Candidates for SPS President

DJ Wagner (Grove City College)

Candidate Bio: Dr. DJ Wagner received her undergraduate degree in English and Physics from the College of William and Mary. Wagner received her Masters and Ph.D. in theoretical particle physics from Vanderbilt University; her dissertation research involved modeling neutrino oscillations. She turned her attention to the growing field of Physics Education Research upon graduating, and she is currently studying student conceptions about density, buoyancy, and pressure. Wagner taught at Angelo State University and at Rensselaer Polytechnic Institute, before joining the faculty at Grove City College in 2001.

Candidate Statement: If reelected as SPS President, I will continue my efforts to increase resources for chapters hosting Zone Meetings. I have worked for the collection of "best practices" from Chapter Reports and will continue to encourage the dissemination of that information to chapters looking for ideas.

Candidate Local Involvement: I became active in SPS as a sophomore in college, loving the outreach activities, serving as an officer for two years, and presenting my research at an SPS session in a national meeting. In my first faculty position at Angelo State University, I was not the advisor yet attended most SPS meetings and supported the students to my fullest ability. At Rensselaer (RPI), I was named SPS advisor my second year on the faculty, and I re-activated an inactive chapter (which has been going strong ever since). I have been advisor at Grove City (GCC) since arriving here in 2001. I attended my first Zone meeting while advisor at RPI, and I regularly take the GCC SPS Chapter to Zone Meetings. We have hosted two Zone Meetings at GCC.

Candidate National Involvement: While at RPI, I took several students to the SPS Session at the national AAPT meeting in Rochester, starting my involvement in SPS on a national scale. I served on the National Council as an interim Zone Councilor during the 2004-2005 academic year, when I experienced my first Sigma Pi Sigma Congress and found out how awesome they are. In 2008, I took 25 GCC students to the Congress at Fermilab, and I took 33 students to the 2012 Congress in Orlando. I served again on the national Council as a Zone Councilor from 2007-2013, and I was elected President in 2013. The SPS chapter at GCC has won an Outstanding Chapter Award for the past 6 years, and several of our students have been awarded SPS Scholarships and/or served as SPS Interns and/or served on the National Council.

Candidate Relevant Experience: Most of my governance experience has been through SPS, as detailed above. Part of those duties was serving on the planning committees for the 2008 and 2012 Sigma Pi Sigma Congresses. In addition to that, I served on the Strategic Planning Committee at Grove City and, as president of SPS, I am on the Educational Advisory Committee for the American Institute of Physics.

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James D. Borgardt (Juniata College)

Candidate Bio: Dr. Jim Borgardt is a Professor of Physics at Juniata College in Huntingdon, PA, USA. He received his Ph.D. in nuclear physics from the University of Arizona, and undergraduate degrees in Physics, and Mathematics, from the University of California at Santa Barbara. He served in the International Security and Nonproliferation bureau in the office of Weapons of Mass Destruction Terrorism (ISN/WMDT) at the U.S. State Department as the 2012-2013 State Department Fellow. In this capacity, he supported the international nuclear forensics work of the Global Initiative to Combat Nuclear Terrorism (GICNT), and Nuclear Forensics International Technical Working Group (ITWG). He was also the 2003-2004 Robert Jay Lifton Fellow at the John Jay College of Criminal Justice Center on Terrorism, and has been a visiting research
scientist at Pacific Northwest National Laboratories collaborating on research on radiation portal monitors during the past decade.

**Candidate Statement:** If elected, I would interface closely with the National Office to advance issues that I've come across in my time as an SPS advisor including looking to strengthen resources for BS students directly entering the job market, and promoting student leadership, research, and outreach opportunities for SPS members.

**Candidate Local Involvement:** I have been the SPS and Sigma Pi Sigma advisor of the Juniata College chapter for 15 years and overseen its growth during this period. Locally I've advocated for our SPS Lounge as an important social and professional environment that serves as a departmental hub and provides a sense of identity for our students. Our chapter also has a Women in Physics chapter, that, along with our SPS chapter, maintains a strong outreach program.

**Candidate National Involvement:** I've served as the Zone 3 Councilor and represented the zone at the annual national meetings, run for SPS national office in past, and continue to maintain close contacts with the National Office.

**Candidate Relevant Experience:** At our College I am the current Chair of our Curriculum Committee which oversees the academic integrity of courses. I have been a CUR Councilor in the Physics and Astronomy division. I've also served as a By virtue of my serving as the 2012-2013 AIP State Department Fellow, I currently am on the review and selection committee for this post.
Candidates for Zone 1 Associate Zone Councilor

Nicholas DePorzio (Northeastern University)

**Candidate Bio:** Nicholas DePorzio is a junior at Northeastern University and has been a member of Northeastern’s Society of Physics Students since his freshman year. His repeated terms on the club's governing board have developed his interest in and understanding of the organization at the local and international levels. He past served as an International Trustee on the governing board of the Key Club international organization. This experience well acquainted him with the operations of international student groups. He has enjoyed diverse research experiences spanning from graphene research to neutrinoless double-beta decay. These experiences have brought him to several conferences and labs including those at Northeastern University, M.I.T., and to the Gran Sasso National Laboratory of Italy. The six months he spent on the CUORE experiment at Gran Sasso have come to define his current interests in the study of rare particle decays. He has been invited to present this work at a meeting of the APS. He has also devoted time towards applying his research abilities to investigations of benefit to his community. Beyond academic pursuits, Nicholas greatly enjoys hiking, gardening and other outdoors activities as well as collecting antique scientific instruments.

**Candidate Statement:** With the approach of the 2016 Quadrennial, I hope to broadcast and popularize this event to the clubs of my zone. This will involve collecting, distributing, and making easily accessible information on this event. I would also take initiative to identify and secure potential funding sources for the clubs of Zone 1 to send their members. Because of the location of the event in California, locating financial sources will be critical to enabling clubs of the northeast U.S to attend. I prioritize this event because I believe attending will connect members to important resources and opportunities to share with and grow their home clubs. I hope to generally use this directive as a means of proliferating communication between club chapters and the national council. Increased communication would enable me to more readily identify patterns of strengths and concerns throughout our zone which would be used to better advise policy of the national council as well as help me learn how I can best interact with and provide assistance to chapters.

I would also like to gauge interest in and potentially help develop a program which partners local chapters with the planning committees of professional physics organizations hosting conferences in our zone. I believe the opportunity to assist these committees could be exciting to students and also help develop their professional networks and skills while forging a closer bond between our zone and the greater physics community.

I also believe that facilitating formal or even social events as zone meetings and between zone 1 clubs will enable members to share ideas and solutions that will help them to overcome the problems their clubs face as well as see them to flourish. I believe such activities will help unify the zone as well as open up many members to just how extensive our organization is and the opportunities it provides.
Candidates for Zone 2 Zone Councilor

Michael Rogers (Ithaca College)

**Candidate Bio:** Aug-09-Present: Associate Professor of Physics. Ithaca College. Aug-03-Aug-09: Assistant Professor of Physics. Ithaca College. 2013-Present: Coordinator, Ithaca College Science Teaching Program 2013-Present: Chair, New York State Section, American Physical Society 2014-Present: Zone 2 Councilor, Society of Physics Students 2011-2013: Vice-Chair, New York State Section, American Physical Society 2007-Present: Vice-President, Finger Lakes Chapter, New York State Archaeological Association 2003-Present: Faculty Advisor, Ithaca College Chapter, Society of Physics Students

**Candidate Statement:** I have been the SPS Advisor to the Ithaca College chapter since my arrival at Ithaca College in 2003. I also established a Sigma Pi Sigma chapter at Ithaca College. I have served as the Zone 2 Councilor this year filling in for Sean Bentley as he moved into being the director of SPS. I'm just getting to understand the role of Zone Councilor and if elected look forward to continuing that learning process. Sean Bentley left big Zone 2 Councilor shoes to fill and I'm looking forward to the next year where I can help guide the Zone 2 chapters to reach their goals.

