

OPEN Optics and Photonics Education News

Newsletter of the Optics and Photonics College Network

March 2017

From the Executive Director



Helping Your Graduates Find their Jobs

Most photonics students who will complete their education this year have begun looking for that Ideal Job; the ultimate reward for their diligent efforts as students. Some ways faculty are helping them in the job search are:

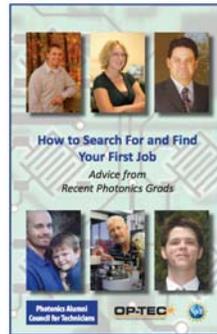
1) Identifying employers that are engaged in various photonics applications, 2) Locating employers who are hiring, and 3) Arranging interviews.

OP-TEC's Photonics Alumni Council for Technicians has created a briefing document entitled *How to Search and Find Your First Job*. It contains advice from recent graduates that may be useful to your students. Please review this document at http://www.op-tec.org/pdf/Find_Your_First_Job.pdf.

You may adapt or print copies to distribute to your students. If you prefer, you may request printed copies from the OP-TEC store and we will send them to you.

Idea #4 in this document discusses a resume and references a web site (<http://career-advice.monster.com>) which provides advice on preparation of resumes and cites some examples.

Dan Hull



Planning to Attend the HI-TEC Conference

The national and regional photonics centers will host the next annual in-person OPCN network meetings and photonics industry site visits at the HI-TEC Conference to be held July 17-20, 2017 in Salt Lake City. The HI-TEC Conference provides a unique opportunity for educators to learn, network, give presentations, share best practices, and disseminate project resources with other STEM educators. OPCN events are being planned for the HI-TEC Preconference on Monday and Tuesday, July 17-18 (read about last year's OPCN activities at <http://www.op-tec.org/2016-hi-tec-report-2>). The general conference keynotes, presentation sessions, and exhibits will take place on Wednesday and Thursday, July 19-20.

OP-TEC, MPEC, and LASER-TEC will be offering conference registration codes for up to 40 representatives this year. OPCN Coordinators and Members will receive priority for these free registrations but the centers will also consider requests for complimentary registrations for additional college faculty members or partners. As in previous years, there will be a process to reimburse active OPCN Coordinators for their airfares post-conference.

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Upcoming Events

03/20/17 - 03/23/17
International Laser Safety Conference
Atlanta, GA
www.lia.org/ilsc

3/30/17
HI-TEC Award Nominees Submission Deadline
5:00 pm Central

5/02/17
NASA Scholars Program Application Deadline

6/19/17 - 6/21/17
Course 1 Faculty Capstone
Indian Hills Community College

6/21/17 - 6/23/17
Course 2 Faculty Capstone
Indian Hills Community College

06/25/17 - 06/28/17
ASEE Annual Conference 2017
Columbus, OH

7/17/17 - 7/20/17
HI-TEC 2017
Salt Lake City, UT

[View Events Webpage](#)

Interested educators at colleges with LASER-TEC or MPEC partnership agreements or subawards, should contact Chrys Panayiotou or Greg Kepner to request a free registration. All other OPCN Members should contact [Christine Dossey](#) at OP-TEC.

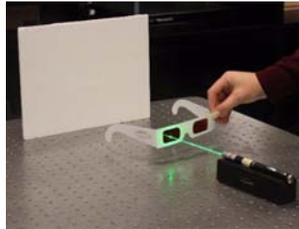
We hope that all OPCN members will be able to attend July 17-20 in Salt Lake City!

Are You Ready for Photonics Summer Camps?

Hosting summer camps is a great way to introduce middle and high school students to college photonics programs and build up awareness in light-based technologies. For the past four years, LASER-TEC has been developing and improving content suitable for this age group. A collection of the most popular activities are gathered in the Light and Optics Exploration Kit.

Using the kit, students explore various topics, such as why only certain safety goggles can be used for specific laser wavelengths, how the brain interprets incoming information and enables human and animal vision, how lasers help "read" the information from bar codes, how Fresnel lenses help pilots safely land their airplanes, or how light polarization is used to enjoy 3-D movies or create art, and much more. The Light and Optics Exploration Kit supports over fifteen engaging and hands-on activities. A teacher's guide describes with many colorful pictures and diagrams how each activity is performed.

