

# Report of Activities of the SPIE-PSU (May through December 2006)

Michael Stinger : *President*, SPIE-PSU

## Person Completing Report

Michael Stinger ([mvs115@psu.edu](mailto:mvs115@psu.edu))

## Name of Chapter

The Pennsylvania State University Student Chapter of the SPIE (SPIE-PSU)

**Member Count** 17 members (12/13/2006)

## Chapter Leadership

Michael Stinger	<i>President</i>	<a href="mailto:mvs115@psu.edu">mvs115@psu.edu</a>
Shaoying Kang	<i>Vice-President</i>	<a href="mailto:skang@psu.edu">skang@psu.edu</a>
Eftihia Vlahos	<i>Treasurer</i>	<a href="mailto:euv104@psu.edu">euv104@psu.edu</a>
Justin Liou	<i>Secretary</i>	<a href="mailto:jd1251@psu.edu">jd1251@psu.edu</a>

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## Abbreviated SPIE-PSU Expense/Income Report

Description	Date	Amount
Air-Products Trip	6/26/2006	
Gas		\$70.00
Co-sponsored by OSA (at PSU)		(\$35.00)
San Diego Trip	7/29 – 8/4/2006	
Expenses		\$6400.00
Grants, Refunds, &c.		(\$6400.00)
First semester meeting:		
Pizza	10/30/2006	\$ 82.50
Drinks, cups, &c.	10/30.2006	\$ 20.00

## Directives and Progress Therein

On the 4<sup>th</sup> of May, the new Officers of the SPIE-PSU met in order to discuss the direction of the club for the coming term, at which point I identified two directives in an effort to spur growth and increased involvement in the SPIE-PSU. These were: “Increasing the Return on Investment (ROI)” and “Increasing Community Awareness”. These directives seek to bolster mechanisms for member recruitment and retention, and to develop relations between the SPIE-PSU and the surrounding university and community through increased PR.

Unfortunately progress in both has been slow, if even not back-sliding. Our member count has shrunk to approximately two-thirds of its previous level and member involvement has stayed a dismal nil. After discussion amongst our officers, we believe that our membership woes (and

future successes) are dependant upon (amongst other factors) *enrollment motivations*, and *activity modality and appeal*.

The first, *enrollment motivations*, refers to the rationale behind members joining. Our current largest draw is the trip to Optics & Photonics each year, which is historically a full expense paid trip by the SPIE-PSU. While advisors will sometimes prompt their students to join the SPIE-PSU on this trip for the incurred savings, the current predominant method for developing member interest and subsequent enrollment is word of mouth. These two factors, while presumably acceptable in their own rights, are not sufficient to provide a reliable future member base for the SPIE-PSU. One possible solution to this dilemma is related to a discussion Dr. Andres Diaz and I, amongst others, had with Edward Lau, an undergrad at the University of Alberta. Edward had expressed that a large draw for many students in his (mainly undergraduate) club was the prospect of leadership opportunities and responsibility. This will be discussed further in the **Future Directions** section.

The second issue revolves around *activity modality and appeal*, and refers to the nature of the club sponsored activities and their appeal. In the past, most of our activities have revolved around primarily academic pursuits, while it appears social activities seem to breed a greater bonding effect and this will be beneficial in member involvement. With this in mind, activities with a greater social component are being planned.

The second directive, Increasing the community's awareness of the SPIE-PSU has proceeded on many fronts, from verbal communications with leaders at various levels within the university, to individuals outside of the university's walls. One challenge to many of the activities the SPIE-PSU has sought to enact is that of saturation. For example, during the scheduling stage of the outreach program, a cursory review found more than four programs already operating within the targeted niche. This has caused us to change our primary modus operandi to involve collaboration with previously established programs and/or by integrating an optics component to curriculum.

### **Events from May 2006 – December 2006**

The events of the summer and past semester are listed here in chronological order. Officer-only (planning, &c.) meetings are not listed.

