



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>

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012

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	14
<i>(for help see the Zone Map Here: http://www.spsnational.org/governance/handbook/websites.htm)</i>	
SPS Chapter Number	4222
School Name	Colorado Mesa University
Chapter Advisor	Dr. Chad A. Middleton
Email	chmiddle@coloradomesa.edu

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

In this section, tell us about ... (remember-these are just ideas—feel free to elaborate!)

- ...your chapter's participation in local SPS meetings—how often did you meet, what did you do at your meetings, how did the results of the meetings shape plans for next year? Be sure to tell us about guest speakers, films, business meetings, tours, student presentation rehearsals, etc.
- ...your chapter's social events – parties, movies, picnics, banquets outings that were for fun?
- ...how your chapter helped with student recruitment and retention efforts for your department or college/university
- ...how your chapter interacted with alumni – include newsletters, invitations to speak, arranging internships or visits with local industries through alumni contacts, etc.
- ...your SPS chapter's connection within your department and to the campus in service or outreach in on campus events.
- ...how your chapter participated in on campus SPS-sponsored social events or interactions in cooperation with other student organizations or on campus groups...like, co-sponsoring a colloquium...helped with a campus blood drive..
- ... your chapter's strategy for promoting SPS membership

Note that there is a separate section for telling us about your Sigma Pi Sigma Activity at the end of the report.

Please include photos or other visual aids to illustrate your text; cut/paste these into the document, with captions to explain the photos or images

Local SPS Meetings

The Colorado Mesa University chapter of SPS met bi-weekly throughout the 2011-12 academic year. These bi-weekly meetings are regarded as official club events by Colorado Mesa University. In addition, SPS officers have been meeting weekly to organize and plan upcoming club meetings. SPS has been very active in organizing physics demonstrations for the campus at large. These demos, which are executed by SPS members, have included...

- the implosion of a 55-gallon drum using only atmospheric pressure.
- the firing of a liquid Nitrogen powered cannon.
- creating a 'soda fountain' by mixing Mentos and Diet Coke.
- the launching of a plastic garbage can 30 ft. into the air using only liquid Nitrogen and a 2 liter bottle.
- a Halloween pumpkin drop from the top of the college library entitled "**The 6th Annual Smashing Pumpkins Event**". SPS invited the children and staff of the Little Mavericks Learning Center to attend the pumpkin drop thus involving the greater campus community.
- the smashing of a cinder block off of an SPS member's chest by a sledge hammer while laying on a bed-of-nails.

Other SPS Sponsored Social Events

- SPS co-sponsored our end-of-the-year picnic on graduation day.

Strategy for Promoting SPS Membership

With the help of the SPS Officers, I am working hard at re-establishing a strong local chapter after several years of stagnation. After a very successful year of SPS club activity, I anticipate continued growth of club membership throughout the next academic year. We will continue to advertise club meetings via flyers and email and continue to be a highly visible campus club.

