The Pennsylvania State University
American Nuclear Society Student Chapter

Proposal to Host the ANS Student Conference, Spring 2014

Innovations in Nuclear Technology

February 2013

Student Sections Committee
ANS Education and Training Division

Dear American Nuclear Society Student Sections Committee Members,

The ANS student section at The Pennsylvania State University is honored to submit an application to host the 2014 ANS student conference. We firmly believe that Penn State is the perfect location for hosting such a conference, and we can ensure an experience that will be worthwhile for every attendee.

Penn State has the largest undergraduate nuclear engineering program in the United States, along with a very prestigious graduate school program. Our program is well established and supported by research projects in connection with major national laboratories and many other organizations. Penn State is also home to the Breazeale Nuclear Reactor, located directly on our campus.

Our campus is located in the middle of Pennsylvania offering us convenient proximity to many of the nuclear power stations within the state. The most iconic of these is Three Mile Island, located a mere two hour drive from campus. Pennsylvania is home to nine nuclear power plants that supply nearly 50 percent of the electricity used in the state.

The conference program described herein is a well-developed and engaging program that will benefit every attendee. We have improved upon previous years' plans to make this conference our own. With prestigious speakers, laboratory and reactor tours, and unforgettable school spirit, Penn State is fully prepared to host the 2014 ANS student conference.

As the country and the world continue to move forward with nuclear-related research and the construction of nuclear power plants, our students believe we should set our sights on the exciting future ahead of us. In accordance with this, we have chosen our theme to be "iNuc: Innovations in Nuclear Technology". This theme poses the question of how to move the industry forward into the technology-rich future. We hope to inspire innovation and creative ideas from the new generation of nuclear engineers attending the conference.

We appreciate your consideration of our proposal and hope that you find us to be a perfect candidate to host the 2014 ANS student conference!

Sincerely,

Matthew Wargon
Co-Chair

Karen Bobkowski
Co-Chair

EXECUTIVE SUMMARY

INNOVATIONS

The 2014 ANS Student Conference at Penn State will focus on innovations. Our theme, "iNuc Innovations in Nuclear Technology", will encourage new thinking for everyone involved, starting with this proposal. This theme is intended to inspire, encourage, and change thinking in the nuclear industry.

The conference will focus on new technology, a creative mindset, and the betterment of each attendee. To encourage students to think outside the box and explore new topics, we will include new judging categories that focus on the originality of the topic as well as the quality of the presentation. We will be having our very own Melissa Marshall, a renowned professor of speech for engineers, host a workshop at the beginning of the conference to aid the presenters in being better speakers. Her work focuses on innovations in public speaking for technically minded people, making her one of the greatest assets to the conference.

The planning committee has been brainstorming improvements to take our conference to the next level. Our main focus has been on the improvement of the sponsorship system. Inspired by conferences put on by other professional societies, we propose to have companies sponsor individual events and items. This change will allow companies to have their logo and name on specific events, thus encouraging them to choose the more visible and expensive items, which should help increase the funds raised. We believe that this will provide us with the necessary funds, as well as encourage the active interest of nuclear industry.

LEADERSHIP

Our leadership and planning committee has put together a conference proposal with the plan that they will be the same team hosting this conference. As such, we have made every effort to create a proposal that has all of the required items as well as our own contributions to put Penn State in an excellent position to host this event.

The 14-member planning committee includes students of various ages, experience, and interests. Heading the committee are two dual major undergraduate students with significant support from the section president. The chairs include undergraduate and graduate students interested in all areas of nuclear engineering from energy to research to space possibilities and more. This allows us to design a conference that will benefit and interest all participants.

PROGRAM HIGHLIGHTS

The iNuc program will put a twist on the typical conference with a new outlook and new events to make this the best conference yet.

Professional development is one of the most important aspects of this student conference. For this reason, our conference will focus on highlighting the successes and attributes of the ANS student population. Student presentations will be emphasized and supported in every way possible. We also want to showcase the companies that make this conference possible by giving them the opportunity to promote themselves at events throughout the conference. To encourage student-industry connections, we will provide several opportunities for meaningful networking.

We have several plans to inspire change in all attendees. As stated above, our non-technical workshop will be on the best practices for technical presentations. Our proposed industry speakers include members of Terrapower as well as Transatomic Power. These two companies are leaders in introducing innovation in our industry that needs this revival. These speakers will inspire the students who attend to realize that they have the power to enact change and make a difference. These two new companies are founded upon excellence and determination. That vision is exactly what we want in our conference.

Our technical and non-technical tours offer views into life in Pennsylvania. The two major tours are a visit to Three Mile Island and a tour of Penn's Cave. Attendees will have the option to explore the history of the industry or explore the wonders of nature. Both of these tours bring people back to the roots of nuclear power whether it is the concern for nuclear safety, or the aim to preserve the earth by providing large amounts of sustainable energy. The on-campus technical tours include: the Breazeale Nuclear Reactor, the Applied Research Laboratory, the Millennium Science Complex, and additional labs for Penn State's industry research. Penn State has many world-class laboratories such as its facility for zero-vibration materials research in the Millennium Science Complex.

Last, but not least, is Penn State's school spirit: an experience that can't be missed while visiting this campus. The Saturday night banquet will give a little taste of just that. Held in the South Annex of the basketball stadium, the Bryce Jordan Center, this dinner will be blue and white themed with Penn State entertainment. Along with the keynote speaker, this dinner will feature the Nittany Lion Mascot, members of the Blue Band, as well as our Feature Twirler. If that isn't enough, we will also be holding several tours of Beaver Stadium. Not only will this allow attendees to glimpse the massive stadium situated right on our campus, but it will also feature a technical look at the design constraints related to having 107,282 people jumping in the stands in unison.

VISITING HAPPY VALLEY

State College, Pennsylvania is renowned throughout the mid-Atlantic region as being an incredible place to visit. The area, often referred to as Happy Valley, is a picturesque location for holding a large conference. There is ample space for meetings and accommodations, the spring weather and scenery can be breathtakingly beautiful, and the downtown State College area offers a unique "big city in a small town" experience. State College has sights that cannot be seen anywhere else such as Beaver Stadium, Mount Nittany, and a beautiful campus. To top it off, we boast the rich history and facilities of the largest nuclear engineering program in the country.

Accessibility

The State College area conveniently has its own airport: the State College Airport. Also, State College's location smack dab in the middle of Pennsylvania means it is no more than three hours away from two other major airports: Pittsburgh International and Harrisburg International Airports.

Accommodations

State College may not seem like a major destination city however it has more than enough hotel space to accommodate a conference of this size. The population of State College is 42,034 (as of last census), but on a typical football Saturday, the population jumps to over 110,000, with many of the visitors arranging for overnight accommodations.

Weather

State College garners some of the most beautiful weather in the mid-Atlantic region with an average daily high temperature of 57.9 °F, along with stunning scenic mountains and wildlife. The proposed conference dates are in April, which has an average daily high temperature of 58.2 °F, and is a relatively dry month, with only an average 3.16 inches of precipitation.

THE PENNSYLVANIA STATE UNIVERSITY

Penn State is a multi-campus research university with a stated mission of teaching, research, and public service. The University has more than 8,800 faculty members and 95,000 students, with approximately 44,000 of these students attending the main campus University Park campus in State College. Penn State offers more than 160 majors across the system. The University is well known as a leader in research and, in 2009, it ranked ninth overall in the United States for research income.

The College of Engineering at Penn State has been producing world leaders in engineering since 1896. It is currently ranked 16th in the nation, but the true power of a Penn State engineering degree comes with the network of alumni. One out of every 50 engineers in the United States is a Penn State graduate. The College of Engineering offers more than 30 undergraduate and graduate programs and provides groundbreaking research in a multitude of disciplines, from nano-technology to aerospace.

In addition to the multitudes of academic achievements, Penn State is very involved in philanthropy, the arts, and athletics. One of the favorite events of Penn State students is the Penn State IFC/Panhellenic Dance Marathon (THON). Since 1977, THON, the world's largest student-run philanthropy, has raised more than $89 million for the Four Diamonds Fund, a charity organization whose mission is to fund pediatric cancer treatment and research. THON's annual total has increased steadily since its inception 36 years ago, raising $12.3 million this year alone, and over $100 million total. This event exemplifies the Penn State spirit in the best way, by showing how much is possible to achieve when our school comes together for a great cause.

PENN STATE UNIVERSITY NUCLEAR ENGINEERING PROGRAM

THE PROGRAM

The Penn State Department of Mechanical and Nuclear Engineering consists of almost 1000 undergraduate and more than 300 graduate students. The 54-member faculty strives to push their students academically in the classroom, through research, and through activities.

The nuclear engineering program began in 1953, when funds were allocated by the University to build a research reactor. That reactor began operation on August 15, 1955, and was later replaced by the TRIGA that sits in its place today. Dr. William M. Breazeale was hired in 1953 as the reactor's first director, and the reactor facility has since been named in his honor as the Breazeale Nuclear Reactor. In the fall of 1953, Dr. Breazeale offered Penn State's first engineering courses. In the fall of 1954, Dr. Breazeale became the first nuclear engineering professor at Penn State, and in 1959, another professor, Dr. Nunzio J. Palladino, was hired, creating the Department of Nuclear Engineering. The nuclear engineering program at this time consisted of three faculty members and eight students. Since its humble beginnings in 1959, the program has awarded almost 1000 undergraduate and 600 graduate degrees in nuclear engineering, and is consistently ranked in the top ten nuclear engineering programs in the country.

RESEARCH GROUPS AND FACILITIES

The following five research groups are the major nuclear engineering research entities at Penn State.

The Radiation Science and Engineering Center

The Radiation Science and Engineering Center (RSEC), directed by Dr. Kenan Ünlü, was established to manage Penn State's comprehensive nuclear research facilities, including the Breazeale Nuclear Reactor, Gamma Irradiation Facility, and their radioactive sources and radiation measurement resources. RSEC provides safe analytical and testing facilities in support of the nuclear research and education activities of faculty, staff, and students at Penn State. Current research focuses on neutron irradiation, neutron radiography, neutron activation analysis, radioactive isotope production, neutron transmission measurement, nuclear detector testing and calibration, radiation effects testing on materials and electronics, and gamma irradiation.

