



SPS NATIONAL COUNCIL

Effective Practices

A Highlight of 2016-2017 Chapter Reports

Listed below is a compilation of effective practices implemented by other SPS chapters. These are taken from the 2016-2017 chapter reports and are meant to offer ideas for those looking to improve their SPS chapter activities.

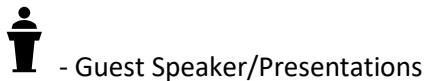
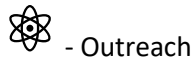
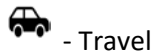




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The information in this handout is a summary of best practices obtained from the chapter reports that were submitted to the SPS National Office for the 2016-2017 academic year. Please note there are many other great ideas in the chapter reports that were submitted this year; this handout contains only a small amount of the many great practices reported to the national counsel. If you would like access to other chapter reports, have your advisor email SPS-Programs@aip.org.

Symbol Key:





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Chapter Interactions with Professional Physics Community

The practices that are included in this section are examples of how to engage members in the professional world of physics. Practices in this section help students explore their options for after graduation through exposure to alumni from the department, research and field experience, and other professional physics-related groups. The practices highlighted in this section go above and beyond presenting research, they equip students for the professional physics world.

➤ **Zone 3 – University of the Sciences**

CUWiP Five students from the University of the Sciences went to the Conference for Undergraduate Women in Physics, CUWiP. The students attended talks by female physicists, and workshops on topics like applying for graduate school, recognizing and beating imposter syndrome, and careers in physics. The students that attended were also able to connect with other women in the field of physics.

➤ **Zone 4 – Towson University**

Tours Students organized tours of the Goddard Space Flight Center, Greenbank National Radio Observatory grounds, and the National Institute of Standards and Technology.

➤ **Zone 7 - The College of Wooster**

University Physics Competition The physics department sent two teams to the University Physics Competition in November of 2016. Here, the two teams competed against schools from all over the world by using physics to analyze real-world scenarios.

➤ **Zone 12 – Southwestern Oklahoma University**

Alumni Newsletter The SPS chapter at Southwestern Oklahoma maintains an annual newsletter that they send out to over 500 physics alumni and partners of the program.

➤ **Zone 15 - Idaho State University**

Laboratory Tours In the past year members had the chance to tour three different laboratories, including a private tour of EBR-1, the world's first nuclear power plant.

➤ **Zone 16 - New Mexico State University**

Guest Speakers Professors from NMSU attend SPS meetings to actively discuss their research with members.

➤ **Zone 17 - University of Alaska at Fairbanks**

Physics Journal Club SPS members have created a lecture series where professors and students can present their research, and attendees can learn about some of the research being conducted at the school.

➤ **Zone 4 – University of Virginia**

Community Presentations This SPS chapter invited noble laureate, Adam Reiss to give a talk at a local community college. The talk was a huge success, and the SPS members had the chance to meet Reiss before the event.



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Chapter Interactions with Campus Community

The practices chosen for this section provide innovative ways to engage their college/university with the SPS chapter. Practices in this section feature things like outreach events, chapter meeting ideas, and other events that chapters have done to bring members together.

➤ **Zone 1 - Gordon College** 

Department Dinners SPS officers prepare food for students and faculty to enjoy every other week. During these dinners, current projects and upcoming events are discussed.

➤ **Zone 3 - Lycoming College** 

Science Slideshow Students at Lycoming College have created and maintained a slideshow highlighting past SPS events. This slideshow is constantly being played in the physics building, the Lynn Science Center, at their school.

➤ **Zone 9 - Illinois Institute of Technology** 

Promo Video A video was filmed to showcase the benefits of joining the chapter. It was sent out to students accepted into the physics program and shown in introductory physics classes.

➤ **Zone 9 - Marquette University** 

Open Lab Night SPS students hosted lab tours for underclassmen to help better their understanding of the research done on campus. Professors were invited to explain their work.

➤ **Zone 12 - Southwestern Oklahoma University** 

Physics Banquet In the spring the SPS members hold a banquet at the Thomas Stafford Air and Space Museum. Scholarships and awards are given out to students, mostly funded by alumni. The event also gives members a chance to network with alumni.

➤ **Zone 14 - University of Colorado Denver** 

Astronomy Camping Trip Students traveled to a local National Forest with university telescopes to observe the sky without light pollution. They were also able to hike and have philosophical physics discussions.

➤ **Zone 15 - Idaho State University** 

Connecting with Other Clubs The SPS chapter opened up its events to the entirety of their College of Science and Engineering. They intend to collaborate with the Chemistry Club on a joint fundraiser.

➤ **Zone 18 - University of California Merced** 

Finals Study Session The chapter held a study session for students in lower level physics courses with free pizza and tutoring.



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Chapter Interactions with the Off-Campus Community

This section is a collection of the things that chapters have done to engage the public through physics and other scientific events. These practices involve outreach events and other forms of “scientific citizenship” like science demos, volunteering, and interactions with local schools.

➤ **Zone 1 – Massachusetts Institute of Technology**

‘Fall/Spring into Science’ SPS engaged in public outreach by presenting at the MIT Museum through their ‘Fall Into Science’ and ‘Spring Into Science’ Saturday exhibit/demo series. SPS ran several physics demos at the museum, open to members of the general public, and spoke to visitors about the underlying physics of the demos

➤ **Zone 3 – Haverford College**

“Physics with Friends” SPS students organized a lecture series for students to present research in an informal setting. Each presentation was around fifteen minutes and was aimed at a general audience of physics students, non-physics students, and outside community members. Attendees were able to give written feedback to presenters.

