Report of Activities of the SPIE Penn State Univ. Chapter (September 2011 through August 2012)

Jimmy Yao, *Chapter President*

Name of Chapter

The Pennsylvania State University Student Chapter of the SPIE.

Chapter Leadership

Jimmy Yao	*President*	jty112@psu.edu
Shuo Zhao	*Vice-President*	sxz154@psu.edu
Kuan-Lun Hong	*Secretary*	kuh157@psu.edu
Chao Wang	*Treasurer*	cuw163@psu.edu
Yanhui Zhao	*Webmaster*	yzz127@psu.edu
Dr. Zhiwen Liu	Chapter Faculty Advisor	zliu@engr.psu.edu

Member Count: 21 members (as of 9/01/2012)

Abbreviated SPIE-PSU Expense/Income Report

Description	Date	Amount
O&P 2011 Trip Total expenses	August 2012	$4,000.00
Grants from SPIE (Officer Travel Grant)	August 2012	$1,000.00
Expected grants from EE & COE	TBD	$3,000.00
Current chapter balance:	8/31/2012	$1162.07
Outreach account:	8/31/2012	$69.60

Chapter activities from September 1st 2011 - August 31st 2012

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

Sep 14th 2011: SPIE Student Chapter Kick-Off Meeting

During the new year's (2011-2012) first meeting, we welcomed new members to the chapter. Fellow members shared their experience of the summer trip to SPIE O&P conference in San Diego.

Sep 24th 2011: Go Penn State - Materials & Nanoscale Science

The Center for Nanoscale Science, in partnership with the Eberly College of Science Outreach Office and Penn State Athletics, sponsored a Science Challenge for the Nittany Lions Kids Club at the Penn State Tail Great event. Yi Ma from our student chapter has participated to this outreach event.

Jan 20th 2012: Invited Talk "Laser Glasses: A Review of Performance of Current Laser Glasses Available to the Broad Laser Community" given by Dr. Simi A. George from SCHOTT

This tutorial talk was particular interesting for those working in the area of optical devices and materials. It gave us an idea of the Schott Corporation and research oriented in the industry. Right after the talk, we announced our preliminary 2012 SPIE O+P travel plan and followed by the new officer elections.

April 3rd 2012: SPIE Coffee Social Meeting

The students attended a short meeting to discuss upcoming plans for the Penn State SPIE chapter at the new building Millennium Science Complex on campus. We have discussed our schedule of the SPIE sponsored tour to Rochester. In addition, we had our new student officer elections for the year of 2012-2013.

Apr 16th 2012: Trip to Laboratory for Laser Energetics at Rochester, NY

We organized a SPIE sponsored trip to Rochester. Eleven students (2 post doc) affiliated with the Penn State SPIE student chapter visited the Laboratory for Laser Energetics at Rochester, NY. An informational tour to one of two Fusion Science Centers in the nation gave insight to the OMEGA Laser Facility for potential future energy source.

Aug 12th ~ Aug 16th 2012: SPIE Optics and Photonics 2012, 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 2012, San Diego, CA
(underline indicates the person who will physically attend the conference)

Students:

Jimmy Yao, Kuan-Lun Hong, Chih-Min Lin, Lan Lin, Chao Wang, Yun-Ching Chang, Yanhui Zhao, Muhammad Faryad, Shuo Zhao, Ryan D. Pensack, Yi Ma, Zhi Hao Jiang, Seokho Yun, Ding Ma

Advising faculty members:

Iam Choon Khoo, Douglas Werner, Shizhuo Yin, Theresa S. Mayer, Akhlesh Lakhtakia, Nikolas J. Podraza, Carlo G. Pantano, Rudeger H. T. Wilke, Susan Trolier-McKinstry, Dale M. Grimes, John B. Asbury, Joan M. Redwing, Douglas H. Werner, Zhiwen Liu, Jack Brenizer, Tony Jun Huang

Papers to be presented:

[Conference section number] authors, title

[8503-7] Susan E. Trolier-McKinstry, et.al, “Toward active x-ray telescopes II”

[8503-9] Raegan L. Johnson-Wilke, Susan E. Trolier-McKinstry, et.al, “Adjustable grazing incidence x-ray optics based on thin PZT films”

[8497-19] Shizhuo Yin, Jiping Cheng, et.al, “Recent advances in fabrication and application of IR single crystal fiber”

[8503-10] Raegan L. Johnson-Wilke, Susan E. Trolier-McKinstry, et.al, “PZT piezoelectric films on glass for gen-x imaging systems”

[8473-3] Ashwin S. Raghavan, Jared J. Blecher, Todd A. Palmer, et.al, “Modeling of contact geometry and dopant profile during laser-silicon interaction”

[8504-21] Doug French, et.al, “Spectral encoding based measurement of x-ray/optical relative delay to ~10 fs RMS”

[8482-3] Stephen J. Fonash, Wook Jun Nam, et.al, “Photonics and plasmonics applied to solar cells”

[8473-31] Holly E. Heinrichs, S. Ashok, “Parameter optimization of laser-doped selective emitters for applications in silicon solar cells”

