

Student Chapter Semi-annual Report

June 2007

The University of New Mexico

SPIE Student Chapter

1313 Goddard, SE (MSC04 2710)

Albuquerque, NM 87106

USA

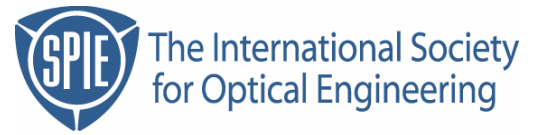
Phone: (505) 272-7800

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Introduction about the chapter:

The SPIE student chapter of New Mexico has been constituted in August 2006 by 12 students and 4 student officers were elected in September 2006.

Our student chapter focus on two main objectives: 1) Through the extended network of Student Chapter to improve student member's academic ability, and open doors for our members to communicate with established professionals workings in the fields of optics, photonics and related disciplines. 2) Outreach to community children, try to inspire our children to become the future Scientists.



2007 officers:

President: Jiayi Shao - jshao@unm.edu

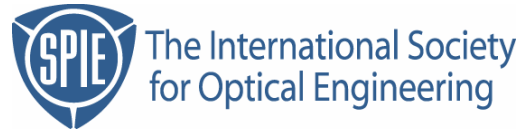
Vice President: Rajeev Shenoi - rshenoi@ece.unm.edu

Secretary: Chenggao Wang - puffwang@unm.edu

Treasurer: Yaxin Yu - yuy@unm.edu

Adviser:

Dr. Sanjay Krishna – skrishna@chtm.unm.edu

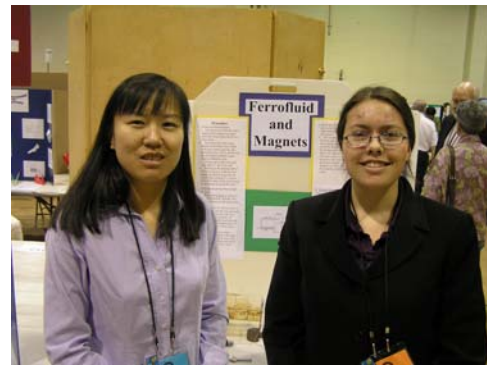


List of current members:

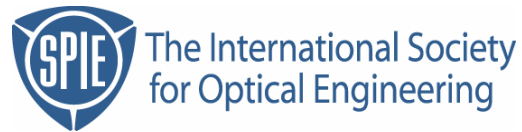
| Name | Expires | E-mail |
|---------------------|------------------|--|
| Ram Attaluri | 31 August 2007 | ramsaran@chtm.unm.edu |
| Ravi Kalyanam | 31 August 2007 | rkalyana@unm.edu |
| Koji Masuda | 31 October 2007 | kmasuda@unm.edu |
| Fred Newman | 31 August 2007 | Fred_Newman@Emcore.com |
| Denis Seletskiy | 31 January 2008 | denisel@unm.edu |
| Elena Plis | 31 August 2007 | alien@chtm.unm.edu |
| David Ramirez | 31 August 2007 | davramir@unm.edu |
| Alex Raub | 29 February 2008 | alex.raub@chtm.unm.edu |
| Jiayi Shao | 31 August 2007 | jshao@unm.edu |
| Rajeev Sheno | 31 August 2007 | rsheno@ece.unm.edu |
| Svjatoslav J Smolev | 31 January 2008 | smolev@chtm.unm.edu |
| David Taliaferro | 29 February 2008 | dtaliafe@unm.edu |
| Guillermo Vera | 31 March 2008 | alonzo@unm.edu |
| Chengao Wang | 31 January 2008 | puffwang@unm.edu |
| Christopher Wilcox | 31 January 2008 | Christopher.Wilcox@kirtland.af.mil |
| Nathan Withers | 31 January 2008 | nwithers@chtm.unm.edu |
| Yaxin Yu | 31 August 2007 | yuy@unm.edu |

Chapter current activities:

1. The 48th annual Central NM Science & Engineering Research Challenge was held at Albuquerque in March 2007. Approximately 500 local students from elementary school to high school participated in the challenge and shared different kinds of awards. Chapter members, Nathan Withers and Jiayi Shao, were accepted as judges at the Senior Engineering Area. It is a good opportunity to reach our future scientists.