Candidates for Zone 2 Associate Zone Councilor

Brian Kaufman (Adelphi University)

**Candidate Bio:** As a freshman in high school I took a struggling tennis team, and lead them to playoffs as a junior and to the championships as a senior. As a senior in high school I also participated in the ACE Mentor Program. There I worked with a team of engineers and architects to design a community center in Wyandanch, NY and presented the final product to the ACE Mentor Programs Board of Directors in New York City. As a freshman at Adelphi University I joined an Atomic Molecular and Optical Physics Lab where I have built a magneto-optical trap. We are attempting to coherently control photo-assisted collisions between atoms with rapidly frequency-chirped laser light. Currently under review is our paper in regards to developing the frequency-chirped laser light. In the summer of 2014 I received the Horace McDonell Fellowship, which is a prestigious grant at Adelphi offered to less than ten students, that fully funded my research which I continue to this day. I am also a straight A student who works on campus as a physics tutor and a recitation instructor. Foremost, I became a member of the Adelphi SPS Chapter during my very first semester. As the Treasurer of the chapter during my sophomore year I was one of the officers that helped organize the events that have lead to our chapter being recognized as a distinguished chapter. I began this year as the President of the Adelphi SPS Chapter. One of the major events that I am initiating on campus is to collaborate with other science based organizations at Adelphi create a Science Week consisting of visiting lecturers from various fields and activities to encourage participation from non-science majors. I am proud to be the President of Adelphi's Chapter of SPS because being in this leadership role has helped me to make a difference on my campus.

**Candidate Statement:** As an organization SPS strives to promote physics to the non-science community, and to provide the physics students with the professional skills they need to succeed. My goal as Associate Zone Councilor is to advance these goals of SPS by increasing communication between the chapters of Zone 2 with the aim to get the chapters to interact with each other more often. I would also like to promote greater interaction and involvement in the zone meeting. I believe to improve this situation we need to create a mechanism to stimulate communication as well as increase the structure of Zone 2. In my own chapter I am initiating a new officer position: a Public Relations Officer. It will be the job of the Public Relations Officer to communicate with the Adelphi community and I believe this can be nicely translated into
communicating with the other SPS chapters in the area. Another idea is to create micro zone
meetings where schools within close proximity of one another can host one or two day events to
promote their chapter and increasing inter-chapter communication. It is important that the SPS
home office and an officer in every chapter is kept up to date on current events going on in the
zone. The primary means of communication would be via Facebook, email, and Skype. For
quick communication, the zone will maintain a Facebook page for brief up-dates on
events. Email will be used for organizing events and detailed conversations. Lastly I would like
to initiate a remote town hall meeting via Skype or another means of videoconferencing once a
semester to foster communication between the chapters, and introduce the officers of each
chapter to each other.

 Evan Van de Wall (Ithaca College)

Candidate Bio: I am a junior physics major at Ithaca College. I have participated in research for
the past 3 years with Professor Michael Rogers, including two summers of research, in
archaeogeophysics and architectural conservation. To participate in my first summer of work I
was granted the Ithaca College Robert Noyce Teaching Scholarship Program Pre-Scholar
Researcher. My work in archaeogeophysics involves my participating on projects such as the
archaeogeophysical investigation of the Larder site in Las Vegas where the team I was a part of
discovered the first Native American houses at the site, which may be 2,000-years-old.
While I find archaeogeophysics research interesting, my main area of research with Professor
Rogers is using 3D terrestrial laser scanning as part of architectural conservation of historic
sites. This work has presented me the opportunity to participate as a pivotal member on projects
at the Old Fort Johnson National Landmark Site, a revolutionary war era house fort in the
Mohawk River Valley in upstate New York, and the President Lincolns Cottage in Washington
D.C. where President Lincoln drafted the Emancipation Proclamation. I am currently working on
writing my thesis on how to improve past techniques of architectural conservation such as hand
measured drawings by using a 3D laser scanner.

I have participated in all of these activities while keeping a 4.0 GPA. I plan on attending physics
graduate school after graduating May 2016.

Candidate Statement: I have made it a point to attend as many SPS events that are held at
Ithaca College. Such events include the annual physics picnic in the fall semester, bimonthly
seminars where I can attend presentation on interesting research topics, and the physics
department banquet at the end of the semester. Along with these events that have the faculty
present, I participate in SPS events that are for students to get together and unwind like our "get
togethers" where the students get together talk, have food, and play board games. The newest
addition to our SPS events are the weekly bowling nights that are held every Thursday night at a
local bowling alley.

When I first attended Ithaca College I didn't know much about physics and I didn't know
anyone. Once I became a sophomore I started attending the SPS events. I have notice that
freshmen in general attend the SPS events less than the rest. I would like to work on ways that
can get the freshman to get more involved in SPS and with the department in general. It also has
been apartment to me that most SPS events are specific for a specific chapter. I would like to
work on having more events that involve two or more chapters. There is the annual Rochester
Symposium that also hosts the Zone 2 meeting, but having the Zone 2 meeting at other colleges
could lead to having more interaction from other chapters closer to the event. Getting more
chapters involved could get undergraduates to talk about what is going on at other colleges and
make improvements to what is happening at their SPS events. Also getting more chapters
together is a great way to do networking for the undergraduates.
Candidates for Zone 3 Associate Zone Councilor

Deval Mehta (University of Delaware)

Candidate Bio: Deval Mehta is currently a Junior at the University of Delaware pursuing majors in Physics and Mathematics with a minor in Astronomy. He plans to pursue graduate education with the hopes of eventually becoming a fully-tenured professor at a recognized four-year research institution. Deval has been an active member of SPS for all three years of his undergraduate career and plans to remain active during his Senior year. As a Sophomore, Deval served as the Public Relations Officer for the University of Delaware Chapter, playing an instrumental role in reviving the chapter’s national involvement. This year, as President, Deval, along with the rest of our wonderful executive board, planned and hosted the Zone 3 Meeting. In addition to SPS, (and a myriad of other extracurricular activities) Deval is an Honors student and serves as a peer mentor for first-year Honors students, a role referred to as the "Munson Fellow," from which he has gained valuable experience in advising students and planning events. Deval has spent the entirety of his Undergraduate career working in the Massive Star Group at the University of Delaware under the supervision of Dr. Stan Owocki of the Bartol Research Institute. Deval hopes to bring a great deal of energy to the SPS National Council.

Candidate Statement: I don’t believe that there is enough communication between chapters in our zone and I would like to make that my first priority. Although there is an opportunity for us to meet once a year at the Zone 3 Meeting, I think we could all benefit from a more regular exchange of information. Increased communication would help the AZC and the ZC better represent Zone 3. As such, I will work to improve inter-chapter communication if elected. In addition, I will be more than willing to consider any ideas from chapters or individuals on improving or better supporting Zone 3. Each proposal will be given its due time under consideration and I will work with Dr. Lopez to make sure that Zone 3 shines bright.
Candidates for Zone 4 Associate Zone Councilor

Nathan Prins (Towson University)

Candidate Bio: Coming from a family where mathematics was the topic of conversation at the dinner table, Nathan Prins is an enthusiast of education, culture, and physics. As an active member of SPS, Nathan has acted as president and vice president of Towson University’s chapter, participated on committees designated to organize and carry out large outreach events, and twice co-authored proposals for the Marsh M. White Award. Towson University’s chapter has been awarded the SPS Outstanding Chapter Award both years Nathan has been a member. As a member of the physics community, he has been involved in extensive research for the past two years, has presented at six professional conferences, and was awarded the William F. Pelham Award for Outstanding Junior. Nathan brings with him a unique array of experiences that make him an ideal teammate and an effective leader. He gained extensive leadership experience as the captain of a dive team at the National Aquarium in Baltimore where he directs a small team of divers tasked to operate technical equipment in the unpredictable environment of the marine mammals, while also acting as liaison between the administration and the divers of his team. As the representative of the Fisher College of Science and Mathematics at Towson University, he has learned to consider the needs of the student body, and to express those needs in an effective manner. Nathan’s involvement in SPS, physics, and his community has provided him with invaluable communication and leadership skills needed to successfully represent Zone 4.

Candidate Statement: Zone 4 is one of the most successful zones in the nation, its chapters having received eight Outstanding Chapter Awards and seven Distinguished Chapter Awards. However, as president of Towson University’s chapter, Nathan has noticed that communication within the zone can be improved. In Baltimore, Nathan is in the perfect location to help the exceptional chapters of Zone 4 close the communication gaps by implementing an organized network on which to build connections and personally interact with one another. This network will be in the form of a website which Nathan would personally manage, where chapters will conveniently advertise and organize events, see what other groups are involved in, and most importantly communicate with one another. The implementation of this will result in greater participation in zone meetings, outreach, and other activities that SPS promotes in its chapters by providing a platform for ideas to be seamlessly shared. In addition, Nathan is at the same institution as a former Zone Councilor and in close proximity to the SPS National Office; therefore, he will continuously be in close collaboration with mentors necessary to realize the success of his current and future plans.

