



2011-12 Society of Physics Students **ANNUAL CHAPTER REPORT**

Why submit a chapter report?

Chapters should consider this report as the prime opportunity to showcase the activities of the chapter. Taking time to reflect on the year's events and prepare a report is important for the health, success and growth of the chapter. By looking back on your year, you will remember things to celebrate and keep for next year, and also areas for improvement. Also, your report is **very important** for the records of the National SPS office in the development of new programs. So, please take the time to tell us all about SPS (and Sigma Pi Sigma) at your school. Your chapter activities may be featured in one of the SPS publications, or on our website:

<http://www.spsnational.org/>

NOTES:

- **Your submitted report is the basis for which the Outstanding Chapter Awards are granted and only those chapters which submit reports will be considered.** To get an idea about the criteria used for this selection, please see the Chapter Report Rubric.
- **Only those chapters that submit annual reports are eligible to have a nomination for Outstanding Chapter advisor be considered.**

DEADLINE FOR CHAPTER REPORT SUBMISSION: June 15, 2012

WIKI SITE FOR REPORT SUBMISSION:

<http://spschapterreports.pbworks.com/>

For record keeping, Chapter updates are also required, and can be done online here:

<http://www.aip.org/spsinfo/report/entry.jsp>

INSTRUCTIONS FOR SPS CHAPTER REPORT SUBMISSION

- Use this template as a guide for preparing your report. Several versions of the template are available (MSWord 2003, MSWord 2007 and PDF)
- Supporting materials (for example: photos, programs, news clippings, etc.) should be copied or inserted directly into the report and captioned. You may be contacted by the SPS National Office for higher resolution photos should they be needed for publication.
- Be sure to **keep a copy of your report locally** (not just on the WIKI).
- Once the report is complete **please save the report in pdf format (preferred)**. Most word processors will do this. Saving the file as a pdf insures that reviewers will see the same formatting as the author intended. If saving as a pdf is **not possible**, *you may upload in word format, but other formats may result in a report that does not appear as intended.*
- ***Upload your report to the WIKI—and look at the exciting reports from chapters all across the nation! This is a great way to get ideas for your chapter efforts toward professional development, outreach/service and even fundraising.***

Chapter Information

SPS ZONE	5
<i>(for help see the Zone Map Here: http://www.spsnational.org/governance/handbook/websites.htm)</i>	
SPS Chapter Number	1486
School Name	Davidson College
Chapter Advisor	Mario Belloni
Email	mabelloni@davidson.edu

Part 1: Our chapter's interactions with our campus community

- Our chapter participated in the Davidson College Activities Fair to recruit new members and gain campus recognition. The event was successful, and as a result our e-mail mailing list quadrupled and we were able to maintain and further the interest we have had in previous years.
- Our chapter invited all of the students in the introductory and intermediate physics classes to join us for our first meeting and give us input on what they would like to see from our organization. We held our first meeting on August 31st and served pizza to encourage attendance. We held a number of other meetings (5-6) throughout the year in which we were able plan and carry out a number of events.
- During the first two weeks of September we held a series of afternoon seminars for six physics students to present what they did over the summer. They presented on topics ranging from structural engineering to the physical characteristics of spider silk to quantum mechanics. The seminars provided a great way for us to catch up on what people worked on over the summer and learn a lot in the process.
- On numerous occasions throughout the year, our chapter had lunch with the Davidson professors. It provided a great opportunity for people curious about SPS to stop by. It gave us a good way to get to know our professors and a chance to talk about things we may have skimmed over in class. In addition to going to lunch with our professors, we also had lunch with each of the speakers who gave seminars during the year.
- Our chapter hosted a stargazing event as part of the Environmental Action Coalition's "Do It in the Dark" week of environmentally focused events. We set up four telescopes to look at Jupiter, the Andromeda Galaxy, the Great Hercules Cluster, the Ring Nebula, and other star clusters and galaxies. We also set up a telescope similar to what Galileo had to simulate what he saw.
- Our SPS Chapter is also now on Facebook; the page is still growing and hopefully will be a useful tool for our chapter in the future.
- We held our Annual Physics Picnic at Dr. Christian's house. It was a great time and we had about 20 people there. Before the food was ready a number of people played a game of basketball with our professors' children while the rest of us tossed a Frisbee and played the bolo game constructed by one of our professors. We had a lot of fun experimenting with how to best toss the bolos to land them on the bars of the goals. After it was ready, we enjoyed conversing over barbeque sandwiches and a number of delicious sides.