2. For the first time in almost 25 years, Albuquerque was host the Intel International Sciences & Engineering Fair, May 13 – 18, 2007. This week-long event is the world's largest pre-college celebration of science and brings together approximately 1,500 high school students from around the country and the world. Students compete for nearly \$4 million in scholarships, tuition grants, internships, and scientific field trips. Our chapter members, Nathan Withers and Jiayi Shao, were volunteers at the main exhibit hall to give language and emotional support to participating international high school students.

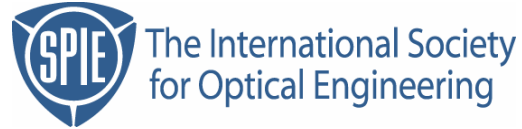


3. Chapter member, Elena Plis, presented the poster "*Carrier Dynamics in Type II InAs/GaSb Strain Layer Superlattice Detectors*", at 5th CINT Users 2007 Workshop, January 2007 (Albuquerque)
4. Chapter member, Nathan Withers, presented the paper "*Small footprint InGaSb/AlGaAsSb multiple-quantum-well light-emitting diodes*" at the SPIE photonics west 2007 hold at San Jose, California in January.
5. Chapter member, Elena Plis, presented the paper "*Type-II InAs/GaSb Strain Layer Superlattice Detectors for Higher Operating Temperatures*" at the Defense and Security Symposium, April 2007 hold at Orlando, FL.
6. Chapter member, Nathan Withers, presented the topic "*Y-Junction-Coupled S-Section InAs/InGaAs/GaAs Quantum-Dot Ring Lasers with High Unidirectionality*" at the CLEO 2007 hold at Baltimore, MD in May.
7. Chapter president, Jiayi Shao, presented the topic "*Shape Engineering of Self-Assembled InAs Quantum Dots for Infrared Detectors*" at the 43rd New Mexico symposium hold at Albuquerque, NM in May 2007.
8. Chapter member, Alex Raub, attended the EIPBN (Electron, Ion, and Photon beam technology and nanofabrication) in Denver from May 29 to June 1, presenting a Poster Title "*Fabrication of 22-nm HP Silicon Lines by Single-Exposure Self-Aligned Spatial-Frequency Doubling*", this will have a paper published in the "*Journal of Vacuum and Science Technology*."

9. There is a Student Chapter pizza party in early of June 2007. The chapter members increase to 17 now. Student officers reported current activities, further activities plan, and financial information. The chapter activities plan for 2007 financial year was discussed and approved.

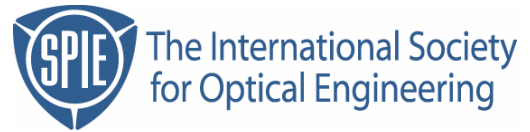


10. The website of SPIE student chapter of UNM was established. The chapter introduction, contact information, current and further activates plan are on it. The website address is: <http://www.unm.edu/~spie/>



Publications:

1. JB Rodriguez, E. Plis, S.J. Lee, H. Kim, G. Bishop, Y.D. Sharma, L.R. Dawson and S. Krishna, *Type-II InAs/GaSb Strain Layer Superlattice Detectors for Higher Operating Temperatures*, to be published in Proceedings of SPIE (2007)
2. Author(s): Nathan J. Withers; Gennady A. Smolyakov; Hongjun Cao; Ron Kaspi; Marek Osinski
Small footprint InGaSb/AlGaAsSb multiple-quantum-well light-emitting diodes (Proceedings Paper) Proceedings Vol. 6468
Physics and Simulation of Optoelectronic Devices XV, Marek Osinski; Fritz Henneberger; Yasuhiko Arakawa, Editors, 646802
3. C. Wang and M. Sheik-Bahae, “*Analysis of a Third-Order Optical Parametric Oscillator in TiO₂*”, SPIE Proceedings: Nonlinear Frequency Generation and Conversion: Materials, Devices, and Applications VI, San Jose, CA (2007)



Further activities:

1. Keep update the student chapter website. Put upcoming event, current and further activates plan on it.
2. We will arrange a visitor lecture around Sep 2007.
3. Sine each year we have several students give presentation on the SPIE conference, we will arrange a SPIE 2007 practice talk.
4. We will re-elect our student chapter officer at Nov 2007.

Financial information:

| Description | Date of transaction | Expenses | Total |
|----------------------|----------------------------|-----------------|--------------|
| Initial Balance | Jan 2007 | | \$401.95 |
| Pizza Party | June 2007 | ~\$109.12 | ~\$292.83 |
| Final Balance | | | ~\$292.83 |