**June 27<sup>th</sup>:** Site tour of AirProducts plant in Hometown, PA. An abbreviated write-up follows:

On the 27<sup>th</sup>, six members of the SPIE-PSU traveled to Hometown, PA, to visit a production facility of Air Products and Chemicals, Inc. The members in the photo are (from left to right), Eftihia Vlahos, Jae Park, Shaoying Kang, Dr. Andres Diaz, (Steve Feldman), Justin Liou, and Mike Stinger. A special thanks to Steve Feldman, Operations Specialist Asset Management, of Air Products and Chemicals, Inc., who guided us through the tour and explained to us the ins and outs of the Electronics division of Air Products. The day started with a brief introduction to the facility and the chemicals produced there and was then followed by a tour of the multiple plants and their individual chemical outputs. We got to examine the electrolysis method used to separate HF acid into F<sub>2</sub> and with a special focus on the means by which Air Products stays at the front of the pack. We got to see the facilities used to produce their VLSI grade (5 nines!) high purity anhydrous HCl, and even their Solkatronic WHITE grade (7 nines plus!) ultra-high purity ammonia. A plethora of other topics were discussed, ranging from highly toxic Germane (GeH<sub>4</sub>) and uniquely produced Tungsten Hexafluoride (WF<sub>6</sub>), to the placement of MS and PhDs in the over-all scheme of Air Products and industry at large.

**August 13-17<sup>th</sup>:** Optics and Photonics 2006. The club traveled to San Diego to attend the SPIE's 51<sup>st</sup> annual Optics and Photonics. This typically represents the pinnacle of a long lead-in of club efforts to secure funding, and to make the appropriate arrangements.

**September 30<sup>th</sup>:** Social outing to Tussey Mountain Outdoor Sports complex. (Cancelled due to rain).

**October 30<sup>th</sup>:** Invited talk by Dr. Ahmed Heikal on "Biophotonics Approach for Multiscale Biomolecular Dynamics and Cell Biology".

### **Future Directions**

We are currently discussing a slew of ideas for the club, and hope to advance many of them when the end-of-semester crunch is over. In an effort to spur member involvement and to spread out the workload, the officers are serving as proxies for committees centered on Invited Speakers and Academic Activities, Public Relations and Social Activities, Outreach, and Collaboration with CERS/Poster Session. The ideal is to bring additional students into these committees to lead and populate the groups. This is an attempt to integrate responsibility and leadership options, in response to the aforementioned discussion with Ed Lau. A few events are listed below as well as a few challenges we face in the coming semester.

**Invited Speakers and Academic Activities** – We have essentially consumed the available speakers here at Penn State and are currently exploring other avenues for academic events. These include (professor or graduate student) taught short courses, invited speakers from external sources (i.e. via SPIE list), and repeat invitations of speakers who can produce new topics. This committee is being proxied by Eftihia Vlahos.

**Public Relations and Social Events** – We are considering a social event at Tussey Mountain ski resort for the winter, assuming we eventually get some snow. The unusually warm winter has pushed this event further and further back. We are also considering a post-exam detox/destress party to be sponsored by the SPIE-PSU. A recent ban on food in classrooms at the university has challenged this idea. We are also looking into member benefits that will double as advertising tools, such as business cards and coffee mugs. This committee is being proxied by Justin Liou.

**Outreach** – The outreach program has run into cool reception from the community, mostly due to saturation. We are currently interested in collaboration with Dr Zhiwen Liu in an effort to pool resources. In addition we are considering collaboration with other programs, such as the well established Science Lions (<http://www.clubs.psu.edu/up/sciencelions/>). This committee is being proxied by Shaoying Kang.

**Collaboration with CERS** – We are currently interested in working alongside a college-wide poster session entitled The College of Engineering Research Symposium ([cers.engr.psu.edu](http://cers.engr.psu.edu)) which includes a poster session and other conference-style presentations. While it is too early to declare specifics, we are in the early stages of promoting the formation of an optics component or section. This committee is being proxied by Michael Stinger.

Miscellaneous issues include the reconstruction of the chapter webpage by Michael Stinger. The new website will be constructed under best practices and will be XHTML 1.0 strict and CSS compliant. All efforts will be made to design the site to satisfy section 508 standards for accessibility. Also the idea of a club specific newsletter has been demonstrated with a prototype, but will most likely be delayed until after completion and stabilized operation of the website.