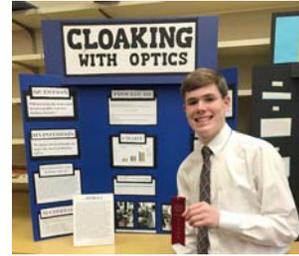
If you are interested in using the kit for hosting your photonics summer camps, please contact Dr. Chrys Panayiotou at cpanayio@irsc.edu or 772-462-7621.



IVC Student Hired as Photonics Career Ambassador

When Andrew Kirkland began taking photonics courses at Irvine Valley College last semester, he took an immediate interest in community involvement and outreach, participating in several outreach activities throughout the semester. Andrew was recently hired by Vital Link, an Orange County California organization that provides hands-on career exploration experiences for high school students, helping them carve out their own unique career paths. In his new position, Andrew will attend events throughout the school year to highlight laser and photonics career paths to Irvine and Tustin area high school students. It is hoped that Andrew's role with Vital Link will bring new students to IVC's Laser and Photonics Technology program. Below is a photo of Andrew at a high school career fair teaching students about diffraction.

Cloaking with Optics



When Luke Howton, a 9th grade student in Waco, Texas, began researching science fair projects, one of his first stops was the National Center for Optics and Photonics Education.

After visiting OP-TEC's headquarters in Waco and discussing some ideas with Principal Investigator Dan Hull and Curriculum Development Engineer Taylor Jeffrey, Luke chose to research and experiment with the Rochester Invisibility Cloak. This experiment involves using four lenses to bend light around a small area, effectively "cloaking" it. His hypothesis centered on increasing the cloaked area by changing the focal length of the lenses.

Using equipment provided by OP-TEC, with a little bit of guidance along the way, Luke completed his experiment and won Second Place at his school's competition. He was chosen to attend the Regional competition, and finished 4th in his category. Way to go, Luke!

Camden County College Graduate Becomes Successful Small Business Owner



Kevin Rodgers began his college career at Rutgers University where he loved his



Employer Interview Weeks at Indian Hills

Indian Hills Community College is hosting employer interview weeks March 6-9 and 13-16. A minimum of ten photonics companies will visit the college to present their company to the twelve May 2017 program graduates and to interview students for current openings. Preliminary communications with participating companies indicate each interviewed student will have a minimum of seven job opportunities so competition among the employers should be fierce!

Also in March, the Midwest Photonics Education Center (MPEC) based at Indian Hills is exhibiting at the ITEEA *Engaging & Empowering Decision Makers through Integrative STEM Education Conference* in Dallas, Texas, March 16-17 (www.iteea.org/Activities/40503.aspx). At the conference, MPEC will host an exhibit to promote awareness of photonics and its benefits to students, faculty, academic administrators, and industry representatives.

MPEC's goals are to increase the supply of well-educated photonics technicians in the Midwest, and to serve as the national leader in photonics applications for advanced manufacturing and laser materials processing. MPEC's work continues to cultivate pathways to high-wage, high growth technical jobs for high school and community college students.



If you are interested in hosting and/or presenting at events like these, please contact Greg Kepner for more information. Greg Kepner, greg.kepner@indianhills.edu, 641-683-5284.

Laser Safety in Educational Institutions Online Training

Colleges using Class 3B and Class 4 lasers and laser systems are advised by the ANSI Z136.5 American National Standard for Safe Use of Lasers in Educational Institutions to have an assigned Laser Safety Officer. This is for the protection of all involved. Colleges and high schools using these lasers and systems should obtain a copy of the ANSI Z136.5 standard from the Laser Institute of America at <https://www.lia.org/store/product/114>.



The Laser Institute of America (LIA), founded in 1968, is the international society for laser applications and safety. Its mission is to foster lasers, laser applications, and laser safety worldwide. LIA offers an online course covering the necessary basic laser safety training to safely operate lasers and laser systems in

role on the university's hockey team but had few academic or career goals. While at Rutgers, a family friend encouraged him to explore Camden County College's Laser Electro-Optics Technology (LEOT) program under the direction of Dr. Seeber.

Kevin transferred to the LEOT program at Camden and found a dynamic environment, full of hands-on projects and practical learning experiences. Kevin says that the program at Camden "really set me up for what I did in my future work." He received an AS degree in engineering and an AAS degree in LEOT from Camden and went on to earn his BS degree in electrical engineering from Drexel.

Kevin is now the President of Precision Laser Specialist Inc., and still works as an engineer servicing medical lasers in offices, hospitals, and other medical facilities.

Read more about Kevin and other successful technicians in [Success Stories in Photonics Careers](#).

