

The IEEE Montreal Section, the Chapter of Communications Society (ComSoc) and Concordia University are inviting all interested IEEE Montreal Communications and IT Chapter members and other engineers, technologists, and students to a technical seminar on:

Efficient Protection and Grooming Architectures for Future Optical Networks

By

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DATE: Monday September 19th, 2011.

TIME: Refreshments, Registration and Networking: **6:00 PM;** Seminar: **6:30 a.m. – 8:00 PM.**

PLACE: Concordia University, Electrical & Computer Engineering Department, **Room EV002.260**

ADMISSION: Free. Registration required. To ensure a seat, please register by e-mail contacting: Dr. Anader Benyamin-Seeyar at anader.benyamin@ieee.org.

More Info: <http://ewh.ieee.org/r7/montreal>.

Abstract

With the advent of fiber optic transmission systems and Wavelength Division Multiplexing, the amount of information that can be carried over a single fiber is soaring. With increasing deployment of fibers in networks, the risk of losing large volumes of traffic due to a link failure has also increased tremendously. Failure recovery is a challenging issue in the mesh network topologies. There are different tradeoffs between ring and mesh restoration. An important element of the architecture is how much recovery to plan. Another important problem in optical fiber networks with wavelength division multiplexing is that of traffic grooming. The capacity of a single wavelength channel has been increasing constantly reaching at the level of 10 to 40 GHz/channel. At the same time individual user requirements are not increasing at the same rate although the overall number of users and applications are increasingly dramatically. Thus, it is important to accommodate all the applications while utilizing the resources efficiently. Traffic grooming is a technique for multiplexing different sub-wavelength capacity traffic requirements on a single wavelength so that the wavelength and hence the capacity requirements of the whole network is minimized. We provide a brief overview of trends and technologies for survivable network design and restoration architectures in mesh optical networks and traffic grooming.

Arun Somani's Bio

Dr. Arun K. Somani is currently Anson Marston Distinguished Professor and Jerry R. Junkins Endowed Chair Professor of Electrical and Computer Engineering. He earned his MSEE and PhD degrees in electrical engineering from the McGill University, Montreal,

Canada, in 1983 and 1985, respectively. He has worked as Scientific Officer for Govt. of India, New Delhi from 1974 to 1982 and as a faculty member at the University of Washington, Seattle, WA from 1985 to 1997. Professor Somani's current research focuses on scalable architectures and algorithms to manage optical fiber networks, reconfigurable architecture, and developing solution for critical infrastructure protection. He has published more than 250 technical papers, several book chapters, one book, and has supervised more than 60 MS and more than 25 PhD students. He has served as IEEE distinguished visitor and IEEE distinguished tutorial speaker. He has delivered several key note speeches, tutorials and distinguished and invited talks. In 1999, he was elected a Fellow of IEEE for his contributions to "theory and applications of computer networks." He has been awarded a Distinguished Scientist /Engineer member grade of ACM in 2006.