The Advanced Multi-Phase Flow Laboratory

The Advanced Multi-Phase Flow Laboratory (AMFL), directed by Dr. Seungjin Kim, researches thermal-hydraulics. The group tests theoretical and computational models of multi-phase flow as well as creating and executing scaled experiments. The group's research topics include: modeling of two-phase flow and fluid-particle interactions, the interfacial area transport model, nuclear reactor safety analysis, and two-phase flow instrumentation development.

The AMFL utilizes a completely self-contained laboratory in which they perform all of their work. The lab is located in the Hammond Building on campus, next to the proposed conference facilities. We plan to offer a tour of the unrestricted parts of this lab to interested conference attendees.

The Intense Laser Laboratory

The Intense Laser Laboratory (ILL), directed by Dr. Igor Jovanovic, has two main research focuses. The first focus is in nuclear detection and remote sensing. This area examines the development of methods used to defend nuclear technology and detect nuclear proliferation. Some of their current projects include: the development of graphene radiation sensors, directional neutron detection, coherent neutrino scattering, and quantum remote sensing. The second focus of this group is ultraintense laser science and technology. This area centers its work on the use of high-power lasers. Some current projects include advanced pulse-shaping techniques, technology and diagnostics of ultra-high intensity laser systems, laser-based radiation sources, and mid-infrared ultra-fast source for accelerator applications.

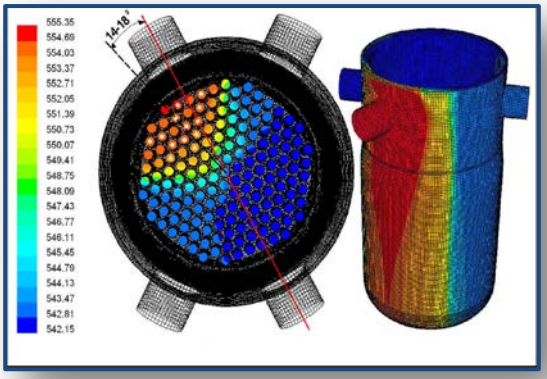
The ILL utilizes facilities in both the Radiation Science and Engineering Center (RSEC) and its own self-contained facility. The ILL facility includes delicate equipment such as a Coherent Micra Ti: sapphire oscillator, a Terawatt laser system, a SPIDER pulse characterization device, and more.

The Materials for Nuclear Power Group

The Materials for Nuclear Power Group, directed by Chair of the Nuclear Engineering Program, Dr. Arthur Motta focuses predominantly on radiation damage and environmental degradation to materials with specific emphasis in zirconium alloys. Dr. Motta's research areas include the behavior of specific nuclear reactor materials, including zirconium alloys, intermetallic compounds, and steels under irradiation, phase transformation, and corrosion, as well as the mechanical behavior of these materials.

The Reactor Dynamics and Fuel Management Group

The Reactor Dynamics and Fuel Management Group (RDFMG), led by director Dr. Maria Avramova and associate director Dr. Justin Watson, performs research in the subjects of nuclear physics, nuclear safety, and fuel management. The major focus of this group is the development, coupling, qualification, and application of reactor analysis tools and the integration of advanced multidimensional reactor design and safety analysis physics methodologies. Research is also performed in the areas of refined local safety parameters analysis methodology, core-wide and regional stability analysis methodology, real-time simulators, on-line core monitoring systems, transient cross-section modeling, loading pattern and burnable poison placement optimization, and optimum fuel burnup and cycle length.



The Materials for Nuclear Power Group and RDFMG both have their own private computer lab facilities and servers for use in their work.

PENN STATE ANS STUDENT SECTION

The Penn State student section of the American Nuclear Society has seen a massive growth in membership and participation in recent years. From 20 members just a few years ago, the organization has now grown to nearly 100 members. This can be attributed to the increased growth in the number of students enrolled in the program. The section has an Executive Board and numerous sub-committees, a structure allowing for all members to be engaged and giving members the opportunity to pursue meaningful leadership positions.

The Penn State ANS Executive Board is comprised of the president, vice president, treasurer, and secretary. The Executive Board oversees the club's day-to-day functions. There are also three governors who sit in with the executive board during meetings and serve as chairs of the following committees: Outreach, Social, and Conference.

The Penn State ANS student section is involved in various social and academic activities as well. Some of them include:

- Touring the Three Mile Island facility
- Hosting the Westinghouse Science Honors Institute Program
- Hosting Boy Scout Nuclear Merit Badge days
- Hosting reactor tours for parents and families weekend on campus
- Organizing networking sessions between nuclear industry members and ANS students
- Fundraising for Penn State THON
- Sending dancers to Penn State THON, who participate for the entire 46 hour event
- Hosting tailgates before football games
- Gathering for social outings, such as hayrides and bowling

The Penn State ANS student section is ecstatic at the thought of hosting the 2014 Student Conference, and we believe that we are more than capable of providing the conference attendees with an interesting, rewarding, and fun experience.

CONFERENCE THEME

iNuc

Innovations in Nuclear Technology

The theme for the 2014 ANS Conference at Penn State University is "iNuc: Innovations in Nuclear Technology". The focus of this conference will be on recent innovations and improvements in the nuclear energy industry and the steps that can be taken to foster and support this progress.

The progress of any industry relies on innovation and creativity. As the newest generation of nuclear engineers, it is our job to propel the nuclear industry through the 21st century, and improve upon it by applying innovative and revolutionary technologies. This conference will inspire and motivate our generation of nuclear engineers to think outside the box in order to refresh the nuclear industry.

Schedule App

Our first application of technology will be an app designed to streamline the conference schedule. ANS will team up with Penn State's renowned Computer Science department to design an application for the conference schedule. This application will show daily events and link to event descriptions and will be available for both Android and iOS platforms.

App Contest

To put a new and fun twist on the typical competition for this conference we will be holding an app contest. Any interested sections that are attending may design, with or without the necessary programming, an application of their choice to submit for judging. In order for this application to be considered, it must be related to engineering. Penn State's Computer Science department will help ANS judges in testing application submissions. These applications may be designed on either the Android or iOS platform. The student section that designs the most creative and innovative application will win $1000 for their student section and be able to work with the Penn State Computer Science professors to put their app online- all rights reserved for the original designers of the app.

Presentations and Posters

The judging form for presentations and technical posters will have a separate judging category for creativity and innovation. This category may be satisfied in different ways: points will be awarded if the presentation or poster is on an innovative topic or if the topic is presented in a creative way.

DATES

Outlined below are the possible dates for the conference. These dates were chosen by examining the schedules of the member schools to avoid conflict with spring breaks and final exams (the detailed conflicts are shown in Appendix C . We also avoided holding the conference during other ANS Meetings, local events on campus, or the FE and GRE exams. The options are listed below, with our preferred choice first.

1. April 3 – 6
    - Occurs after spring break for almost every school
    - Ends the weekend before final exams for Vanderbilt University
2. April 17 – 20
    - Conflicts with the City College of New York and Louisiana University's spring break
    - Is after or shortly before finals for multiple schools
    - Easter Weekend
3. February 22 – March 2
    - Conflicts with the beginning of University of Florida, Massachusetts, Michigan and Vanderbilt's spring breaks

PROJECTED ATTENDANCE

We project the attendance will be equal to the attendance seen at the UNLV conference, approximately 400 students and 200 professionals. This was concluded as a result of both increased student interest in nuclear engineering as well as the proximity of State College to the majority of ANS student sections. Penn State is located within driving distance (assumed to be under 8 hours) of many of the student sections.

In addition, Penn State's geographic location will draw participation from the preeminent nuclear energy organizations in the United States, such as Westinghouse, Exelon, and Bettis Atomic Power Laboratory. We are also within a few hours of Washington, D.C. and the government headquarters and naval nuclear bases in that area. This convergence of nuclear industry in our area will have a positive impact on the number in attendance. If the number of attendees exceeds 600, our facilities -- including hotels, presentation rooms, and dinner facilities -- are equipped to handle the increased attendance.

If we find that the number of attendees is fewer than 600 participants leading up to the event, the committee will contact the ANS student sections to better understand their reasons for the decreased participation and attempt to assist them in overcoming any issues. The proposed facilities can be very flexible in seating and number of rooms needed for presentations. A lower attendance would also reduce the fees charged by the facilities.

ACCOMMODATIONS

STUDENTS

(Days Inn State College Lobby)

Because the majority of the conference's events will be held on campus, attendees will stay in either one of the two hotels that reside in downtown State College. The Atherton Hotel is a prestigious hotel located across the street from the campus engineering buildings, including those being used for the conference itself. The Days Inn is only a few blocks away from the Atherton, and thus only a 5 minute walk to the conference facilities. These hotels are in a convenient location, but neither of them is of a size to host all students. Due to their proximity both to each other and to the conference facilities, using both hotels should not be an issue.

(Atherton Hotel Lobby)

The Days Inn, State College is a larger hotel with 250 rooms and will offer a group rate of $95 for double occupancy and $10 per additional occupant. This comes to $115/night for four guests per room. The Atherton, with 100 rooms, is a more prestigious hotel, but has agreed to match the Days Inn pricing for the conference. These are the prices that are accounted for in the budget.

The Atherton is willing to provide the group rate for 40 rooms of two double beds each for a total of 160 students, assuming 4 students per room. The Days Inn can offer up to 75 rooms of four double beds for a total of 300 students. This allows for more than 400 students to attend and receive the group rate.

SPONSORS

The third hotel, intended for the sponsors and industry representatives, is the picturesque Nittany Lion Inn. This blue and white decorated hotel is located on the Penn State Campus, just north of the engineering buildings. The hotel is a block away from the iconic Lion Shrine. Rooms range from $135 and up.

(Nittany Lion Inn)

Other options include all major hotel chains, including Marriott, Hilton, Ramada, Best Western and many others. A comprehensive list of these options will be provided to sponsors if they desire a specific chain.

ALTERNATIVE HOTELS

Alternative options are available at any of the aforementioned major hotel chains. The best option would be use of the Ramada Inn as this facility is also within a few blocks from campus. However, we do not foresee needing the Ramada Inn as all three of the choice hotels have given their support. Additionally, neither student hotel permits booking more than a year in advance, so reservations can be made without competition once Penn State is announced as the host school.

