



IEEE

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Telecommunication Engineering as Distinct Education Discipline Reflections on the TEE Movement and Project ISTEE

by

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DATE: **Wednesday April 12, 2017**

TIME: Refreshments, Registration and Networking: **06:00 p.m.**; Seminar: **06:30 p.m. – 07:30 p.m.**

PLACE: **Ciena-Optophotonics Lab (Room T129)**, T-Building, School of Advanced Technology,
Algonquin College, **1385 Woodroffe Ave.**, Ottawa, ON Canada K2G 1V8

PARKING: No fee after 5:00 p.m. at the Visitors' Parking Lots 8 & 9. Please respect restricted areas.

Admission: Free Registration. To ensure a seat, please register by e-mail contacting: **Wahab Almuhtadi**

Abstract

In this talk, we discuss recent efforts which led to recognition of telecommunication engineering (TE) as a distinct education discipline in the US and other countries. These efforts have concluded by the Accreditation Board for Engineering and Technology, Inc., (ABET) approval of its new Criteria for Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs. We reflect on the history of the Telecommunication Engineering Education (TEE) initiative and movement (2008-2014) which resulted in this development. We discuss the impact of progress in Network Science and Engineering and the evolution of the Internet on modern Telecommunications, and examine these developments in light of other developments in the arena of engineering education. The talk will look into the work that needs to be done to capitalize on these events and developments in several areas/directions; and the roles of numerous stakeholders thereto. For example, Telecom is an area of high standardization activity and the new discipline requires curricular components, syllabi, course(s) and innovative instruction methods to fill a knowledge gap in this particular area. We discuss ongoing efforts that are proceeding forward in this regards through a project ISTEE (Integrating Standards into Telecommunication Engineering Education). This project is a partnership now involving US academia, industry, the US Department of Commerce's National Institute of Technology (NIST), and the Institute of Electrical and Electronic Engineers (IEEE).

Speaker's Bio



Tarek S. El-Bawab led the Telecommunication Engineering Education (TEE) initiative and movement (2008-2014), which resulted in recognition of telecommunication engineering as a distinct ABET-accreditable education discipline on November 1, 2014. He is the first recipient of the IEEE Communications Society's (ComSoc) Education Award, due to this work (2015). The citation of this award reads: "for outstanding contributions to the definition, and to the accreditation criteria, of modern communication/telecommunication engineering education; and for making changes to our education system that benefit our community, society, and the profession." Dr. El-Bawab research interests include telecommunications, network architectures, optical networks, performance analysis, enabling electronic/photonic technologies, telecom standards, and engineering education. Currently, he is with the Department of Electrical and Computer Engineering, Jackson State University (USA). Before this he was with Alcatel-Lucent (USA) as a Project Manager with the Network Strategy Group (CTO organization). Earlier, he was involved in networking research with a number of organizations, including Alcatel-Lucent (USA); the Department of Electrical and Computer Engineering, Colorado State University (USA); and the Department of Electronic Systems Engineering, University of Essex (UK). Before this he led large-scale international telecommunication projects in the Middle East for 10 years.

He is Member of IEEE-Eta Kappa Nu (HKN) and an IEEE ComSoc Distinguished Lecturer. He has more than 70 scholarly journal/conference papers and patents. His book Optical Switching is one of the most comprehensive references in its subject. He is the Editor of Springer's Series: Textbooks in Telecommunication Engineering, and the Associate Editor in Chief (AEiC) of the IEEE Communications Magazine. Tarek has served IEEE and ComSoc in numerous capacities. He is Board Member of the IEEE Educational Activities Board (EAB), and of the EAB's Committee on Global Accreditation Activities (CGAA). He is member of ComSoc's Educational Services Board (ESB). He served as member of the Board of Governors, Director of Conference Operations, and member of the Online Content Board (OCB) of ComSoc (2014-2015). He is a founding/active member of several ComSoc technical committees, and served as Chair of the Transmission, Access, and Optical Systems (TAOS) Technical Committee for two terms. He has served as symposium chair, workshops Chair, and organizer in several ICC/Globecom Conferences, and organized/chaired the ICC/Globecom International Workshop on Optical Networking Technologies (IWONT) for 10 years. Tarek is also member of the IEEE Computer, Electron Devices, and Photonics Societies. Dr. El-Bawab has a B.Sc. in electrical engineering, and a B.A. in history, both from Ain Shams University, Cairo, Egypt. He holds an M.Sc. in solid state science from the American University in Cairo, and an M.Sc. in telecommunications and information systems from the University of Essex, UK. He obtained his Ph.D. in electrical engineering from Colorado State University.