

Vanderbilt University SPIE Student Chapter Annual Report: August 2016

1. Chapter officers

| | Name | SPIE Membership Number | Email |
|-----------------------|---------------|-------------------------------|------------------------------|
| President | Mohit Ganguly | 3624892 | mohit.ganguly@vanderbilt.edu |
| Vice-President | Jeremy Ford | 3638023 | jeremy.b.ford@vanderbilt.edu |
| Treasurer | Oscar Ayala | 3246782 | oscar.d.ayala@vanderbilt.edu |
| Secretary | Wilson Adams | 3729460 | wilson.adams@vanderbilt.edu |

2. List of current student chapter members

Student Members

Wilson Adams
Oscar Ayala
Shunxing Bao
Fuyao Chen
Jeremy Ford
Mohit Ganguly
Daniel Gil
Robert Harrigan
Tiffany Heaster
Yuankai Huo
Kiana Jansen
Maryse Lapierre-Landry
Emmanuel Mannoh
Kevin Miller
John Quan Nguyen
Christine O'Brien
Prasanna Parvathaneni
Isaac Pence
Andrew Plassard
Amy Shah
Joe Sharick
Holly Thomas

Alumni Members

Matthew Keller
Chetan Patil
Edward Welch
David Santoro
Jonathan Cayce
Kristin Poole
Jason Tucker-Schwartz
Sharon Weiss
Alexander Makowski
Alexandra Walsh

3. Details of chapter activities since last report

We had another busy year full of professional development and outreach events. We continued our optics and photonics seminar series and had a great set of speakers (listed below), both external and internal to Vanderbilt. They highlighted their exciting research during formal presentations open to all researchers at Vanderbilt, and also discussed the problems they face in their research. The highlight of the year was hosting **2014 Nobel Prize winner Dr. Eric Betzig** as a part of our seminar series. As a part of hosting visiting speakers, we continued with our informal SPIE student chapter coffee hour sessions where we had an opportunity to ask the speakers questions about their careers, the reasoning behind each speaker's career choices, and sought insights on potential career paths that current graduate students and post-docs in optics and photonics can consider for their careers.

Here is a list of the speakers from our Vanderbilt University Biophotonics Seminar Series

Fall 2015

| Name | Affiliation | Attendees |
|------------------------|-------------------------------------|------------------|
| Anita Mahadevan Jansen | Vanderbilt University | 48 |
| Eric Tkaczyk | Vanderbilt University | 27 |
| Xingde Li | Johns Hopkins University | 32 |
| Vasan Venugopalan | University of California, Irvine | 40 |
| Andrew Dunn | University of Texas, Austin | 35 |
| Madan Jagasia | Vanderbilt University | 37 |
| Mark Canales | Renishaw | 29 |

Spring 2016

| Name | Affiliation | Attendees |
|-------------------------|---------------------------------|------------------|
| Hillel J. Chiel | Case Western Reserve University | 21 |
| Rebecca Richards-Kortum | Rice University | 40 |
| Matt Lang | Vanderbilt University | 31 |
| Eric Grogan | Vanderbilt University | 27 |
| Dylan Burnette | Vanderbilt University | 22 |
| Ji-Xin Cheng | Purdue University | 23 |
| Matt Baker | University of Strathclyde, UK | 17 |
| Axel Strombergsson | Vanderbilt University | 25 |
| Eric Betzig | Janelia Farm Research Campus | 100 |
| Caroline Boudoux | Polytechnique Montreal | 26 |

Apart from the seminar series and the corresponding coffee hour sessions, we continued with our tradition of holding weekly meetings with student members and professors to discuss research and chapter activities. Our group is very active in mentoring high school level and undergraduate students to perform independent research. We have continued to hold weekly student journal clubs where we discuss the latest research topics in the field of optics and photonics, not necessarily within the scope of research. Apart from research, we organize the fortnightly "fluids labs" where the students socialize and share their research ideas in a relaxed atmosphere.

Continuing with the success of last year's event, we organized another 'Optics Day' at the Adventure Science Center in Nashville to mark the International Year of Light in March 2016. The day-long event consisted of booths showing how various light phenomenon (scattering, absorption etc.) are used in biomedical applications. The event was attended by more than 500 people of all ages. In addition, our plans also include continuing the monthly photonics education outreach events at a local high school (Glenclif High School, Nashville). Student groups that are under-represented in the field of optics are targeted and exposed to various outreach activities.



Members of SPIE student chapter at the Adventure Science Center for the Optics Day 2016

This year, we initiated a new professional development opportunity we have called "departing coffee hour". In this initiative, recently graduated students are invited to the campus, and are encouraged to talk to about their graduate school experience, their job search techniques, and general do and don'ts of grad school. We believe that an honest conversation in a relaxed setting will help both early career and mid-career graduate students alike. We have had two such sessions so far and they both have been immensely successful and appreciated. We plan to hold more such sessions as more students graduate and slowly plan to open it up to students outside the group to benefit a larger community within Vanderbilt.

4. Details of planned activities for the future

We plan to continue our excellent seminar series. A tentative list of expected series speakers for the fall of 2016 is as follows:

Speaker

Audrey Bowden

Kristin Myers

Eric Skaar

Paul Stoddart

Jerry Wilmink

Qi Zhang

Affiliation

Stanford University

Columbia University

Vanderbilt University

Swinburne University of Technology,
Australia

Wisewear Inc.

Vanderbilt University

In addition to the seminar series, we will continue with the journal clubs, "fluids labs", "departing coffee hours" and the weekly meetings. We plan to hold another "Optics Day" event at the adventure science center in March 2017, and continue with the outreach events at the local high schools.

One of the initiative that we want to undertake this year is an inclusion of more students in the student chapter. This includes students who are not necessarily members of the Vanderbilt Biophotonics Center but are nonetheless optics and photonics researchers at Vanderbilt. This will help us in enhancing the footprint of the chapter in the university and contribute to the intellectual diversity of the chapter, thereby helping us organize more outreach events and other innovative events. We plan to increase our reach into the undergraduate community in the campus and encourage them to participate in the chapter's activities and get them interested in the chapter's activities. For this purpose, we plan to appoint an undergraduate liaison to coordinate our outreach activities and plan to participate in the various organizational fairs held in the fall semester to attract the new undergraduates in the campus.

5. Financial Information

- a. Beginning Balance - \$364.85
- b. Funds raised and expended (indicate amounts and source/destination)

Funds Raised:

\$2,890 – 2015 SPIE Education Outreach Grant
\$1,000 – Vanderbilt Student Activity Fee Sponsorship
Total: \$3,890.00

Funds Expended:

\$21.99 – Advertising for Biophotonics Center
\$82.75 – Jagasia Seminar
\$1,622.60 – Optics Day Activity Supplies at Science Adventure Center
\$493.89 – Cheng Seminar
\$848.29 – Boudoux Seminar
Total: \$3,069.52

- c. Details of SPIE funding received – We received \$2,890 for a 2015 SPIE Education Outreach Grant for our Chapter's community outreach activities.
- d. Other sources (please specify) – Vanderbilt Student Activity Fee Sponsorship for student organizations on campus. We are actively looking for industrial partners to sponsor our educational and sponsorship events.
- e. Ending balance: **\$1185.33**