TRANSPORTATION

TRAVEL TO PENN STATE

DRIVING TO PENN STATE

State College, PA, is located in the center of Pennsylvania. We are conveniently located along major highways leading in all four cardinal directions as well as diagonally through Harrisburg, Baltimore and Washington DC. Our geographic location will allow many of the schools concentrated in the Midwest, northeast, and east to drive directly to State College. Penn State is within 12 hours from almost half of all active ANS student chapters. It is strongly recommended that schools drive if they reside within a reasonable driving distance.

FLYING TO PENN STATE

Based upon current airfare pricing, we are suggesting students and professionals fly to airports located in State College (SCE), Pittsburgh (PIT), or Harrisburg (MDT). State College Airport (SCE) is small but features direct flights to Detroit, D.C., and Philadelphia. However, the Pittsburgh and Harrisburg airports are within 3-4 hour driving distance to State College. In addition, attendees may also choose to fly into the Philadelphia (PHI) and Lehigh (ABE) international airports. The Penn State ANS student chapter would like to lower the cost to attend the conference for students by providing a complimentary shuttle service to and from the airports of Harrisburg and Pittsburgh. These complimentary shuttles will be available during arrival on either Wednesday or Thursday as well as for departure on Sunday. The Transportation Chairperson will coordinate with schools using the Harrisburg or Pittsburgh airports to ensure smooth transitions from their flights to the buses that will bring them to State College. For those students traveling directly to the State College airport, shuttle services will be provided to both student hotels.

The average cost of airfare is predicted to be $318 per person. More airfare information can be found in Appendix D. This cost includes all taxes and preliminary fees associated with each flight. Universities may also opt to fly out of a major airport near their own school to further decrease prices.

Travel During Conference

Travel Around State College

All of the major hotels that we recommend are within walking distance of the Hintz Alumni Center, the main conference facility. Shuttles to and from the Alumni Center can be made available at specific times for professional sponsors choosing to stay at the Nittany Lion Inn. We believe that student shuttles are unnecessary due to the close proximity of the hotels to the conference facilities. The Centre Area Transportation Authority (CATA) provides free bus service on campus and in downtown State College, which would also be available to our conference attendees. An assumption of only offering shuttles for professionals staying at the Nittany Lion Inn has been made for budgeting purposes.

Students who are in need of greater accessibility will be provided individualized transportation service from the Pennsylvania State University Transportation Services that provides Paratransit Shuttles as well as rental cars which can be arranged as needed.

Rental car availability for professionals in State College can be arranged through most of the major companies including Alamo, National Car Rental, Avis, and Hertz.

Transportation To and From Tours

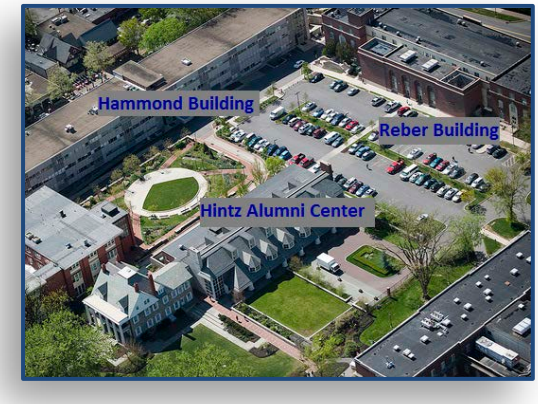
Charter buses will be available for each of the tour events off campus. The number of buses available will depend upon interest and accommodation abilities of the respective sites. These charter buses will be rented through Fullington Transportation, and will provide transportation to and from Three Mile Island, the Nittany Mountain Winery, and Penn's Cave. Costs of these excursions can be found in the budget.

FACILITIES

PENN STATE FACILITIES

The Pennsylvania State University is a beautiful campus with ample space to hold the conference. We are proposing to hold the conference in the Hintz Alumni Center, with additional presentation rooms available in surrounding buildings. Hintz Alumni Center, home to our alumni relations office, is a newly renovated building on campus with conference rooms, a spacious hall, and beautiful grounds. Reber Building, home to the Department of Mechanical and Nuclear Engineering, and Hammond Building, home to the College of Engineering, surround Hintz, and would also be at our disposal for the conference.

TECHNICAL PRESENTATION SPACE



Hintz has three main sections that would be utilized. There are four conference rooms that are well equipped for technical presentations, with smaller breakout rooms adjoining them for speaker preparation. Each room will contain a projector, screen, podium, and seating as well have the option of changing to offer a panel table or be otherwise altered. The presentations will also be held next door in Reber Building in two slightly larger conference rooms, allowing for a larger audience. If additional presentation rooms are needed, we can use the classrooms nearby in Hammond Building, which will be vacated as needed on Friday, and are free for our use on Saturday. This allows for up to 8 technical presentations to run concurrently throughout the day Friday and Saturday with every student attending lectures at any given time.

PLENARY AND WORKSHOP SPACE

Workshops and panels have the option to be held in one of two rooms in Reber, a smaller 50 person room or a 150 person lecture hall, complete with a podium, stage and plenty of space. These two rooms have full A/V set up as well as computers to make the event run as smoothly as possible. We can also use the lecture hall in Hammond, which seats 105 students, if we want to have concurrent large speeches.

Career Fair and Poster Session

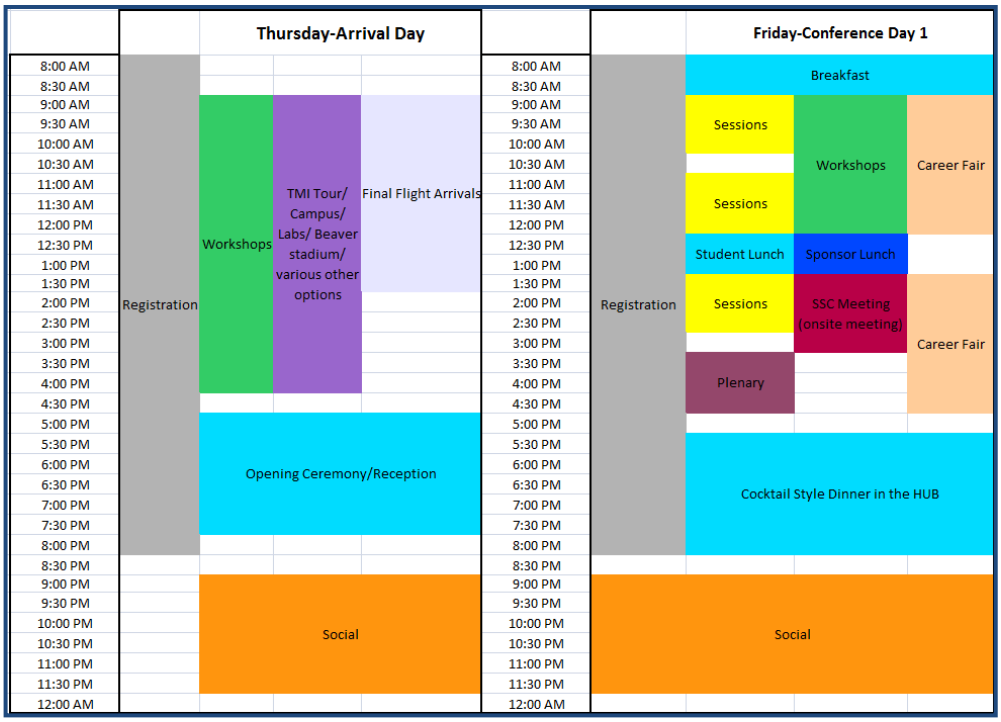
The career fair and poster session will be held in Robb Hall in the Hintz Alumni Center, a spacious and elegant room overlooking the Hintz gardens. This space will be dedicated to tables for the attending companies as well as graduate schools for most of Friday as well as Saturday morning. Following lunch on Saturday, the space will be used for the poster session, allowing for everyone attending to drift through the hall and see all of the posters created by the attendees.

Facility Capacities

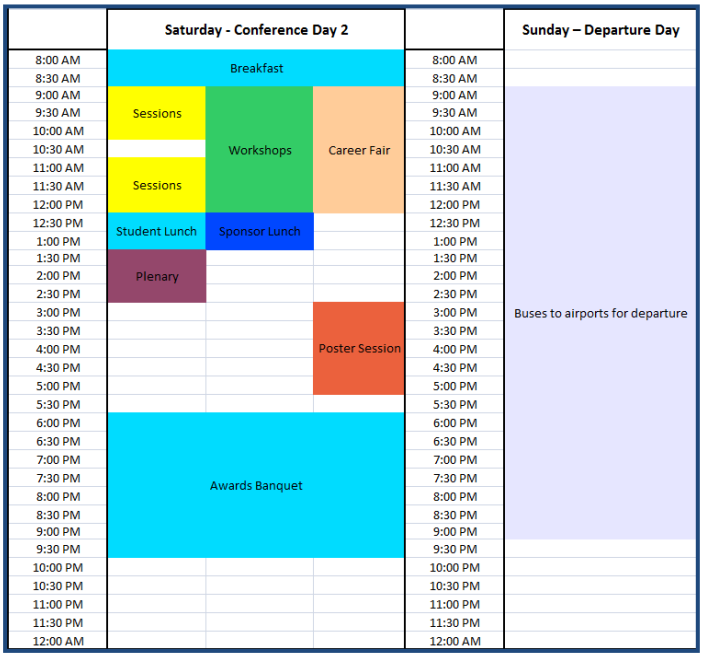
Room	Purpose	Capacity	Category totals
Hintz Library	Presentations	50	
Hintz Meeting 1	Presentations	40	
Hintz Meeting 2	Presentations	40	
Hintz Meeting 3	Presentations	40	
125 Reber	Presentations	50	
217 Hammond	Presentations	50	
219 Hammond	Presentations	45	
220 Hammond	Presentations	105	420
135 Reber	Workshop	110	110
Robb Hall	Career Fair/Poster Session	200	200
Reber Conference	Speaker Practice	15	15

Detailed Room Assignments Found in Appendix E

SCHEDULE
(THURSDAY-FRIDAY)



SCHEDULE
(SATURDAY-SUNDAY)



ITINERARY

The following is a brief description of events that will take place at the conference. The Events Specifics section provides more detail on many events such as workshops, technical sessions, and tours.

