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EDUCATION

Ph.D., Electrical Engineering, 9/1991, City University of New York.

M.Sc., Electrical Engineering, 5/1984, Polytechnic University of New York.

B.Sc., Electrical Engineering, 7/1981, Ain Shams University, Cairo, Egypt.

SUMMARY OF EXPERIENCE

A. Management

More than 26 years of progressive experience in management of research and development projects (including experimental deployment) in the areas of control and management of next generation networks, wireless networks, internet of things (IoT), software defined networks (SDN), and middleware development for services such as cloud computing and medical applications.

I have acquired my experience through conducting, supervising, consulting and managing many research and development projects both in academia and industry including (e.g., AT&T, Telcordia Technologies, Sprint and Nortel).

I have participated in many international research and development projects with collaborators in Italy, Belgium, Middle East, and Australia.

B. Technical Expertise

1. Architecture design of next generation IP networks and metro-optical networks.
2. Traffic engineering in IP optical networks and wireless networks.
3. Development of control and management middleware including SDN and network functions virtualization (NFV).
4. Traffic control and management of internet of things (IoT) services.
5. Performance analysis of quality of service QoS enabling mechanisms in GMPLS, MPLS, Ethernet, and wireless networks (e.g., wireless lans, 4G, LTE, and 5G).
6. System design and requirements for enabling layer 2 and layer 3 virtual private networks (VPNs) including pseudo-wire layer 2 services.
7. Cost analysis and value-added proposition of operations support systems (OSSs) and GMPLS control plane.
8. Technical and market analysis studies on architecture solutions for next generation and metro optical networks.

FUNDED RESEARCH GRANTS

1. Co-PI, NSF, US\$ 2.5M, 3 years award for deployment of an experimental optical switching network called “CHEETAH Optical Network Testbed” (2003-2006).

2. Co-PI, NSF, US\$ 350K, 3 years award for research on control and signaling in IP optical networks (2003-2006).
3. PI, Sprint and Nortel, \$200K award for research on optical control plane in IP optical networks (2002-2004).
4. Co-PI, DARPA \$250K award for research on signaling and control in IP/DWDM networks (1999-2002).
5. Co-PI of ATRIP (Army Research Lab) consortium grant (\$2.5M), CUNY team from 1997-2002 for research on admission control in ATM networks using neural networks.
6. CUNY research award (US\$50K) 2007 for designing a multimedia conferencing system.

HONORS AND AFFILIATIONS

- **DISTINGUISHED LECTURER**, IEEE Communications Society.
- **EDITOR**, IEEE Transactions on Wireless Communications (2008-2011).
- **EDITOR**, Elsevier Computer Networks Journal.
- **EDITOR**, John Wiley Journal on Wireless Communications and Mobile Computing.
- **EDITOR** of the IEEE COMMUNICATIONS Magazine (1993-1997).
- **EDITOR** of the John Wiley Journal on Security and Wireless Communications (2006-2011).
- **GUEST EDITOR, Computer Communications** on Next Generation Networks Service Management, 2011
- **GUEST EDITOR, John Wiley Journal on Wireless Communications and Mobile Computing**, on Rural and Emergency Communications (2010).
- **GUEST EDITOR, IEEE Journal on Selected Areas in Communications (JSAC)** on Applications of Wireless Networks in Healthcare Industry (2009).
- **GUEST EDITOR, IEEE Wireless Communications Magazine**, special feature topic on Rural and Emergency Communications (2008).
- **GUEST EDITOR** of the **IEEE COMMUNICATIONS Magazine** feature topic on Connection Oriented Networks, October 2007.
- **GUEST EDITOR, IEEE Journal on Selected Areas in Communications (JSAC)** on Metro Optical Networks, November 2004.
- **GUEST EDITOR, John Wiley Journal on Wireless Communications and Mobile Computing**, special issue on Advances in 3G Networks, Vol.2, Issue 3, 2002.
- **GUEST EDITOR** of the **IEEE Journal on Selected Areas in Communications (JSAC)** on Intelligent Techniques in High Speed Networks, February 2000.
- **GUEST EDITOR** of the **IEEE Journal on Selected Areas in Communications (JSAC)** on Computational and Artificial Intelligence in High Speed Networks, February 1997.
- **GUEST EDITOR** of the **IEEE COMMUNICATIONS Magazine** feature topic on Bandwidth Allocation in ATM Networks, May 1997.
- **GUEST EDITOR** of the **IEEE COMMUNICATIONS Magazine** feature topic on Neuro-computing in High Speed Networks, October 1995.
- **CHAIRMAN**, IEEE WiMob 2007 conference, October 2007, New York, USA.
- **CHAIRMAN**, IEEE WRECOM 2007 conference, October 2007, Rome, Italy.
- **CHAIRMAN**, High Performance Networks Symposium, IEEE Globecom 2006 conference, Turkey.
- **CHAIRMAN**, Wireless Networks Symposium, IEEE ICC 2004 conference.
- **CHAIRMAN**, Optical Networks Symposium, IEEE GLOBECOM 2003 conference.

