This issue is available to AIP employees throughout this week on the InSite home page.

AIP Matters

Monday, February 7, 2011

Director's Matters

Guest column by: Catherine O'Riordan, Vice President, Physics Resources

Cultivating careers in support of the physical sciences

As an umbrella society, AIP is in a unique position to provide programs and services that support a wide variety of potential careers for those trained in the physical sciences. We recognize that a strong workforce is the lifeblood of our discipline. Through the Physics Resources Center and in collaboration with our Member Societies, we have built a suite of programs that support physicists in every stage of their careers—including students, young scientists seeking initial related employment, and seasoned researchers looking for new challenges or alternative careers.

The PRC provides fellowship opportunities, job postings and resumé services, workforce and salary survey data, an undergraduate internship clearinghouse, our own undergraduate internships in outreach and physics research, information about career pathways, and venues to introduce students to careers in applied industrial fields. Society of Physics Students (SPS) regularly supports student participation in Member Society and other professional society meetings, where students are exposed to many fields. Along that same vein, AIP Publishing has recently begun sponsoring students to attend meetings that focus on disseminating scholarly information or that are topically connected to AIP journals.

The most visible AIP brand for careers is the *Physics Today* Career Network (PTCN), a niche job board network for the physical science, engineering, and computing disciplines. PTCN is known for its excellence in the job board community. With a strong partner base consisting of AAPT, APS, AVS, the IEEE Computer Society, SPS, Sigma Pi Sigma, and most recently, AAPM, the network finds jobs for members of our community which complement their training, and it connects employers with the talent they need to meet their objectives.

The newest PRC initiative to support careers—Career Pathways—is a joint project between SPS and the Statistical Research Center (SRC). In light of the need to increase both the size and diversity of our nation's STEM (science, technology, engineering, and mathematics) workforce, AIP is working to better prepare recipients of physics bachelor's degrees in physics for a STEM career.

Many physics departments focus on preparing undergraduate students for graduate school, but as shown in the SRC data, most students that earn bachelor's degrees in physics do not go to graduate school for physics. Instead, they enter a wide variety of

careers in fields such as engineering and computer programming. Over the next few years our staff will be visiting departments with strong track records in preparing and placing physics bachelor's degree graduates in STEM fields, and we will be compiling a set of best practices. From those results we aim to establish a pilot program of alumni advisory boards for individual departments, prepare summary materials for distribution among physics departments, and conduct regional workshops for faculty and undergraduates.

Evidence shows that some students, often first-generation college students and minorities, will choose undergraduate degrees that lead down a direct career path. Since few jobs outside of academia have "physicist" in the title, many potential physics majors are unaware of the vast number of career opportunities available to physics graduates. In addition, many areas have local industries with specific STEM workforce needs. Helping departments connect to local alumni and educate current and potential physics students about career opportunities will benefit not only scientists, but the broader society as well. The Career Pathways project is funded by the National Science Foundation. Through existing programs and new initiatives like this one, AIP is providing resources to serve the career needs of many scientists in our community.

PUBLISHING MATTERS

AIP now publishes the *Journal of Laser Applications*

For more than 20 years, the *Journal of Laser Applications* (*JLA*) has been a major forum for exchanging ideas and information on the diverse, practical applications of photonic technology. In January, the Laser Institute of America—an AIP Affiliated Society—entrusted AIP to publish its flagship publication as an online-only journal. AIP's robust Scitation platform will bring full online functionality to *JLA*. The journal's comprehensive coverage makes it an important resource for specialists in all areas of the laser industry, including materials processing, sensing and measurement, biomedical applications, and laser safety. Editor-in-Chief Reinhart Poprawe is Managing Director of the Fraunhofer Institute for Laser Technology and University Chair for Laser Technology at the RWTH Aachen University. Poprawe oversees a streamlined and rigorous review process that ensures rapid dissemination of the latest research.

PHYSICS RESOURCES CENTER MATTERS

Bad data are worse than no data at all

Q: What's wrong with the following question from an actual survey?*****

How would you rate the quality of this seminar?

Excellent Fair

6 5 4 3 2 1

Designing a survey questionnaire may seem like an easy task, but the inexperienced survey researcher can get caught in many traps along the way. AIP's Statistical

Research Center (SRC) has a free questionnaire review service for AIP staff members who want to conduct their own surveys. SRC staff can either look over your questionnaire, or help you develop one from scratch. If, for example, you want to ask about people's opinions, SRC staff can help you pick the right words for your scales and help you decide whether a 3-, 4-, or 5-point scale is best for your purposes. We can also consult with you on more complex issues, such as sample size, respondent confidentiality, sampling errors, reasonable response rates, measurement errors, and data analysis. SRC staff will help you get the data that matter—just contact SRC Director Roman Czujko (ext. 3180).

***A:** This question will elicit only positive evaluations, which may be what you secretly want, but it's not objective or fair to attendees who have negative perceptions. Also, each point must be labeled so that people know what 2, 3, 4, and 5 mean before they check those answers.

WHAT'S HAPPENING THIS WEEK

Wednesday, February 9

- Quarterly all staff update (Melville, NY)

We invite your feedback to this newsletter via email to aipmatters@aip.org.

For past issues of this newsletter, visit the AIP Matters archives.