Lawan Brown (George Mason University)

Candidate Bio: My name is Lawan Kenton Brown, and I’m a current Junior at George Mason University majoring in Physics. I’m also a military kid, meaning I’ve traveled from to places all over the country including Washington state, Wisconsin, and Florida. Throughout high school sports was a huge part of my life. In 2011 I became a State champion in the 4 by 400 meter relay with three other athletes and have been staying fit ever since. I’ve served as Vice President and Treasurer of my social fraternity Phi Kappa Tau for two years (2011-2013). I am also a Mason Recreation Employee working as a Fitness Attendant as well as Laboratory Assistant here on the George Mason Campus. As a Laboratory Assistant I help my supervisor setup and maintain laboratory equipment for classes and take inventory of our current stock. As Vice President and Treasurer my responsibilities were to manage the income of the chapter as well as make sure all brothers and associates stay current on dues. My freshman year, under my Vice Presidential term the chapter and I were able to pull our chapter out from almost being shut down due to past expenses left unpaid from brothers who’d graduated without paying dues. Through persistence and hard work I was able to help support my brothers as well as lead them beside our Chapter President without conflict. I’ve attended two colleges including George Mason. My freshman and
sophomore year were spent at Virginia Wesleyan College in Norfolk, Virginia. I then transferred to George Mason University to pursue my physics degree and I will be graduating in May, 2016 with a Bachelors in Physics. Currently my main interest in physics is optical physics, but I someday hope to be one of the leaders in Physics/Science Outreach which is why I’m nominating myself for this position. I’ve been an SPS member for just under a year and would like to become more involved. There are many students here on George Mason Campus who would like to see the Physics Program gain more of a voice on campus, myself included.

Candidate Statement: If I am elected as Associate Zone Councilor, I will to the best of my ability make physics even more interesting to the general public by getting as many chapters to host zone meetings as possible. I will also try to keep our zones current on major physics accomplishments and issues through communication with chair members. From past experience in my fraternity I believe that having a close bond with chair members of each zone as well as the Zone Councilor leads to the most efficient system. I will not only attend meetings, but I will also make sure our voice is heard at National Meetings in a clear and respectful manner. I will keep the Zone Councilor up to date on any progress or issues taking place. As Vice President there were times where I would have to discuss with the President what things were getting done, what things were going to get done, and how we planned to get things done. Through planning, communicating, constructive criticism, enthusiasm, and encouragement I will not only be a leader but I will be a real voice of those who I am representing.

Christopher Atkinson (Norfolk State University)

Candidate Bio: Currently, I am a DNIMAS (Dozoretz National Institute for Applied Mathematics and Science) Sophomore Physics Major Scholar. Since early 2013, I was nominated to become vice president of the Physics Society at Norfolk State University. Some of the tasks included preparing meetings, informing students about upcoming events, and helping students in numerous Physics courses.

Candidate Statement: If elected, I would do multiple things in order to keep my commitment to excellence. Communicating efficiently and effectively with other chapters, attend/encourage zone meetings, represent my university (as well as Physics department), and staying focused on each task at hand or only a few things I would do personally.

Steven Lohrey (Randolph-Macon College)

Candidate Bio: My name is Steven Hunter Lohrey. I am a Physics major with a mathematics minor, who attempts to distinguish myself by my diligent and disciplined mentality as well as my natural curiosity for knowledge, mainly in my two fields of study: Physics and math. I excel in the classroom, earning a 3.36 grade point average while spending more than 10 hours a week at church. Every Tuesday night, Thursday night, and Sunday morning I spend volunteering in many areas of my church allowing me to lead several classes of people on topics of becoming a better person and give weekly announcements in front of more than one hundred people. I feel as if I routinely give assistance to other students with homework and projects, as I am always happy to lend a hand. I have recently visited Japan where I was able to see another culture ultimately allowing me to realize that my life is only going to be as great as I make it out to be, which is why I work as hard as I can on every assignment I have. Currently I am a member of the National Physics Honor Society as well as a member of the Sigma Phi Epsilon Fraternity, both organizations teaching me to become an example student as well as a role model friend. One of my greatest pleasures is challenging myself as well as studying mathematics, therefore I chose Physics as my favorite subject. I consider myself one of the top students in my field of study and character at Randolph Macon College, therefore I know I will excel as a leader in the SPS
Candidate Statement: If elected, I plan to listen to what physics students in our zone, as well as the entire country, need and are interested in. I wish to make spread the outreach of this organization as well as raise money for it through fundraising and special events. If I am elected I will serve to the best of my ability, giving the position my full attention. I desire to make the SPS organization the best that it can be.

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Noelle Wojciechowski (Randolph College)

Candidate Bio: My name is Noelle Wojciechowski and I am a sophomore Engineering Physics major with a Mathematics minor at Randolph College. I have a strong course background in physics, math, and computer science and have maintained a cumulative 3.8 GPA (Dean's List Honors). In addition I am an employed subject tutor for first-year physics, calculus and first-year computer science. My professional experience includes attending multiple engineering banquets as well as ASQ (focusing on quality and improvement) Lynchburg section meetings. I am the treasurer for SPS at Randolph and also Vice Co-Chairman of the annual Science Festival.

Candidate Statement: If elected my plans are bringing awareness of SPS activities to all SPS chapters in Zone 4, in addition to getting the students at Randolph College and all students in Zone 4 informed and involved in SPS and physics.
Candidates for Zone 5 Associate Zone Councilor

**Ryan Kozlowski (Davidson College)**

**Candidate Bio:** Ryan Kozlowski is currently a junior physics major at Davidson College. He has been an active member in the Davidson Chapter of the Society of Physics Students for over a year and a half and currently holds the office of Vice President of Interdisciplinary Affairs. In this role Ryan has organized a summer 2014 physics department grill-out and the twice-a-year kickball games against the chemistry department and majors. He has also helped with ping-pong ball explosion demonstrations on campus, a cub-scout night for a local den section, and a Halloween party last October. Ryan has been conducting interdisciplinary research at Davidson with Dr. Dan Boye for the past year. His research involves a novel system for volumetric radiography called Digitome that differs significantly from popular computed tomography methods. Ryan has applied for and received summer funding from Davidson College for this research. He hopes to obtain an honors thesis in his research with Dr. Boye in the coming academic year and pursue a medical physics degree after graduating from Davidson.

**Candidate Statement:** As SPS Associate Zone Councilor Ryan will work closely with the Presidents and Faculty Advisors of the Chapters in Zone 5 to improve participation in SPS events by the Zone members. He will communicate with the Advisors and Presidents via the Zone 5 email list to share ideas about outreach and other events. Further, he hopes to help the Davidson Chapter of the Society of Physics Students host the next Zone 5 SPS meeting as part of a North Carolina Section of AAPT meeting.

**Dylan Cromer (University of North Carolina at Asheville)**

**Candidate Bio:** I am currently a sophomore Physics and Pure Mathematics major at the University of North Carolina at Asheville. I had the incredible opportunity to work as a research intern with Dr. Brian Dennison at UNC Asheville to model fast radio burst propagation near solar coronae. I also got the chance to join the Surface and Nanostructures Laboratory group working on surface-enhancement in Raman spectroscopy, an active topic in solid-state physics. This semester, I am continuing work on both projects and seeking grant support for the fast radio burst project. My interests include elementary particle physics, particularly quantum field theory and its role in the standard model, as well as astroparticle physics and cosmology.

**Candidate Statement:** I would like to contribute to the outreach efforts of the SPS, and to the collaborative attitude of the physics community. In my experiences with the UNC Asheville chapter of SPS, I have been impressed by the impact of outreach to elementary and middle school students. Participating in outreach has been both challenging and rewarding, and it is my hope to help further involve students in this aspect of physics. I also would like to create new collaborative opportunities. It has been one of my personal goals to create a reading group for physics majors at UNC Asheville, as a platform for independent study, and for discussion of relevant and interesting topics. I hope that it will offer an environment for the development of our local physics community at UNC Asheville, and I would like to encourage other efforts to help strengthen and enhance similar efforts in other SPS chapters.
Candidates for Zone 6 Associate Zone Councilor

Matthew Cooper (University of North Alabama)

Candidate Bio: I was raised in northeast Mississippi. At age eighteen, I moved to Arkansas to play college football. During my redshirt year, I injured my back and decided to cease playing. After one more year in Arkansas, I transferred to the University of North Alabama, pursuing a career in Psychology. I was advised by one of my professors to find a more challenging major, so I changed to Physical Therapy. Although I still have a love for physical training and fitness, this major was more of a hobby than a passion. During my Introductory Physics course, I met my research adviser Valeriy Dolmatov, and fell in love with Physics. After much debate on whether I should up have my pursuits yet again, I decided my love of physics outweighed the extra semesters it would take and changed majors. Since then I have done research in quantum physics and presented research at UNA research Days, the Alabama Academy of Science and the SPS meeting in Puerto Rico.