Thursday

8:00 am - 8:00 pm	**Registration** - Conference attendees will be able to check in and receive name badges, welcome bags, and conference programs. Thursday registration will take place at the hotels.
9:00 am - 4:00 pm	**Workshops** - Several workshops can be offered throughout the day in the nuclear engineering meeting room in Reber Building. Technical and non-technical workshops will be arranged.
9:00 am - 4:00 pm	**Tours** - There will be an opportunity for conference attendees to go on one of three tours to local attractions, including Three Mile Island generating facility. Tours will also be offered to explore Penn State's beautiful campus, Beaver Stadium, and various labs.
5:00 pm - 7:30 pm	**Opening Ceremony/Reception** - Join us for the opening ceremony, including a dinner in the beautiful Nittany Lion Inn ballroom. This event will include a keynote speech by one of our planned speakers.
9:00 pm - 11:30 pm	**Social** - Meet fellow conference attendees and make new contacts during this social.

Friday

8:00 am - 9:00 am	**Breakfast** - Start your morning off right with a continental-style breakfast in Reber Building.
8:00 am - 8:00 pm	**Registration** - Conference attendees will be able to check in and receive name badges, welcome bags, and conference programs. Friday registration will take place in Hintz Alumni Hall Foyer.
9:00 am - 3:00 pm	**Sessions** - During these sessions, attendees will give technical paper presentations. Presenters will be given twenty minutes (fifteen minute presentation, five minute question period). Each of the five session rooms will be equipped with a projector, screen, and podium. A student volunteer will be available in each room to assist with any needs.
9:00 am - 12:30 pm	**Workshops -** Technical or non-technical workshops with professors, professionals, or corporate representatives may be offered during this time.
9:00 am - 5:00 pm	**Career Fair** - Corporate representatives from various companies in the nuclear industry will be available to meet with students. Interview rooms will be provided for our top-level sponsors.
12:30 pm - 1:30 pm	**Lunch** - Student lunch will include sandwiches/wraps, sides, and a dessert. **Sponsor Lunch** - A hot, catered meal will be provided for sponsors.
1:30 pm - 3:30 pm	**SSC Meeting** - A separate room will be available for the student sections committee meeting.
3:30 pm - 4:30 pm	**Plenary** - A presentation will be given in one of the conference rooms in Hintz Alumni Center.
5:30 pm - 8:30 pm	**Cocktail Style Dinner -** A cocktail-style dinner will be served in the HUB Alumni Hall on campus.
9:00 pm - 11:30 pm	**Game Night Social** - Test your Nuc E knowledge in iNuc Jeopardy, then feel free to go next-door to the Break Zone for a game of pool or virtual mini golf.

Saturday

8:00 am - 9:00 am	**Breakfast** - Start your morning off right with a continental-style breakfast in Reber Building.
9:00 am - 12:30 pm	**Sessions** - During these sessions, attendees will give technical paper presentations. Presenters will be given twenty minutes (fifteen minute presentation, five minute question period). Each of the five session rooms will be equipped with a projector, screen, and podium. A student volunteer will be available in each room to assist with any needs.
9:00 am - 12:30 pm	**Workshops** - Technical or non-technical workshops with professors, professionals, or corporate representatives will be offered during this time.
9:00 am - 12:30 pm	**Career Fair** - Corporate representatives from various companies in the nuclear industry and representatives from Nuclear Engineering Graduate Programs will be available to meet with students. Interview rooms will be provided for our top-level sponsors.
12:30 pm - 1:30 pm	**Lunch** - Student lunch will include sandwiches/wraps, sides, and a dessert.
	Sponsor Lunch - A hot, catered meal will be provided for sponsors.
1:30 pm - 3:00 pm	**Plenary** - A presentation will be given in one of the conference rooms in Hintz Alumni Center.
1:00 pm - 4:30 pm	**Poster Session** - Poster presentations will be given during this time. The career fair ends before this time, so interested attendees may attend the poster session.
5:30 pm - 9:30 pm	**Awards Banquet** - An awards banquet will be held at the Penn State Conference Center. This event will include a sit-down dinner, award presentation, and a keynote speaker.

Sunday

9:00 am - 9:30 pm	**Buses to Airport** - Buses will be provided to transport conference attendees to the airport for departing flights.

Student Presentations

The student presentations are one of the main focuses of this conference. We have the capacity to run at least 6 concurrent presentations between the Hintz Alumni Center and Reber Building. All of the rooms will be fully equipped with A/V, including projectors, screens, podiums, and computers. They will each be set up to accommodate at least 40 people, with higher attendance possible in the two larger rooms. Presentations will be set in 20 minute intervals, with 15 minutes for the presentation and 5 minutes for questions afterwards. Each presentation will be judged based on originality, significance, relevance, and innovation in either the content of the presentation or the presentation method. A student volunteer will be in each room to facilitate the presentations and make sure the sessions run smoothly and on time.

The presentation tracks will follow the ANS technical divisions, with final tracks determined by abstract submission. A sampling of the tracks is as follows:

- Biology and Medicine
- Decommissioning, Decontamination, & Reutilization
- Education, Training, & Workforce
- Environmental Sciences
- Fuel Cycle & Waste Management
- Fusion Energy & Plasmas
- Human Factors, Instrumentation & Controls
- Isotopes and Radiation
- Materials Science & Technology
- Mathematics & Computation
- Nonproliferation & Nuclear Safeguards
- Nuclear Criticality Safety
- Nuclear Installations Safety
- Nuclear Science & Technology in Space
- Operations & Power
- Policy
- Radiation Protection & Shielding
- Reactor Physics
- Robotics & Remote Systems
- Thermal Hydraulic/Fluids
- **Special Session: iNuc Apps**

Speaker Practice Room

In line with the recent trends, a speaker practice room will be offered in the Board Room of the Hintz Alumni Center. This room allows for 2 or 3 presenters to prepare in front of small audiences in a calming setting.

WORKSHOPS

We plan on having at least four workshops, both technical and non-technical during the conference. The schedule allows for two workshops on Thursday, and one each on Friday and Saturday, although there is room for adjustment. We want the topics of the workshops to reflect the theme and highlight the research at Penn State, so conference attendees' experiences are unique to this conference. The non-technical workshop, which will be offered Thursday, will feature Melissa Marshall, a world-renowned researcher in engineering presentation. Professor Marshall has given speeches around the world, including a TED-Talk, on how best to present technical information to audiences so that the message comes through clearly and effectively. We also plan on making some of her ideas on innovative presentations available for the students whose abstracts have been accepted to the conference, so they can utilize her expertise in their presentations.

GUEST SPEAKERS

One of Penn State's greatest strengths is their extensive alumni network. Students from the Department of Mechanical and Nuclear Engineering have gone on to hold positions in every major company in the nuclear industry, as well as in national laboratories and government agencies. The students in the ANS section are also very active with internships and research grants with companies in the industry, major nuclear utilities, and national laboratories. We are confident that we can use these ties to the industry to bring numerous speakers to the conference that can each offer a unique perspective on innovations in nuclear technology, where the industry has been, and what we need to do to reach the next set of goals.

Dr. Kate Jackson is the Chief Technology Officer and Senior Vice President of Research & Technology at Westinghouse Electric Company. After attaining a master's in Industrial Engineering from the University of Pittsburgh and another master's and her doctorate in Engineering and Public Policy from Carnegie Mellon University, Dr. Jackson began her career at Westinghouse in Nuclear Technology. She then went on to have a very successful career with the Tennessee Valley Authority, focusing on energy and the environment. Dr. Jackson returned to Westinghouse in 2008, and now leads the Research & Technology division. She would be a perfect keynote speaker for the iNuc conference because of her background in innovative technologies, including her expertise in new projects at Westinghouse, such as the AP1000 and the SMR.

Kevan Weaver is the Director of Technology Development for TerraPower. Dr. Weaver received his B.S. in Physics from Brigham Young University and his Ph.D. in Nuclear Engineering from the University of Utah. TerraPower, formed in 2006, is a private sector company working towards the use of a travelling wave reactor (TWR). Dr. Weaver works on the design of these reactors. He has previously worked in the Idaho National Laboratory (INL) on many different projects, including those of Next Generation Nuclear Plant (NGNP) and of Gas-Cooled Fast Reactors. He was also the leader of the Advanced Reactor Design Group while at INL. His career has led him to work on many new technology opportunities with the nuclear industry and makes him a very good option for the conference here at Penn State. TerraPower and his work there are the very innovative leaders that we want to highlight in the conference.

Russ Wilcox is the Co-Founder and Chief Executive Officer of Transatomic Power. He graduated with honors from Harvard College and was a Baker Scholar at the Harvard Business School. Mr. Wilcox is co-inventor of 25 issued U.S. patents and the previous owner of E Ink, which sold for $450 million in 2009. Transatomic Power is a recently formed company that has developed a Waste-Annihilating Molten Salt Reactor (WAMSR). This company is working towards a working waste eliminating reactor that will help to solve the issue of nuclear waste. This forward thinking movement is a fascinating new development in the industry, and would add a great new topic to this conference.

Career Fair

The career fair will take place all day on Friday and on Saturday morning. It will be held in Robb Hall in the Hintz Alumni Center. Although the sponsorship is now by event as opposed to tiers, we will be following the previous trends of assigning booth type and space based upon size of the event that sponsors choose. Portions of these donations as well as the registration fees of the professionals will cover the cost of the career fair. The highest contributing sponsors will also have the opportunity to use a private interview room in the Bank of America Career Services Center. This center has Penn State's most professional interview rooms and will be open only to those top sponsors.

TECHNICAL TOURS

The Breazeale Nuclear Reactor Tour offers participants the chance to see our very own reactor located on our campus. This reactor was the nation's first nuclear reactor located on a university campus, and began operation in 1955 as a result of President Eisenhower's "Atoms for Peace" initiative. Since the reactor outputs one thermal Megawatt, it is only used for educational and research purposes. (Shown to the right, from left to right: William Breazeale, Milton Eisenhower, Eric Walker, and President Dwight Eisenhower)

The tour covers nuclear power in general, as well as the types of experiments that are conducted within the reactor. Visitors are usually taken to the Reactor Room, where they can witness the reactor being pulsed. Nuclear engineering students will be able to visit a research reactor and see why the American Nuclear Society presented the Breazeale Reactor with the Nuclear Historic Landmark Award in 1991.

The Millennium Science Complex is another planned tour on the Penn State campus. At just over 275,000 square feet, it houses the Materials Research Institute and Huck Institutes of the Life Sciences. The research at the Millennium Science Complex focuses on molecular biology, nanotechnology, and neural engineering. Described as "state-of-the-art," the MSC presents students with the many branches of particle research and the importance of interdisciplinary cooperation.