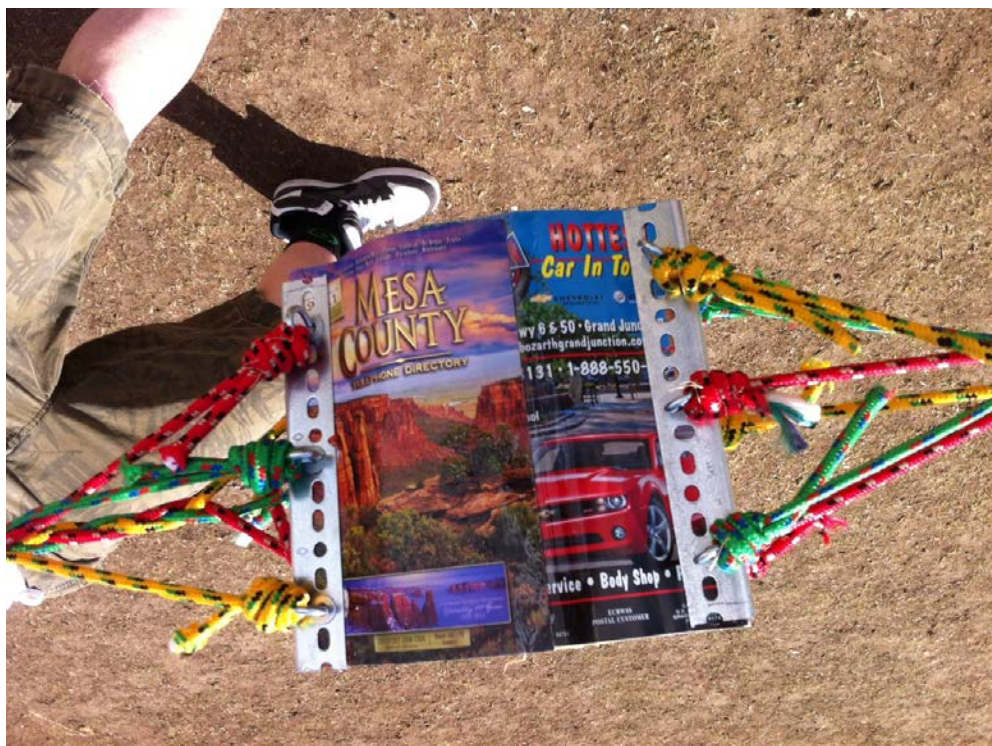
Fundraising

- The CMU chapter of SPS designed club t-shirts with the intent of raising money for the continued purchase of pizza and soft drinks for club meetings. Thus far, the club has raised about \$250 from the sale of the t-shirts.
- The CMU chapter of SPS held a bake sale and raised over \$350 in sales. The profits helped to support our annual egg drop competition. This event was open to all local middle and high school students in the grand valley.
- The CMU chapter of SPS, under SPS secretary Dirk Terpstra, successfully lobbied the CMU club advisory board for \$550 to help support our annual egg drop competition and our Sigma Pi Sigma induction ceremony.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012

Presentations

- SPS president Peter Schulze presented his senior research entitled “*Probing the Wave/Particle Properties of Light*” at the 2011-12 Student Showcase at Colorado Mesa University on April 25, 2012.
- SPS member and Associate Zone Councilor Caitlin Heath presented her senior research entitled “*The Importance of High-Mass Stars for Metal Enrichment in Galaxy Clusters*” at the 2011-12 Student Showcase at Colorado Mesa University on April 25, 2012.

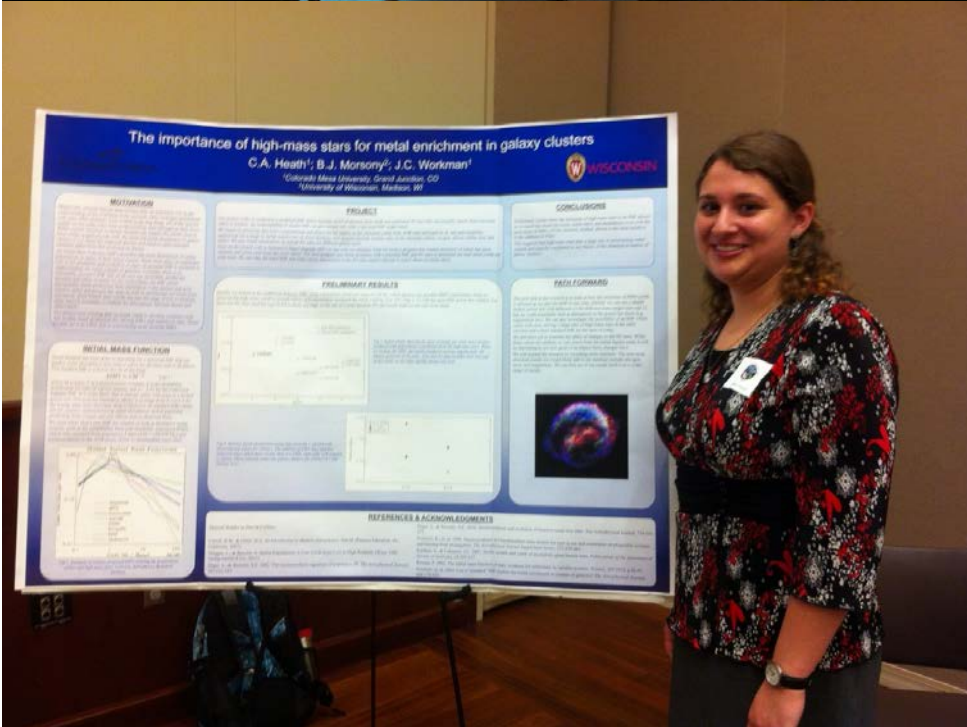


Close up image of our *phone book tug-of-war*.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012



CMU SPS president Peter Schulze gives an oral presentation on his senior research at the 2011-12 CMU Student Showcase.