➤ **Zone 4 - Randolph College**

SPS Science Festival SPS members begin planning their Science Festival in the beginning of the year, building camaraderie among members. Members gain experience writing grants, interacting with alumni, and talking with local businesses as a way to fundraise for the event. The festival itself is a weekend of science-based events that are open to the public and run entirely by SPS volunteers.

➤ **Zone 6 - Augusta University**

LUNA Community members are invited to an astronomy night where a guest speaker talks about a chosen topic in astrophysics and people are given the opportunity to sky gaze with telescopes.

➤ **Zone 8 - Austin Peay State University**

Fundraising \$1,200 Austin Peay State University partnered with a local distillery to create a “Total Eclipse Moonshine,” raising a total of \$1,200 for their chapter. They also did a series of outreach events at the distillery to promote the eclipse.

➤ **Zone 12 – William Jewell College**

Guatemala Trip Students traveled with three physics professors to Guatemala to work with Xela Aid to teach the community about sustainable practices.

➤ **Zone 18 - California State University, Chico**

Annual Children’s Event Continuing a 29-year-old tradition, the chapter invited students from local elementary schools to watch pumpkins be dropped from the upper floors of a building on campus. Members dressed up as historical pioneers of the theory of gravity and explained why the pumpkins fall.



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Efforts of the Chapter to Further SPS Purpose and Mission

Practices in this section include the meaningful and unique events and programs that chapters offer that perpetuate the SPS purpose and Mission. These practices feature mentorship programs, tutoring sessions, and workshops for research presentations.

➤ Zone 1 - Harvard University

Mentorship Program At the beginning of each semester, upperclassmen mentors are paired with underclassmen mentees. Mentors share advice on courses and how to get involved with research.

➤ Zone 2 – Adelphi University

Strategies to Surviving Undergraduate in Physics Panel This panel was targeted towards the undergraduate physics students at Adelphi University. A diverse representation of speakers were chosen to speak about topics, ranging from requisites for courses to personal experiences. The panel also introduced students to alternative educational and career routes.

➤ Zone 6 - Florida International University

Community of Learners Members offer free physics, math, and programming tutoring twice a week. Seniors are able to help the underclassmen with difficult classes and in turn this helps the seniors review for their physics GREs.

➤ Zone 7 - Wayne State University

Undergraduate Research Convention Wayne State hosted a conference where students from University of Windsor, University of Michigan, and Michigan State University came to present their research and discuss potential opportunities with other SPS members.

➤ Zone 8 DePauw University

Curious about the world around you? The SPS chapter at DePauw University is working to expand their chapter beyond just physics students. They are encouraging students at the university who are “curious about the world around them” to join the chapter.

➤ Zone 8 - Ohio University

Physics Undergraduate Research Conference The chapter organizes a small conference, allowing its members to have the opportunity to present their research and get feedback from professors.

➤ Zone 11 – Ausburg College

Mailing List This chapter manages a mailing list that keeps members informed about research, internship, and employment opportunities.

➤ Zone 16 - Arizona State University

Coding Workshop The ASU chapter hosted three different coding workshops where students spent two hours learning a different coding language. A graduate student from the physics department lead these workshops, the languages that were taught were Git, LaTeX, and Python.



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Efforts of the Chapter to Strive for Diversity and Inclusion

These practices highlight the efforts to create and foster a diverse and inclusive environment within the physics programs. These practices focus on creating opportunities for underrepresented members of the physics community to talk about challenges they face and ways to overcome these challenges.

➤ **Zone 2 - St. John's University**

Women in Science Society SPS members collaborated with the Women in Science Society to do a ray tracing lab at an all girls middle school. For some of the students, this was their first physics experience.

➤ **Zone 5 - North Carolina State University**

WIP BYO Lunch & Discussion Female physicists from all levels at the university convene in an informal setting to learn from one another and discuss their experiences.

➤ **Zone 5 - Davidson College**

Guest Speaker Dr. Naomi Halas was invited to speak to the department and also gave a talk to a group of women about being a woman in physics.

➤ **Zone 6 - Morehouse College**

Outreach Demos SPS Students turned their labs into interactive rooms with experiments and demonstrations for a group of African-American youth.

➤ **Zone 8 - University of Louisville**

Collaboration with Women Groups This SPS chapter works closely with their school's Society of Women in Physics and Astronomy to coordinate discussions and social nights for underrepresented members of the physics community.

➤ **Zone 10 - Dillard University**

DU-WISHES Members lead a 2 week program for high school students. The goal of this program is to recruit female students to study physics.

➤ **Zone 12 – Washington University in St. Louis**

Women in Physics at Washington University The Society of Physics Students have played an active role in raising awareness about representation of women in the physics department of Washington University.

➤ **Zone 13 - University of Texas at Dallas**

Eureka Days The chapter partnered with the University's School of Natural Science and Mathematics to host a weeklong event for middle school girls from underrepresented groups to come to campus and learn about science and math. It featured demonstrations and interactive events.



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Reminder: Chapter reports are due June 15th

Visit <https://www.spsnational.org/resources/chapters/annual-chapter-reports> for more information on submitting chapter reports.

View chapter report template here, <https://aipspssite-ym.com/resource/resmgr/docs/sps-chapter-report-template.docx>.

View the chapter report rubric and guidelines at :
<https://www.spsnational.org/sites/default/files/files/governance/chapters/sps-chapter-report-rubric-2016.pdf>.

Visit <https://www.spsnational.org/> and <http://www.sigmapisigma.org/sigmapisigma> for information and updates.

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SOCIETY OF PHYSICS STUDENTS

An organization of the American Institute of Physics

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