THREE MILE ISLAND TOUR

One of the off-campus tours offered during the ANS Conference is a visit to the Three Mile Island Nuclear Power Station. Currently owned by Exelon Nuclear, the plant is composed of an operating unit and a non-operating unit. The accident at Three Mile Island is a significant event in the history of the nuclear power industry. Although there were no deaths associated with the accident, public distrust with nuclear power increased at that time. Because of the accident, the Nuclear Regulatory Commission expanded its regulations and oversight to include multiple levels of inspection and documentation. It also established the Institute of Nuclear Power Operations, required to evaluate the performance and safety of U.S. nuclear power plants. A tour of Three Mile Island is a great opportunity for nuclear engineering students to learn more about the past of nuclear power generation in the U.S., and see the improvements that are constantly being made.

The Three Mile Island nuclear power plant is located 100 miles from Penn State, which is a two-hour bus ride each way. Exelon will be generously providing a tour of the plant. Three Mile Island features a Visitors Center as well, containing public exhibits and videos regarding nuclear energy and the Three Mile Island plant.

Sights to See

In addition to the technical sights around campus and in the area, the Penn State area offers several other attractions to tour while visiting the campus, including Beaver Stadium, Penn's Cave, and the Mt. Nittany Winery. As the second largest stadium in the nation, Beaver Stadium offers visitors a glimpse into the "We Are" spirit of Penn State. Tours of the stadium offer include viewings of the team locker room, the walkout tunnel to the field, the media room, the Letterman's Lounge, and – of course – the stunning views of campus and the surrounding farmland.

Penn's Cave and Wildlife Park is the nation's only all-water cavern and wildlife park, located half an hour away from campus. The cavern offers one-hour motorboat tours through the caves, as well as 90 minute tours of the park's 1,500 acres, home to native wildlife - including bears, wolves, elk, deer, bobcats, bison, mustangs, and cougars. Both tours provide a fun yet educational look at the Pennsylvania's geography, geology, and wildlife.

If you're hoping for something besides football or nature, Penn State is also home to the Mt. Nittany Winery. Nestled in the side of Mt. Nittany, located seven miles from campus, the winery provides groups with free tastings of their homemade wine and a tour of the facility, directed by one of the winery's knowledgeable staff members. The winery also offers beautiful views across Happy Valley and of the surrounding Tussey Mountain Range.

Conference attendees have the option to attend one or several of these events. Prices for each attraction, along with transportation costs, are listed in the budget section of the document. The only limitation is that students who opt to attend the Three Mile Island trip will not be able to also visit Penn's Cave and Wildlife Park or the Mt. Nittany Winery, since both trips are located away from campus.

Additionally, students have the opportunity to visit common on-campus attractions, including the popular Penn State Creamery, and historic Old Main – one of Penn State's oldest and most iconic buildings. Penn State offers an abundance of both technical and non-technical attractions for ANS conference attendees to make the 2014 Student Conference rewarding and fun!

DINING

THURSDAY NIGHT

The welcome dinner on Thursday evening will be held in the Nittany Lion Inn. This dinner will give the students and sponsors attending a chance to meet each other in a social setting that we hope will result in a successful and cohesive conference. The Nittany Lion Inn, also the sponsor's hotel, is a very prestigious hotel located on campus and complete with all of the blue and white spirit that one would expect from Penn State. The capacity of the dining hall is a maximum of 400 people. This is the perfect venue for our event, as we do not expect all of the estimated 600 attendees to be in State College in time for the event. We look forward to having a memorable evening with all our guests to begin our conference.

FRIDAY NIGHT

On Friday night we will be entertaining our guests at the HUB Robeson Student Center with a standing mixer. This low-key event will be a five minute walk away from the conference building making it easy for participants to attend. There will be light music and a few presentations to encourage an evening of social and general discussion. There will be question cards on the tables to facilitate discussion amongst the participants. This event follows a full day of presentations and workshops, and we feel that a relaxing dinner will be the perfect way to close out the day. A simple catered meal will also allow us to put more funds into the Saturday night banquet and other areas of the conference.

SATURDAY NIGHT

On the final evening of the conference an awards banquet will be hosted in the South Annex of the Bryce Jordan Center (BJC), located next to the stadium in the north east side of campus. The BJC is home to the Penn State Lions and Lady Lions Basketball teams as well as our pediatric cancer fundraiser, THON. The South Annex of the BJC has the seated capacity of 600 attendees as well as a stage with a podium, screen and anything else required. They have a comprehensive menu that will provide us with the elegant awards dinner that has come to be expected at the ANS Student Conference. The evening will include a 3 course meal, accompanied by the keynote speaker, the awards ceremony, and entertainment from Penn State icons such as the Nittany Lion, our Feature Twirlers, and members of the Blue Band. Buses will be provided to and from the event, or attendees can use the free campus buses that run every 10 minutes on Saturday Evenings.

BREAKFAST

There are several options for breakfast, depending on final budget concerns. Our primary option is to offer breakfast, provided by Campus Catering, in the Reber Building every morning before the start of the conference sessions. Campus Catering, a University run service, offers a continental style breakfast that will provide attendees with flexibility in choices. This option is reflected in our budget.

LUNCH

For lunch we have decided to offer the students a selection of cold wraps and sandwiches. The lunches will be made available for an hour during the day so that students can pick up their lunch as they please. For the sponsors attending the conference, a hot buffet will be provided. Both lunches will be supplied by Campus Catering.

SOCIALS

THURSDAY

A social will be held on Thursday night at the Days Inn located directly off campus. Students will have the opportunity to dance and socialize with other conference attendees. Two alcoholic drinks will be available for students who are 21 and over. The social will provide students with an informal environment to get to know fellow American Nuclear Society members from across the country, and the Days Inn offers the perfect location, as many students will be staying at the hotel. The event will end at 10:00 pm, and those students not staying at the Days Inn are only three blocks away from the Atherton Hotel.

FRIDAY: HUB GAME NIGHT

Friday's social will take place in the HUB-Robeson Center (the HUB), the primary student activity center on campus. The HUB offers a game room, complete with pool tables, virtual golf, dart boards, and numerous gaming systems and games, including Wii, Xbox, and Play Station 3. Several controllers for each system allow students to play games competitively. Students will also have the opportunity to partake in the Late Night activities offered in the HUB every weekend, such as a free movie, food from Burger King, Sbarro, and Starbucks, organized games, crafts, dancing, and more. Activities sponsored by ANS will only run until 10:00p.m. after which time students will be free to return to their hotel rooms, allowing students ample time to rest and prepare for the second day of presentations.

BUDGET

One of the major areas of change within our proposal is in the budget. As such, we have done extensive research into the past practices at ANS Student Conferences, as well as those of other engineering society conferences. This new plan has been put into place to better facilitate the event, as well as to improve the overall quality of this conference.

TABLE OF REVENUE

PAST REVENUE

Shown below are the revenue numbers that were predicted in the past 5 years' conference proposals. These numbers were obtained from previous proposals as posted on the student section webpage.

School	Texas A&M University		University of Florida		University of Michigan		Georgia Institute of Technology		University of Nevada, Las Vegas	
Sponsorship	Amount	#	Amount	#	Amount	#	Amount Number	#	Amount Number	#
Tier 1	$5,000	4	$15,000	2	$15,000	2	$25,000	1	$25,000	3
Tier 2	$3,000	6	$10,000	3	$10,000	3	$15,000	2	$15,000	1
Tier 3	$2,000	8	$5,000	5	$5,000	5	$10,000	3	$10,000	2
Tier 4	$1,000	4	$2,500	7	$2,500	5	$5,000	7	$5,000	8
Tier 5	$500	6	$1,000	8	$1,000	5	$1,000	7	$1,000	1
Tier 6	N/A		N/A		$500	8	$500	8	$500	7
Total	$71,500		$110,500		$105,500		$131,000		$154,500	

In comparison are the revenue numbers that the same five schools actually raised. These numbers were taken from previous proposals or from the conference programs.

School	Texas A&M University		University of Florida		University of Michigan		Georgia Institute of Technology		University of Nevada, Las Vegas	
Sponsorship	Amount	#	Amount	#	Amount		Amount	#	Amount	#
Tier 1	$15,000	5	$25,000	2	$25,000	4	$25,000	2	$25,000	1
Tier 2	$10,000	4	$15,000	2	$15,000	1	$15,000	1	$15,000	1
Tier 3	$5,000	8	$10,000	4	$10,000	2	$10,000	4	$10,000	4
Tier 4	$2,500	8	$5,000	15	$5,000	10	$5,000	8	$5,000	9
Tier 5	$1,000	9	$1,000	10	$2,000	14	$2,500	15	$2,500	11
Total	$184,000		$195,000		$213,000		$182,500		$152,500	

New Revenue System

In order to gain sponsorship for the conference, past schools have used a tier-based system on which companies would choose from set amounts to donate. By choosing to donate more money, companies would be able to receive more benefits, such as more advertising space at the conference, larger booths, and ad placement on the T-shirts.

We are proposing to move away from the tier-based system to a pay-by-event system. Instead of having a company pay a lump sum, they will be given a list of events to choose from. Each event has benefits that go along with the sponsorship, such as prominent advertising space at a dinner or on a conference package item. Along with the benefits that are given to sponsors with each event, events have been split into different levels. This provides additional benefits to the sponsors outside of their chosen event, such as larger booths at the career fair, recognition in the conference program, or a larger space on the conference website.

We believe that using this event-based system instead of the tie-based system will generate more interest among competing companies. The availability to sponsor events will be first come, first served, encouraging companies to commit quickly. Along with event costs, those items that provide greater visibility--such as the name tags and t-shirts--will be priced at an even $10,000. This cost is greater than the actual item and will provide the funds for items that are not marketable as events in exchange for the advertising space. A large portion of these funds will be appropriated for student travel reimbursements. The event descriptions, their cost, and the benefits provided with sponsorship are shown in Appendix F.

The inspiration for this change was taken from other conferences that several of our committee members have attended, as well as from standard practices by other student organizations in the College of Engineering. These events include the Society of Women Engineers (SWE) National Conference and the Society of Hispanic Professional Engineers National Conference. While these events are typically of a larger magnitude, the need for fundraising remains the same. Further inspiration stems from specific fundraising advice from the Penn State SWE chapter, who modeled their own sponsorship off of the national chapter's example.

