

**Rice Photonic Owls Student Chapter of SPIE**

**Annual Activity Report**

**November 1, 2008**

**Covering Charter in September of 2007 – November 1<sup>st</sup>, 2008**

**1. Student Officers:**

**President:** Britt Lassiter, Email: lassiter@rice.edu, Member#: 03072388

**Vice President:** Rizia Bardhan, Email: rizia.bardhan@gmail.com, Member#: 03144453

**Treasurer:** Mark Knight, Email: mwk@rice.edu, Member#: 03143887

**Secretary:** Tamer Ali, Email: tamer.ali@ece.rice.edu, Member#: 03180604

**2. List of Chapter Members: 21 Members**

<b><u>Member Name</u></b>	<b><u>Membership Expiration Date</u></b>
Tamer Ali	31 October 2009
Rizia Bardhan	30 November 2008
Noah Bedard	31 December 2008
Lissett Bickford	30 November 2009
John Casey	30 September 2009
Michael Cordray	31 December 2008
Jared Day	30 September 2009
Nche Fofang	31 August 2009
Liang Gao	31 October 2009
Nathaniel Grady	28 February 2009
Amneet Gulati	31 January 2009
Feng Hao	30 June 2009
Ying Hu	31 December 2008
Mark Knight	31 August 2009
Britt Lassiter	31 July 2009
Nastassja Lewinski	30 November 2008
Quang Nguyen	31 January 2009
Tae-Ho Park	30 September 2009
Darren Roblyer	31 January 2009
Ting Sun	30 September 2009
Nadhi Thekkek	31 January 2009

### 3. Chapter Activities:

1. **FP3 Series Meetings:** During the 2007-2008 academic year, we have held roughly biweekly optics related presentations over a pizza lunch, which we call Fortnightly Photonics Pizza Presentations, or FP3. These events were listed on our previous activity grant requests. Attendance has averaged about 13 people and has ranged from 9 to 16 at different meetings. Chapter business may also be discussed with the chapter members at these meetings. The lunch presentation format is open, meaning that a presenter can choose a topic of his/her own, provided it is optics related. There are one to two presentations per meeting. Presentation topics have ranged from popular topics to discussions of current photonics research. Titles of past presentations are:
  - Nanophotonic Optical Structures for Future Computing Applications
  - Investigation of QCL-based MIR reflectance imaging for in-vivo tissues
  - Journal Club: Optical Stethoscopy: Image Recording with Resolution  $\lambda/20$
  - Compressive Phase Retrieval
  - Introduction to COMSOL Multiphysics software package
  - The Basics of Optical Mouse Technology
  - The Molecular Scale Manipulation of Photons
  - The History of Optical Communication
  - 3D Glasses
  - Fluorescence Microscopy of SWNTs Instrumentation and Applications
  - Journal Club: Electric Events Synchronized with laser filaments in thunderclouds
  - Journal Club: Coherent Excitation-Surface-Plasmon-Polariton Interaction in Hybrid Metal-Semiconductor Nanostructures
2. **COMSOL Multiphysics Workshop:** We held a COMSOL Multiphysics workshop on April 11<sup>th</sup>, 2008. The workshop was not part of our previous SPIE activity grant request. This event proved to be very beneficial to the Rice University optics community as well as to some other research disciplines here at Rice. COMSOL Multiphysics is a software package capable of numerically simulating a vast array of physics and engineering systems. It has recently become very popular with the nanophotonics subfield as well as other optics related subfields. The Photonic Owls Chapter organized the event and provided funding for printed advertisements and workshop materials as well as light refreshments. David Kan, a representative from COMSOL, Inc. attended the event and presented the keynote presentation. He also led hands on tutorials for how to use the general software package and some advanced COMSOL modules that are commonly used by the nanophotonics community at Rice. Four student COMSOL users from the Rice Community also delivered presentations regarding the use of COMSOL in their own research. Approximately 60 students and professors attended the daylong event.

3. **Officer Elections:** Officer Elections were held on June 18, 2008.
  - **Previous Officers** (2007-2008 academic year, charter officers):

**President:** Mark Knight

**Vice President:** Nathaniel Grady

**Secretary:** Britt Lassiter

**Treasurer:** Nche Fofang

- **Current Elected Officers** (2008-2009 academic year):

**President:** Britt Lassiter

**Vice President:** Rizia Bardhan

**Secretary:** Tamer Ali

**Treasurer:** Mark Knight

4. **Officer Travel Grant (Optics & Photonics Conference):** Under the Officer Travel Grant, Photonics Owls our previous vice president, Nate Grady, attended the 2008 SPIE Optics & Photonics Conference in San Diego. Nate Grady and Mark Knight also attended the Student Chapter Leadership Workshop at Optics & Photonics under the officer travel grant.

