



# Stellar Chapter Evolution

A Guide to Forming, Expanding, and  
Sustaining a Bright and Healthy  
SPS Chapter

For more information visit [spsnational.org](http://spsnational.org)

Or contact [sps-programs@aip.org](mailto:sps-programs@aip.org)





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## Overview

PhysCon, Pi a Professor, Fabric of the Universe, Bad Physics Movie Nights - these are a few favorite chapter activities. Do these sound like fun to you? Whether you are starting an SPS chapter, struggling to come back from inactivity, or just looking for new ways to interact within your department - this guide will help bring life into your SPS chapter. Stellar Chapter Evolution covers everything you need to know to be a healthy SPS chapter, including: the basics of SPS; how to connect locally, regionally, and nationally; how to build fellowship; and how to conduct outreach and fundraise for your chapter.

This guide was produced by the 2017-18 National Council Committee on Chapter Health & Outreach. Many thanks to the hard work of the following committee members and their commitment to SPS and its mission.

### **Dr. Randy Booker**

Zone Councilor - Zone 5

University of North Carolina, Asheville

### **Vanessa Chambers, Committee Chair**

Associate Zone Councilor - Zone 15

Utah State University

### **Gabrielle Feeny**

Associate Zone Councilor - Zone 7

Kettering University A-Section

### **Elijah Meyer**

Associate Zone Councilor - Zone 7

University of Oregon

### **Dr. Cecilia Vogel**

Zone Councilor - Zone 9

Augustana College



## Mission Statement

SPS is a chapter based society that exists to help students transform themselves into contributing members of the professional community. Traditional coursework 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, research experiences, and outreach services to the campus and local communities. Through its members, advisers, chapters, and leadership, SPS enables national initiatives and local impacts within the community. SPS supports students, advisers, and departments to improve the overall community.

Locally, regionally, nationally, and internationally, SPS offers the opportunity for these important enrichments to the student's experience.



## Your Connection to SPS

Most physics clubs hold regular meetings, events on campus, and outreach events - but to elevate to an outstanding SPS Chapter, it is important to build a relationship with the national organization and participate in SPS National Programs.

**Note: Contact us!** We are always willing and excited to personally assist chapters. There are so many resources available that it can be difficult for a chapter to know where to start! Staff is available to conference into meetings and in some situations may be able to visit your school to host an info seminar or workshop of your choice.

### Get Involved in the SPS National Council

The SPS National Council is the main governing body for the Society of Physics Students and Sigma Pi Sigma. The Council is composed of an elected faculty zone councilor (ZC) and an elected student associate zone councilor (AZC) from each of the 18 zones, and an elected SPS president and Sigma Pi Sigma president. Their main role is to help guide chapters within their zone and to assist the National Office with implementation of programs and resources.

Here are a few ways to get involved with the National Council:

**Reach Out to Your Representatives** - Your AZC and ZC are the best resource available to you. They can help give advice and connect you with other local chapters and resources that can help your chapter grow. To find out which zone your chapter is in, [click here](#). To find out who your representatives are, [click here](#).

**Vote in the SPS Elections** - Exercise your right to VOTE! Elections are held in April each year. Voting for council members is an important way in ensuring your zone and chapter are represented in the best way possible. Information regarding elections can be found [here](#).

**Run for the National Council** - If you would like to serve your zone and represent your chapter, run for the National Council.

Students can run for the AZC position for a term of 1 year with opportunity for re-election. The role allows for travel to Washington, DC to attend the National Council meeting and help shape the future of SPS and its programs through committee work. The AZC role is important because it ensures the student voice is heard, helps gain professional networking skills, and builds friendships that last a lifetime.

Advisors can run for the ZC position for a term of 3 years with the opportunity for re-election. This role also allows travel to Washington, DC to attend the National Council meeting and help



shape the future of SPS and its programs. If you are an advisor who has already been in the ZC role for two terms, consider the positions of SPS or Sigma Pi Sigma President, role descriptions can be found, [here](#).

Nominations for both the AZC and ZC positions are due annually by March 15. To be nominated, you must submit a one-paragraph biography statement and a one-paragraph statement of what you hope to accomplish.