Registration Fees

The table below lists the past five years projected attendance according to their conference proposals as well as the requested registration fee for each participant. The numbers projected for the conference at Penn State are in accordance with this table as explained in the Conference Attendance section. Also following the same trends seen in recent years, we are proposing the cost of attending the conference at Penn State will be $25 per student and $250 per professional.

School	Texas A&M	Florida	Michigan	Georgia Tech	UNLV
Year	2008	2009	2010	2011	2012
Cost per Student	$25	$25	$25	$25	$30
Number of Students	500	400	400	425	400
Cost per Professional	**	$200	$225	$250	$250
Number of Professionals	**	50	100	175	200

Predicted Revenue Spring 2014

Contribution	Amount	#	Revenue
Funds through new sponsorship	$145,000	1	$145,000
Student Registration	$25	400	$10,000
Professional Registration	$250	200	$50,000
Total			$205,000

This total is conservative due to the fact that there has been a downward trend in overall sponsorships. Because of this trend, our sponsorship goals are in line with the funds that UNLV actually acquired. Our hope is that by changing the nature of sponsorship we can reverse that downward trend; however we kept our estimates conservative.

TABLE OF EXPENDITURES

		Wed	Thurs	Fri	Sat	Sun	Total	Overall
FOOD	Breakfast	~	~	4200	4200	~	$8,400	
	Student Lunch	~	~	3600	3600	~	$7,200	
	Professional Lunch	~	~	3000	3000	~	$6,000	
	Dinner	~	16000	12000	25000	~	$51,000	
	Social	~	4200	2000	~	~	$6,200	
								$78,800
		Wed	Thurs	Fri	Sat	Sun	Total	Overall
FACILITIES	Presentations	~	~	2500	2500	~	$5,000	
	Setup	~	~	1500	~	~	$1,500	
								$6,500
		Wed	Thurs	Fri	Sat	Sun	Total	Overall
TRANSPOR-TATION	Tours	~	3800	~	~	~	$3,800	
	Airport Shuttles	4364	2088	~	~	6452	$12,904	
	Dinner Transportation	~	~	~	4400	~	$3,200	
	Student Reimbursement	63000	~	~	~	~	$63,000	
								$82,904
		Wed	Thurs	Fri	Sat	Sun	Total	Overall
CONFERENCE PACKAGE	Programs	~	~	~	~	~	$4,500	
	Marketing	~	~	~	~	~	$4,000	
	Nametags	~	~	~	~	~	$450	
	T-Shirts	~	~	~	~	~	$4,800	
	Pins	~	~	~	~	~	$800	
	Speaker Gifts	~	~	~	~	~	$400	
	Awards	~	~	~	~	~	$5,000	
								$19,950

Total: $188,154

DISCRETIONARY SPENDING

The budget is flexible so that if less sponsorship is received than previously expected, adjustments can be made to lower the cost of certain events or cancel the discretionary events/items if absolutely necessary. The changes in the budget that will result in a lower cost are listed below. Cuts will be made as necessary until the budget is balanced.

1. Eliminating free drink tickets at the Thursday social
2. Eliminating drinks at Saturday Banquet
3. Eliminate socials completely
4. Offering professionals and sponsors the same lunch as students
5. Lowering the cost of presentation rentals by selecting a less comfortable seating option
6. Reducing marketing costs
7. Cutting Speaker Gifts
8. Cutting Student Award amount – especially award for app contest

Item	Original Cost	Reduced Cost	Cost Difference
Drink Tickets	$3,000	$0	$3,000
Banquet Drinks	$3,000	$0	$3,000
Social (Thursday)	$1,200	$0	$1,200
Social (Friday)	$2,000	$0	$2,000
Professional Lunch	$3,200	$1,400	$1,800
Seating Rentals	$1,000	$600	$400
Marketing Costs	$4,000	$2,000	$2,000
Speaker Gifts	$400	$200	$200
Student Award	$5000	$2000	$3,000
Total			$16,600

COST OF ATTENDANCE

In an effort to defray the cost of attendance for students, we will be offering a reimbursement of $160, half of the average cost of transportation. Costs per student both with and without this reimbursement are included. As stated above, our revenue is conservative. Our aim in the new system is to be sponsored by more than that amount in which case there will be a greater travel reimbursement. The average cost of this conference per student attending is approximately $475. This is calculated with the assumption of 400 students attending and an expenditure budget of $190,000.

Item	Cost
Registration	$30
Flight (average)*	$318
Hotel Rooms**	$94
Total	**$442**
Total including reimbursement	**$282**

*Average flight information can be found in Appendix D

**Hotel fees based on four occupants at $115 per night for three nights.

FUNDRAISING PLAN

Our fundraising plan is where most of the new changes to the budget will come into effect. We are aware that the new revenue system has not yet been used in the ANS Student Conference; however, we are confident that it can be successful. Upon receiving the conference this spring, a formal request for funds and sponsorship packet will be completed. This packet will include a detailed explanation of the new system, why we chose to change the system, and what it means for the companies from whom we request funds. Also included will be an expanded version of the table found in Appendix F, which will detail the events, what the funds will support for each event, and what they can expect in return from us. Contact information will be provided and delegates will be attending the ANS national meetings if companies want to meet with us face to face.

The important and hopefully most beneficial consequence of changing to a new revenue format will be the incentive to commit support in a timely manner. This system, by necessity, has to be done on a first come, first serve basis. To avoid major issues with competition and allow companies to discuss their funding abilities, a deadline will be set at least a month after the date that we send out the request for sponsorship. This will be a firm deadline, and will--if all goes as planned--quickly allow us to know which of our plans can be carried out as outlined and what may need to be changed to a less expensive option.

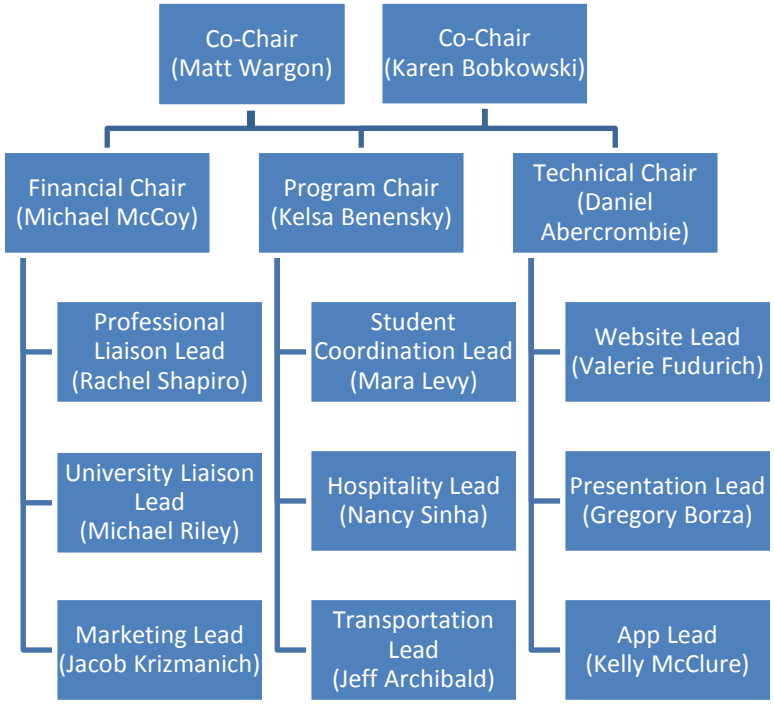
We are aware that this is a drastic change, and thus may not go as planned. As such, we are prepared to continue to request support after the initial deadline. This could mean speaking with companies about their reservations and negotiating benefits and ways to better support them.

FINANCIAL OVERSIGHT

Penn State's ANS chapter has its own small bank account through the student union; however this account is ill-equipped to process the magnitude of funds that will be handled throughout the conference. Instead, we plan to use the ANS headquarters banking facility for deposits and disbursements of most or all of the conference funds. This will allow for the conference funds to be allocated appropriately and given full oversight by the national organization. This will also afford us tax-exemption status, aiding in keeping the cost of conference as low as possible for attendees.

CONFERENCE COMMITTEE

The Penn State ANS chapter has utilized four levels of involvement by the students while preparing and executing the 2014 student conference. Overall responsibility is shared by two Co-Chairs. Under the Student Conference Co-Chairs are three section chairs, each with up to three leads spearheading a committee to concentrate on a specific aspect of the section chair's work. Lastly, the general members who want to be involved will be assigned to the committees they are interested in supporting. Every member of the committee has been involved with planning our conference proposal thus far, and will all graduate from Penn State at some point after the 2014 conference. This allows for each committee member to continue working in their respective positions if we are awarded the 2014 conference. Having developed the conference proposal for the respected sections, they are extremely well-versed in the subject matter and have the contacts they will need in order to implement the plan through to completion. However, we understand that students' plans can change, and taking that into account, all information has been well documented and every position can be replaced with minimal disruption.



