HTML file using a Distributed JavaScript Parsing System. The authors introduced a task scheduling algorithm for the JS parsing system by employing Hadoop distributed computing technology. The results indicated that a system with a reasonable task scheduling efficiency can retrieve parse JS codes rapidly. The second article, by H. Zhang, analyzes the influence of individual node arithmetic based on network community attribute. The authors carried out extensive simulation analysis in the real social network to compare with the influence of individual node that without network community attribute superposition. The third article, by F. Gao, proposes a big data based logistics data mining platform with a detail description of the architecture, functions of the platform and its implementation.

The paper also studied the data mining steps and requirements for logistics data mining, which is important for practical applications. The fourth article, by J. Holub, investigates the possibility of a system to rely on the audio encoder and decoder to alleviate the effect of channel errors, when audio is transmitted over wireless channels. Extensive experiments were conducted on various combinations of channel conditions, constellation sizes and audio encoding used and in the final audio quality achieved. The MOS (Mean Opinion Score) is used for performance evaluation, which were generated using the ITU-T P.862 (PESQ) and P.863 (POLQA) algorithms, and also using tests by experts. The results indicated a simpler and more robust design by avoiding the complexity associated with rate adaptation and physical layer challenges.

The next article, by Q. Xie, introduces  $K$ -Centers clustering protocol for heterogeneous wireless sensor networks to alter the network, topology and establish data routing. The authors compared the proposed algorithm with the  $K$ -mean algorithm and the simulation results indicate that the proposed protocol outperform  $K$ -Means under many but not all conditions. The results also ensure better minimum-maximum intra-cluster distances compared to  $K$ -means. The sixth article presents an optimization of wireless sensor network node localization algorithm (which is an improvement on DV-HOP positioning algorithm) based on genetic

algorithm. The simulation results indicate that the proposed algorithm provides significantly higher positional accuracy compared to the traditional DV-HOP positioning algorithm. The article, by L. Zhang, analyzes the problems in the development and maintenance of geospatial metadata deployment system. They also discussed how to design geospatial metadata deployment system based on PHP framework. The final article, by G. Javidi, proposes visualization of real time radar data by integration of X-band data using freely available scientific development tools. Initially, C code is used to retrieve data from an FPGA board linked to the radar and to calculate Fourier transforms and display the power spectrum in near-real time. In order to visualize data efficiently, Python along with its Matplotlib, SciPy, and NumPy modules were used.

Finally, we would like to thank the authors for their valuable contributions and the reviewers for their time and efforts in providing many valuable suggestions and comments. We particularly wish to express my gratitude to the Editors-in-Chief, Michael R. Bartolacci and Steven R. Powell, and IGI's staff, for their kind support in the preparation of this special issue. We sincerely hope that IJITN's audience will enjoy reading this issue.

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