



## Report of Activities of the SPIE Penn State Univ. Chapter (September 2009 through August 2010)

Junbin Huang, *Chapter President*

### Name of Chapter

The Pennsylvania State University Student Chapter of the SPIE.

### Chapter Leadership

Junbin Huang	<i>President</i>	huang@psu.edu
Yaohui Gao	<i>Vice-President</i>	yzg101@psu.edu
Chuan Yang	<i>Secretary</i>	czy111@psu.edu
Jimmy Yao	<i>Treasurer</i>	jty112@psu.edu
Michael Stinger	<i>Webmaster</i>	mvs115@psu.edu
Dr. Andres Diaz	Chapter Faculty Advisor	adiaz@psu.edu

**Member Count:** 22 members (as of 9/01/2010)

### Abbreviated SPIE-PSU Expense/Income Report

<u>Description</u>	<u>Date</u>	<u>Amount</u>
O&P 2010 Trip Total expenses	August 2010	\$2,450.00
Grants from SPIE (Officer Travel Grant)	August 2010	\$2,450.00
Expected grants from EE & COE	TBD	\$2,000.00
Current chapter balance:	8/31/2010	\$885.39
Outreach account:	8/31/2010	\$388.53

## **Chapter activities from September 1<sup>st</sup> 2009 - August 31<sup>st</sup> 2010**

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

### **Feb 24<sup>th</sup> 2010: Social Meeting at Tussey Mountain, Boalsburg PA**

Eleven students attended a short meeting discussing upcoming plans for the Penn State SPIE chapter at Tussey Mountain in Boalsburg, PA. After the meeting, the students hit the slopes on snow tubes and had a blast racing against one another. At one point, all eleven tubers tied their tubes together to form a giant tubing caravan.

### **Mar 3<sup>rd</sup> 2010: SPIE-PSU Coffee Break at Saint's Coffee**

Having a coffee house social in the Friday early afternoon like this one worked better than what we expected. This event successfully offered a platform for chapter members (not just between chapter officers) to hang out and know each other. Also, Saint's Coffee offered a great environment just good to relax and talk without a sophisticated pressure. We plan to have this social event on a regular periodic basis.

### **Mar 17<sup>th</sup> 2010: SPIE-PSU Information Session**

The SPIE-PSU has an information session to introduce our activities for the upcoming year. Perry, the President for the 2009~2010 term has reviewed all the activities of the chapter from 2007 to 2009.

### **Apr 14<sup>th</sup> 2010: Invited Talk "Coherent anti-Stokes Raman Spectroscopy" given by Dr. Kebin Shi.**

Right after the Dr. Shi's talk, we announced our preliminary O+P 2010 travel plan,

Followed by the new officer elections. Junbin Huang was elected as the new chapter

President for the 2010~2011 term.

## July 30th ~ Aug 5th 2010: SPIE Optics and Photonics 2010, 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 2010, San Diego, CA

(underline indicates the person who will physically attend the conference)

Students:

Jimmy Yao, Chia-En Yang, Meng-Ku Chen, Justin Liou, Jun Gao, Yifan Huang, Qi Li, Weijin Hu, Seokho Yun, Zhihao Jiang, Yaohui Gao, Yun-Ching Chang, Michael V. Stinger, Mei Hao, Qian Xu

Advising faculty members:

I.C. Khoo, Douglas. Werner, S. Yin, Qiming Zhang, Craig A. Grimes, Theresa S. Mayer Akhlesh Lakhtakia, John B. Asbury, Nitin Samarth, Qi Li, Jian Xu, Mark Horn (ESM) Joan M. Redwing, Karl M. Reichard,

Papers to be presented:

[Conference section number] authors, title

- [7775-47] lam Choon Khoo, Justin Liou, Michael V. Stinger. "Ultrafast optical switching of nematic liquid crystal birefringence"
- [7754-15] Seokho Yun, Zhihao Jiang, Yifan Huang, Jeremy A. Bossard, Fatima Toor, Zhiwen Liu, Douglas H. Werner, Theresa S. Mayer, "Multilayer Metallo-Dielectric ZIMs with Matched Impedance for the near-IR"
- [7760-14] Nitin Samarth et al., "Infrared study of onset of metallicity and ferromagnetism in GaMnAs"
- [7760-36] Qi Li, Weijin Hu, Muralikrishna rad. "Magnetic tunnel junction with a ferroelectric barrier in La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub>/(Ba,Sr)TiO<sub>3</sub>/La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> structures"
- [7766-06] Akhlesh Lakhtakia et al., "The structured thin film acquisition of fingerprint topology"
- [7766-20] Jun Gao, Akhlesh Lakhtakia "Dyakonov-Tamm waves localized to the

planar interface of two chiralsculptured thin films”

- [7766-21] Muhammad Faryad, Akhlesh Lakhtakia “Coupled surface-plasmon-polariton waves in a sculptured nematic thin film with a metallic defect layer”
- [7766-24] Akhlesh Lakhtakia, et al., “On the theory of optical sensing via infiltration of sculptured thin films”
- [7768-17] Joan M. Redwing, Chito E. Kendrick, Sarah Eichfeld, Yue Ke, Xiaojun Weng, Xin Wang, Theresa S. Mayer “Epitaxial regrowth of silicon for the fabrication of radial junction nanowire solar cells”
- [7770-23] Craig A. Grimes, “Toward photonic fuels: photocatalytic conversion of carbon dioxide to hydrocarbons (*Invited Paper*)”
- [7781-38] Chia-En Yang, Jimmy Yao, Stuart Yin, “High DC bias voltage photoconductive semiconductor switch”
- [7781-39] Chia-En Yang, Jiping Cheng, Stuart Yin, “Rapid iron borate (FeBO<sub>3</sub>) powder fabrication using microwave sintering”
- [7781-40] Meng-Ku Chen, Yaohui Gao, Shizhuo Yin, “Embedded chemicals detection using multiple frequencies excitation”
- [7781-42] Yun-Ching Chang, Jimmy Yao, Jiping Cheng, Stuart Yin, “Rapid ZnO nanopillar array growth by microwave assisting”

### **Future Directions:**

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. We look forward to having the same pleasant learning / networking experience from the previous years in San Diego.

**Pictures from our activities:**

**Feb 24<sup>th</sup> 2010: Social Meeting at Tussey Mountain, Boalsburg PA**



**2010 SPIE O&P Trip, San Diego.**