CMU SPS member and Associate Zone Councilor Caitlin Heath gives a poster presentation on her senior research at the 2011-12 CMU Student Showcase.

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

In this section, tell us about ... (remember-these are just ideas—feel free to elaborate!)

- ...your chapter's participation SPS Zone meetings, National SPS meetings, or National Sigma Pi Sigma meeting or participation in other professional meetings— Include titles and authors of papers presented by your chapter members, attendance by your members, distances traveled, tours;
- ...hosting a zone meeting? If your chapter hosted a Zone meeting during 2008-09, describe the program, institutions represented, number of papers presented, guest speakers invited, tours conducted, etc. Please attach a copy of the program and photographs, if not already submitted for publication in the SPS Observer
- ...any publications or presentations by your chapter members (authored or co-authored)
- ...any other interactions with other SPS chapters?

Please include photos or other visual aids to illustrate your text; cut/paste these into the document, with captions to explain the photos or images

SPS Zone 14 Regional Meeting

Colorado Mesa University hosted the Zone 14 Regional Meeting on Saturday, October 1, 2011. Approximately forty students and faculty from seven Colorado and Wyoming Colleges and Universities (including Colorado Mesa University, Colorado School of Mines, Colorado Technical University, the University of Wyoming, Metropolitan State College of Denver, the University of Denver, and Fruita Monument High School) attended.

There were a total of 5 oral and 7 poster presentation, not including our invited speakers. Our invited guest speakers included Dr. Jack Hehn, Director of Education at AIP, Dr. Brenda Dingus, APS and Los Alamos National Lab Fellow, Dr. Roland Schulze, Physical Chemist at LANL, Dr. Derek Lamb, Research Scientist at SwRI, and Dr. Ellen Keister, Research Associate at JILA. A website highlighting the event was created and can be viewed at myhome.coloradomesa.edu/~jworkman/sps/

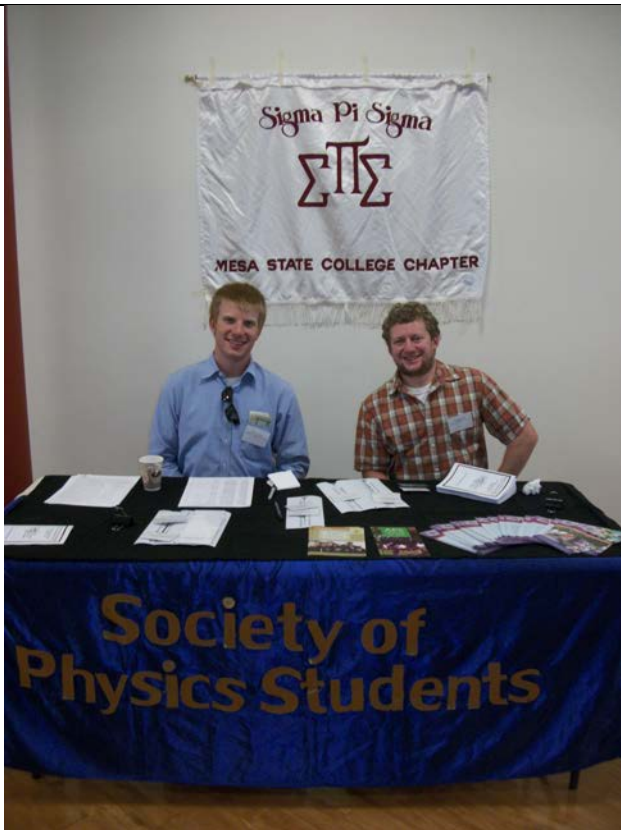
Several CMU SPS students and faculty were in attendance including Peter Schulze (SPS president), Caitlin Heath (Associate Zone Councilor), Garry Stewart (SPS vice-president), Dirk Terpstra (SPS secretary), Isaac Joyner, Eric Hartline, Emily Breiner, Jaimie Stephens, Marshall Sweatt, Matt Whittlesey, Matt Putenney and by faculty members Dr. Chad Middleton, Dr. David Collins, Dr. Andy Shiekh, Dr. Jared Workman, and Dr. Bill Tiernan.

