



Report of Activities of the SPIE Penn State Univ. Chapter (September 2008 through August 2009)

Perry Edwards, *Chapter President*

Name of Chapter

The Pennsylvania State University Student Chapter of the SPIE.

Chapter Leadership

Perry Edwards	<i>President</i>	pse104@psu.edu
Qian Xu	<i>Vice-President</i>	qzx105@psu.edu
Yi Ma	<i>Treasurer</i>	yxm141@psu.edu
Junbin Huang	<i>Secretary</i>	juh189@psu.edu
Michael Stinger	<i>Webmaster</i>	mvs115@psu.edu
Justin Liou	Outreach Coordinator	jdl251@psu.edu
Yifan Huang	Social Coordinator	yxh175@psu.edu
Chuan Yang	<i>O+P Coordinator</i>	czy111@psu.edu
Dr. Andres Diaz	Chapter Faculty Advisor	adiaz@psu.edu

Member Count: 18 members (as of 9/01/2009)

Abbreviated SPIE-PSU Expense/Income Report

Description	Date	Amount
0&P 2009 Trip		
Total expenses		\$2080.00
Grants from SPIE (Officer Travel Grant)	TBD	\$1000.00
Expected grants from EE & COE Departments	TBD	\$1000.00
Current chapter balance:	8/31/2009	\$1680.59
Outreach account:	8/31/2009	\$ 388.53

Chapter activities from September 1st 2008 - August 31st 2009

The events are listed here in chronological order. Officer only meetings are not listed.

Oct 24th: Trip to Corning Fiber Optic Testing Facility and Corning, NY

Thirteen students (1 post doc) affiliated with the Penn State SPIE chapter visited the Corning Fiber Optic Testing Facility in Corning, NY. A tour of the Fiber testing facility gave insight to the process of quality control and assurance that goes into manufacturing the high volume fibers used in the telecom industry as well as low volume fibers used in technical or laboratory settings. After the tour, lunch was found in the historic downtown section of Corning. The afternoon was

then spent at the Corning Museum of Glass where the students learned about the history of glass and its wide spread use in all facets of today's society.

February 28th 2009- Electrical Engineering Open House

The SPIE student chapter participated in the 2009 EE Open House. During this event, high school students/parents visit the University, and get a flavor of the curriculum and research conducted by the Electrical Engineering department. The chapter coordinated with the organizers of the event and booked a room dedicated to 10 minute optical demos and how they related to engineering. For the 2009 Open House the following demos were presented: transmission of sound (voice/music) over a long optical fiber link and explanation of its components (transmitter, receiver and fiber). Next, we demonstrated the coupling of laser light into fibers (red and green) and the concept of wavelength was shown using various light sources and a spectrometer.

May 27th: Outreach Activity at the Corl Street Elementary School in State College.

Several graduate students representing the SPIE-PSU chapter and Professor Zhiwen Liu visited the Corl Street Elementary to demonstrate optical and laser science demonstrations for a 4th grade class. Haifeng Li, Michael Stinger, Qian Xu, Chuan Huang, and Perry Edwards stimulated the elementary school students' minds and encouraged interest in the areas of math and science by performing interesting optics demos including microscopy, polarization, holograms, telescopes, and optical materials.

June-July 2009: SPIE Optics and Photonics 2009 trip preparation

In preparation for the O&P 2009 trip, the SPIE student chapter met with the head of the Electrical Engineering Department in order to secure important support for the trip, as well as requested support from the College of Engineering.

Aug 1th-6^h 2009: SPIE Optics and Photonics 2009, San Diego, CA

The following is a list of students, post-doctorate scholars, and faculty member affiliated with SPIE Penn State chapter who developed papers to be presented in Optics and Photonics 2009, San Diego, CA

Students:

Jimmy Yao, Chia-En Yang, Eftihia Vlahos (MATSE Dept.), Ryan Pensack, Yun-Ching Chang, Meng-Ku Chen, Yi Ma, Chuan Yang, Justin Liou, Yifan Huang

Advising faculty members:

I.C. Khoo, Douglas Werner, S. Yin, Qiming Zhang, Craig A. Grimes, Theresa S. Mayer Akhlesh Lakhtakia, Jian Xu, Mark Horn (ESM), Venkatraman Gopalan (MATSE)

Papers to be presented:

[Conference section number] authors, title

- [7413-7] Iam Choon Khoo et al., "Multiple time scale characterization of the nonlinear multi-photon absorption characteristics of a neat organic liquid"
- [7414-9] Iam Choon Khoo et al., "Nonlinear tuning in optical metamaterials"