## Section II: Get involved with Local Chapters

As noted in the last section, the best way to get in contact with other chapters and know what events are happening in your zone is through your AZC and ZC.

**Partnering with a local chapter for an annual event** (e.g. hiking trip, community clean-up day, or SPS picnic) will help strengthen your sense of community and help build your professional network while having fun!

**Attend or host a Zone Meeting** - You and your chapter should make an effort to attend your zone meeting every year!

Zone meetings are a fun and effective way for SPS members to meet other students, present their research, and interact with practicing scientists. Every SPS zone meeting takes on a unique style and culture, shaped by the traditions of the schools in the region. The host for each year's zone meeting is determined by the AZC and ZC, so if you want your chapter to host reach out early.

### What to Expect or Plan at Your Zone Meeting

- Tours of the Physics department
- Poster sessions to present undergraduate research and outreach
- Trivia, physics jeopardy, board games, video game competition
- Countdown to PhysCon! Discuss fundraising best practices
- Career and graduate school workshops
- Tours of local labs, observatories, museums
- Launching bottle rockets
- Guest speakers (check out our Speaker's Bureau)
- Egg drop competitions
- Bridge building competitions

**Note:** There is funding available for chapters who are hosting a zone meeting. [Click here for more information.](#)

More ways to get involved with local chapters include:

- Following your zone's facebook group or local chapter groups
- Hold bi-monthly teleconferences to share best practices



- Coordinate a zone leadership meeting to discuss SPS resources, overcoming local obstacles, and upcoming events

## Get involved with National Organizations

Your SPS National membership offers two FREE memberships to other professional organizations. Attending the meetings of these organizations helps you network with others in the field, learn about potential career paths, and even gives you presentation opportunities.

A few national meetings to consider attending as an undergrad are:

- SPS & Sigma Pi Sigma's [PhysCon!](#)
- American Physical Society ([APS](#)) March, April or Divisional Meetings
- American Association of Physics Teachers ([AAPT](#)) Summer or Winter Meetings
- American Astronomical Society ([AAS](#)) Annual Meetings
- The Optical Society ([OSA](#)) Annual Meeting

For a full list of member society meetings, [click here](#).

## Meetings Highlighting and Supporting Diversity & Inclusion in Physics

SPS also offers free membership with the National Society of Black Physicists (NSBP) and/or the National Society of Hispanic Physicists (NSHP).

Some meetings to consider attending are:

- [NSBP](#) Annual Meeting
- [NSHP](#) Annual Meeting
- Conference for Undergraduate Women in Physics ([CUWiP](#))
- Conference for Undergraduate Underrepresented Minorities in Physics (CU2MiP)
- Out in STEM ([oSTEM](#)) Annual Conference

Note: SPS offers funding for SPS undergraduate members to attend and present or report on member society meetings. For travel award info, [click here](#). For reporter award info, [click here](#).



## Building a Community

Fellowship and a sense of community among SPS members makes a chapter stronger, more successful, and more enjoyable. In addition to social benefits, fellowship can lead to networking to improve your career possibilities.

In order to enhance fellowship among members of your chapter, consider the best practices below. Also, check out this [calendar for example chapter activities](#).

**Hold regularly scheduled events** that members can count on and look forward to attending every time. Examples include:

- Weekly meetings, such as business meetings or planning sessions
- Biweekly seminars to present research, discuss articles or books
- Monthly movie nights
- Events marking beginning or end of year or semester, or midterm study break.
- Yearly events for holidays or other occasion, such as winter holidays, Halloween costume party, pi day (March 14), Star Wars Day (May the 4th), famous physicist birthdays

**Everyone needs to eat!** Incorporating food into your events is a sure fire way to increase your attendance. Some examples:

- Pizza at weekly meetings
- Dinner at a faculty member's house
- Picnic under the stars or meteor shower
- Picnic or cookout to begin or end the year
- Coffee & donut faculty/student chat sessions

**Social Media for your chapter and/or department.** Social media will help bridge the gap between you and the students that don't read emails. Having a social media presence will help connect you with other people and organizations in your community. Networking done right!