- Research presented at the Zone 14 Regional Meeting by CMU SPS member Peter Schulze entitled "*Accurate Sample Manufacturing for Distance Raman and Explosive Detection*".
- Research presented at the Zone 14 Regional Meeting by CMU SPS member Caitlin Heath entitled "*High Harmonic Generation from Rotationally Excited Molecules*".
- Research presented at the Zone 14 Regional Meeting by CMU SPS member Garry Stewart entitled "*Glycerol as a Precursor for Anticancer Applications*".

Website Development

CMU physics professor, Dr. Jared Workman, has recently updated our SPS website. This site features club information and current photographs of SPS outreach events and physics demonstrations. The website address is: <http://myhome.coloradomesa.edu/~jworkman/sps/>

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012



CMU SPS members Peter Schulze and Mitchell Reid register guests at the 2011-12 SPS Zone 14 Regional Meeting.



Dr. Jack Hehn, Director of Education at AIP, gives a presentation at the 2011-12 SPS Zone 14 Regional Meeting, held at CMU.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012



Image of the poster presentation at the 2011-12 SPS Zone 14 Regional Meeting, held at CMU.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012

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

In this section, tell us about ... (remember-these are just ideas—feel free to elaborate!)

- ...your chapter's participation in SPS National Office programs—this might include applications or nominations for SPS National award opportunities:, project awards, Marsh White Award, Blake Lilly, nominations for Outstanding Chapter Advisor
- ..your chapters participation in SPS governance—nominees for Associate Zone Councilor or Zone councilor, or other elected SPS office?
- ...chapter members who applied for travel awards or reporter awards
- ...chapter members who applied for SPS scholarships

Please include photos or other visual aids to illustrate your text; cut/paste these into the document, with captions to explain the photos or images

- CMU Faculty Advisor Chad Middleton was nominated for an Outstanding Chapter Advisor award.
- SPS secretary Dirk Terpstra submitted a grant proposal for a 2011-12 Sigma Pi Sigma Chapter Project Award.
- SPS student member Caitlin Heath served as the 2011-12 Associate Zone Councilor for Zone 14.
- SPS secretary Dirk Terpstra applied for the position of 2012-13 Associate Zone Councilor.

Insert photos here...

Insert caption here to add more photos with captions, copy this ROW of the table and paste it below. Note that you may resize the pictures.

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

In this section, tell us about ... (remember-these are just ideas—feel free to elaborate!)

- ...your chapter's efforts and service and outreach beyond the campus community—for example, working grades K-12 children or the general public-- *include projects such as "Physics Circuses," classroom demonstrations, tutoring services, assistance with school science fairs, open houses, promoting the US Physics Olympiad Team, etc.*
- ...any other community service
- ...participation in off campus social events or interactions with other student organizations or on campus groups.
- ... anything that you did to interact and represent physics or SPS in events outside the campus community
- ... any chapter-organized charitable service, fundraising, etc. that was performed for individuals, families, charities, non-profit groups, etc.

Please include photos or other visual aids to illustrate your text; cut/paste these into the document, with captions to explain the photos or images

Involvement in Outreach

- Several SPS club members visited the John McConnell Math & Science Center and executed physics demonstrations on March 15, 2012.
- Six SPS club members executed several physics demonstrations to an auditorium of sixth graders at Bookcliff Middle School on April 3, 2012.
- Several SPS club members are tutoring via Colorado Mesa University's Tutorial Learning Center.
- The CMU chapter of SPS hosted our annual "Egg Drop Competition" on Saturday, April 28, 2012. This event was open to all local middle and high school students.
- The CMU chapter of SPS attended the "Student Club and Organization Fair" on February 1, 2012 where we maintained a table advertising our club to CMU students.



6th grade science teacher Jared Burek demonstrates the CMU SPS's infamous bed-of-nails demonstration to an auditorium full of students at Bookcliff Middle School.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012



A Bookcliff Middle School student closely examines the CMU SPS's bed-of-nails.



A middle school student performs a conservation of angular momentum demonstration at the John McConnell Math & Science Center.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012



SPS members at the 2011-12 Egg Drop Competition, held annually at Colorado Mesa University.



Some of the 2011-12 Egg Drop Competition participants with their egg drop contraptions.



A 2011-12 Egg Drop competitor, with SPS member and Egg Drop Competition Judge Caitlin Heath, check to see if the egg survived the drop.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012

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

In this section, tell us about your chapter's efforts and activities that advance the purpose and mission of the Society of Physics Students:

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."