Davidson College - Chapter 1486 - Annual Chapter Report for the year 2011-2012



Before heading to lunch with the department, the 2011-2012 Davidson College Society of Physics Students took a chapter photo. Evan (in the center) holds the Outstanding Chapter Award awarded to our chapter for the previous year.

Part 2: Our Chapter's interactions with the professional physics community outside the college/university

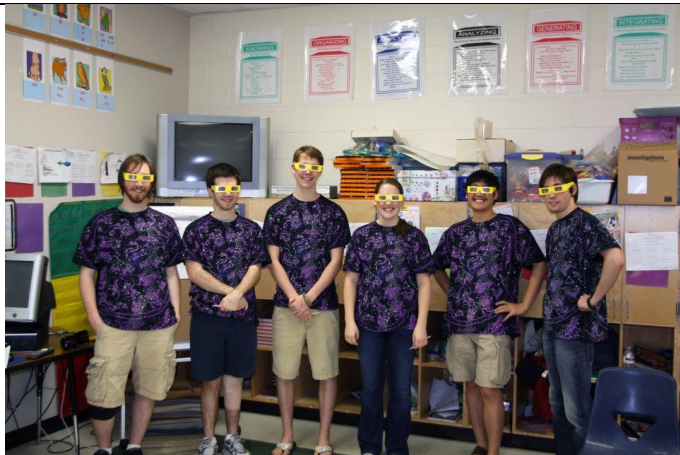
- Dr. Ben Sargent from the Space Telescope Science Institute and the Davidson College physics class of 2002 presented a seminar on "Dusty Origins: The Beginning of Stardust."
- As part of the Spring Zone 5 Meeting at Wake Forest, our chapter attended the talk given by Nobel Laureate Dr. William Phillips on "Time, Einstein, and the Coolest Stuff in the Universe." The talk was themed around laser cooling, which was neat to learn about, and the liquid nitrogen demonstrations were very entertaining.
- Dr. Belloni gave a presentation at the joint NCS-AAPT/SPS Meeting on ComPADRE and the Nucleus.
- Our SPS President, Evan Welchman, published a paper with Professor Will Hodge on Berry's Phase in the European Journal of Physics B.
- We maintain a web page on the Nucleus:
<http://www.compadre.org/student/chapters/Chapter.cfm?ID=755>

Part 3: Our chapter's interactions with SPS National and participation in SPS National Programs.

- We submitted a proposal for the Marsh White Award.
- Leah Ruckle from our chapter was Associate Zone Councilor and attended the SPS Council Meeting.
- Jessie Barrick from our chapter ran for the position of Zone 5 Associate Zone Councilor and was elected to the position.
- We participated in the SPS elections.

