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Call for Papers for *Next-Generation Networking and Internet Symposium*

Symposium Co-Chairs:

- F. Richard Yu, Carleton University, Canada, richardyu@carleton.ca
- Walter Cerroni, University of Bologna, Italy, walter.cerroni@unibo.it

Scope and Motivation:

There have been unprecedented advances in developing technologies to enable the next generation networks, while many new challenges and opportunities are emerging. Of particular importance to the next generation networks are the emerging topics such as software defined networking (SDN), network function virtualization (NFV), information-centric networking (ICN), cloud and fog computing, network heterogeneity, scalability, protocols, services and applications, security, manageability, dependability, value added services and performance predictability. Furthermore, many salient issues are affecting next-generation broadband wireless networks, such as network densification, spectrum expansion, many techniques to enhance spectrum efficiency, self-organization, energy efficiency operations, mobile cloud computing, and mobility management and indoor localization. The Next Generation Networking and Internet (NGNI) Symposium at IEEE Globecom 2017 aims to consolidate and disseminate the latest developments and advances in these emerging focus areas. This symposium invites participation from academic, industry, and government researchers working in the broad area of next-generation networking and Internet, including technologies, theories, services, architectures, and protocols. The NGNI Symposium will provide a forum for researchers to get together, to present a latest snapshot of the cutting-edge research, as well as to shed light on future directions in this exciting area.

Main Topics of Interest:

Authors are invited to submit papers presenting novel technical studies as well as broader position and visionary papers in the area of next generation networking and Internet. The NGNI Symposium solicits original contributions in, but not limited to, the following topical areas:

- Addressing and naming with the presence of mobility and portability
- Centralized-RAN, Cloud-RAN, and Fog-RAN architectures
- Cloud-based and fog-based networking
- Content-centric networking: caching, naming, distribution, load balancing, resiliency
- Converged networks and applications



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- Data center network architectures and performance
- Free space optical (FSO) networks and Visible light communication (VLC)
- Future Internet and next-generation networking architectures
- Heterogeneous multi-layer and multi-domain wireless-wireline internetworking
- High speed and parallel processing architectures for next generation routers and switches
- Indoor localization and navigation
- Intent-based network control and management
- Internet economics, pricing, accounting, and growth modelling
- Internet of Things (IoT), M2M, D2D, MTC
- Internet survivability and network resilience strategies
- Information-centric Networking (ICN)
- Integrated networking, storage and computing
- Mobile cloud
- Mobile security: device, application, and data
- Network Function Virtualization (NFV)
- Next-generation access networks
- Next-generation anomaly, intrusion, and attack detection/prevention
- Next-generation flow management: resource sharing, congestion control
- Next-generation Internet applications and services, including interactive media, voice and video, games, and immersive applications
- Next-generation IP multimedia subsystem: architecture and design
- Next-generation networking protocols
- Next-generation network management and control
- Operational and research issues with IPv6
- Overlay and peer-to-peer (P2P) networking
- Packet classification and forwarding mechanisms at ultra-high link rates (terabits)
- Quality of Service (QoS) and Quality of Experience (QoE) in next-generation networks
- Resource orchestration in next-generation networks
- Self-protection and self-organization networking
- Software Defined Networking (SDN)
- Software Defined Radio (SDR) and Cognitive Radio networks
- Terahertz Wireless Communications
- Traffic measurement, analysis, modelling, visualization, and engineering



Biographies:



F. Richard Yu received the PhD degree in electrical engineering from the University of British Columbia (UBC) in 2003. From 2002 to 2006, he was with Ericsson (in Lund, Sweden) and a start-up in California, USA. He joined Carleton University in 2007, where he is currently a Professor. He received the IEEE Outstanding Service Award in 2016, IEEE Outstanding Leadership Award in 2013, Carleton Research Achievement Award in 2012, the Ontario Early Researcher Award (formerly Premiers Research Excellence Award) in 2011, the Excellent Contribution Award at IEEE/IFIP TrustCom 2010, the Leadership Opportunity Fund Award from Canada Foundation of Innovation in 2009 and the Best Paper Awards at IEEE ICC 2014, Globecom 2012, IEEE/IFIP TrustCom 2009 and Int'l Conference on Networking 2005. His research interests include cross-layer/cross-system design, security, green ICT and QoS provisioning in wireless-based systems. He serves on the editorial boards of several journals, including Co-Editor-in-Chief for Ad Hoc & Sensor Wireless Networks, Lead Series Editor for IEEE Transactions on Vehicular Technology, and IEEE Transactions on Green Communications and Networking, IEEE Communications Surveys & Tutorials. He has served as the Technical Program Committee (TPC) Co-Chair of numerous conferences. Dr. Yu is a registered Professional Engineer in the province of Ontario, Canada, and a senior member of the IEEE. He serves as a Vice-Chair of the IEEE Technical Committee on Green Communications and Computing and a member of Board of Governors of the IEEE Vehicular Technology Society.



Walter Cerroni is a tenured Assistant Professor of Communication Networks at the University of Bologna, Italy, where he obtained his PhD in 2003. In 2008 he was a visiting Assistant Professor at the School of Information Sciences, University of Pittsburgh, Pennsylvania. From 2003 to 2005 he was Research Associate at the Italian National Inter-University Consortium for Telecommunications (CNIT). In 1999 he was a visitor junior researcher at the University of Texas at Dallas, Texas, working in cooperation with the local branch of the Alcatel Corporate Research Center. His most recent research interests include: SDN and NFV; design, implementation and performance evaluation of virtual network function chaining in cloud computing platforms (e.g. OpenStack); modeling and design of inter- and intra-data center interconnection networks for cloud computing infrastructures; design of programmable, software-defined hybrid optical network architectures; performance evaluation of dynamic spectrum allocation techniques in flexible optical networks. Recently, he co-chaired the Optical Networks and Systems (ONS) symposium at IEEE ICC 2016, and the Workshops on Orchestration for Software Defined Infrastructures (O4SDI) held at IEEE ICC 2016 and IEEE NFV-SDN 2016 conferences. He has co-authored more than 100 papers published in international journals and conferences. He is a senior member of the IEEE.