

# *Towards Robust and Reconfigurable Optical Communication Systems*

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By Dr. Alan Willner  
University of Southern California  
Wednesday, June 16th 2010, 3:00-4:00pm  
CREOL Room 102

## **Abstract**

Optical communications has enjoyed dramatic growth in terms of technical achievement as well as commercial implementation. This presentation will highlight three main topics. Firstly, a broad perspective will be given on some of the technical trends in optical communication systems. Secondly, I will describe technical issues related to stable, robust optical networking, including: performance monitoring to determine the cause of any data degradations, non-static channel-degrading effects, spectrally efficient modulation formats, targeted optical and electrical signal processing, and photonic switching. Finally, I will discuss adding tunability, flexibility and reconfigurability to different aspects of the base optical technologies.

## **Biography**

Alan Willner received the Ph.D. from Columbia University, has worked at AT&T Bell Labs and Bellcore, and is Professor of EE at USC. He has received the NSF Presidential Faculty Fellows Award from the White House, Packard Foundation Fellowship, NSF National Young Investigator Award, Fulbright Foundation Senior Scholars Award, OSA Leadership Award, IEEE Photonics Society Distinguished Traveling Lecturer Award, USC University-Wide Award for Excellence in Teaching, IEEE Fellow, OSA Fellow, Eddy Paper Award from Pennwell Publications for the Best Contributed Technical Article, and Armstrong Foundation Award. Prof. Willner has been President of IEEE Photonics Society, Editor-in-Chief of IEEE/OSA Journal of Lightwave Technology, Editor-in-Chief of Optics Letters, Editor-in-Chief of IEEE Journal of Selected Topics in Quantum Electronics, Co-Chair of OSA Science & Engineering Council, General Co-Chair of CLEO, General Chair of LEOS Annual Meeting, Program Co-Chair of OSA Annual Meeting, and Chair of IEEE TAB Ethics Committee. He has 800 publications, including 25 patents and 2 books.

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