



Title: Designing and Equipping Laser Laboratories

Date/Time: Thursday, July 31, 10:00 AM – 12:00 PM

Location: Renaissance Austin Hotel

Description: A key element in effective photonics instruction is hands-on learning in laser and optics laboratories. Well-designed photonics laboratories should be safe, cost-effective, and contain equipment that enhances learning and shows relevance to industry practices. Attendees will hear from the Chair of the ANSI Z136.5 Standard for the Safe Use of Lasers in Educational Facilities and OP-TEC's partner college faculty for lab activities and equipment on how to design and equip laser laboratories. Topics will include:

- Design factors for low power and high power laser labs
- Practices, safety issues and equipment handling/storage in laser labs
- Equipment, suppliers and costs for college photonics labs
- Photonics equipment, suppliers and costs for high school physics and technology labs
- Examples of lab designs and typical experiments

Presenters:



Gary Beasley is lead instructor of the Laser & Photonics Technology program on the Lillington, NC campus of Central Carolina Community College (CCCC). He currently serves as the OP-TEC Project Director at CCCC. Gary worked in the electronics engineering industry for 30 years prior to running the laser program at CCCC. He graduated with a MSET from East Carolina University in 2004, a BSEE from North Carolina State University in 1982, and an ASEE from Fayetteville Technical Institute in 1971. With approximately 15 years of being an engineer in industry, and 15 years of engineering management experience, including director of

engineering, Gary left industry to use his engineering education and his industry experience to give back to education by helping students prepare to be outstanding engineering technicians.



Dr. Fred P. Seeber is the past Director of the Laser Institute of Technology for Education and Research and is a Professor Emeritus of Photonics/Physics at Camden County College in Blackwood, NJ. He currently serves as a Co-PI of Colleges for OP-TEC. Dr. Seeber is the Chairman of the Z-136.5 ANSI Committee, which produced a new Laser Safety Standard for Educational Institutions. He also serves on the Executive Committee of the ANSI Z-136 for laser safety. Dr. Seeber has worked extensively with the Laser Institute of America (LIA). He has served as a past commissioner of the Board of Laser Safety, past Board

Director and consultant. He currently serves as a Fellow for LIA. In addition to his work with LIA, Dr. Seeber is also a primary consultant in lasers for the US government and many hospitals. He has authored many articles on laser safety and is co-author of a new text in photonics, *Fundamentals of Lasers and Light*, which was published in spring 2004. He has

lectured throughout the country on laser physics, laser applications, laser safety, and medical applications of lasers. He holds a Doctorate in Physics from Rutgers University and was awarded the Rutgers Distinguished Alumni Award in 1998. Dr. Seeber is a member of the American Institute of Physics, OSA, and a Fellow of the Institute for Applied Laser Surgery.