

Keynote

Future Internet Design: Dynamic (Optical) Circuit Switching, Ethernet Everywhere

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Abstract

R&D opportunities and challenges in terms of Future Internet design, as influenced by emerging optical technologies and networks, will be discussed. Important topics include dynamic optical circuit switching (DOCS), Ethernet everywhere, etc. Some other related topics will also be briefly addressed: wireless-optical broadband access networks (WOBAN), long-reach broadband access, robust network design, etc.

Biography

Biswanath Mukherjee (S'82--M'87--F'07) received the B.Tech. (Hons) degree from Indian Institute of Technology, Kharagpur (India) in 1980 and the Ph.D. degree from University of Washington, Seattle, in June 1987. At Washington, he held a GTE Teaching Fellowship and a General Electric Foundation Fellowship.



In July 1987, he joined the University of California, Davis, where he has been Professor of Computer Science since July 1995 (and currently holds the Child Family Endowed Chair Professorship), and served as Chairman of the Department of Computer Science during September 1997 to June 2000. He is winner of the 2004 Distinguished Graduate Mentoring Award at UC Davis. Two PhD Dissertations (by Dr. Laxman Sahasrabudde and Dr. Keyao Zhu), which were supervised by Professor Mukherjee, were winners of the 2000 and 2004 UC Davis College of Engineering Distinguished Dissertation Awards. To date, he has graduated 30 PhD students. Currently, he supervises the research of nearly 25 scholars, mainly PhD students and visiting research scientists in his laboratory.

Mukherjee is co-winner of Best Paper Awards presented at the 1991 and the 1994 National Computer Security Conferences, and at the Optical Networks Symposium of the IEEE Globecom 2007 conference. He serves or has served on the editorial boards of the IEEE/ACM Transactions on Networking, IEEE Network, ACM/Baltzer Wireless Information Networks (WINET), Journal of High-Speed Networks, Photonic Network Communications, Optical Network Magazine, and Optical Switching and Networking. He served as Editor-at-Large for optical networking and communications for the IEEE Communications Society; as the Technical Program Chair of the IEEE INFOCOM '96 conference; and as Chairman of the IEEE Communication Society's Optical Networking Technical Committee (ONTC) during 2003-05.

Mukherjee is author of the textbook "Optical WDM Networks" published by Springer in January 2006. Earlier, he authored the textbook "Optical Communication Networks" published by McGraw-Hill in 1997, a book which received the Association of American Publishers, Inc.'s 1997 Honorable Mention in Computer Science. He was a Member of the Board of Directors of IPLocks, Inc., a Silicon Valley startup company during 2005-07. He has consulted for and served on the Technical Advisory Board (TAB) of a number of startup companies in optical networking. His current TAB appointments include: Teknovus, Intelligent Fiber Optic Systems, and LookAhead Decisions Inc. (LDI). He is a Fellow of the IEEE.

Mukherjee's research interests include lightwave networks, network security, and wireless networks.