2017 HI-TEC Awards



**Nominations Deadline
March 30, 2017
5:00 pm CST**

The HI-TEC Conference annually recognizes outstanding educators and industry representatives who make significant contributions to the training and education of today's technology workforce.

HI-TEC is now accepting award nominees for the following awards: Educator-of-the-Year, Industry Recognition, and Innovative Program. Nominations can only be submitted by NSF ATE Centers or Projects, and/or their partners, and HI-TEC

educational institutions. This online course can be used for applying for certification as a laser safety officer, also offered by the Laser Institute of America.

Course Overview: The course will discuss the basics of lasers, bio-physics, laser safety standards, control measures, accident scenarios, and sample lab settings that are used in educational institutions. If you are a student, professor, safety officer, science department chair or high school teacher, this is a great format to get up to speed with the most current laser safety issues.

Instructor: Fred P. Seeber, PhD, Professor Emeritus of Physics/Photonics, Camden County College

Time: Course takes approximately 2 hours to complete and is opened to enrollees for 10 days.

Cost: \$99 (LIA Members \$49)

Resources: ANSI Z136.5 - Safe Use of Lasers in Educational Institutions (2009), ANSI Z136.1 Standards: Safe Use of Lasers (2014)

For more information and registration, visit <https://www.lia.org/store/TRAIN/EDUONLINE>.

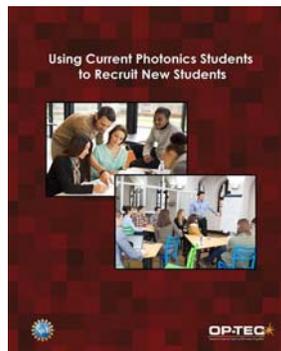
Instructor Resource of the Month

New OP-TEC Monograph and Webinar: Using Current Photonics Students to Recruit New Students

In this newly published monograph a strategy is described for developing and maintaining strong and effective student recruitment. The monograph presents the need and rationale for focused student recruitment and describes how Tri-County Technical College, Central Carolina Community College, and Indian Hills

Community College are using current students as program recruiters and the benefits these students acquire by serving as recruiters. The closing sections of the document provide information about proven resources and recruitment events.

The monograph can be downloaded at <http://www.op-tec.org/files/pdf/Using-Current-Photonics-Students-To-Recruit-New-Students.pdf>. OP-TEC has produced a short webinar recording to complement the monograph which can be viewed below. See other OP-TEC webinars at <http://www.op-tec.org/professional-development/webinars>.



sponsors. A nominator may submit no more than one application for each award category. Nominees must be affiliated with an NSF ATE Center/Project or HI-TEC sponsor.

The awards will be presented at the HI-TEC Awards Luncheon on Wednesday, July 19, 2017 at The Grand America Hotel, Salt Lake City, Utah. HI-TEC will provide the airfare, registration, and two nights lodging for each winner in addition to their prestigious award recognition.

For information and entries, please visit http://www.highimpact-tec.org/award_nominees. For questions about the award, contact Pamela Silvers, HI-TEC Awards Chair, psilvers@abtech.edu.

For assistance with the nomination form, contact Sheila Wilson swilson@cord.org.

OPCN Working Groups

Professional Development Working Group
Anca Sala, Chair
anca.sala@baker.edu

Student Recruiting Working Group
Taylor Jeffrey
tjeffrey@op-tec.org

Program Assistance Working Group
Gary Beasley, Chair
gbeasley@cccc.edu

Equipment Working Group
Frank Reed, Chair
frank.reed@indianhills.edu

Photonics Career Video of the Month

Students searching for careers need to understand what they may be doing in the workforce. Students are also motivated and focused when they can identify with a role model and understand why they have to learn certain areas of mathematics, science and technology.

Julia Majors is a Technologist and student at University of California, Irvine.



A promotional banner for the 2017 High Impact Technology Exchange Conference. The left side features a cityscape with mountains in the background and the text "2017 HI TEC" with a logo. The right side is a blue box with white text: "HIGH IMPACT TECHNOLOGY EXCHANGE CONFERENCE", "July 17-20 Salt Lake City, Utah", and "Grand America Hotel". The bottom left is a green box with white text: "Sponsored by a consortium of NSF ATE centers and projects". The bottom right is a blue box with white text: "highimpact-tec.org".

Join the Conversation

We hope you enjoyed this edition of the OPEN newsletter. We would really like to hear from you. If there is some subject that you would like us to discuss or look into, please let us know at prmanager@op-tec.org.

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