Candidate Statement: If elected, I would seek to spawn more interactions between all Chapters of Zone 6. Although I'm not sure if this is a general trend, by our local North Alabama chapter’s only interaction with other school’s chapters are when we attend a Zone 6 conference. While these conferences are always amazing, they do little to aid in helping our small chapter find ways of boosting our numbers and supporting in-chapter research. I would like to see all SPS chapters doing in-chapter research, as I feel this is what gains the most recognition within the scientific community as a whole. While most chapters have students which do research, this research carries the name of the student and research adviser. I would like to see research being done with carries the SPS logo and was funded by the SPS. I don't expect any high level research to come of this, but it would be good for more undergraduate students to have access to research the way that we do at UNA.

Madeline Lazar (Georgia Institute of Technology)

Candidate Bio: I am currently a first year physics student at Georgia Tech, where I work in a Cardiac Dynamics lab under the advisement of a graduate student. The project I am working on for this lab, dynamics of unfurling beads, is related to nonlinear dynamics and chaos. I am an active member of the Women in Physics (WIP) group. I help facilitate collaborations and projects for WIP and SPS. My two biggest projects are the cleaning initiative and the senior celebration, both of which will be continued on into the coming years. During the fall semesters I participate in the Georgia Tech Marching Band. I have had experience working with a large corporation. Through this job, I became a more effective communicator and manager. I was in charge of many day to day tasks, and frequently worked with other people in and outside the company. I love animals and the things I miss most about home are my dogs. Dancing and yoga are also hobbies of mine.

Candidate Statement: My main focus for Zone 6 would be collaboration between chapters within the zone. I would also make an effort to keep all chapters in my zone up to date on national SPS news and opportunities that could benefit the SPS communities at different universities. I would help our zone establish a more effective mode of communication that we could use to share ideas for outreach, projects, and events with those who are interested in implementing new ideas in their SPS chapter. My goal is to learn what I can do to help at all levels of SPS: national, zone, chapter, and personal.
Candidates for Zone 7 Associate Zone Councilor

Mercedes Mansfield (Grove City College)

**Candidate Bio:** I am a current physics major at Grove City College and an officer of our local SPS chapter. In that position I have worked on reaching out to the freshman and getting them excited, informed, and involved with physics at my school.

**Candidate Statement:** If I get elected I plan on primarily focusing on continuing what I've been working on this past school year at my school; outreach. Getting people, specifically students, more involved and informed about SPS. I will work towards getting students to take advantage of this network of people; and helping SPS to be more beneficial towards students and faculty.
Candidates for Zone 8 Zone Councilor

Jon Levin (University of Tennessee, Knoxville)

Candidate Bio:

(i) Professional Preparation

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<th>Institution</th>
<th>Degree</th>
<th>Year(s)</th>
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<td>University of Tennessee/ORNL</td>
<td>Physics/AMO</td>
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(ii) Appointments

2002-present Professor, Department of Physics and Astronomy, University of Tennessee, Knoxville.
1997-2002 Associate Professor, Department of Physics and Astronomy, University of Tennessee, Knoxville.
1993-1997 Assistant Professor, Department of Physics and Astronomy, University of Tennessee, Knoxville.
1991-1993 Staff Physicist, Quantum Metrology Division, National Institute of Standards and Technology, Gaithersburg, MD.
1981-1986 Graduate Research Assistant, Department of Physics, University of Oregon.
1980-1981 Graduate Teaching Assistant, Department of Physics, University of Oregon.
1978-1980 Data Analysis Supervisor, Bubble Chamber Group, Stanford Linear Accelerator, Stanford, CA.
1976-1978 Miscellaneous Professional/Junior Physicist, Bubble Chamber Group, Stanford, CA.

(iii) Ten Research Publications


(iv) Synergistic Activities
September, 2010 – current | Zone 8 Councilor to Society of Physics Students
National Organization

August, 2009 – current | Chapter Advisor, Society of Physics Students
August, 2008 – July, 2009 | Director, Tennessee Science Olympiad State Tournament
April 3, 2004 | Organizer of event for 1994 Science Olympiad
February 10, 2004 | Three 90 minute outreach presentations to science classes at Marshall County High School, TN
April, 2003 | Organizer of event for 1993 Science Olympiad
Fall, 2001 – current | departmental representative to Honors College
Fall, 2000 – current | Chair, Physics Department Undergraduate Curriculum and Recruitment Committee
Fall, 2000 – current | member, College of Arts and Sciences Natural Science Curriculum Committee
Fall, 1998 – current | Department contact for admissions office.
Fall, 1997 – 2005 | Department advising coordinator.
December, 2002 | 14 1-hour recruiting presentations to physics students at Houston High and White Station High in Memphis.
October 25, 2001 | Presentation to 180 Robertsville, TN, 8th graders.
Fall, 1999 | Three Presentations to high-school students and their parents from west, central and east Tennessee.

(v) Collaborators and Other Affiliations
(a) Collaborators
Stephen Southworth, Linda Young, Bertold Krassig, Elliott Kantor, Advanced Photon Source, Argonne National Laboratory
Alfred Schlachter, Wayne Stolte, Advanced Light Source, Lawrence Berkeley National Laboratory
Dennis Lindle, University of Nevada, Las Vegas

(b) Graduate and Postdoctoral Advisors
Bernd Crasemann, thesis advisor, U. Oregon, emeritus; Editor, Phys. Rev. A, retired
Ivan Sellin, postdoctoral supervisor, U. Tennessee/Oak Ridge National Laboratory

(c) Post-Graduate Sponsor
G. Bradley Armen, Ralf Wehlitz, Pedro Focke

(d) Students supervised
Allison Reagan (MS), Daniel Hernandez (MS), Erica Johnson (MS), Alex Pegram (MS), Mzisadari Iniashvili (MS)

Candidate Statement: As an undergraduate and graduate student, I had no exposure to the Society of Physics Students. In fact, I hadn't even heard of SPS! I was only marginally aware of the organization when I became University of Tennessee, Knoxville, chapter advisor in 2009. Since that time, I have become increasingly convinced of the importance of a vibrant and active SPS chapter in the overall health of a physics department's undergraduate program. The Strategic Programs for Innovations in Undergraduate Physics (SPIN-UP) project identified "a strong sense of community" among students as a prime characteristic of thriving undergraduate physics programs. SPS is an ideal vehicle to promote such camaraderie.

In the last few years, our chapter has become increasingly involved in Zone 8 Meetings, from attending those of other chapters, to hosting our own. It is my feeling that our students have shown growth and commitment to these meetings in a way not evident in their more local, less public endeavors. Exposure to the activities, both professional and social, of other chapters has been described favorably by all our students. As Zone 8 Councilor, I will strongly promote hosting of, and participation in, zone meetings as a way of bringing students together, both within their own chapter, and among chapters. In particular, I will encourage smaller chapters, unable to host
their own zone meeting, to attend those organized by other chapters. Perhaps most important is to foster a sense of the importance of SPS to the overall health of an undergraduate physics program.

Candidates for Zone 8 Associate Zone Councilor

Louis Varriano (University of Tennessee, Knoxville)

Candidate Bio: Louis Varriano is in his second year in the Physics Department at the University of Tennessee, Knoxville. He currently serves as the President of the Society of Physics Students chapter at UTK and has worked to expand the membership and involvement of the chapter, as well as the number of physics students who actively participate in research. Through his efforts, the Society of Physics Students at UTK has partnered with other on-campus organizations to spearhead a monthly science-outreach program at a local elementary school for children in the community. The chapter also hosts public demonstrations in the downtown district for outreach and donations and has also performed demonstrations on behalf of the university and other charitable groups. Louis also leads a STEM education pilot program for the Boy Scouts of America at an area elementary school, along with several other SPS members. Louis has also worked to increase the amount of funding that his department provides for physics undergraduates and SPS activities. In addition to his interest in physics outreach, Louis works with a faculty member on theoretical dark matter research under a mirror matter hypothesis. He has presented his work on several occasions, including at the meeting of the Southeastern Section of the American Physical Society in 2014. Louis also has a keen interest in science and energy policy and plans to attend graduate school to further this interest.

Candidate Statement: If elected, I plan to try to encourage member chapters to expand their membership and their outreach efforts, as I would like to see other SPS chapters get as involved with their communities as my own SPS chapter has. I am particularly interested in creating a joint zone resource for science outreach ideas and lesson plans to benefit the entire region. Community education and involvement is very important to the improvement of science education and research funding in this country. I also would like to increase the attendance at the many recent zone meetings that have been held over the past two years from chapters who have been unable to send students. It is important for the physics undergraduate community to remain connected and for undergraduates to have the opportunity to network. Finally, I would like to see improved communication about possibilities for research, internships, opportunities to present, and other collaborations among the schools and SPS chapters in our zone, which I believe I would be effective in promoting. I plan to uphold the other responsibilities of the position in addition to these other goals.

