

Workshop on Optics and Photonics Education

Hosted and Sponsored by Irvine Valley College

Background:

Optics and photonics applications are rapidly transforming the way we work and live. Photonics, and its applications, involve the cutting-edge use of lasers, optics, fiber-optics, sensors, cameras, and electro-optical devices. Photonics has many applications in manufacturing, medicine, aerospace, communications, security, solid-state lighting, and other high-tech fields. Thus, it represents a broad, commercially viable area in which American employers require a steady supply of well-qualified technicians.

The demand for photonics technicians in the United States is great and that demand is growing faster than the pool of qualified candidates. Since most of the skills needed for photonics workers at the technician level are obtainable through AAS degree programs, community and technical colleges provide the optimum environment for significantly increasing the number of qualified personnel available to U.S. employers in technical fields. Two-year colleges must also partner with high schools to design photonics career pathways to lead students through well-planned secondary course sequences and into articulated two-year postsecondary programs. The creation of this secondary-to-postsecondary "pipeline" of students is critical to the success of producing enough qualified technicians to meet industry needs.

In an effort to support and promote the inclusion of optics and photonics applications in secondary and postsecondary programs, OP-TEC, the National Center for Optics and Photonics Education, will be offering a free two-day

Workshop on Optics and Photonics Education in Southern California.

OP-TEC is a consortium of two-year colleges, high schools, universities, national laboratories, industry partners and professional societies funded by the National Science Foundation's Advanced Technology Education (ATE) program. OP-TEC serves secondary STEM programs and postsecondary programs devoted to lasers, optics and photonics technology or technologies enabled by optics and photonics.

To learn more about OP-TEC, visit www.op-tec.org. For more information on Irvine Valley College, visit www.ivc.edu.

Workshop Information:

Date: April 5-6, 2012
Location: Irvine Valley College/ATEP
Tustin, California
Free Registration: Space is limited and registration is required.

Purpose of the Workshop:

- To inform participants about career opportunities and the growing need for optics and photonics technicians and the secondary and postsecondary programs options to prepare them.
- To explain the opportunities for participants to create new secondary-to-postsecondary programs in photonics and/or to infuse optics and photonics instruction into existing technical programs and courses in math, science and technologies enabled by photonics.
- To inform participants of the OP-TEC curriculum materials and services available for planning and implementing photonics education at their institutions.

Who Should Attend?

- **Community & Technical Colleges** – learn how to create new AAS programs in photonics or to infuse photonics into existing technical programs
- **Secondary Science and Math Coordinators, Instructors, and Administrators** – learn how to enhance existing science and math courses
- **CTE Directors** – learn about adding dual-credit courses
- **Counselors** – learn about career opportunities for your students
- **Industry/Workforce Trainers** – learn about courses and materials



Attendees will be able to review OP-TEC RESOURCES including:

- The National Photonics Skill Standards for Technicians, Third Edition (CORD, 2008)
Includes a detailed catalog of the knowledge and skills required by employers in photonics-enabled fields (e.g., communication, lighting and illumination, imaging and remote sensing, medicine, manufacturing, and optoelectronics), along with course outlines and supporting information.
- **Mathematics for Photonics Technicians (CORD, 2003)**
Supplementary math resource designed to help postsecondary students acquire the skills in algebra, geometry, and trigonometry necessary for success in associate degree programs in optics and related technologies.
- **Course 1: Fundamentals of Light and Lasers (CORD, 2003)** Comprehensive study of photonics including: nature and properties of light, optical handling and positioning, laser safety, basic geometrical optics, basic physical optics and principles of lasers.
- **Course 2: Elements of Photonics (CORD, 2005)**
Includes specific photonics systems and applies the principles presented in Course I. The last three modules in Course 2 can be replaced with those in the Photonics Enabled Technology (PET) series to customize this course.
- **PET Series - Modules in Photonics Enabled Technologies**
Sixteen stand-alone modules to prepare students for careers in specific photonics enabled technologies. Modules cover the diverse fields of manufacturing, biomedicine, environmental monitoring, optoelectronics and forensic science and homeland security.
- **Program Planning Guides**
Program Planning Guides are manuals for community/technical college faculty and administrators to enable them to determine whether and how to include photonics education in existing programs. Guides are available for infusing photonics education into manufacturing technology, biomedical application, homeland security, optoelectronics, telecommunications and electronics engineering technology.

Two Ways to Register:

Online: www.op-tec.org/workshop

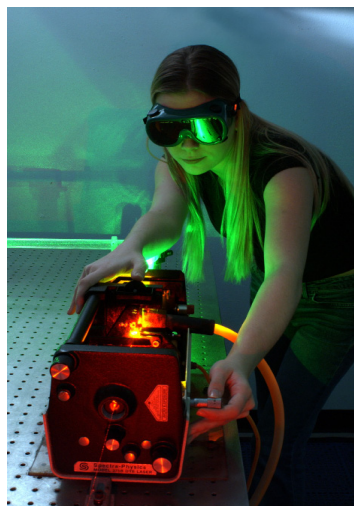
Mail: Print a downloadable registration form from www.op-tec.org/workshop and mail to:
OP-TEC
324B Kelly Drive
Waco, TX 76710

For More Information:

Call 254-751-9000 or e-mail op-tec@op-tec.org

The workshop is provided free of charge; however, space is limited. Participants are responsible for any travel and lodging. Lunch will be provided both days of the workshop.

All registrants will receive a packet via e-mail containing location information and hotel and travel recommendations. Registrants will also be placed on a mailing list to receive additional workshop information and updates via e-mail.



SOUTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT
BOARD OF TRUSTEES: Thomas A. Fuentes, William O. Jay, David B. Lang,
Frank M. Meldau, Ph.D., Marcia Milchiker, Nancy M. Padberg, T.J. Prendergast, III
Gary L. Poertner, Chancellor
Glenn R. Roquemore, Ph.D., President, Irvine Valley College
An Equal Opportunity Institution



This event is supported, in part, by a National Science Foundation grant (DUE-1003199, CFDA 47.076) awarded to University of Central Florida and sub-awarded (#61036038) to Irvine Valley College.