- Create social media accounts to make announcements, event invitations, and post photos
- Follow SPS national and other chapters' social media accounts
- Many chapters use twitter, instagram and/or facebook accounts

**Hold Annual Competitions.** This is a fun way to work on teamwork while enjoying time outside of weekly meetings.

- Sports events, like kickball, basketball, etc between students and professors, or between SPS and another campus club.
- Engineering or construction, such as toothpick bridge-building, egg-drop, or Lego Mindstorm competitions





- Can also hold monthly trivia (or attend a local established trivia night as a group) and/or video game competitions

#### **Additional Ideas:**

- Hold outreach events!
- Attend national meetings and conferences as a group
- [Create a safe & inclusive study space/lounge](#)
- Volunteer in the community
- Invite STEM departments and organizations to a coffee/chat session
- Fundraise for the chapter/department



## Fundraising 101

Fundraising can fulfill many purposes for an SPS chapter. Fundraising provides the resources to buy equipment and demos, but it can do so much more than that. Fundraising is an opportunity for chapters to provide a service for the community either on or off campus. Last, but not least, fundraising together as a chapter can help members build relationships, and increase camaraderie among SPS members overall.

Best practices for fundraising include getting a cashbox, make sure you have an account with the proper authorities in your school (department, accounting, etc.), elect a treasurer, and make sure you have any necessary permits if the club is going to sell food items. Attainable goals for a semester are a good idea to keep everyone motivated!

### Getting Started

If your chapter is new to fundraising there are a few small fundraisers to get started:

- Sell coffee & donuts, or pizza & soda once a month or during exam times. Pick a high traffic location and focus on class change times
- Pi a Professor (around Thanksgiving and Pi Day)
- Ask for donations at SPS sponsored demo shows
- Sell food/shirts during events
- Tutor for STEM courses at your college and also local high schools

As your chapter gets comfortable with planning and executing smaller fundraisers, you can begin to utilize other resources to that may be able to provide funds:

- Request Special Allocation Funds through your Student Government (plan early ~ at least 1 year out!)
- Approach members of college administration to match funds - this process should be started before your school's fiscal year begins
- Talk with your school's alumni office to see if they have a donor who may be willing to contribute to your cause
- Reach out to your school's development or corporate partnerships office to see if there are organizations or companies who would be willing to sponsor you



Here are a few more suggestions that your chapter can make their own:

<b>Ask Corporate Sponsors</b>	Have a presentation ready to show what you will do with their donation
<b>Physics Bowl or Code-a-thon</b>	Invite other departments. Charge team entry fee.
<b>Paint the Night</b>	Date night star party. Pair with the art dept. and sell canvases and treats.
<b>On campus scavenger hunt</b>	Charge team entry fee. Hunt for small prizes.
<b>Physics Demo Show</b>	Raffle and prizes during show. Charge entry fee or ask for donations.
<b>Physics Night for Families</b>	Hands on activities for families. Charge small entry fee or donations.
<b>Pi Day Fundraiser</b>	Pi peers/faculty member volunteers. Charge per pie (whipped cream in a tin).
<b>Rent-a-Student</b>	Club members do work for community members. Ask for donations in return.
<b>Treat Tables</b>	Sell coffee & donuts, pizza & soda, etc. during finals.
<b>Liquid Nitrogen Ice Cream</b>	Make liquid nitrogen ice cream and sell it at campus events.
<b>Haunted Labs</b>	Fun Halloween student activity. Charge entry fee. Sell treats.
<b>Potluck or bake sale</b>	Club members make food/treats to sell.
<b>SPS T-Shirts</b>	Design and sell club t-shirts.

For more detailed suggestions and case studies, [visit our fundraising page](#).



## Strengthen your Chapter with Outreach

### Why do outreach?

Participating in outreach not only benefits your community, your department and your chapter, but benefits you directly as well. Outreach gives community members on and off campus an opportunity to connect to, learn about, and have fun with science. Getting your community engaged with science is a great way to inspire and promote science literacy while instilling a sense of wonder. Taking part in on campus outreach can boost chapter visibility, help recruit new members and promote your department. But how does outreach benefit you? As stated by Jacob Robertson, an SPS SOCK intern,

*When participating in outreach students stand to improve their interpersonal skills. By interacting with the public, whether in large groups or with individuals, students develop verbal and non-verbal communication skills. Students will also further develop their own understanding of science. Explaining a scientific phenomenon accurately, simply, and concisely to the public requires careful forethought and consideration of fundamental physical principles. Finally, students create strong community relationships by inserting themselves into the community and interacting with administrators at local schools and libraries. By creating a presence in their community, students are reinforcing the public's commitment to science.*

*While the public benefits greatly from science outreach, the activity also benefits undergraduate students by developing skills necessary for a successful career.*

To view Jacob's full piece on the benefits of public outreach, reference the Summer 2017 SPS Observer issue or visit the SPS internships blog page [click here](#).

