

Rose-Hulman Institute of Technology
SPIE Student Chapter
Annual Report 2016-2017



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I. Membership	2
II. Official Meetings	3
III. Completed Activities	4
IV. Future Activities	7
V. Financial Report	8

I. Membership

Position	Member Name	Contact	Member #
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II. Official Meetings

Rose-Hulman is on a ten week, four quarter schedule, summer being the fourth quarter. Due to conflicting schedules with classes, the chapter planned to have three to five meetings per quarter. Each member was held accountable to attend at least two during a term. This allowed the meetings to be brief as attendance was spread out through the five meetings in each quarter. Meetings usually lasted 30 minutes to an hour and varied between discussion of upcoming events and varied between planning upcoming events and . Our goal as a chapter is to spread awareness of optics as a field of study as well as providing professional development opportunities to our members. In order to accomplish this, at our meetings we created demonstrations to display at STEM fairs and hopefully in the future, at local schools. These activities will be described in the “Completed Activities” section of the report.

Several meetings provided snacks or worked to create familiarity or friendship between members. Movie nights and pizza events were organized as opportunities for members from different departments or in different academic years to get to know each other. Other meetings provided homework or resume advice for underclass members.

Recruiting new members

In order to recruit new members to SPIE, the current members have been very vocal to fellow physics department students who are not part of SPIE. Additionally physics and optics faculty members advertise the society to their students as a resource. Rose-Hulman organizes an activities fair in the fall of each year at which club members advertise to new or existing students; SPIE officers and volunteers attend to display models and demonstrations built the previous years. We hope that these plans can help SPIE grow on campus. We know that getting a strong, young team will help improve the presence of SPIE on campus.

III. Completed Activities

Community Outreach

Blue Key STEM Fair

SPIE members volunteered to represent SPIE among other Rose-Hulman societies in the annual Blue Key event on campus. Blue Key is an honor society on campus which regularly organizes the event in which local elementary students are invited to campus to view demonstrations of science and technology. Participation in this supports our chapter goal of making optics more visible both on campus and as a possible career others could pursue.

Community Outreach

Bullitt East High School (10/8/16)

Chapter secretary Kelly Farner was able to reach out to public schools near her home town in an effort to spread more awareness of optics as a field of study. Using the SPIE LightBlox kit provided to the chapter, she visited a small local school with a developing engineering program to demonstrate optical principles along with their applications and use by engineers.



Demonstrating the effects of dispersion using a LightBlox prism

Speaker

Mark Neice on Directed Energy Weapons (11/7/16)

In his capacity as an executive of the Directed Energy Professional Society, Mark Neice was invited by the physics department to speak to students on the use of laser energy weapons. Highlights of the talk included not only the physics of directed energy weapons but also their realities of working with lasers and the benefits over traditional weapons

Speaker

Greg Gbur on How Not To Be Seen: History and Science of Invisibility (1/18/17)

Dr. Gbur was invited to speak through the SPIE visiting lecturer series. His talk on the theories and uses of cloaking and invisibility, advertised by SPIE members, was one of our most popular lectures through our chapter, attracting attendees from outside the physics department. Afterwards, approximately ten chapter members were able to join Dr. Gbur and our department head Dr. Duree for a dinner in which they were able to discuss his experience and work in a more personal setting.



Dr. Gbur's presentation was highly popular, with all seats filled and more attendees in standing room only

Community Outreach and Invisibility Lens Demo SPIE Represented at Terre Haute Children's Museum

In coordination with the Rose-Hulman Homework Hotline, the SPIE student chapter visited the local children's museum to promote STEM. Chapter member Travis Koontz demoed the invisibility lens array that Rose-Hulman's SPIE Chapter made this year, alongside the infinity mirror and wave motion demos from previous years.



The invisibility lens array (left) and demo table (right) at the Terre Haute Children's Museum

IV. Future Activities

There are an additional two months remaining in the Rose-Hulman academic year during which we plan to provide continued resources and activities to our members.

The spring career fair is traditionally a good resource for underclassmen seeking internships, so we hope to again be able to provide resume or interview advice to newer members along with experienced opinions on available companies.

Additionally, an optics graduate from Rose-Hulman lives and works in the Indiana area and has agreed to visit the chapter to speak on his experience in industry. We feel this will be a valuable insight for members on their options after graduation and how a Rose-Hulman and optical engineering education prepares students for work.

Following the success of the Blue Key STEM fair last year, we are looking forward to participating again at the end of this April. We now have more demonstrations to include, and since these were constructed by the chapter, we will be able to give in-depth explanations. Furthermore, with a much larger chapter this year, we hope to include several members in the event.

In the autumn of the academic year at Rose-Hulman, all student societies are invited to participate in the Day of Service. This aids in community outreach as clubs are matched with service projects around the city of Terre Haute. Although we have not had enough interest from members to participate yet, we hope this will be an option moving forward as the chapter becomes a more established presence on campus.

Finally, chapter funding was spent to purchase a Khet laser chess game as a source of entertainment for chapter members. The game uses mirrors and a low-power laser in a chess-like game of strategy, in which players place their mirrors to protect their pieces and capture those of their opponents. Once our members have established familiarity with the game, we hope to sponsor a tournament open to the entire student body.

V. Financial Report

Chapter funding has been used primarily on meetings and speakers. We chose to use regular funding for Dr. Gbur's visit and save the lecturer grant for the fall term of 2017. The remaining budget is expected to be spread between projects and meeting entertainment over the remain 6 months of school terms in 2017.

Date	Description	Debit	Credit	Remaining Balance
9/1/2016	Carried over from last year			\$1,355.42
9/23/2016	Pizza for meeting	(\$119.66)		\$1,235.76
10/7/2016	Pizza for meeting	(\$69.29)		\$1,166.47
1/5/2017	SPIE Funding		\$700	\$1,866.47
1/19/2017	SPIE Speaker Dinner	(\$257.44)		\$1,609.03
1/25/2017	Speaker Expenses:			
	Car Rental	(\$124.20)		\$1,484.83
	Airline	(\$136.10)		\$1,348.73
	Hotel	(\$195.20)		\$1,153.53
2/17/2017	Laser Khet Board	(\$36.87)		\$1,116.66