Emerging Trends and the Importance of Network Evolution in Big data

Aims & Scope:

Big data poses unprecedented challenges to networking technologies. Big graphs are ubiquitous in nature and ranges from social networks to World Wide Web and Internet-of-Things. It is important to develop graph representation mechanism to optimize the size and structure of big data application and network topology. For a complex, unstructured big data application, the construction of high-quality heterogeneous networks could be tricky. Enabling online processing of heterogeneous networks with real time delay is to be analyzed with heedful processes. Dynamic graph for Bigdata applications is a visualization technique used to depict massive data trend in a single view. The effectiveness of such representation with limited resolution remains an open challenge. In Time evolving data, setting adaptive regularization parameters in the approach to identify block structures from time-varying data matrices requires more work. Regarding Scheduling in networking for Bigdata, a common problem with existing scheduling algorithms is that they all require a priori knowledge of coflow information. The achievement of coflow scheduling with load-balancing remains unexplored. Development of self-evolving threat ontology is expected for Security in networking for Bigdata applications. The privacy threat from networking perspective in the big data age has not been fully realized yet. In the big data age, the data collection and accessing definitely will be performed through networks, which maybe more vulnerable against attacks. We can envision the possible attacks through the contemporary related research topics.

With this special issue, we aim to discover the new ways to embrace the opportunities that Evolving Networks for Bigdata offers in terms of data modelling, integration, processing, and provisioning as well as in terms of developing flexible and dynamic system solutions. In particular we are looking for descriptive approaches, formal models, simulations, implementation solutions, use cases, and applications that support Networking for Bigdata.

Topics of interest include but are not limited to:

- Theoretical foundations of network for big data
- Big data techniques for network management and control
- Data analytic framework for big network data and their application
- Deep semantics inspection over big network data
- Data mining algorithms for communication network control, concepts, survey and guidelines.
- Big data model for QoS implementation in networks
- Conglomerate network analysis
- Scheduling in networking for big data
- Essentials of Networking in big graph mining
- Privacy in networking for big data
- Dynamic representation in networking for big data
- Time evolving in networking for big data
- Security in networking for big data
- Secure and private key management scheme in big data networking

**Schedule:**

Manuscript submission deadline: December 30, 2018
Peer Review Due: February 15, 2019
Revision Due: March 30, 2019
Notification of Acceptance by the Guest Editor: April 10, 2019
Final Manuscripts Due: May 15, 2019