### How to get started with and where to do outreach?

Outreach can be done both on and off campus. On campus activities such as science week, or activities that welcome new freshman can be a great place to increase club visibility and recruit new members. If your chapter is just getting started with developing outreach, a good place to start is checking in with your department. Are there already departmental programs established for outreach? Can you get involved with them? This can help with networking within your department and with gathering ideas for future events. The off campus community likely has several groups who could benefit from volunteer demonstrations. Are there local organizations, museums, libraries, Boys & Girls Club, etc., that have established science outreach? Can you get involved? This is a great opportunity to network with professionals in your community and is another source for ideas. In addition to getting involved with pre-established programs you can host your own events! This option can be tougher to tackle as it requires that you come up with the resources to make it happen. Does your department have a



demo room or resources at your disposal? If not, one option is to request Science Outreach Catalyst Kits (SOCKs) from SPS National. These can be requested at the start of each academic year as they are updated with new themes and demos annually. Or, you could come up with simple ideas for demonstrations with everyday items (see (c) for ideas). Once you have demos decided and equipment gathered, it's time to find a venue; you could host your own demo show (see Fundraising Ideas) or reach out to local K-12 schools.

## Ideas for demos

Here are some examples and explanations of low-cost and easily acquirable demos:

### Science Outreach Catalyst Kits (SOCK)

Each year an SPS intern works to develop a FREE outreach demonstration for 100 SPS Chapters across the world. Past SOCKs have focused on resonance, gravitational waves, acoustics, and sensors. For more information and to request your FREE kit, go [here](#).

### Centripetal Acceleration with a Homemade Accelerometer

Attach a buoyant object, such as a ping pong ball, to the end of a string and attach the other end to the bottom of a jar or bottle. Make sure the string is short enough that the floater remains fully submerged without floating to the surface when the container is filled with water. Have the volunteer hold the jar or bottle at arms length and have them spin in place. The floater will point towards them thus demonstrating centripetal acceleration.

### Refraction

This demo simply requires an opaque or clear cup or glass and water. Have the volunteer hold the glass in their hand while looking down through the top of the glass. They should notice that they are unable to see their fingertips touching the glass. This is because glass has a higher index of refraction than water and thus the light bends in such a way that it doesn't trace back to your eyes. Next, have the volunteer wet their fingertips and repeat the process. Their fingers are now visible through the glass! This is because the surface between the glass and volunteer's fingers is now a thin layer of water which has the same index of refraction as the water in the glass. Light traveling through the water bends when it crosses through the glass but then bends back to its original path when passing through the water between the glass and fingers and is therefore able to be traced back to the eyes.

### Conservation of Angular Momentum

This demo requires a bike wheel, a swiveling stool, and two 2-5 kg masses (depends on the strength of the volunteer). Have a volunteer sit on the stool holding the spinning bike wheel in the horizontal plane. Have the volunteer flip the wheel 180 degrees so it is now rotating in the opposite direction. Now the stool and volunteer will begin to rotate in the original direction of the wheel to preserve the initial angular momentum. For the masses, start out with the volunteer spinning slowly with arms outstretched holding one in each hand. Have the volunteer tuck their arms in and note that their angular velocity increases to preserve the initial angular momentum.