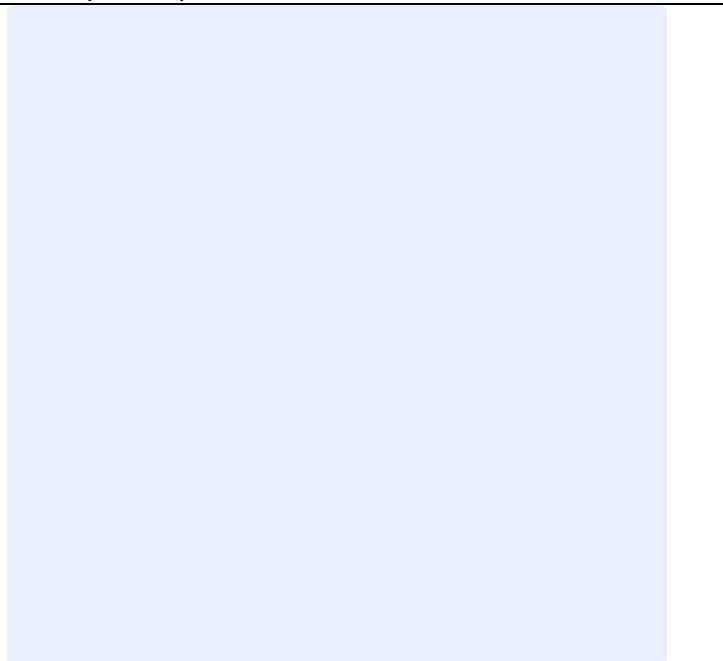
So, this is the section where you get the chance for you to tell us more about...

- *...who you are as a chapter and how your group adds a unique dynamic to the broad spectrum of what SPS is all about.*
- *...other ways (not discussed above) that your group forms a community of learners and finds meaning as students of physics*
- *...ways that your group uses technology--websites, youtube videos, or other social media activities that your chapter might use.*
- *...how your chapter meets unique needs of the students, department, or school*
- *...the level, quality, support and development of student leadership in your chapter.*

This section is left to the imagination of chapter members to express their SPS own brand of enthusiasm, passion and efforts in the way that the chapter fits in to the overall purpose and mission of the Society of Physics Students. Another part of this self-reflection should be the report of any efforts made to identify and improve those areas that may be lacking. Finally you should reflect on the overall health of the chapter

Please include photos or other visual aids to illustrate your text; cut/paste these into the document, with captions to explain the photos or images

Enter your report items here – bulleted narratives are recommended

 <p><i>Insert photos here...</i></p>	<p>Insert caption here to add more photos with captions, copy this ROW of the table and paste it below. Note that you may resize the pictures.</p>
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Sigma Pi Sigma Activity Report (for those chapters / schools which also have a Sigma Pi Sigma Chapter)

This section is for those chapters which also have an affiliated Sigma Pi Sigma Honor Society. In this section, tell us about ...any Sigma Pi Sigma inductions / receptions / dinners/ awards banquets that your chapter hosted, either at your school or collaboratively with another school—describe the program, how many people attended, guest speakers, tours, networking events ...any interactions with other on campus or off campus honor societies, or any other special events ...any other Sigma Pi Sigma activities – including applications for the Sigma Pi Sigma Service award
Please attach photos, copies of programs, or other supporting materials, unless they have already submitted for publication in *Radiations magazine*

- Thanks to a highly lucrative SPS bake sale, which generated over \$300, and funding from the CMU Club Advisory Board, SPS sponsored our annual Sigma Pi Sigma Induction Ceremony, which was held at a local restaurant. The chapter covered the cost for our inductees to attend, and subsidized \$15 of the cost per person for physics majors from the university. We had a total of 21 attendees, which included CMU faculty and students and CMU alumni.
- SPS secretary Dirk Terpstra submitted a grant proposal for a 2011-12 Sigma Pi Sigma Chapter Project Award.



CMU physics professor Bill Tiernan inducts Zach Black into Sigma Pi Sigma at our annual induction ceremony.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012



An image of the 2011-12 Sigma Pi Sigma Induction Ceremony.



CMU physics professor Bill Tiernan inducts Caitlin Heath into Sigma Pi Sigma at our annual induction ceremony.

Colorado Mesa University #4222 Annual Chapter Report for the year 2011-2012
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

Tel: (301) 209-3007; Fax: (301) 209-0839; E-mail: sps@aip.org