COMMITTEE RESPONSIBILITY

Student bios can be found in Appendix G

Co-Chair (Matthew Wargon)

- Oversee and delegate tasks to:
  - Technical
  - Website
  - Presentation
  - App
  - Financial (Shared)
  - Professional Liaison (Shared)
  - Marketing (Shared)
- Lead the team throughout planning and execution of the conference
- Coordinate with chairs to ensure successful ventures
- Meet with advisors to gain insight and ensure university compliance
- Serve as masters of ceremony for Conference
- Enforce deadlines throughout planning
- Correspond with ANS Headquarters
- Serve as primary contact for funding and solicitation

Co-Chair (Karen Bobkowski)

- Oversee and delegate tasks to:
  - Program
  - Hospitality
  - Transportation
  - Coordination
  - Financial (Shared)
  - Professional Liaison (Shared)
  - Marketing (Shared)
- Lead the team throughout planning and execution of the conference
- Coordinate with chairs to ensure successful ventures
- Meet with advisors to gain insight and ensure university compliance
- Serve as masters of ceremony for conference
- Enforce deadlines throughout planning
- Serve as contact for major program endeavors

Financial Chair (Michael McCoy)

- Create and monitor budget
- Ensure compliance with monetary constraints
- Work with professional liaison to appropriate funds
- Control and implement contingency plans if short on funds

Professional-Liaison Lead (Rachel Shapiro)

- Organize career fair
- Create documents and scripts for requesting funds
- Recruit and organize industry mentors
- Provide the benefits from various sponsorship tiers

University-Liaison Lead (Michael Riley)

- Coordinate travel reimbursement and relevant funds
- Be primary contact with student sections
- Announce deadlines
- Field questions from sections

Marketing Lead (Jacob Krizmanich)

- Create brochures and program
- Act as liaison between Penn State and attending universities
- Appropriate funds as needed to purchase items for the conference

Program Chair (Kelsa Benensky)

- Create and execute tours
- Act as liaison to professors, companies and sites to be toured
- Organize speakers and workshops
- Execute applications of the theme

Student Coordination Lead (Mara Levy)

- Recruit and organize student volunteers
- Help program chair with extra details
- Find and apply ways to tie in theme
- Itinerary

Hospitality Lead (Nancy Sinha)

- Reserve and assign hotel rooms
- Assign rooms to various events
- Plan and run breakfast, lunch and dinner times
- Work closely with transportation chair to ensure smooth transitions
- Know facilities and places to be (work with coordination chair)

Transportation Lead (Jeff Archibald)

- Organize transportation for every event
- Meet with all transportation agencies before and during event
- Provide organized and clear instructions to all participants

Technical Chair (Daniel Abercrombie)

- Coordinate assigned various chairs
- Create participant pamphlets
- Create banquet presentations

Presentation Lead (Gregory Borza)

- Choose topics to be judged
- Request and review abstracts
- Coordinate speakers
- Ensure timeliness during conference

Website Lead (Valerie Fudurich)

- Create and maintain the conference website
- Ensure that all submissions and questions are forwarded to their intended recipients
- Promptly make any requested changes

App Lead (Kelly McClure)

- Write and edit Android schedule app
- Write and edit Apple schedule app
- Work with professors to put app online

STAFFING THE EVENT

The Penn State ANS student section is ready and willing to take on the massive number of hours that will be needed in order to staff this event. Our section has 100 active members this year and around 250 students studying nuclear engineering at the undergraduate and graduate levels combined. Our active members have stated that they are willing and able to help, and the first choice conference date is far enough before final exams to make their participation a reality.

There are 14 conference committee members who will help to coordinate and instruct volunteers in their chosen areas. We are also proposing a Student Coordination Lead who will have the specific task of organizing and delegating for required tasks. This lead, as stated in the section above, will seek out a committed group of volunteers to be available during the conference. These volunteers will be instructed to complete any job requested by the Committee Chairs or conference presenters. We are expecting at most 50 volunteers each day to staff the sessions, workshops, and registration table, as well as handling food and other miscellaneous tasks. We are estimating around 130 total volunteer positions over four days which is easily handled by our student membership. The support from our student members can be found in Appendix B.

Extra volunteers can be recruited from other engineering societies on campus. In particular, many of our members are pursuing a dual major in mechanical and nuclear engineering and are involved in the American Society of Mechanical Engineers. This bridge will help if additional student volunteers are needed.

Event	Committee Oversight	Thursday	Friday	Saturday	Sunday	Totals
Registration (2 shifts)	Co-Chairs	6	6	4	0	16
Workshops (2 shifts)	Technical	4	4	4	0	12
Technical Sessions	Presentation	0	15	15	0	30
Career Fair	Professional	0	2	2	0	4
Transportation	Transportation	5	3	3	5	16
Technical Tours	Program	5	5	5	5	20
Food (2 Shifts)	Hospitality	4	4	4	4	16
Miscellaneous	Co-Chairs	4	4	4	4	16
Total		**28**	**43**	**41**	**18**	**130**

DECISION MAKING PROCESS

As with any group of people, especially students, clear paths of communication must be established. For this reason, we will have ways for our chairs and our general student body to meet together and to move forward with tasks.

The two co-chairs and the section president will hold weekly office hours. This will be put in place to provide a weekly “check-in” for all of the chairs to ensure that everyone is on schedule.

Our conference planning committee will also be continuing our current system of having weekly meetings with the leadership team. These meetings are and will continue to be used in order to guarantee that everyone knows the major details of every aspect of the conference. Keeping everyone on the same page is critical to the overall success of the conference.

Many issues will cause conflict. The most likely of these instances will be cutting or changing events that have required a lot of work to plan out. The best way to handle these and other conflicts are with open communication and well thought explanations as we move forward. Inevitably, some issues will not be easily talked away. Below are a few outlined plans of action.

A chair/lead not doing their work:

- If work is not completed, a co-chair will try to find out why and then ask that person to come to office hours to ensure that they are moving forward with the task.

- If work is repeatedly not done or sub-par, the co-chairs will meet with the advisor in order to establish whether or not a meeting should be planned, or the chair/lead should be replaced. Only then will action be taken.
- In the case of replacing a lead, the person will be informed, and their replacement will be discussed at the next meeting. A general member will be given preference over allowing a committee member to change positions, and the overseeing chair will have a higher influence in their replacement.
- In the case of replacing a chair, the person will be informed, and their replacement will be discussed further with our advisor before moving forward. If ideal, a lead will move into the chair position and otherwise a general member will be appointed.

If there is a disagreement:

- Between co-chairs: attempt to come to an agreement and then bring the issue to the advisor
- Between chairs or leads: Talk through the issue and lay out all of the facts. If no resolution is found, they will discuss with the co-chairs who will act as mediators and only step in to make a final decision if needed.

WEBSITE AND CONNECTIVITY

Penn State's ANS student chapter has a website for our own student body to access at www.clubs.**psu**.edu/up/**ans**/ which includes upcoming information and officer contact information. Upon becoming the student conference host, we are prepared to launch a website specifically for the conference. This website will have information for both students and professionals. Students will have access to host hotel information, travel, registration and any other needed links. Professionals will have the opportunity to sponsor, request career fair space, and learn more about the conference in general. For the general conference attendee we will have the itinerary, food and entertainment, and a list of labs available for visit during the conference.

Penn State will also launch Facebook and Twitter sites with constantly updated information and interesting facts about our conference and Penn State. We will use these accounts as in aid in reaching out to other ANS student sections in order to encourage attendance and answer questions. By having these sites active, we can have documentation of questions that may arise from the student and professional attendees that will assist future conferences in meeting the needs of participants.. Access to these accounts will be available to the website lead and co-chairs so that any concerns are answered as quickly as possible.

LIABILITY

A conference of this magnitude comes with a certain level of risk. In order to assess this risk and make sure that any issues will be handled and not create any future problems for the ANS Student Conferences, we have looked into the liability associated with this event.

On Campus Facilities:

- The University as well as the Hintz alumni center takes liability for property damage as well as personal injury of all persons using their facilities.

PSU Transportation- Fullington and CATA Bus

- All transportation provided and utilized by this conference assumes liability for any accident injury for any passengers.

Dining

- Campus Catering (Lunches and Friday/Saturday Dinners) assumes all liability relating to the food including food poisoning.
- The Nittany Lion Inn also assumes all liability relating to the food catered at their events as well as for the facilities used during such event.

Socials

- The Days Inn assumes all liability relating to alcohol and facilities when utilizing their space and their provided bar tender. The monitoring and limiting of alcohol consumption of participants will be undertaken by the conference committee.
- The HUB Robeson Center assumes liability relating to the facilities and related incidents. No alcohol is permitted and any issues relating to such is not covered.

Atherton and Days Inn

- All hotel liability is covered by the hotels themselves and is unchanged by the nature of a large group reservation.

CONCLUSION

All of us here at Penn State believe that we are ready to host the American Nuclear Society's Student Conference for Spring 2014. Our membership has risen in recent years just as the Penn State nuclear major and program has grown tremendously. With more than 250 junior and senior students in nuclear engineering, Penn State has the support and enthusiasm to make this conference truly grow. Following with our own theme of iNuc, Innovations for the Future, we have made our own innovations to the conference proposal. We believe that our changes to the fundraising plan, the creation of an app for conference goers, and continuous work to improve upon past conferences will make this event better than ever. Thank you very much for your consideration of our proposal to host the 2014 Student Conference.

APPENDIX A: LETTERS OF SUPPORT

PENNSTATE

February 24, 2013

To the American Nuclear Society Student Sections Committee,

As faculty advisor of the ANS Student Section at The Pennsylvania State University, I write this letter in strong support of Penn State proposal to host the ANS Student Conference in 2014.

The Nuclear Engineering Program at Penn State is one of the largest in the Nation, with the highest number of Bachelor of Science granted every year. We are fortunate to have outstanding students that value academic as well as professional engagement. They maintain a large and extremely active ANS Student Section, and they organize numerous outreach activities like the Boy Scout nuclear merit badge and Westinghouse science honors institute program, together with multiple fundraising activities. These students are simply the best display for ANS and the nuclear engineering community.

Penn State Student Section typically participates to the annual ANS Student Conference with a large delegation. In 2013 we anticipate that 32 students will be attending the conference hosted by MIT and 22 of them will be presenting a paper on their research or outreach activities. The large size of the ANS Student Section at Penn State requires strong leadership and solid organizational skills. This makes me utmost confident that our students have what it takes to plan and execute an exceptional conference.

The Mechanical and Nuclear Engineering Department, the College of Engineering, and The Pennsylvania State University at large are looking forward to bring together Nuclear Engineering students and professionals, and to provide a great place for inspiring and nurturing the innovations in nuclear (iNuc!) that these new generations are ready to deliver.

Sincerely,

Massimiliano Fratoni, ANS Student Section Faculty Advisor

Assistant Professor of Nuclear Engineering
Department of Mechanical and Nuclear Engineering
The Pennsylvania State University
University Park, PA 16802
+1 814 863 4391 mfratoni@psu.edu

PENNSTATE

Department of Mechanical and Nuclear Engineering
College of Engineering

The Pennsylvania State University
137 Reber Building
University Park, PA 16802-1412

(814) 865-2519
Fax: (814) 863-4848

February 19, 2013

American Nuclear Society
National Student Section Committee

Dear Committee Members:

We are writing to express our enthusiastic support for the proposal from the Penn State ANS Student Chapter to host the ANS Student National Conference at Penn State in the spring of 2014. Penn State is a great choice to host the conference next year, and we have an enthusiastic student body and faculty to support it.

Penn State has a long tradition in nuclear engineering, having one of the longest running reactor facilities in the country, the Breazeale Nuclear Reactor, and with an undergraduate program founded in 1959. The undergraduate student enrollments in nuclear engineering at Penn State are currently the highest in the country – we graduated over 11% of all the B.Sc. in nuclear engineering in the US last year. We also have a very active and vibrant graduate program performing state of the art research in many areas of nuclear power.