Zone 9
Candidates for Zone 9 Associate Zone Councilor

Mamady Soumah (Augustana College)

**Candidate Bio:** My name is Mamady Soumah. I am a junior, Engineering Physics and French major at Augustana College. I have been a part of the local SPS chapter since my first year, and in that time I have been involved in many activities ranging from outreach programs for local families and students showing the marvel of science, to leadership opportunities in projects like designing a wind turbine, which could have great positive impact. My many experiences with the local chapter have given me abilities which I have applied to other aspects of my academic life. I have applied my experience and knowledge in other things ranging from a research program in France to leadership in the campus Multi-Cultural Organization. In total these experiences have given me unique knowledge of what it means to be a physics student in today’s world as well as the ability to apply that knowledge.

**Candidate Statement:** If I were to be elected I would like to do something to about the stigma of physics as so obscure and complex that the mere thought of it could drive a mortal insane. Instead I would like to show how truly awesome physics is; I want to blow minds to the threshold of insanity, not past, where curiosity takes over and learning starts to happen. In short I want to do for others exactly what my local SPS chapter did for me. This will be done however for everyone not just gearing it to those who already have an interest in physics, but for those who don’t yet know they do also, by reaching out to more and more parts of the community as well as to other disciplines ranging from art to biology we can teach as well as learn. This will be done through going to more local schools to do demos and having and more guest speakers with knowledge on physics’ relationship to other fields.

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Angela Ludvigsen (University of Wisconsin-River Falls)

**Candidate Bio:** Learning is my passion and the study of physics truly inspires me. My goals include successfully completing my undergraduate studies in physics and math at the University of Wisconsin River Falls (UWRF) and then to earn a PhD in Physics. My long-term plan is to join a university or a tech company, doing research and possibly teaching. I would like to bring beneficial applications into existence. I am engaged in research work on Sizing Optically Trapped Water Droplets Using Cavity Enhanced Raman Spectroscopy, with Dr. Lowell McCann within the Physics Department. The project objective is to determine the relationship between an aerosol droplet’s radius and the droplet’s seemingly random movements in an argon laser beam. Currently I am writing and debugging code to better determine the radius of an aerosol droplet. I plan to present my findings at the 2015 APS March Meeting. I participated in a Condensed Matter Physics REU at Michigan State University in the summer of 2014. My project was Exciton-Spin Interactions in Dilute Magnetic Semiconductor Quantum Dots with Dr. John McGuire. This field engages several disciplines and I spent much of my time working with chemists. I presented my research at the 2015 APS Conferences for Undergraduate Women in Physics in Ann Arbor, MI. While I am truly driven to be a respected scientist and have a 4.0 GPA, I have always made it a priority to work and to volunteer in my community. I have worked as a tutor in Math and Physics and served as a Chancellor’s Student Ambassador. Currently, I manage the Physics Study Center, serve as Vice President of the UWRF SPS, and volunteer as the Associate Zone Counselor to Zone 9. I also serve as President of the UWRF Society for Undergraduate Research, Scholarly and Creative Activities (SURSCA) and am a McNair Scholar.

**Candidate Statement:** The Society of Physics Students Outreach Statement is to inspire scientific literacy while promoting public understanding of the benefits of physics education and research.’ I support this perspective whole-heartedly. While working on a research paper on
nuclear power plant shielding in high school, I was appalled at the lack of real scientific knowledge about this technology and the abundance of misinformation that I encountered. I am inspired to do something about providing accurate, unbiased scientific information to people. At some point in my future, I envision creating a board of scientists that could be called upon by media, politicians, and others to provide a balanced view of the risks and rewards of scientific technology. SPS provides a voice for students in influencing public opinions and science policy. Making physics more accessible and meaningful is truly vital. The SPS position, to ‘foster curiosity and passion in the next generation’ is important to me. I enjoy sharing physics principles with young students. My younger brother has certainly caught my enthusiasm. Most recently, I accompanied three other students to the 2015 APS Conferences for Undergraduate Women in Physics in Ann Arbor, MI. I made sure to introduce them to professors I had met and to opportunities for summer research. They returned home energized about the possibilities for the future. Additionally I have participated in many outreach events with our SPS chapter. At every event, I have been delighted with the enthusiastic response of the young students to demonstrations of physics principles and to hands-on activities. It is an honor to represent a scientific career choice to them and perhaps to inspire others to make a similar choice. Maybe among the audience members is a future scientist who will make an advancement of science and profoundly benefit people. As a member of the National Council, I would be an enthusiastic advocate for encouraging all SPS chapters to participate in outreach activities.
Candidates for Zone 10 Zone Councilor

William Slaton (University of Central Arkansas)


Candidate Statement: Our chapter has been successful at having scientists/researchers across the US give technical seminars via Google Hangouts. Our current seminar lineup is here: http://faculty.uca.edu/wvslaton/GHOSeminar.html Any SPS chapter is welcome to join these seminars. As Zone 10 Councilor I’ll work to bring together SPS Chapters for seminars like these. Additionally, I believe Zone 10 can lead by example in using Hangouts or Skype to coordinate activities, share best practices or ideas, etc. on a more frequent basis.

Shannon Clardy (Henderson State University)

Candidate Bio: Dr. Shannon Clardy is an Associate Professor of Physics and Adjunct Professor of Oboe at Henderson State University. Dr. Clardy has served as the HSU SPS advisor for the past 7 years, reviving the chapter. She is an active researcher in astrophysics, aerodynamics, and physics outreach with projects ranging from the construction of a 20ft wind tunnel to building and launching high powered rockets. Additionally, Dr. Clardy has a number of students assisting her in research in astronomical data collection and modeling, aerodynamics and laminar flow, and instrumental acoustics.

Candidate Statement: If selected as the zone councilor, I would like to continue the great momentum already existing in our zone. Over the past year, many of our chapters have reached out and included one another in collaborative activities. I will encourage and build upon this teamwork - expanding partnerships, research opportunities, and friendships. Since we have strong chapters in each state within the zone, I would request the assistance of these chapters in reaching out to smaller chapters, so that all of the schools in our zone may experience the fellowship and benefits of SPS.

Candidates for Zone 10 Associate Zone Councilor

Catherine Miller (Rhodes College)

Candidate Bio: Hi! My name is Catt Miller, and I am currently the president of the Rhodes College SPS chapter. Next year I will be a senior, graduating with a BS in Physics and a BA in French. Since my freshmen year I have been extremely active in SPS and consider my participation in it to be my most formative experience (for better or for worse) just kidding, only for better!). I previously served as secretary, and was given the job of organizing the 2014 Zone 10 meeting. We had an amazing turnout of 89 students from 9 different schools, a resounding success that drove home for me what being part of a Zone really means.
**Candidate Statement:** As AZC, I plan to establish and maintain contact with all schools in the Zone to ensure that they are always in the loop with National and regional activities. The success of our 2014 Zone 10 meeting can become the norm, and as AZC I would have the resources to make that happen. I plan to give special regard to schools whose chapters are stagnant or unaware of resources available at the National level. Regular zone-wide updates, check-ins, and communication would be the foundation of my position.

Maxwell Milan (University of Central Arkansas)

**Candidate Bio:** My name is Max Milan; I am a sophomore at the University of Central Arkansas (UCA) with a major in physics, and minors in mathematics and computer science. I am currently serving as president of the Society of Physics Students at UCA. I am an Eagle Scout with the added distinction of three gold Eagle Palms; additionally, I am a Brotherhood member of the Order of the Arrow (Scouting's service organization). I am well accustomed to leadership and teamwork as a result of my experiences, and I am a hard working, results driven individual with a passion for science.

**Candidate Statement:** Currently, SPS Zone 10 is far from united. Our chapters do not communicate as often we should, nor do we have a unifying bond to bring us together. If nominated, I will make it a priority to cohere Zone 10. For the past academic year, the UCA chapter of SPS has put on a Google Hangout seminar series with nationally and internationally recognized scientists. My plan is to use that experience to bring other chapters within Zone 10 into the seminar series. In addition, the Google Hangout technology could be utilized to have monthly "What's up?" style meetings. Providing this link between the chapters of Zone 10 will create unity between programs, allowing activities both zone related and nationally to run smoothly and with maximum benefit to the students and faculty alike.

Robert McGrath (University of Southern Mississippi)

**Candidate Bio:** I have always wanted to learn more about this world that we live in, and I personally believe that physics is the key to this. I am currently attending the University of Southern Mississippi studying physics, of course, and am our chapter's SPS president. I have worked as a mentor and peer tutor for incoming physics majors. It is my plan to continue my physics education into graduate school studying nuclear physics eventually earning my PhD.

