

Guest Editorial: Special Issue of *IEEE Transactions on Emerging Topics in Computing* on Emerging Mobile and Ubiquitous Systems Part—II

THE second part of *TETC*'s special issue on Emerging Mobile and Ubiquitous Systems includes 12 papers that are classified into the following groups according to their primary focus.

Papers in the first group are on emerging techniques for sensor, ad-hoc, vehicular networks, and cyber-physical systems (CPS). The paper "Impact of network load on the performance of a polling MAC with wireless recharging of nodes" by Mohammad Shahnoor Islam Khan et al. proposes a simple round robin MAC protocol that performs RF recharging to allow a wireless sensor network to operate for extended periods of time without maintenance. The paper "Impact of realistic simulation on the evaluation of mobile ad-hoc routing protocols" by Jonathan Ledy et al. conducts comprehensive performance evaluation of ad-hoc routing protocols by using a simulation platform integrating a realistic physical layer and mobility models. The paper "Gateway placement and packet routing for multihop in-vehicle internet access" by Hassan Aboubakr Omar et al. proposes an Internet gateway placement strategy together with a novel packet routing to provide Internet connectivity for the vehicles by using multihop communications in a multi-channel vehicular ad-hoc network. In CPS, the paper "Ubiquitous monitoring for industrial cyber-physical systems over relay assisted wireless sensor networks" by Cailian Chen et al. investigates the distributed parameter estimation problem for process monitoring and industrial automation over relay-assisted wireless sensor networks. The last paper "On the security of compressed sensing based signal cryptosystem" by Zuyuan Yang et al. analyzes the security of the standard compressed sensing based cryptosystem in an information theory frame for data processing in the fast developed CPS.

Another important topic is on mobile cloud and mobile social networks, as exemplified by the techniques proposed in the following papers. The paper "EnDAS: Efficient encrypted data search as a mobile cloud service" by Ruhui Ma et al. proposes a novel encrypted search system over the mobile cloud, which improves network traffic and search time efficiency compared with the traditional system. The paper "Energy cost models of smartphones for task offloading to the cloud" by Majid Altamimi et al. develops and validates the energy models of smartphone WLAN/3G/4G interfaces, which make smartphones capable of accurately estimating the energy cost of task offloading. As for mobile social networks (MSN), the paper "Epidemic information dissemination in mobile social

networks with opportunistic links" by Qichao Xu et al. develops an analytical model for the epidemic information dissemination in MSNs. Another paper "Modeling epidemics spreading on social contact networks" by Zhaoyang Zhang et al. considers the crowding or protection effect to improve the traditional Susceptible-Infected-Recovered model.

Finally, the following three papers are on the emerging technologies in wireless networks. For example, the paper "On the energy-efficient of throughput-based scheme using renewable energy for wireless mesh networks in disaster area" by Meng Li et al. studies the emergency communication problem in the post-disaster scenario by optimizing data traffic throughput with the lowest weighted energy consumption based on the expectation of traffic demands. Femtocells are recognized effective emerging technology for improving network coverage and capacity, and reducing power consumption due to the reduced range of wireless transmissions. The paper "Approximation algorithms for cell association and scheduling in femtocell networks" by Hui Zhou et al. investigates the problem of cell association and service scheduling in femtocell networks, aiming to minimize the latency of service requested by users under both open and closed access strategies in addition to the general goal of offloading traffic from the macro base station. The last paper "Computing on base station behavior using erlang measurement and call detail record" by Sihai Zhang et al. studies the base station behavior and enables telecommunication operators to obtain substantial insights by exploring Big Data Analytics.

In conclusion, the papers presented in this special issue demonstrate the breadth and diversity of research in the field of emerging mobile and ubiquitous systems. We wish to thank both the authors and the reviewers for their hard work in helping us assemble this special issue. We would also like to express our sincere gratitude to the Editor-in-Chief, Professor Fabrizio Lombardi, for providing this opportunity and lots of guidance throughout the process, and the editorial staff of *TETC* for their continuous support and professionalism.

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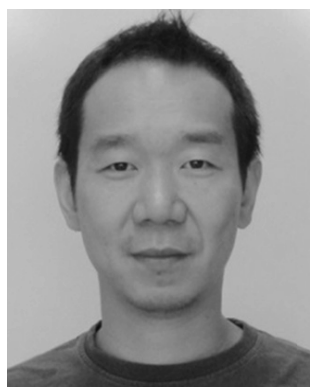
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