

2nd WG Meeting of COST CA15127 - RECODIS
September 12-13, 2016, Halmstad University, Sweden

INVITED TALK

September 12, 2016, 3:40 PM – 4:40 PM, Room Wigforss

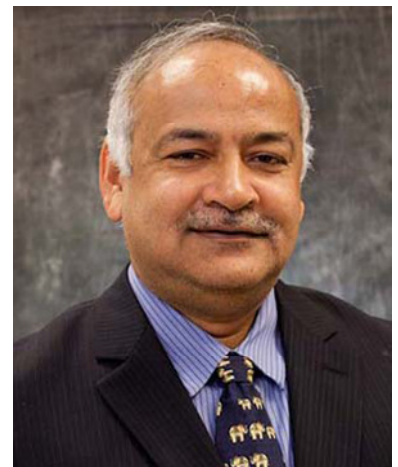
Network Resilience for Massive Failures and Attacks

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Biography

Biswanath Mukherjee is Distinguished Professor at University of California, Davis, where he has been a faculty member since 1987 and was Chairman of Computer Science during 1997-2000. He received the BTech degree from Indian Institute of Technology, Kharagpur (1980) and PhD from University of Washington, Seattle (1987). He was General Co-Chair of the IEEE/OSA Optical Fiber Communications (OFC) Conference 2011, Technical Program Co-Chair of OFC'2009, and Technical Program Chair of the IEEE INFOCOM'96 conference. He is Editor of Springer's Optical Networks Book Series. He has served on eight journal editorial boards, most notably IEEE/ACM Transactions on Networking and IEEE Network. In addition, he has Guest-Edited Special Issues of Proceedings of the IEEE, IEEE/OSA Journal of Lightwave Technology, IEEE Journal on Selected Areas in Communications, and IEEE Communications.

To date, he has supervised 64 PhDs to completion and currently mentors 18 advisees, mainly PhD students. He is winner of the 2004 Distinguished Graduate Mentoring Award and the 2009 College of Engineering Outstanding Senior Faculty Award at UC Davis. He is co-winner of ten Best Paper Awards from various conferences, including Optical Networking Symposium Best Paper Awards at IEEE Globecom 2007 and 2008. He is author of the graduate-level textbook Optical WDM Networks (Springer, January 2006). He served a 5-year term on Board of Directors of IPLocks, a Silicon Valley startup company (acquired by Fortinet). He has served on Technical Advisory Board of several startup companies, including Teknovus (acquired by Broadcom). He is founder of Ennetix and Skydoot, two startup companies incubated at UC Davis. He is winner of the IEEE Communications Society's inaugural (2015) Outstanding Technical Achievement Award "for pioneering work on shaping the optical networking area". He is an IEEE Fellow.



Abstract

Telecom networks and associated infrastructures are under increasing risk of exposure to massive failures and attacks such as hurricanes, earthquakes, tornados, flooding, etc. Novel methods are needed to prepare them to combat such disasters. While my RNDM-2016 keynote talk (a day later) will cover a broad range of topics on disaster resilience in general, this invited talk COST Action CA15127 – RECODIS will address some specific problems in detail: namely, how to exploit content connectivity (vs. network connectivity) and anycasting due to the increasing deployment of cloud services; what is resource crunch and how to exploit degraded services; demonstration of a simulation tool employing degraded service, multipath routing, and re provisioning; resilient control-plane design; rapid data evacuation; and rapid deployment of terrestrial and aerial resources to restore connectivity in disaster-affected areas.