**Candidate Statement:** It is my belief that we as the Zone 10 Society of Physics Students should spread our love for physics everywhere. All too often do we see people not focusing on STEM related fields and careers solely based on a lack of knowledge of the subject. I believe that if we all combine our efforts and cooperate with one another we can help nourish our communities and share our love of physics with everyone across our zone! If elected as Associate Zone Councilor I will make it my duty to help all of our SPS chapters flourish and grow in our communities.

Todd Baum (University of Southern Mississippi)

**Candidate Bio:** Todd Baum is currently serving as the vice president of the Henderson State University chapter of SPS. He is a biology major with a physics minor. Todd is an active member in both SPS and the physics club and currently serves as the treasurer in HSU's Gamma Beta Phi. As a dependable and dedicated member of SPS, Todd would make an excellent Associate Zone Councilor.
Candidates for Zone 11 Zone Councilor

Timothy E. Kidd (University of Northern Iowa)

Candidate Bio: Dr. Kidd earned a Ph.D. from the University of Illinois Champaign-Urbana in 2002. After a post-doc at Brookhaven National Lab, he joined the University of Northern Iowa as an assistant professor in 2005. Now an associate professor, Dr. Kidd is currently the chair of the faculty senate at UNI and has served as chair of the physics section of the Iowa Academy of Sciences. He has published over 30 research articles and supervised more than 30 undergraduate research assistants. His current research interests include the electronic properties of layered materials and supervising student projects related to nanocellulose and physical computing.

Candidate Statement: Tim Kidd plans to continue to explore using undergraduate research and projects to enhance undergraduate education and the career prospects for undergraduates after they graduate. He continues to expand the SPS chapter at UNI and work on better integration of the chapters in zone 11.

Candidates for Zone 11 Associate Zone Councilor

Lisa McDonald (Coe College)

Candidate Bio: Lisa McDonald is a sophomore at Coe majoring in Physics and Communication Studies with a Math minor and currently holds a 3.701 GPA. She has already spent one summer doing physics research under Professor Mario Affatigato and currently holds a writing internship through the honor society Phi Beta Kappa. She has also done a write-up for SPS on the CUWiP 2015 held at Purdue.

Candidate Statement: If elected Lisa plans to strengthen communication between the chapters so together they can all work toward promoting physics in their own schools but also throughout each of their communities.
Candidates for Zone 12 Associate Zone Councilor

Elizabeth Apala (East Central University)

Candidate Bio: Since graduating high school in 2013 I have attended East Central University. This semester I will be completing my Junior year and have been apart of SPS since I began at ECU.

Candidate Statement: If elected I plan to try and recruit more SPS members in zone 12.

Georgette Searan (Pittsburg State University)

Candidate Bio: I originally started college as a biology pre-med major before switching to a math and physics double major halfway through my junior year. I'm working on a research project with a physics professor this semester that focuses on determining if certain polymers could be used to make batteries.

Candidate Statement: If elected as Associate Zone Councilor, I will do my best to encourage chapters within my zone to increase participation as individuals and as a zone collectively, hoping to increase both chapter membership and attendance of zone conferences.
Candidates for Zone 13 Associate Zone Councilor

Vanessa Espinosa (Texas Lutheran University)

Candidate Bio: Vanessa Espinosa is currently a sophomore at Texas Lutheran University who is pursuing a Bachelor of Science double major in Physics and Chemistry with a minor in Business Administration. She has been actively participating in bioinorganic research that began in the summer of 2014. This work was presented at the ACS regional conference in Fort Worth, Texas in Fall 2014 and at the Conference for Undergraduate Women in Physics (CUWIP) in January 2015 at the University of Texas at Brownsville. She has been an active member of the TLU SPS since freshman year. She currently serves as the social and fundraising chair for the chapter. She is excited to be a part of the growth in activities for the chapter, which has recently been spurred by a new chapter advisor. The chapter was recently awarded a Marsh White outreach award for the first time in TLU history.

Candidate Statement: Zone 13 is the entire state of Texas. This means that there are chapters that are quite distant from chapters within their zone. This presents challenges when interaction between chapters is attempted. We are fortunate in zone 13 to meet jointly twice each year with the Texas Sections of APS and AAPT. These joint meeting offer great opportunities for physics students, but the identity for SPS as an organization can be lost. This being said, if elected Vanessa would work toward having a stronger student centered SPS presence at these meetings. Vanessa will work with the zone councilor to find effective ways of communicating with and engaging chapters around the state.

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Megan Cromis (Abilene Christian University)

Candidate Bio: My name is Megan Cromis and I am a sophomore engineering and physics double major from Abilene Christian University. I am very involved with ACU’s branch of SPS, and am currently the President of my school’s club for women in science and engineering, which seeks to provide camaraderie and mentorship for women interested in pursuing STEM related employment. My summers are spent doing nuclear physics research for COMPASS, a fixed target nuclear physics operating out of CERN. Last summer, my research group built a gigantic charged particle detector called a drift chamber, which was an amazing experience (even if it did mean soldering thousands of wires by hand). In my free time I enjoy reading sci-fi and fantasy novels, (Lord of the Rings is my favorite) being outdoors, and going on road trips!

Candidate Statement: If I am elected I will serve our Zone Councilor, Dr. Tim Head, to the best of my ability. I plan to promote diversity within SPS, and help our student meetings run as smoothly as possible. Thank you so much for considering me for this position.
Candidates for Zone 14 Associate Zone Councilor

Rosa Wallace (University of Colorado Denver)

**Candidate Bio:** Rosa Wallace grew up poised squarely between the artistic and scientific communities in Raleigh, North Carolina, and after an arts degree and over a decade working in performing arts and education, she returned to school in 2014 to pursue a bachelor's degree in physics. Having previously taught students from South Korea to urban Denver, Rosa now focuses on tutoring and grading for the University of Colorado at Denver, while staying involved with the school's chapter of the Society of Physics Students. She recently participated in the American Physical Society's Conference for Undergraduate Women in Physics, and is currently assisting in research on the variability of active galactic nuclei. Her interests include astrophysics, diversity and inclusion, and creating a strong line of communication between the scientific community and the general public.

**Candidate Statement:** If elected, Rosa plans to create a forum for regular communication among SPS chapters in Zone 14, allowing ease of planning for zone meetings and cross-pollination of ideas and strategies that SPS chapters are using for outreach, research, and community engagement. By having an open forum for ideas and strategies, all zone chapters will benefit and be more effective in their individual endeavors, while also creating connections between future peers across Colorado and Wyoming. Rosa will also work to support the Zone Councilor and hosting institutions in all planning, logistics, and implementation of zone meetings.
Candidates for Zone 15 Zone Councilor

Steve Shropshire (Idaho State University)

**Candidate Bio:** Steve L. Shropshire is a Professor of Physics at Idaho State University. He has been at ISU since 1991, earned B.S. degrees in Physics and Mathematics at Washington State University in 1985, and his Ph.D. in Physics in 1991, also at Washington State University. Dr. Shropshire has served as Chair of the ISU Department of Physics, Executive Board Member of the Idaho Science Teachers Association, Higher Education Representative on the Executive Board of the AAPT, three terms as President of the Idaho/Utah AAPT, and as SPS Zone Councilor for Zone 15 from 2006-2012. He has served on many national and regional committees of the AAPT and APS. His service to ISU, the AAPT, and the public has been recognized through awards of the AAPT Distinguished Service Citation, the Idaho Academy of Science Distinguished Science Communicator Award, Idaho State University Achievement Award, Idaho State University Distinguished Public Servant Award, and the Salvation Army Community Hero Award. Dr. Shropshire has served as Advisor for the ISU Society of Physics Students and the Sigma Pi Sigma Honor Society for eighteen years. His research interests are in teacher training, science outreach, and physics education.

**Candidate Statement:** The SPS provides support networks, social, learning, and professional development opportunities, and information and assistance on graduate school and employment opportunities for physics students. It is also a leader in providing and inspiring science outreach to schools and the public to educate and encourage and foster interest in science and technology. If elected I will endeavor to maintain the excellent work of the SPS National Council to support these important efforts.

Rhett Zollinger (Weber State University)

**Candidate Bio:** I started in physics as a college student at Weber State University. While earning a bachelors degree in physics I became involved in science public outreach and also conducted research involving computational simulations of exoplanetary systems. I graduated from Weber State University in 2008.

After earning my bachelors degree I attended a graduate program in physics at the University of Utah. During my graduate experience I became involved in undergraduate physics education. I started as a teaching assistant for introductory physics and astronomy courses. Later, I spend my summers as an adjunct instructor at Weber State University teaching my own courses in introductory physics.