**Note:** SPS has a collection of over 25 demonstration of both low-cost and more resource intensive demos that are accompanied by a parts list, instructions, key physical concepts to explain and demonstration videos. [Click here to access our demo list.](#)

Still looking for ideas? These webpages may be another place of inspiration:

- Here's a compilation of more low-cost and easily acquirable demos, some of which have video instructions, put together by Rhett Allain. This list also includes more information about the accelerometer demo listed above. <https://www.wired.com/2011/11/simple-physics-demos/>
- Check out these Phun Physics demos sponsored by the physics department of the University of Virginia. Note: most of these demos are more resource intensive and may require having access to equipment or fundraising to purchase your own materials. <http://phun.physics.virginia.edu/demos/>
- For some more low-cost demo ideas look at these physics tricks put together by the Institute of Physics: [http://www.iop.org/resources/videos/physics-tricks/file\\_42432.pdf](http://www.iop.org/resources/videos/physics-tricks/file_42432.pdf)

## **Have your own ideas for demos that you didn't see listed here or in the external resources?**

Great! Demo ideas can be submitted to SPS National at [sps-programs@aip.org](mailto:sps-programs@aip.org). Accepted ideas will be published online for use by SPS Chapters everywhere!

## **Awards**

There are several SPS awards to help promote and fund your chapter's outreach endeavors, for more information see Appendix B.



## Appendix A: List of Resources

### Application Deadlines for Awards & Programs

#### Online Application System

All applications and proposals for SPS and Sigma Pi Sigma awards and programs, with the exception of the Outstanding Chapter Award, Blake Lilly Prize, and Zone Meeting Awards, are handled via a single online system. Details on how to apply and a link to the online application system are available on the award webpages, [www.spsnational.org/awards](http://www.spsnational.org/awards), or through your SPS membership profile [membership.spsnational.org](http://membership.spsnational.org) (click on “SPS Awards Application” in the upper right hand area).

**Award and Program Deadlines are broken into four application periods.** For a detailed list of award and program deadlines please visit <https://www.spsnational.org/awards/award-deadlines>

**Fall Deadline: Applications due November 15**

#### Future Faces of Physics Award

<https://www.spsnational.org/awards/future-faces>

- Several awards of up to \$500 may be made each year
- Awarded to chapters for activities that promote physics across cultures

#### Marsh W. White Award

<https://www.spsnational.org/awards/marsh-white>

- Several awards of up to \$500 may be made each year
- Awarded to chapters for physics outreach activities to grades K-12 and the general public

#### SPS Chapter Research Award

<https://www.spsnational.org/awards/chapter-research>

- Several awards of up to \$2000 may be made each year
- Awarded to chapters for physics research projects

#### Sigma Pi Sigma Chapter Project Award

<https://www.sigmapisigma.org/sigmapisigma/awards/chapter-project>

- For details, see the “ΣΠΣ Awards” section

**Winter Deadline: Applications are due January 15**

#### SPS Internship Program

<https://www.spsnational.org/programs/internships>

- For details, see the “SPS Programs & Resources” section



## SPS Congressional Visits Day

<https://www.spsnational.org/programs/sps-cvd>

- For details, see the “SPS Programs & Resources” section

## Spring Deadline: **Applications are due March 15**

### SPS Scholarships

[www.spsnational.org/awards/scholarships](http://www.spsnational.org/awards/scholarships)

Scholarships are applied for via one application through the online awards system. Applicants are encouraged to apply for all scholarships that they qualify for. SPS Scholarship amount and eligibility listed below:

#### The SPS Leadership Scholarship

- Several \$2000-\$5000 awards may be made each year
- Applicants must have junior level standing
- Awarded on the basis of academic performance and leadership in SPS

#### The Herbert Levy Scholarship

- One \$2000 award may be made each year  
Awarded to undergraduate students on the basis of scholarship, SPS participation, and financial need
- Established in the memory of the late Dr. Herbert Levy, by Margaret Sussman Levy

#### The Future Teacher Scholarship

- One \$2000 award may be made each year
- Awarded to undergraduate students on the basis of scholarship, SPS participation, and a stated teaching career objective(s)

#### Peggy Dixon Two-Year Scholarship

- One \$2000 award may be made each year
- Awarded to undergraduate students on the basis of scholarship, SPS participation, and attendance at a two-year college
- Established in the memory of the late Dr. Peggy Dixon

#### Kirsten R. Lorentzen Award

- One \$2,000 award is made each year
- Awarded to a female student in her sophomore or junior year of study
- Awarded to an exceptionally well-rounded student who excels in her studies as well as outdoor activities, service, sports, music, or other non-academic pursuits or who has overcome significant obstacles





