

GaTech SPIE Chapter Report

Georgia Institute of Technology November 2018

1. Chapter Officers

President: Lakshmi Raju (lraju@gatech.edu)

Vice-President: Cody Fernandez (cody.fernandez@gatech.edu)

Secretary: Chris Conrey (cconrey3@gatech.edu)

Treasurer: Gareeyasee Saha (gareeyasee@gatech.edu)

Additional Note: Our previous faculty advisor Dr. Gisele Bennett, recently moved to another university. Our new faculty advisor is Dr. Ben Klein (bklein@gatech.edu), the Associate Chair for Graduate Affairs and Professor in the ECE Department at Georgia Tech.

2. Current Members

The chapter currently has 11 members:

Name
Gareeyasee Saha
Brian Anderson
Chris Conrey
Diego Dumani
Tianren Fan
Haider Adnan Khan
Lakshmi Raju
In-Cheol Sun
Eric Tervo
Corey Zheng
Cody Fernandez

3. Chapter Activities

During the 2017-2018 year, we hosted and participated in a few events including chapter recruitment and a planned guest lecture. No SPIE funds were requested during the 2017-2018 year.

3a. Volunteering

On Wednesday May 2, 2018, we partnered with Georgia Tech Research Institute in their STEM@GTRI Outreach initiative. We demonstrated various physics exhibits to the students, particularly a diffraction exhibit highlighting the spectra emitted by different gas sources.

3b. Officer Elections

On April 19, 2017, officer elections were held. The results were:

President: Lakshmi Raju (lraju@gatech.edu)

Vice-President: Cody Fernandez (cody.fernandez@gatech.edu)

Secretary: Chris Conrey (cconrey3@gatech.edu)

There wasn't enough member interest to fill the Treasurer position, so that was postponed until the Fall Welcome Meeting. The new cabinet held its first meeting October 11, 2018. Recruitment for the chapter and last officer position was discussed. The welcome meeting was planned to invite new members to see the opportunities available to them.

3c. Welcome Meeting

On October 23rd, 2018, the chapter hosted its 2018 Welcome Meeting. The cabinet provided pizza and sodas for the event. A 30-minute presentation was made with a question and answer session. Afterwards, interested members got to network with the officers. The final officer position of Treasurer was offered to all interested new members at the meeting, and was filled on October 30th, 2018.

3d. Guest Speaker

We invited Dr. Jon Arenberg. The event was scheduled March 26th, 2017. There were 14 people in attendance.

Dr. Arenberg's Schedule:

GTRI Tour: 10-10:50am

Lecture: 11-12pm

Officer Lunch: 12:15-1pm

Meeting with a Professor: 1:30-3pm

Photo of the Event:



Lecture Title: Designing the James Webb Space Telescope:

Lecture Abstract:

The James Webb Space Telescope (JWST) is being designed and built to see the furthest visible objects in the Universe and is NASA's flagship space astrophysics mission. This lecture will discuss how JWST's mission is being achieved and the current project status. The main science themes for JWST will be introduced and the flow of mission requirements into the hardware design and operations concepts will be explored. Emphasis will be given to how the non-optical aspects, such as thermal, packaging and dynamics of the system contribute to the scientific performance. Examples of solutions to archetypal interdisciplinary JWST design problems will be shown. Finally, the current status of the flight hardware as it proceeds through manufacture, assembly, integration and test.

Lecturer Bio:

Jonathan Arenberg has been with Northrop Grumman Aerospace Systems since 1989 having started with Hughes Aircraft Company. His work experience includes optical, space and laser systems. Dr. Arenberg has worked on such astronomical programs as the Chandra X-ray Observatory, James Webb Space Telescope and helped develop the New Worlds Observer concept for the imaging of extra-solar planets. He has also worked on major high-energy and tactical laser systems, laser component engineering and metrology issues. He is a member of the ISO sub-committee charged with writing standards for laser and electro-optic systems and components, SPIE, American Astronomical Society and AIAA. Dr. Arenberg holds a BS in physics and an MS and PhD in engineering, all from the University of

California, Los Angeles. He is the author of over 100 conference presentations and publications, and holds 11 U.S. Patents in a wide variety of areas of technology with US and foreign patents pending.

4. Planned Activities

4a. Invited Guest Lecture

In the spring, we will be inviting a guest speaker to campus. We will coordinate with multiple departments on campus to increase attendance for the event.

4b. Volunteering Event with The Laserfest

We plan to volunteer with the Laserfest that is hosted by GTRI. The details haven't been finalized yet.

4c. Officer Elections

Near the end of the year, we plan to hold officer elections.

5. Financial Report

Starting Balance (Nov. 1, 2017): **\$791.19**

Expenses:

Refreshments for Speaker event (March 26, 2018): \$36.09

Meal for speaker and SPIE members (March 28, 2018): \$46.83

Refreshments for Welcome meeting (October 23, 2018): \$26.14

Current Balance (Oct. 31, 2018): **\$682.13**

Currently, we expect expenses for the following events:

- Spring 2018 – Guest Lecturer: (Food, etc. for event)
- Fall 2018 – Welcome Meeting (Food, etc. for event)

We did not request funding in the 2017-2018 year.