For my doctoral dissertation I developed computational methods to study effects of tidal heating on exomoons. I completed my doctorate degree in physics from the University of Utah in 2014. I am currently completing a visiting faculty position at Weber State University, which primarily involves the teaching of undergraduate courses in physics. During this time I have also served as a research mentor for various student projects in astrophysics. I recently accepted a full-time (tenure track) faculty position at Southern Utah University, which begins in the fall of 2015.

**Candidate Statement:** As a soon-to-be faculty member at Southern Utah University my first priority would be to start a SPS chapter at that institution, since one does not currently exist. As part of this process I would contact other chapters to begin creating opportunities for collaboration. This process would naturally fit well with the responsibilities of a Zone Councilor, as they would be expected to maintain regular contact with all SPS chapters in their zone.
The initial focus during the elected term would be to develop communication between chapters. That process will introduce me to regions of active SPS interest. From those, I can learn how best to promote interest in less active regions, which would be the focus of the latter part of the elected term.

Candidates for Zone 15 Associate Zone Councilor

Bryant Ward (Utah State University)

Candidate Bio: Bryant will be a junior physics major in fall of 2015. He has been involved in SPS since summer of 2014, participating in multiple chapter outreach demonstrations. He collaborates in research in USU's atmospheric LIDAR (Light Detection And Ranging) laboratory. Bryant is a TA in the Physics Department's observatory, operating USU's telescopes for students in introductory astronomy-related classes, as well as for multiple public viewing nights that host hundreds of people of all ages. He also teaches a general physics lab and tutors in USU's Physics Learning Center. After attaining his BS in physics he plans to earn a PhD in astrophysics. Bryant is an avid amateur astronomer; his personal telescope is like another limb to him. During the winter he is recognized in his neighborhood as the guy wearing five coats and shivering out in the middle of the night with his telescope. His non-physics related interests include reading about ancient cultures, traveling, and food. He also loves music (both listening and playing) and enjoys drawing (or more accurately, mindlessly doodling).

Candidate Statement: If an SPS chapter is at all active it is almost surely doing outreach. SPS outreach is fun for members to participate in. It provides amazing opportunities to get kids (as well as the general public) excited about physics and science. Though demonstrations are inarguably effective for entertaining and engaging kids, at least temporarily, it is unclear what long-term educational impact they have. If I am elected Zone 15 AZC, I propose to organize a Zone-wide research project to probe this question. Many SPS members at USU are interested in such a project, as is our University's STEM Center. I am sure numerous students and faculty across the Zone have similar interests as well. Early in fall 2015, I will begin to collect ideas from our chapters about reasonable hypotheses we might test and procedures we might implement to do so. I will establish an electronic vehicle to share these ideas and will initiate a conversation about how we should proceed. I believe this project can generate a novel Zone-wide collaboration that will be of interest to the National Office. Done well, the proposed project holds the potential for providing insight into techniques and strategies for improving the effective educational impact of SPS outreach activities.

Meredith Gold Dahl (Brigham Young University)

Candidate Bio: Meredith Gold Dahl is a senior in physics at Brigham Young University. She has been active in SPS since she was a freshman, and has since served in a number of offices. Through this, she has found that her special passion is outreach and catalyzing interactions between students who are at different points in their career through peer mentoring and tutoring. She is from Omaha, Nebraska, and fell in love with physics in the eighth grade when her math teacher decided to show Brian Greene's PBS special (based off his book) "The Elegant Universe." Meredith says of the experience, "I was hooked. I decided that I HAD to become a physicist--and, over the next few years, I grabbed everything to do with physics that I could get my hands on. I had questions... LOTS of questions, I wanted desperately to have them answered, tracking down everyone that I could find..." Her enthusiasm, native ability and vision have done wonders in revitalizing the SPS at BYU and to serve the students here. She has been nominated for numerous awards and scholarships while a student here at BYU and has won more than a few.

Candidate Statement: In ADDITION to performing the listed responsibilities on the SPS website,
if I were to become the AZC, I would focus my efforts on two main things:

1. Organize a massive advertising campaign to publicize the EXISTING mentoring programs. I was introduced to physics in eighth grade, when my math teacher--without a lesson plan--randomly decided to show us Brian Greene's PBS special (based off his book) "The Elegant Universe." I was hooked. I decided that I HAD to become a physicist--and, over the next few years, I grabbed everything to do with physics that I could get my hands on. I had questions... LOTS of questions, I wanted desperately to have them answered. Tracking down everyone I could find in my hometown of Omaha, Nebraska (without any scientists or engineers in my family), I didn't get very far, except to make the AP Chemistry and Physics teachers at my school despise me. At the point where one physically ran from the classroom screaming, "I don't know, I swear I don't know," I felt I'd crossed a line. I needed a mentor, but I didn't know where to find any. I watched "The Elegant Universe" a few dozen more times, studied, and waited until college. With this background, you can imagine how I felt when I realized (as a sophomore in college flipping through an SPS pamphlet) that the mentors that I so desperately needed were there the whole time. SPS HAS a mentoring program available already--but no one seems to know about it. If there's one thing that I've learned in my years with SPS, it's that ADVERTISING is EVERYTHING. If I had known about SPS and the mentoring program it had available when I was in high school, I would have joined in a heartbeat. I am certain that I am not alone. I PROPOSE that we advertise SPS--and its college/career mentoring programs--by creating limited-edition physics posters to send to every high school physics classroom in the zone. In my experience, high school physics teachers are very enthusiastic about being given geeky posters to put in their classrooms; it's something to put on the wall. Posters are also very effective for visual learners, like me--I chose to major in physics instead of engineering, in large part, because of an APS poster outside my high school physics classroom that promised that I could still do engineering with a physics major. Yes: a poster influenced my choice of major. And it was the best one for me.

2. Organize a system for SPS chapters to design SCRIPTED outreaches--and then to potentially COMPETE FOR AWARDS and RECEIVE FEEDBACK FROM OTHER SCHOOLS at an annual conference. As the main Person In Charge of outreach at BYU, I have gotten to witness firsthand how MANY outreaches across the nation are being run. Many people, it seems, are afraid of doing Outreach because they DON'T KNOW WHAT TO DO. This is a large problem with a fairly simple solution: Design cheap, scripted outreach programs that can be used across the zone, and encourage schools to write and share their own. I have been working to set up scripted, standard programs at BYU, and what we have been able to accomplish so far has been quite successful, the most notable being "Tupperware Physics," a hands-on, 45-minute classroom program designed for 15-35 children that involves bouncing laser light off submerged craft mirrors and observing the beam (take-home message: LIGHT BOUNCES). It's always a hit, and because it's pre-planned and simple, college students pick up quickly and are eager to participate. I believe that a standardized zone database FILLED with pre-planned outreach programs--some like this one, some like our "Big Shows" for 100-600 children--could potentially influence a dramatic increase in students willing to participate. Also, if we were to do this, we could create unity between universities in our zone by hosting a large meeting, at the end of the year, to show off such programs and receive feedback. If a student wrote a program, they could become "published" by submitting it to this database. We could even do a contest with outreach funding as a reward to encourage this. "Design a 45-minute program with approx. 5-10 minutes of explanation, 10-15 minutes of related demos, and 15-20 minutes of hands-on participation that drives home a SINGLE physics concept." Imagine how much outreach could be increased if every chapter in our zone submitted ONE such program script to such a database! Imagine how many more students would be willing to "do an outreach" if they simply had a simple script and themed set of demos! If we had this as a "publishing" opportunity, imagine how many to-be teachers could have something new to put on their resumes--ALL while boosting SPS!
Candidates for Zone 16 Associate Zone Councilor

Michaela Burkardt (New Mexico State University)

Candidate Bio: Dr. Michaela Burkardt is College Professor at New Mexico State University in Las Cruces. She earned her Ph. D. from the University of Erlangen-Nuremberg (Germany) and joined the faculty at New Mexico State University in 2002. Burkardt became involved with SPS in 2011, when she became co-adviser for the New Mexico State University SPS chapter. Under the shared leadership of her colleague Boris Kiefer and herself the formerly inactive SPS chapter revived. Currently the SPS chapter holds weekly meetings during which students share their research experiences, get mentored with professional soft skills, or plan projects. As adviser Burkardt stresses the need for professional development early on and encourages students to get connected, become peer-learning assistants or join research groups. The chapter is also active in retention efforts and outreach to local high and middle school students.

