

Workshop on Free Space Optical Networks

Workshop Dates: July 13, 14, 2017

Organizers: Professor Vincent Chan, EECS, MIT, Donald Cornwell, NASA, Co-Chairs.

NSF Sponsors: NSF NeTS

Call for Participation

The National Science Foundation is sponsoring a workshop to lay out the state of the art and identify challenges in free space optical networks. The workshop will involve researchers and practitioners from academia, industry and government research labs and agencies from the perspectives of both communications and networks, ranging from channel and network modeling, hardware implementation, devices, system designs and network architectures. The discussions and findings of this workshop will be described in a report submitted to NSF. FSO networks are becoming increasingly important in a wide variety of application areas such as satellite crosslinks and downlinks to earth and airborne platforms, communication among aircraft, metro short haul applications including back haul, and data center networks replacing fiber in some applications. Despite earlier work, challenges remain in creating communication and network designs that deal with the widely varying channel properties, inventing a new generation of lower cost systems, including using nano-silicon-photonics technologies and adaptive system techniques. In particular, the networking and systems aspects have lacked attention and need new ideas that can accommodate a highly variable channel. To this end, this inter-disciplinary workshop aims to help identify and articulate challenges and key issues in communication system designs and network architectures that include realistic channel models and incorporate advantages provided by the evolving photonic technologies. Approximately 55 participants from Academia, Government and Industry are expected at the event, representing a range of technology and application areas including channel modeling and characterization, photonic systems, optical communication system designers and network architects. The eventual goal of this workshop and report is to stimulate the research community into tackling the emerging hard problems in this space.

Workshop Location: The workshop will be held on July 13, 14, 2017 at the Hilton Hotel, Ballston, Virginia, (next to NSF).

Local Arrangement: Vincent Chan, chan@mit.edu, Leslie Rice, lrice@mit.edu

Workshop participation process

The workshop will include several keynote speakers (no more than 4) who will describe the state of the art in their application areas, lay out the challenges as they see fit. Due to space limitations, interested participants other than government are requested to submit a one page (no smaller than 11 fonts) position statement outlining their perspective on the challenges and novel research opportunities in the area of their research interests. These position statements will be used to select approximately 25-30 participants who have unique thoughts/ideas on this topic. **Please send position statements to: chan@mit.edu, by **June 16, 2017**. Responses confirming acceptance to the workshop will be sent by June 23, 2017.*

¹ Travel awards are available to U.S.-based researchers, with a small number of exceptions for international participants on a case-by-case basis.