Editorial
Research Activities in Future Internet Technologies

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During the past decade, it has been realized that the current internet architecture was originally designed for end-to-end host centric communications. However, the actual focal of communications is the content itself. Hence, we have witnessed new architectures such as an Information Centric Network (ICN) with various extensions. On the other hand, enormous efforts in cellular networks have been made for improving the user experience, and today we are able to use LTE-A and so on. In this context, also the upcoming 5G networking architectures, whose ongoing research is focused on the networking mechanisms with respect to the massive increase in the number of connected devices, bandwidth requirements, reduced latency, and the deployment of supporting operational mechanisms. Moreover, these all new technologies are being applied in other networking domains as well, including VANETs, Smart Grid, Smart Cities, Internet of Things, Big Data, and so on. This special issue, therefore, brings researchers together on future internet and wireless access networks to share their new ideas and latest findings. After a rigorous peer review process, we selected 5 high-quality papers.

The first article entitled as ***"Overload Control Technique for MTC Communications in Wireless Cellular Networks"*** by Jihun Moon and Yujin Lim the authors propose the autonomous estimation of the barring factor for ACB (Access Class Barring) to resolve the traffic overload problem in the MTC (Machine Type Communication) in Future Internet. The traffic load is predicted using the autoregressive (AR) process and approximation error is used to determine the barring factor. Based on the simulation results, authors concluded that proposed scheme reduces the number of failed devices and access delay.

Onur Alparslan, Shin'ichi Arakawa and Masayuki Murata in the second article entitled ***"Designing VNT Candidates Robust Against Network Failures"*** proposed the minimum flow logical topology design algorithm (MFLDA) and its variant called MFLDD-FO (Failure Optimization) for virtual network topology over the optical networks. Traffic over the link(s) between transmitter and receiver pairs varies and each link is prioritized based on the node density and connectivity.

Md Anowar Hossain *et al.* presented the GPS-free cooperative positioning method in the third article entitled as ***"High Precision Vehicle Positioning: Towards Cooperative Driving based on VANET"***. The authors have developed a communication channel model for urban scenario based on IEEE 802.11p DSRC at 5.9 GHz. The model implements Wireless InSite ray-tracing tool, and is validated using published measurement results of path-loss and received power levels in urban roads. Accuracy has been enhanced by estimating the time-of-arrival (TOA) and direction-of-arrival (DOA) signal information from neighbor RSUs and vehicles.

In the fourth article entitled as ***"Fog Computing Service Orchestration Mechanisms for 5G Networks"***, Stojan Kitanov and Toni Janevski proposed a model named Hybrid Environment Service Orchestrator (HESO) for future cloud computing (called Fog Computing) that extends services to the end-users in the Internet of Everything scenario. It is envisioned that 5G network will enable new future Internet of Services scenarios such as Anything as a Service, where devices, terminals, machines, also smart things and robots will become innovative tools that will produce and will use applications, services, and data. The HESO model for 5G in a cloud environment is envisioned to provide *ubiquitous* services (Anything as a Service, AaaS) to the users of the Fog. Additionally, 5G in the fog is foreseen to use the benefits of the centralized cloud, Cloud Radio Access Network (CRAN) cloud and the distributed P2P mobile cloud. The authors evaluated the fog computing service orchestration mechanisms in 5G network in terms of throughput, round trip time latency and the product latency - throughput.

Finally, Guhyoung Kwon *et al.* proposed an on-demand position-based routing protocol for vehicular ad hoc networks (VANETs) in the fifth article. The proposed routing scheme uses a filtering method over the forwarding or relaying candidate vehicles based on the angle between the vehicle's direction of motion and the line between the sender and neighboring vehicles. Filtering the appropriate forwarding vehicles improves the communication reliability in urban environments. Through simulations, authors deduced that the proposed filtering scheme improves the performance of position based proposed routing in terms of packet delivery ratio and end-to-end delay.

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Guest Editors

Syed Hassan Ahmed completed his B.S in Computer Science from Kohat University of Science & Technology (KUST), Pakistan and Masters combined Ph.D. Degree from School of Computer Science and Engineering (SCSE), Kyungpook National University (KNU), Republic of Korea. In summer 2015, he was also a visiting researcher at the Georgia Tech, Atlanta, USA. Collectively, Dr. Hassan authored/co-authored over 100 international publications including Journal articles, Conference Proceedings, Book Chapters, and 02 books. From the year 2014 to 2016, he consequently won the Research Contribution awards by SCSE at KNU, Korea. In 2016, his work on robust content retrieval in future vehicular networks lead him to win the Qualcomm Innovation Award at KNU, Korea. Currently, Dr. Hassan is a Post-Doctoral Fellow in the Department of Electrical and Computer Engineering, University of Central Florida, Orlando, USA, where his research interests include Sensor and Ad hoc Networks, Cyber-Physical Systems, Vehicular Communications and Future Internet.

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Houbing Song received his Ph.D. degree in electrical engineering from the University of Virginia, Charlottesville, in August 2012. In August 2012, he joined the Department of Electrical and Computer Engineering, West Virginia University, Montgomery as an assistant professor and the founding director of the Security and Optimization for Networked Globe Laboratory (SONG Lab, www.SONGLab.us). He was the very first recipient of the Golden Bear Scholar Award, the highest faculty research award at West Virginia University Institute of Technology (WVU Tech), in 2016. Dr. Song is a senior member of IEEE and ACM. Currently, Dr. Song is an Assistant Professor with Department of Electrical, Computer, Software, and Systems Engineering at Embry-Riddle Aeronautical University, Daytona Beach, Florida, USA.