

IEEE GLOBECOM 2023

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CALL FOR PAPERS

Intelligent Communications for Shared Prosperity

Next-Generation Networking and Internet Symposium

Co-Chairs

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Scope and Motivation

Recent years are witnessing unprecedented advances in next generation Internet-networking research that has to deal with many innovations triggered by high-performance computing, programmable network equipment, and computing harvesting next generation services. Leveraging three enablers, namely Software-Defined Networking (SDN), Network Function Virtualization (NFV), and Mobile Edge Computing (MEC), communication networks can be more agile handling network functions implemented as virtualized machines. Communication devices can also host very advanced applications, and datacenters can be pervasively distributed down to network access points. Many salient issues are affecting next-generation networks, such as, network densification, network slicing, mobile cloud computing, mobility management, cross-layer activities, self-organization, security, performance predictability, and energy efficiency operations.

The Next Generation Networking and Internet (NGNI) Symposium at IEEE Globecom 2023 aims at consolidating and disseminating 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 methodologies, techniques, 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, and to foster technical debate on future directions in this exciting area.

Topics of Interest

The Next Generation Networking and Internet (NGNI) Symposium seeks original contributions in the following topical areas, plus others that are not explicitly listed but are closely related:

- Addressing and naming with the presence of mobility and portability
- Centralized-RAN, Cloud-RAN, and Fog-RAN architectures
- OpenRAN
- Zero-touch Networks
- Software Defined Perimeter (SDP) and Zero Trust

- Cloud-based networking
- Content-centric networking: caching, naming, distribution, load balancing, resiliency, traffic engineering, and congestion control
- Progress on network slicing standardization (e.g. 3GPP, GSMA, etc.).
- Free Space Optical (FSO) networks and Visible Light Communication (VLC) in next-generation Internet
- Quality of Service (QoS) and Quality of Experience (QoE) in next-generation networks
- Converged networks and applications, including NGN telecom converged management mechanism for RAN and mobile backhaul
- Data center network architectures and performance
- Energy-efficient green communications
- 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
- Internet economics, pricing, accounting, and growth modelling
- Internet of Things (IoT), M2M, D2D, MTC
- Internet survivability and network resilience strategies
- Mobile Cloud Computing (MCC) and Multi-access Edge Computing (MEC) in next-generation Internet
- Mobile security: device, application, and data
- Mobile/wireless content distribution
- Network and service virtualization
- Networking for Cloud and Fog computing
- Network Slicing Software Defined Networking (SDN)
- Network Function Virtualization (NFV)
- Software Defined Radio (SDR) and cognitive radio networks in next-generation Internet
- Blockchain for network and service management
- Next-generation access networking
- Next-generation anomaly, intrusion, and attack detection/prevention

Biographies of the Co-Chairs

Sami Souihi is an Associate Professor of Computer Science at the Networks and Telecommunications (N&T) Department of Paris-Est Créteil University, and the LiSSi Laboratory, France. He received his MSc degree from the University of Paris 6, France in 2010, and his PhD degree from the University of Paris-Est Créteil (UPEC, ex. Paris 12 University) in 2013. His research work focuses on adaptive mechanisms in large-scale dynamic systems. These mechanisms are based on context-enhanced knowledge, Machine Learning (ML), Network Functions Virtualization (NFV), and also on Software-Defined Networking (SDN). He has co-chaired and/or served in program committees of many international conferences, symposia and workshops (e.g. IEEE ICC 2017 Symposium on Communications QoS, Reliability and Modeling, IEEE SACONET'18 conference, the Workshop WS-08 "International workshop of Trends and challenges in Social Internet of Things (TC-SIoT'2018) in conjunction with the IEEE 29th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications, Panel Chair of the IEEE HPSR'21). He has been a guest editor for Wiley IJCS journal and MDPI electronics as well as a topic board member for MDPI.

Dr. Aggeliki Sgora is an Assistant Professor in the Department of Digital Media and Communication, Ionian University, since July 2019. Since 2009, she has developed research activity in the field of wireless networks, distributed computing and telecommunication systems. Her research interests are mainly in the areas of Quality of Service (QoS) Experience (QoE), Resource Management, High Performance Computing, as well as Software Defined Networking (SDN). Dr. Aggeliki Sgora has published more than 50 journals papers and refereed conferences papers. She has also presented her research activities at international conferences, and has participated as researcher in projects. She has served as member of Technical Program Committee (TPC) for various conferences and workshops. She was an Executive Co-Chair at the 2017 IEEE 5G Thessaloniki Summit, IEEE Standards Thessaloniki Summit 2021, IEEE 5G Thessaloniki Summit 2020, a General Co-Chair at the 2018 IEEE 5G Thessaloniki Summit, the Global Information Infrastructure and Networking Symposium (GIIS 2022), as well as member of the Advisor Board of the GIIS 2018. Dr. Aggeliki Sgora is a graduate of the Department of Mathematics from the University of the Aegean and holds a Master from the University of the Aegean, specializing in technologies and management of information and communication systems. In 2009, she completed her PhD on "QoS provision and resource allocation in contemporary wireless

networks”, at the University of the Aegean. Her PhD, and part of her post-doctoral research, have been funded by the European Union (ERCIM Marie Curie Postdoc Fellowship Program, 2013) and the General Secretariat for Research and Technology (PENED 2003, Excellence II 2014). She has worked as a post-doctoral student at the VTT Technical Research Centre of Finland and the University of Piraeus.

Ahmed Refaey Hussein, Ph.D., P.Eng., SMIEEE, is currently an Assistant Professor with the University of Guelph, Guelph, ON, Canada, and an Adjunct Research Professor with Western University, London, ON, Canada. Previously, his positions included: an Associate Professor at the Manhattan College, New York, NY, USA, from 2016 to 2021, and a Senior Systems Architect with the Research and Development Group, Mircom Technologies Ltd., Toronto, ON, Canada, from 2013 to 2016; a Post-Doctoral Fellow with the Department of Electrical and Computer Engineering, Western University, from 2012 to 2013; and a Professional Researcher at the LRTS Laboratory, Laval University, in the field of communication networks and hardware implementations from 2007 to 2011. Prior to joining Laval University, he was a System/Core Network Engineer leading a team of junior engineers and technicians in the telecom field in the three prominent companies of Fujitsu, Vodafone, and Alcatel-Lucent, all in Cairo, Egypt. He is the author or co-author of more than 70 technical articles, one patent granted, and three patent applications addressing his research activities. Dr. Hussein served as the Central Area Chair for IEEE Region 7 in 2021. He currently serves as a chair of the Publications and Communication group in IEEE Canada and the Award and Recognition committee secretary.

How to Submit a Paper

All papers for technical symposia should be submitted via EDAS. Full instructions on how to submit papers and important deadlines are posted at <https://globecom2023.ieee-globecom.org/>