[8475-16] Yanhui Zhao, Iam Choon Khoo, Yi Ma, Tony Jun Huang, “Recent studies of active liquid-crystal-plasmonics nanostructures”

[8497-21] Yun-Ching Chang, Shizhuo Yin, “Dynamic and tunable optical waveguide based on KTN electro-optic crystals”

[8497-34] Chao Wang, Shizhuo Yin, “Enhance the electrical filed by nanostructured metals”

[8497-35] Chih-Min Lin, Shizhuo Yin, “High-aspect ratio titania 3-dimensional (TiO2) nanostructures: fabrications and applications”

[8497-36] Jimmy Yao, Shizhuo Yin, Jack Brenizer, “Investigation of radiation-induced air fluorescence”

[8455-54] Seokho Yun, Lan Lin, Zhi Hao Jiang, Ding Ma, Zhiwen Liu, Douglas H. Werner, Theresa S. Mayer, “Optical zero index metamaterials for transformation optics applications”

[8467-10] Joan M. Redwing, “Comparison of radial junction fabrication methods for Si micro/nanowires array solar cells”

[8465-41] Akhlesh Lakhtakia, Sema Erten, “Excitation of multiple surface-plasmon polariton waves at metal/chiral-sculptured thin-film interfaces”

[8475-38] Iam Choon Khoo, Shuo Zhao, Kuan Lun Hong, “Mechanisms and dynamics of sub-microseconds and nanoseconds nonlinear optical responses of nematic liquid crystals”

[8465-42] Stephen E. Swiontek, Drew Pulsifer, Jian Xu, Akhlesh Lakhtakia, “Suppression of circular Bragg phenomenon in chiral sculptured thin films produced with simultaneous rocking and rotation of substrate during serial bideposition”

[8477-35] Noel C. Giebink, “Intensifying sunlight without tracking the sun: recent advances in luminescent solar concentration”

[8496-20] Akhlesh Lakhtakia, et.al, “Investigation of the terahertz Plasmon resonance in single-wall carbon nanotubes”

[8475-7] Iam Choon Khoo, et.al, “Optimization of cloak effect in nanosphere dispersed liquid crystal metamaterial”

[8462-6] Michael S. Bresnehan, Matthew Hollander, Maxwell Wetherington, Michael Labella, Kathleen Trumbull, Randal Cavalero, David W. Snyder, Joshua A. Robinson, “Advancing quasi-freestanding epitaxial graphene electronics through integration of wafer scale hexagonal boron nitride dielectrics”

[8465-33] Akhlesh Lakhtakia, et.al, “Chiral-sculptured thin films as dual-functioning optical sensors”

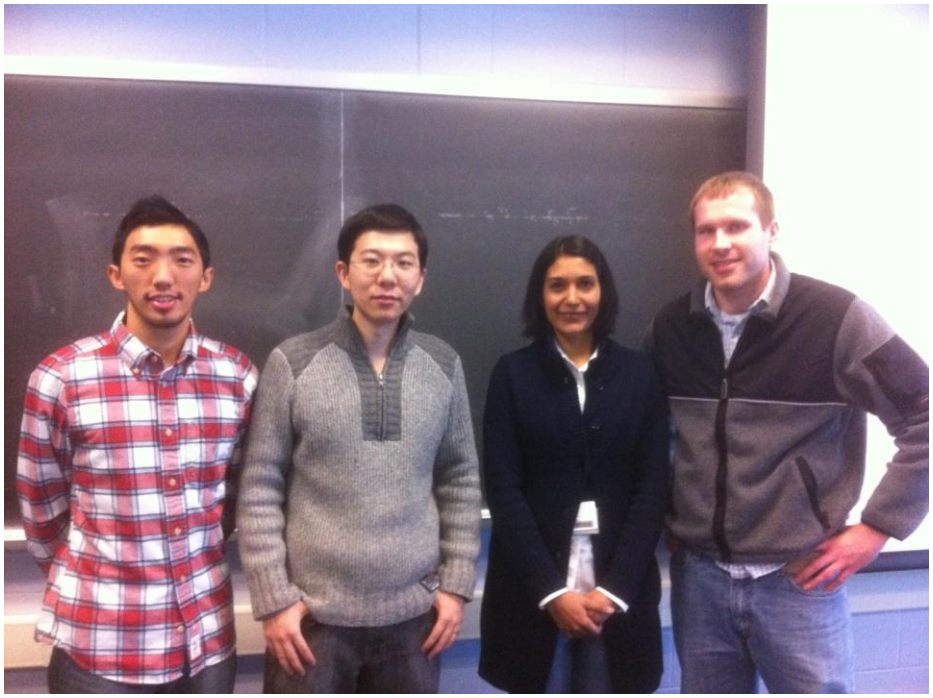
[8465-52] Akhlesh Lakhtakia, et.al, “On alignment of liquid crystals in chiral sculptured thin films”

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 2013 O&P conference next August. We look forward to having the same pleasant learning / networking experience from the previous years in San Diego. And we will continue to seek more cooperation opportunities with others.

Pictures from our activities:

Jan 20th 2012: Invited talk by Dr. Simi A. George from SCHOTT, University Park, PA



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