Candidate Statement: Zone 16 has struggled to connect the various SPS chapters. Burkardt’s goal is to open communication channels, so that chapters are not isolated despite the large geographical distances. For 2016 there is a joint meeting planned for the 4-Corners and Texas Sections of the APS at New Mexico State University, which will provide an ideal opportunity for SPS chapters in the region to interact.

David H. Dunlap (University of New Mexico)

Candidate Bio: David Dunlap is a professor of physics at the University of New Mexico. He was Zone 16 Councilor from 1995-2001, and more recently from 2012-2015, and he was the local organizer for the 2004 Sigma Pi Sigma Congress. He was awarded the Outstanding Chapter Advisor Award in 1996.

Candidate Statement: I am now finishing up the last year of my first term, and this election is for another 3 years, beginning in the fall of 2015. We have had two zone meetings this year, one at UNM in the fall, and one at ASU this semester. With NAU hosting a meeting in Fall ’15, and with NM Tech hosting in Spring ’16, this has become an exciting time for Z-16. I will do my best to encourage continuation of this tradition, with Zone meetings alternating between AZ and NM.

Candidates for Zone 16 Associate Zone Councilor

Jared Canright (New Mexico Institute of Mining and Technology)

Candidate Bio: Jared Canright is presently a second-year physics and electrical engineering double major at New Mexico Institute of Mining and Technology in Socorro, NM. He has worked as a research assistant for Dr. David Raymond for the past year on topics in atmospheric physics, particularly tropical cyclogenesis. Additionally, he has been working as an introductory physics laboratory instructor since the beginning of the Fall 2014 semester. Jared graduated from James T. Hutchison High School in Fairbanks, AK in May of 2013, where he concurrently attended classes at University of Alaska Fairbanks.

Candidate Statement: If elected, Jared intends to help ensure the timely occurrence of zone meetings and to work toward better communication between chapters, with potential for collaboration on projects and events outside of zone meetings. In particular, he will correspond with the NAU chapter president with regard to the Fall ’15 meeting, and personally coordinate the
Joni Marie Clark (New Mexico State University)

Candidate Bio: Joni Clark was born in El Paso Texas and has been a resident of New Mexico for the past six years. She has served as the Associate Zone Councilor for Zone 16 for the past year, and is committed to serving her chapter and the national organization for the coming year.

Candidate Statement: If elected, Joni plans to bring together Zone 16 and their neighboring zones for zone meetings. Joni also plans to continue outreach in her area and smaller schools throughout New Mexico to directly address New Mexico’s lack of female students seeking STEM fields. By connecting with other zones in our area Joni can help make Zone 16 more organized, active, and involved.
Candidates for Zone 17 Associate Zone Councilor

Derek Nelson (Green River College)

Candidate Bio: A current physics and mechanical engineering major, Derek Nelson is an 8-year Army combat veteran with time in both Special Operations and Public Relations. Derek possesses strong leadership skills, drive and professionalism, which herald from his time in Special Forces. As a former public relations team leader and embed war journalist/photojournalist Derek has the skills necessary to govern public image and to facilitate information flow critical to success. In the spectrum of leadership, Derek has managed high-profile leadership positions, including heading a training team in Afghanistan responsible for the creation of the NATO training standard for journalism in the country, creating/running several publications abroad, and rescuing several failing efforts; converting them into successful, mainstream projects. Derek’s passion for physics and STEM education is apparent to anyone who knows him, and he continues to project that through his leadership in his local SPS chapter. As president of the Green River SPS chapter, Derek quickly took to revamping outreach efforts creating new demonstrations, outreach concepts and equipment, an online presence, a community that partners educators, community members and students in an effort to drive local STEM education to new heights, and an outreach newsletter that keeps community conversations happening, with SPS at their center. Derek continues to foster excellence in his SPS chapter, in his community and his work, and would surely make a great addition to any winning team.

Candidate Statement: If elected, I will strive to create unprecedented successes in the support of our zone. Currently, our zone is comprised of several individual chapters all operating independently. For many of us this means that we rely on our own knowledge, resources and experiences to bring about success in our individual chapters. Unique to our zone, moreover, is a vast expanse of geographical separation, which further inhibits partnerships between chapters. It will be my personal mission, if elected, to foster communication between chapters. We all can stand to learn from each other, and that can’t happen without conversation. I will work tirelessly to bring about a flow of information between our chapters, uniting us further as a zone, pooling our common knowledge, and providing resources to all of our chapters that may not have been available to many of us. I will also continue to promote STEM advocacy in our zone and look for new ways to excel in that regard. I look forward to the opportunity to create these successes, and many more, as your assistant zone councilor. Thank you.
Candidates for Zone Associate Zone Councilor

Don Williams (California State University, Fresno)

**Candidate Bio:** Don Williams got his undergraduate and graduate degrees in physics from California State University, Fresno. His thesis work was on the Standard Model of elementary particle physics. Since graduating Don has been teaching a broad range of physics, chemistry and science courses at CSU Fresno. These include conceptual physics, introductory algebra-based and calculus-based physics courses, introductory astronomy, “Science and Nonsense” (a general education course on how to tell fact from fiction using science), and Natural Science 1A (the first course for future science teachers at the K-12 level). In all these courses Don instills a sense of excitement in his students toward physics and science. In the past five years Don has designed and built up a very successful service learning course called “Physics Outreach”. This course trains college students how to use demonstrations to explain physics concepts in a clear and concise way to students in K-12. Through this course, Don and his students have visited hundreds of local area schools and have attended conferences to present their outreach efforts, and have been on local TV and radio stations multiple times. Currently Don has a monthly TV spot on physics outreach with the local TV station KSEE24. Don’s outreach work has also started collaboration between his physics outreach class and the Kremen School of Education at CSU Fresno, which has partly supported Don’s outreach effort via a MISTY grant.

**Candidate Statement:** I am very excited to have the chance to run for, and potentially serve in, the position of SPS Zone Councilor for Zone 18. Many of SPS’s goals in terms of physics outreach and science education are things which are central to my professional life. Through my physics outreach class (Phys 168S) I have been able to bring the excitement of physics to a broad range of K-12 students. In addition this outreach class trains CSU Fresno students on how to teach complex physics concepts, and it also excites the K-12 teachers whose classrooms we visit to become more engaged with science. I am looking forward to meeting SPS advisors and students from around Zone 18, to help organize the annual Zone meetings and to help foster the excitement about physics in the chapters in Zone 18. I also want to encourage connections between different SPS chapters in our Zone. I will work on making closer ties with the local American Physics Society section (the Far West Section) in order to encourage SPS and other students to participate in the APS section meetings and other local physics meetings. Finally I look forward to the annual Fall meeting of the SPS National Council on Washington DC where I hope to share my excitement of physics teaching and outreach and also to learn about new and exciting demonstrations.

Candidates for Zone 18 Associate Zone Councilor

Aaron Owen (Sonoma State University)

**Candidate Bio:** I am a returning post-baccalaureate student with a bachelors of Science in Information Technology working towards a degree in Physics and a minor in Astronomy. As a returning student I have a breath of knowledge and skills that are not typical of many students. Working in the IT filed as an operations manager over the past few years provides leadership skills, real world experience working with people to achieve a common goal, and focusing resources to complete projects. My previous career managing the IT division responsible for maintenance and operations of the critical public safety systems has also provided opportunities to develop my situational awareness for setting priorities. Theses skills in conjunction with an extensive set of technical troubleshooting abilities have already made me an effective student, enabling me to achieve good grades, provide support to the Physics and Astronomy Department and fellow students while being highly adaptable to new experiences and responsibilities. My education and career goal as a returning student is to take what I have learned in my past professional career working with people and technology and apply those skills to obtain my
bachelors degree at SSU. Once the degree is completed at SSU the next step is to apply the new set of skills learned to further expand my capabilities to advance technology in scientific research.

**Candidate Statement:** I wish to run for the Associate Zone 18 Councilor position for SPS. My leadership skills have a proven track record through supporting the completion of the 2014 SPS Research grant awarded to the Sonoma State University SPS chapter, outreach activities through the chapter, and being an active officer. In addition I have held professional leadership positions, managing technical staff in my IT career before returning to school or a degree in physics. SPS chapters are very important for the personal development of early career physicists. I will continue to push for workshops such the one the SSU chapter started. These peer-led programs are targeted towards lower division physics and non-physics majors, teaching them skills that are not traditionally taught in class but are important to conduct research and obtain a career in the sciences. Expanding these programs will benefit many physics majors with the skills they need to begin research as well as learning to develop their ability to lead others through leading a workshop. Another important function of the SPS chapters is to increase involvement in community outreach thereby educating people on the importance of physics education and encouraging students to pursue a career in physics. I am committed to helping chapters achieve these goals if elected the Associate Zone Councilor for Zone 18.