- [7414-15] Iam Choon Khoo, Justin D. Liou, Yi Ma, “Sub-microsecond all-optical switching with bulk nematic liquid crystal”
- [7420-19] Shizhuo Yin et al., “Recent advances on IR supercontinuum source and its application”
- [7416-26] Ryan Pensack, Larry W. Barbour, Maureen Hegadorn, John B. Asbury, “Electric field assisted charge separation at the interface between electron donor and acceptor in an organic photovoltaic blend”
- [7420-27] Chia-En Yang, Jimmy Yao, Yun-Ching Chang, Shizhuo Yin, “Biomedical imaging and detection with broadband spatially coherent supercontinuum”
- [7420-28] Shizhuo Yin, Yaohui Guo, Meng-Ku Chen, Yun-Ching Chang, Chia-En Yang, “A quantitative analysis of remote THz generation by laser induced plasmonic resonance”
- [7420-29] Chia-En Yang, Jimmy Yao, Yun-Ching Chang, Shizhuo Yin, “Ultrafast magneto-optic switches and their applications”
- [7405-22] Eftihia Vlahos, Amit Kumar, Sava Denev, Charles Brooks, Darrell G. Schlom, The Pennsylvania State Univ.; Carl J. Eklund, Karin M. Rabe, Rutgers Univ.; Craig J. Fennie, Cornell Univ.; Venkatraman Gopalan, “Strained enabled ferroelectricity in CaTiO₃ thin films probed by nonlinear optics and scanning probe microscopy“

Future Directions and additional comments:

The SPIE student chapter is working hard to create a beneficial experience for its student members. The SPIE chapter officers get together on a bi-monthly basis to discuss and plan events. A year in and year out goal is to have a strong showing at the O&P conference, and this will continue for the 2010 O&P conference next August. Other future plans revolve around setting up a lecture series for the 2009-2010 school year high-lighted by a talk by Jean-Luc Doumont, a world renowned speaker on the topic of effective speeches. Another event, where several SPIE student chapter resources are being allocated this year, is to the first ever IONS (International OSA Network of Students) conference to be held in Baltimore, working in conjunction with the University of Maryland. This conference will feature several key speakers from across the world as well as student only presentations and papers.

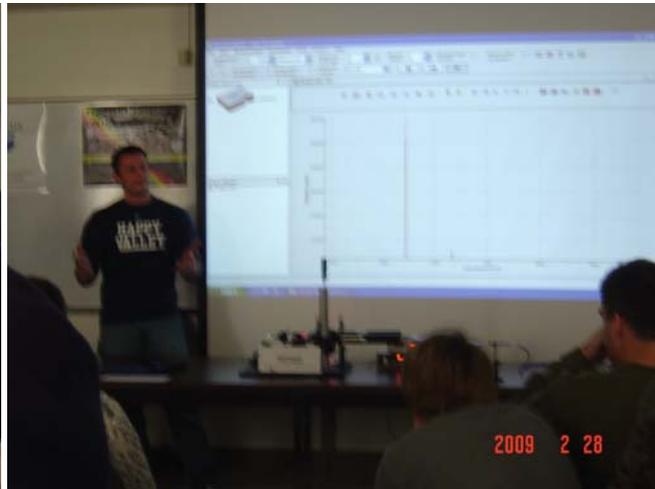
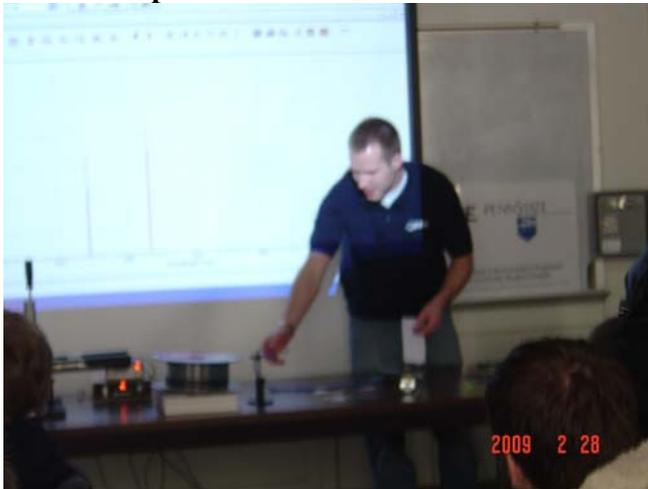
Pictures from our activities:

2009 SPIE O&P Trip, San Diego



Chapter event coordinators Chuan Yang and Yifan Huang along with treasurer Yi Ma visited with several SPIE fellows, staff and distinguished researchers while at the O&P conference this past August.

EE Open House 2009



Chapter president Perry Edwards (left picture) and chapter member Mike Stinger (right demonstrate optical devices to potential engineering students at Penn State.