Andrew W.O. POON
Professor
PhD Yale University
Silicon photonics, optical microresonators, photonic devices, on-chip optical interconnects, integrated photonics, nanophotonics, biophotonics.

James SHE
Assistant Professor
PhD University of Waterloo
Wireless video broadcasting for IPTV and 3D systems; wireless viral delivery for online/mobile social media and networks; wireless sensing using nanomaterials, printed electronics and embedded systems.

Danny H.K. TSANG
Professor, IEEE Fellow
PhD Univ of Pennsylvania
P2P networks, wireless and multimedia networks, cognitive radio and cooperative networks, cross-layer network design and optimization.

Albert Kai-Sun WONG
Senior Lecturer
PhD Massachusetts Inst of Tech
Data and optical networking; telecommunications; performance analysis.

Yan XU
Associate Professor
Department of Information Systems, Business Statistics and Operations Management
PhD Strathclyde University
Technology and innovation management; telecommunications; business, regulations and policy; management information system.

Application Details
For application deadline and details, please refer to the program web page at http://www.seng.ust.hk/msc/telc

For inquiry, please contact:
Tel : (852) 2358 6959 / 2358 5772
Fax : (852) 2719 3027
Email : msctelc@ust.hk
MSc(Telecom) Program, Professional Program Office (Room 5603, 5/F, Lifts 29-30) School of Engineering The Hong Kong University of Science and Technology Clear Water Bay, Kowloon, Hong Kong

Roger CHENG
Professor, IEEE Fellow
PhD Princeton University
Wireless communications, multiuser communications, multi-input multi-output systems, space-time processing and coding; code-division multiaccess (CDMA), digital implementation of communication systems, wireless multimedia communications, information theory and coding.

Vincent LAU
Chair Professor, IEEE Fellow
PhD Univ of Cambridge
Stochastic optimization for wireless systems, distributive algorithm design, delay-sensitive resource allocation, robust MIMO/OFDMA/SDMA cross-layer optimization with imperfect CSIT & limited feedback, cooperative communications and cognitive radio systems, network MIMO systems, interference mitigation techniques for cellular communications systems; dense small cell / feno cell resource optimizations, random networks.

Chin-Tau LEA
Professor
PhD Univ of Washington
Broadband and wireless network architectures, electronic and photonic switching, routing and call admission control, high-speed network protocols, and VLSI implementation of telecommunication systems.

Khaled B. LETAIF
Chair Professor, IEEE Fellow
PhD Purdue University
Wireless and mobile systems, broadband wireless data access, cognitive radio, cross-layer design and optimization, cooperative communications and networking, wideband OFDM, MIMO, and CDMA systems.

Wai Ho MOW
Associate Professor
PhD Chinese Univ of Hong Kong
Transmission technology, coding and information theory with emphasis on novel designs of codes, sequences, and decoding algorithms.

Ross MURCH
Chair Professor, IEEE Fellow
PhD Univ of Canterbury
Wireless communications, novel multiple input multiple output (MIMO) wireless systems, compact MIMO antenna design, cognitive radio, cooperative wireless, wideband OFDM, WLAN and LTE-Advanced.
Introduction
Hong Kong is rapidly changing to a knowledge-based economy and telecommunications is playing a key role in this development. Because of the rapid introduction of new technologies in telecommunications, there is a need for telecommunication professionals, technologists, engineers and managers to update themselves. This program is designed to equip participating students with an in-depth and up-to-date technical knowledge based on the latest topics in wireless systems, optical networking, broadband multimedia communications, and convergence protocols.

Program Objectives
The MSc program in Telecommunications is a degree program designed for people with a Bachelor degree in science or engineering who are interested to acquire further in-depth knowledge in the field of telecommunications. The curriculum meets HKUST requirements for granting the Master of Science degree.

Program Commencement and Duration
February and September every year.
Approximately 1 year for full-time and 2 years for part-time study.
Postgraduate courses are normally scheduled on weekday evenings or Saturday afternoons.

Target Students
The MSc program in Telecommunications is designed for engineers and professionals who wish to upgrade their knowledge in telecommunications. Fresh graduates who have good academic record are also our targets.

Admission Requirement
Applicants must hold a Bachelor's degree in electronic engineering, engineering, physical sciences or an equivalent qualification from a recognized university or tertiary institution.
All classes will be conducted in English. Applicants from universities where English is not the major medium of instruction will be considered on a case-by-case basis.
In general, English proof such as Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) is required.

Course List and Description
EEEM 5515 IP Networks
Designed for students with or without background in computer networks, this course covers the basic layer model for computer communications, TCP/IP and related protocols, local area network, and advanced topics in unicast and multicast routing, QoS, mobile IP, and security.
EEEM 5520 Telecommunication Regulations, Markets, and Services
Deregulations in US, Europe, Hong Kong, and China; historical perspectives; market stratification and players; technologies and business models; E-commerce and security; Cyberlaw; case studies.
EEEM 5536 Digital Communications
This course provides a comprehensive coverage of digital communication theory and design. Emphasis placed on system goals and trade-offs. Review of signals and systems, probability and stochastic processes; optimal detection of signals in noise; basic information theory concepts; coding basic and advanced digital modulation schemes; signalling through band-limited and wireless channels; spread-spectrum communications.
EEEM 5539 Wireless Communication Networks
Systems and protocols for wireless communication networks; from cellular to wireless IP applications; multiple access protocols; advanced and current wireless networking technologies; wireless infrastructure for cellular and wireless networks; wireless network performance and capacity analysis; packet data access and protocols; QoS for wireless multimedia.
EEEM 5540 Introduction to Telecommunication Networks
Telecommunication network structures, telephony, SS7, PDH and SDH transmission systems, network control and signaling, IN and network services, optical and DWDM networks, from ATM to new IP.
EEEM 5546 Wireless Communication Systems
Overview of cellular structure and frequency reuse; mobile radio propagation and path loss models; statistical nature of radio channels; coding and time or frequency diversity; spread spectrum CDMA techniques; and 3G Systems OFDM and Wireless LAN standards; fast frequency hopping technology and Bluetooth.
EEEM 5547 Multimedia Signal Processing
Basic signal processing theory, image and video characteristics and processing, compression techniques, entropy coding, predictive coding, transform coding, vector quantization, subband coding, audio and speech processing, coding standards, real-time processing, watermarking, digital rights management.
EEEM 5550 Online Social Networks
This course discusses the recent development in social media, networks and systems. Analytical and hands-on techniques of social network analysis will be introduced to analyze some properties and phenomena in social networks. The impacts of social networking applications to telecom and media industries today will be discussed to foresee some future trends.
EEEM 5810 High-Tech Innovation and Entrepreneurship
This interdisciplinary class combines a technical survey of emerging technologies/innovation and training in practical high-tech entrepreneurship. The class surveys a few major areas of innovation that will change the future landscape of the high-tech industry, with notable guest lecturers providing business cases and industry perspective. The class also introduces practical entrepreneurship principles for business development. Students learn important skills such as building teams and attracting talent, developing a product/technology roadmap, marketing and selling an idea, structuring a company, managing rapid growth, raising venture funds, forming strategic partnerships, and developing an intellectual property strategy.

Scholarship
Various scholarships are available. Please refer to the program web page for details.

Credit Transfer
Credit transfer may be granted to students in recognition of studies completed elsewhere. Application must be made to the program office within the first term after admission. All credit transfer must be approved by the Program Director and is subject to the normal university, school, and program requirement on credit transfer.

Faculty List and Research Interests
International leading experts from the Department of Electronic and Computer Engineering will teach all the courses in English.