- The Lorentzen Award is an Association for Women in Science (AWIS) Educational Foundation program administered by SPS

#### Science Systems and Applications, Inc. (SSAI) Academic Scholarship

- One \$2,000 award may be made each year
- Awarded to undergraduate students on the basis of scholarship and SPS participation

#### Science Systems and Applications, Inc. (SSAI) Underrepresented Student Scholarship

- One \$2,000 award may be made each year
- Awarded to undergraduate students who are from a group that is underrepresented in science and engineering, on the basis of scholarship and SPS participation

#### SPS and AAPT Mary Beth Monroe Memorial Scholarship

- One \$2,000 award may be made each year
- Awarded to undergraduate students majoring in physics or physics education on the basis of scholarship, SPS participation, attendance at a community college, and intent to pursue a career in education

#### **Outstanding SPS Chapter Advisor Award** <https://www.spsnational.org/awards/outstanding-chapter-advisor>

- One award is made each year to a chapter advisor nominated by his or her students
- Winners receive \$5000: 60% to the chapter advisor, 20% to the chapter, 20% to the department
- Awarded to a chapter advisor whose chapter has received an Outstanding Chapter Award within the preceding two years during their tenure as SPS chapter advisor
- Awarded on the basis of leadership, student leadership development, chapter support, encouragement the advisor has provided to the chapter

#### **SPS Award for Outstanding Undergraduate Research**

<https://www.spsnational.org/awards/outstanding-undergraduate-research>

- Two or more awards may be made each year
- Awarded to SPS members on the basis of their research, letters of recommendation, and SPS participation
- Winners are able to attend and present their research at a AIP member society meeting of their choice (registration and travel costs up to \$1800 are eligible for reimbursement)
- Receive a \$500 honorarium for themselves and a \$500 honorarium for their SPS chapter

**Summer Deadline: Reports & Applications due June 15**

#### **SPS Annual Chapter Report**

<https://www.spsnational.org/resources/chapters/annual-chapter-reports>

Submission of an SPS Annual Chapter Report qualifies your chapter for the Outstanding SPS Chapter Award and other chapter designations. Within the Chapter Report, you can apply for



the Blake Lilly Prize. For details about Chapter Reports, please see the “SPS Chapter Health” section.

## SPS Outstanding Chapter Award

<https://www.spsnational.org/awards/outstanding-chapter>

- Several awards may be made in each zone every year
- Winners receive a certificate and national recognition
- Awarded to chapters that demonstrate active involvement on the local, zone, and national levels in keeping with the mission of SPS

## Blake Lilly Prize

<https://www.spsnational.org/awards/blake-lilly>

- One award per zone may be made each year
- Winners receive a physics related publication and a certificate
- Awarded to chapters or individuals that engage in physics outreach activities
- Established in the memory of the late Blake Lilly, by his parents

## Ongoing Application Opportunities

### SPS Travel Award

<https://www.spsnational.org/awards/travel>

Applications are accepted on a rolling basis up to 10 business days before the conference

- Multiple \$200 awards may be made each year for meetings
- Awarded to SPS members presenting their research at AIP Member Society national meetings
- Awarded to undergraduates on a first-come first-served basis
- Limited to one award, per person, per academic year

### SPS Reporter Award

<https://www.spsnational.org/awards/reporter>

Applications are accepted on a rolling basis up to 10 business days before the conference

- Multiple \$200 awards may be made each year for meetings
- Awarded to SPS members reporting on national professional meetings for SPS publications
- Awarded to undergraduates, on a first-come first-served basis
- Limited to one award, per person, per academic year

### SPS SOCKs (Science Outreach Catalyst Kits)

Applications are accepted on a rolling basis throughout the academic year

- For details, see the “SPS Programs & Resources” section

### SPS Zone Meeting Kits

<https://www.spsnational.org/meetings/zone-meetings/funding>



Applications are accepted on a rolling basis up to 10 business days before the zone meeting

- Up to \$500 per zone per year may be allotted to the chapter hosting the zone meeting
- You can also request SPS brochures and posters with your meeting kit
- A final report is required to receive all funds
- This is NOT accessible via the online awards system, please email [lquijada@aip.org](mailto:lquijada@aip.org) for details

## SPS Programs & Resources

### SPS Internship Program

<https://www.spsnational.org/programs/internships>

The SPS summer internship program offers 10-week positions for undergraduate physics students in science research, education and policy with various organizations in the Washington, DC area. Eligible applicants must be undergraduates, members of the SPS national organization, and have at least two years of college physics (or equivalent). SPS summer interns receive a stipend of \$5,700, local housing, travel costs, and have the opportunity to participate in a number of engaging supplemental activities that explore the full range of career options available to physics majors.

