

Meeting Announcement

Glass Fiber Communications - The Story of the Incredible Technology Underlying the Information Age

Monday, October 13, 2008

Place: The Red Blazer Restaurant & Pub, 72 Manchester St., Concord, New Hampshire

Time: Social 5:30 to 6:30 PM
Dinner 6:30 PM
Talk: followed by dinner

Speaker: Bill Heffner, Ph.D., Associate Director, Int. Material Institute for New Functionality in Glass, Lehigh University, Pennsylvania

This talk will provide an overview of fiber-optic communications and the optoelectronic components that enable its enormous capability. It will cover basic principles of the fiber optic transmission systems interwoven with the story of devices (components) and the technologies that have evolved to enable the fiber's incredible capacity for carrying data. The discussion is targeted to the technical professional with no experience in optoelectronics, who wants to see how all of the pieces fit together and hear an interesting story of technical evolution.

The talk will begin with a discussion of the information explosion and the glass fiber's unique capabilities for its transmission. We examine the issues of attenuation and dispersion in the glass fiber and illustrate the significance that the light source plays in determining both distance and bandwidth. From there we trace the evolution of optical fiber systems from the single wavelength, point to point systems of the 80s through the DWDM systems of the 90s, to today's focus on wavelength routing. Important components, such as modulators, tunable sources and fiber amplifiers are introduced within the discussion, illustrating the importance of their co-evolution and the unique advantages that each device contributes. Finally we include a look back to the bursting of the "opto bubble" in 2001 with some reflection and comment.

Dinner: A full dinner will be served in a private room,
Dinner Cost: \$10 per person for members, \$20 per person for non-members, no charge for students. There will be someone to receive payment at the entrance. Seating is limited, please RSVP Sanjay Shendye by October 6, 2008, Please include meal choice a) Prime Rib, or b) Pastry baked chicken with cranberry orange glaze or c) Baked stuffed haddock or d) Vegetarian. Salad, homemade rolls, vegetable, dessert, coffee and tea will also be served

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Speaker Bio:

Bill's professional career included 25 years in opto-electronic device technology with the telecommunications giant, AT&T, beginning at Bell Laboratories in 1978 where he worked in liquid crystal displays) to his final position as distinguished member of technical staff at Agere Systems (formerly Lucent Technologies, formerly AT&T). During this quarter century experience in electro-optic device technology, ranging from basic research in liquid crystals device technology to manufacturing and development positions in InP based semiconductor lasers and detectors. Bill has taught courses on laser and OE device physics at Penn State University and created an optoelectronics training curriculum for Agere employees during his later years at the company. Since 2004 he has been at Lehigh University where he serves as the associate director of the International Materials Institute for Glass. In this position he facilitates glass research exchanges promoting new functionality for glass and has developed a e-based glass learning curriculum of more than 200 video lectures by international glass experts. The favorite

aspect of his work is developing hands on experiments for the young science enthusiast. His educational experience includes an MS in Chemical Physics from Indiana University and a PhD in Physics from Stevens Institute of Technology. He has 14 publications in optical devices and related topics and holds 6 patents.

Upcoming ASM - Northern New England meetings

November 2008

A tour of the New Hampshire Materials Testing Laboratory followed by dinner.

Location - Seacoast

December 2008

Holiday social

An entertaining speaker sure to be of interest to all!

Location - Concord