#### 4. Planned Future Activities:

**The Photonic Owls chapter is planning the following activities over the coming year:**

1. **FP3 Series Meetings:** We are continuing our FP3 (Fortnightly Photonics Pizza Presentations) series of lunchtime presentations, where we gather to listen to optics related presentations over pizza. We are changing to a monthly format this year instead of our previous biweekly format, in order to ensure that there is not too much burden on the volunteer participation of student presenters. We are planning to have 8-9 FP3 meetings over the course of the 2008-2009 academic year, with an expected attendance of 15-20 people at each meeting, due to increased membership in our chapter.
2. **COMSOL workshop:** We are planning to hold a second COMSOL Multiphysics workshop during the spring of 2009. Our first COMSOL workshop (spring of 2008, described above) was a great success and so we would like to have another workshop this year. COMSOL Multiphysics is Finite Element Method software package for numerical modeling of physics and engineering based systems. It is beginning to emerge as a favorite product for modeling nanophotonics systems and is very useful in other optics

related subfields. The Photonics Owls chapter would like to be a leader in introducing this useful product to the larger Rice community. Several advanced users of COMSOL as well as representatives from COMSOL, Inc. will be invited to present tutorials and application-oriented presentations. The Photonic Owls will organize the daylong event and provide refreshments and printed materials.

3. **Invited Speaker:** We are inviting a guest lecturer jointly with the Electrical and Computer Engineering Dept. at Rice. We plan to submit a visiting lecturer grant proposal to SPIE and use the funds to partially pay for the guest lecture.
4. **Joint Social Event:** We are assisting with planning and funding of a joint social event with the Rice University Physics & Astronomy Dept. Graduate Student Association and the Chemistry Dept. Graduate Student Association. The event will be held in mid-November 2008 and include barbeque-style refreshments. We hope that co-hosting such an event will increase the Photonic Owls broader campus visibility.
5. **Chapter T-shirts:** We are planning to make chapter T-shirts. We would like to subsidize half the cost of the shirts for members, and make additional shirts available to non-members at full cost. We have already met and discussed the design of the shirts, and are planning to go forward with ordering the shirts during the 2008-2009 academic year.

## 5. Finances:

1. **Beginning Balance: \$0.00** (Newly Chartered Chapter in Fall 2007 – This is our first activity report)
2. **Funds Raised/Expended:**

### **Funds Raised: Total: \$2300.00**

- SPIE activity grant (2007): **\$500.00**
- Grant from Rice University Electrical & Computer Engineering (ECE) Dept (Fall 2007): **\$300.00**
- Grant from Rice University Graduate Student Association (GSA) (Spring 2008): **\$300.00**
- SPIE activity grant (2008): **\$900.00**
- Grant from Rice University Electrical & Computer Engineering Dept (Fall 2008): **\$300.00**

**Expenditures: Total: \$1058.10**

- Pizza and refreshments (from Papa John's Pizza) for FP3 meetings:  
Total: **\$451.69**
  - 4 meetings funded from 2007 SPIE activity grant: **\$253.93**
  - 3 meetings funded from Spring 2008 GSA grant: **\$197.76**
  
- Pizza and refreshments (from Papa John's Pizza) for June 2008 Officer Election meeting: **\$33.23** (Funded from 2007 SPIE activity grant)
  
- Ordered paper checks for our chapter Chase bank account: **\$37.94** (Funded from 2007 SPIE activity grant)
  
- Refreshments (from Rice University Catering) for April 11<sup>th</sup>, 2008 COMSOL Workshop: **\$133.00** (Funded from 2007 SPIE activity grant)
  
- Printed materials (advertising and printed tutorial materials) for April 11<sup>th</sup>, 2008 COMSOL Workshop: **\$297.50** (Funded from Fall 2007 ECE grant)
  
- Academic year-end: Remaining balance of Spring 2008 GSA and Fall 2007 ECE grants zeroed:
  - Spring 2008 ECE grant end of year remaining balance zeroed: **\$2.50**
  - Fall 2007 GSA grant end of year remaining balance zeroed: **\$102.24**

**3. Ending Balance: \$1241.90**