### SPS Congressional Visits Day

<https://www.spsnational.org/programs/sps-cvd>

Society of Physics Students Congressional Visits Day (SPS CVD) is a program to support student engagement in science policy and advocacy on Capitol Hill. This two-day annual event brings SPS members to Washington, D.C. to raise visibility and support for science, engineering, and technology. While attending SPS CVD, members have the opportunity to engage with and advocate on behalf of science policy issues most important to STEM through interaction with members of Capitol Hill. Eligibility is specific to SPS National Members who are either current Associate Zone Councilors (AZCs) or Chapter Officers for their SPS Chapter *and* have a strong interest in science policy.

### SPS SOCK (Science Outreach Catalyst Kits)

[www.spsnational.org/programs/outreach/science-outreach-catalyst-kits](http://www.spsnational.org/programs/outreach/science-outreach-catalyst-kits)

Science Outreach Catalyst Kits, or SOCKs, contain an exploratory physics and science activity that is specifically designed for SPS chapters to use in outreach presentations to elementary, middle and high school students. Each SOCK comes with the basic materials to conduct a set of demonstrations, a comprehensive manual, and instructions on how to expand the demonstration to become a tried-and-true outreach activity. SOCKs are designed and implemented annually by the SPS SOCK Intern and National Office staff.

### SPS Outreach Demonstrations

<https://www.spsnational.org/programs/outreach/demonstrations>

Looking for a new demonstration for an outreach event? Want to jump start your chapter on outreach? SPS staff and interns have designed easily-accessible online demonstrations to help



you make a difference in your local communities. Each demonstration includes a parts lists, instructions, key physical concepts to explain, and demonstration videos (where appropriate). Engage your local community today!

## **SPS Alumni Engagement Program**

The Alumni Engagement program provides SPS and  $\Sigma\Pi\Sigma$  alum the opportunity to stay connected within the community. Through the Alumni Engagement Program, alumni can sign-up to be a part of the SPS Speakers Bureau, volunteer for the Adopt-a-Physicist program, conduct informational interviews, and even mentor current SPS students. Chapters and SPS Members can search for Alumni based on location and type of requested interaction, SPS National will assist in matching the requests to volunteers.

## **Career Toolbox for Undergraduate Students**

[www.spsnational.org/careerstoobox](http://www.spsnational.org/careerstoobox)

The Careers Toolbox for Undergraduate Physics Students, a product of the Career Pathways Project, is a set of professional development tools that guide students through their career options and prepare them for success in the job search. Careers Toolbox workshops materials are available online and the print version is available for purchase in the online SPS store.

## **Graduate School Resources**

### ***GradSchoolShopper.Com***

GradSchoolShopper.Com is the most comprehensive resource for undergraduates looking for graduate programs in the physics and astronomy fields. Students can search for their graduate schools by demographics, admissions requirements, tuition, degrees offered, special facilities and programs, faculty information, and much more! In addition, the *GradSchoolShopper* directory lists a substantial number of related-field departments, including materials science, engineering, chemical physics, optics, and many more. You can request a printed directory or access the online searchable edition at [www.gradschoolshopper.com](http://www.gradschoolshopper.com).

### ***Additional Grad School Resources***

Looking for advice and/or tips for navigating the graduate school admission process or information on the Physics GRE? SPS National provides resources and articles to help you find the *best* graduate school and program for you.

## **Physicist Profiles**

[www.spsnational.org/career-resources/physicist-profiles](http://www.spsnational.org/career-resources/physicist-profiles)

SPS compiles physicist profiles to help students, parents, and the public learn about the multiple career paths available to those who study physics, and typical factors associated with various jobs. Read about career options or submit a profile yourself!