Part 4: Our chapter's interaction with the off-campus public community

- Our chapter led the stargazing at Fischer Farms as part of the Davidson Lands Conservancy "World of Wonder" event. We set up 5 telescopes and observed Jupiter, the Andromeda Galaxy (M31), the Great Hercules Cluster (M13), the Ring Nebula (M57) and a number of other galaxies and star clusters. We also had one telescope set up in a similar fashion to that of Galileo. There were over a hundred other stargazers from the surrounding community at the event and, in addition to manning telescopes, we got to tour the farm and see what everyone else was observing.
- On Halloween our chapter hosted a Physics Haunted Hall in one of the Davidson College dormitory halls for the local Davidson kids. We had a number of spooky physics demonstrations including a Jacob's ladder, a Wimshurst machine, a Van de Graaff generator, a smoke ring cannon, and Boo Bubbles. We gave out candy for several hours while the kids came through, and we explained the physics to anyone curious enough to ask. Surprisingly, we had several Davidson students stop by to ask us about our demonstrations. Overall, the Boo Bubbles (bubbles blown and filled with dry ice fog) were the biggest hit and almost everyone who came through stopped to check them out. Pictures of the event are shown below.
- Our chapter participated in the Davidson College MOSAIC event at JV Washam Elementary School. We led two classroom groups and demonstrated the properties of light and sound to over 150 3rd-5th graders. We gave away diffraction grating glasses (rainbow glasses) and followed the SOCKs outreach activity on light. For sound we created waves on a string and had participants make straw kazoos.
- In late April we hosted a stargazing event at Davidson for the local middle school children. We had four telescopes out but due to cloudy conditions we were only able to observe Venus, Mars, Saturn, and the Moon. The students enjoyed it though.



At the MOSAIC event, our chapter volunteers wore our Davidson SPS constellation shirts. In the picture they are also wearing the rainbow glasses that were used in the demonstrations.

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Haunted Physics Hall: Matthew is supervising the Wimshurst machine and the Jacob's ladder to make sure all of the kids stay safe on their way through our haunted hall.



Haunted Physics Hall: Phillip and Dreu fire the smoke ring cannon as Ginny, who constructed it, ducks for cover. We had a blast with the cannon and everyone got to have a turn making smoke rings like a pro.



Haunted Physics Hall: Evan channeling his inner mad scientist

Part 5: Our chapter's other efforts to further the SPS Purpose and Mission *(This category will be double weighted)*

SPS MISSION: "The SPS exists to help students transform themselves into contributing members of the professional community. Course work develops only one range of skills. Other skills needed to flourish professionally include effective communication and personal interactions, leadership experience, establishing a personal network of contacts, presenting scholarly work in professional meetings and journals, and outreach services to the campus and local communities."

- Davidson provides an academically rigorous environment with a challenging curriculum. Our chapter provides Davidson physics students a way to explore their interest in physics without the pressure of the Davidson academic environment.
- Our chapter participates in numerous outreach events to the community outside of Davidson College (including several stargazing events, our Halloween event, and the MOSAIC event) each year to try to connect with our community and spread some of the wonders we study in the Davidson physics department. These events are our way of giving back to our community in an attempt to inspire the next generation of scientists.
- Our SPS President, Evan Welchman, published a paper with Professor Will Hodge on Berry's Phase in the European Journal of Physics B.
- It is very easy to gain valuable experience presenting and defending research by hosting one of our numerous seminars throughout the year. Also, these seminars help build the list of contacts available for our members and provide us with experience understanding fellow scientists' work that is outside our immediate field of expertise. Similarly, our numerous outreach events expose us to all sorts of people which helps build our interpersonal relationship skills.
- We are continuing to work towards the goal of recruiting new members outside the Davidson physics department. By working with other on-campus organizations like the Environmental Action Coalition on events like "Do it in the dark" we have been slowly gaining more widespread participation from students in disciplines other than physics.



Evan and some of our other members reach out through our [Boo Bubbles](#) demonstration to teach several local Davidson kids about science. The kids seemed to really enjoy watching the bubbles pop and see all of the fog fall to the floor. It is a great demonstration of density and the buoyant force.

Davidson College - Chapter 1486 - Annual Chapter Report for the year 2011-2012 Sigma Pi Sigma Activity Report (for those chapters / schools which also have a Sigma Pi Sigma Chapter)

- On May 1st we held our Sigma Pi Sigma induction ceremony led by Dr. Laurence Cain. We inducted several new members as well as Dr. Belloni, our chapter advisor, into the Davidson chapter of Sigma Pi Sigma.

Please Return Completed Report by June 15, 2012

Submit report on the SPS CHAPTER REPORTS WIKI PAGE:

<http://spschapterreports.pbworks.com/w/page/38237362/SPS-Chapter-Reports-Wiki>



Your report will be stored in on the SPS Chapter Report Wiki.

If there are any questions, please contact the SPS National Office Staff

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