- **CHARIMAN**, Business Applications Panel on the Business Case of WiFi and 3G Networks, IEEE ICC'2002 conference, New York.
- **CHAIRMAN**, Business Applications Panel on the Future of IP Networks IEEE ICC 2001 conference, Helsinki, Finland.
- **CHAIRMAN**, Business Applications Panel on Business Case of 3G Networks, IEEE GLOBECOM 2001 conference, San Antonio, Texas.
- **CHAIRMAN**, Business Applications Panel on Optical Networks, IEEE GLOBECOM 2001 conference, San Antonio, Texas.
- **Co-CHAIRMAN and Organizer**, Wireless Networks Track, Optical and Photonics Communications Track, IEEE GLOBECOM 2001 conference.
- **Co-CHAIRMAN**, High Speed Networks Symposium, IEEE ICC 2001 conference.
- **Listed** in many "Who is who in the World" publications (from 2001 till present).
- **Listed** in many "Who is who in America" publications (from 2000 till present).

PUBLICATIONS

Author and co-author of more than 100 refereed papers in various scientific journals and conferences.

I. ACADEMIC EXPERIENCE

1. Department of Electrical Engineering, City University of New York

Tenured Full Professor	From 2004 till Present
Tenured Associate Professor	From 1999 till 2003
Teure-track Assistant Professor	From 1991 till 1998

Duties

1. Teaching graduate and undergraduate electrical and computer engineering courses such as: ATM networks, IP networks, optical networks, wireless networks, and data communications networks.
2. Mentoring Ph.D. and M.Sc. students in experimental research in the areas of IP optical networks, allocation of resources and QoS-enabling methods in MPLS and Ethernet networks, and traffic engineering in wireless and optical IP networks.
3. Founder and Director of Advanced Networking Research Laboratory since 2002.
4. Principle Investigator of many research and development projects on topics such as development of GMPLS control plane for future IP optical networks, metro optical networks, Layer 3 and layer 2 virtual private networks utilizing MPLS and Ethernet-based networks, designing service enabling platforms for 4G LTE networks and wireless LAN, and development of traffic engineering mechanisms in wireless, IP optical networks among others.
5. Developing several graduate and undergraduate courses in the areas of high speed networks, next generation networks, IP routing, and wireless networks.
6. Implementing an experimental optical network interconnecting the network research lab through Internet-2 with several research centers and Universities.

II. INDUSTRIAL EXPERIENCE

1. Telcordia	(Research Scientist)	From 2000 till 2002
Responsibilities		

Manager and Technical Leader of several consulting projects.

Duties and Achievements

1. Architecture design and performance analysis studies supporting customers' technology migration plans from TDM to IP next generation networks.
2. Techno-economical analysis for IP-based networks design using technologies such as IP/DWDM, Metro gigabit Ethernet, MPLS and GMPLS control plane for IP optical networks.
3. Analysis of requirements and technology alternatives for establishing VPN services using layer two (Ethernet, ATM) and layer three MPLS technologies.
4. Techno-economical value-analysis studies on the benefits of deploying new metro networks technologies for customers such as NEC of Japan, Qwest, Verizon, and SBC among others.

2. AT&T Labs

(Senior MTS)

From 1997 till 2000

Responsibilities

Technical leader and consulting on several IP network architecture projects.

Duties and Achievements

1. Managing several planning and system engineering for architecture migration plans to ensure QoS for future IP networks and services (e.g., IP VPN, L2 VPN, VOIP, and Guaranteed end-to-end Bandwidth services)
2. Leading Performance analysis studies for quality of service management in ATM and IP networks.
3. Leading technical visibility evaluation studies for planning network services such as Layer 3 and Layer 2 VPNs, Voice/IP and inter-connectivity of ATM and IP networks.
4. Providing technical requirements for quality of service management for new IP VPN services.
5. Member of teams that evaluate vendors' equipment, networking solutions, and algorithms for quality of service and traffic engineering support.

Languages Skills

Fluency in English and Arabic. Good in Italian.

Ph.D. Students

I have mentored 10 Ph.D. students (and many M.Sc. students) who are all in various stages of their careers in both academia and Industry.

Citizenship: United States Citizen