The campus is beautifully situated in Central Pennsylvania, so that most of the Eastern schools will be able to travel cheaply. In addition to being able to visit our research facilities you will be able to join trips to Three Mile Island and to local attractions. Our faculty is very much behind this initiative and we will create lab tours, help organize the sessions, serve as mentors and judges and work with the committee to develop funding as needed.

We hope you will consider our proposal and we look forward to hosting the Conference next year.

Sincerely,

Arthur T. Motta
Chair of Nuclear Engineering
Dept. of Mechanical and Nuclear Engineering
The Pennsylvania State University

Karen A. Thole
Professor and Department Head
Dept. of Mechanical and Nuclear Engineering
The Pennsylvania State University

PENNSTATE

1855

David N. Wormley
Harold and Inge Marcus Dean of Engineering

College of Engineering
The Pennsylvania State University
101 Hammond Building
University Park, PA 16802

814-865-7537
Fax: 814-865-8767
dnwdo@engr.psu.edu

February 21, 2013

Dear American Nuclear Society Student Sections Committee Members:

I am very pleased to support the proposal of The Pennsylvania State University's American Nuclear Society Student Chapter to host the 2014 ANS Student Conference at Penn State University. The students have prepared an excellent proposal citing many valid reasons for Penn State to be an excellent location for the 2014 ANS student conference. It is obvious to me a lot of thought and effort went into their proposal.

As the students note, Penn State's College of Engineering has the largest undergraduate nuclear engineering program in the country and also has an excellent graduate school program. We are home to the Breazeale Nuclear Reactor which located on the campus of Penn State.

I enthusiastically support Penn State's American Nuclear Society Student Chapter's proposal to host the 2014 ANS Student Conference at Penn State. I think they would host an event to be proud of.

Sincerely,

David Wormley

David N. Wormley
Dean, College of Engineering
The Pennsylvania State University

APPENDIX B: STUDENT SUPPORT

I pledge my support to the American Nuclear Society Student Section of
The Pennsylvania State University in hosting the 2014 ANS Student Conference

Catherine Perego	
Alex Punzi	
Matthew Block	
Amanda Majcher	
Christopher Piotrowski	
Zachary Franiewski	
Nadine Gatto	
Ryan Seely	
Chris Gosdin	
Nick Heetia	
Marcus Khoury	
Michael P. Riley	
Kyle Maguire	
Nicholas Spadaccini	
Trang Hoang	
Amanda Schweitzer	
Dominic M. Geleskie	
Kevin Cass	
Megan Doerzbacher	
Matt Warren	
Daniel Abercrombie	
Jacob Rosnack	

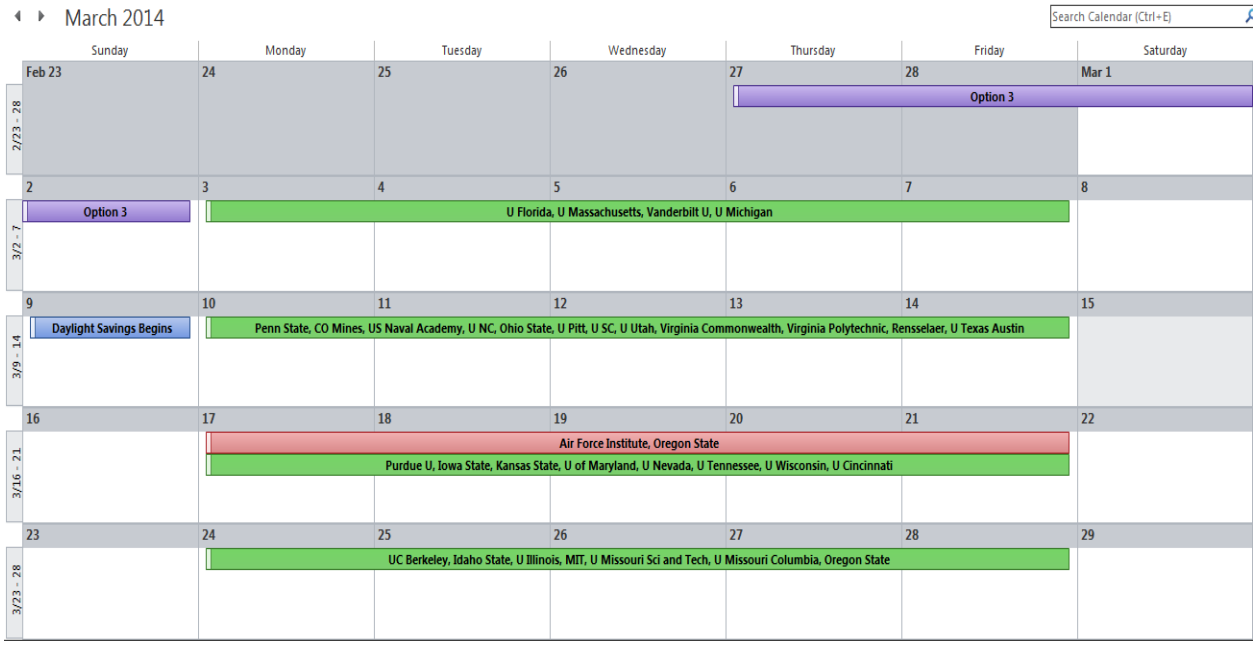
I pledge my support to the American Nuclear Society Student Section of
The Pennsylvania State University in hosting the 2014 ANS Student Conference

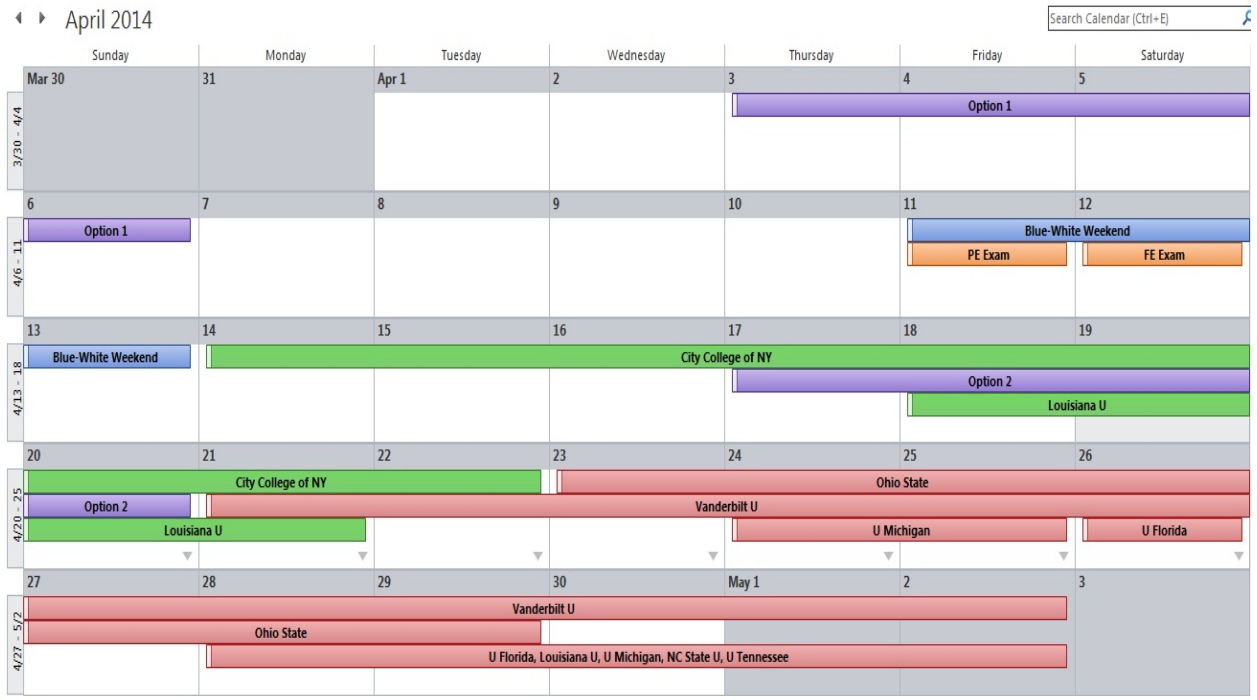
Greg Borza	
Asset Mauchamblefov	
Rachel Shapiro	Rachel Shapiro
Nancy Sinha	
Rob Patrick	Roberto Petrick
Kelsa Benensky	Kelsa Benensky
ANDREW DUNNING	
Daniel Mena	
Valerie Fredurich	
Michael McCoy	
Mara Levy	
Karen Bobkowski	
Kelly McClure	
William Somma	
Jeffrey Archibald	
Timothy Jacomb-Hood	
M.H Wolfson	
Marcus Gergar	
Anthony Farah	
Jordan Hill	
Harry Devine III	
Lauren Flanagan	
Mereke Tontayeva	
James Evans	

I pledge my support to the American Nuclear Society Student Section of
The Pennsylvania State University in hosting the 2014 ANS Student Conference

MITCHELL MCCLOSKEY	
Brian Hamilton	
michael Zavalek	
PATRICK O'HARA	
Shamsa Alzaabi	Shamsa
Majed Almaskri	
Caleb Jernigan	Caleb Jj
Brion Johnson	
Matthew A Strevay	
Daulet Akashev	
Wes Lozovoy	
Daniel Sells	
Tom Gutowski	
William Gilbert	
Dan Deckman	
James Liney	
Tim Curcio	
Andrew Haldeman	
Keegan Schoch	
Gavin Codispot	
Jacob Prell	
Matthew J. Vincenzi	
Justin Hoffman	
Adam Rau	

APPENDIX C: CONFLICT CALENDARS





APPENDIX D: TRAVEL COSTS

CHEAPEST FLIGHT OPTION TO VARIOUS DESTINATIONS

School	Departure Airport	State College, PA (SCE)	Harrisburg, PA (MDT)	Pittsburgh, PA (PIT)
Air Force Institute of Technology	DAY	368	344	417
Chattanooga State Community College (CHA)	CHA	356	355	343
City College of New York	*	273	338	220
Colorado School of Mines	DEN	383	271	362
École Polytechnique de Montréal	YUL	399	516	499
Excelsior College	ALB	417	417	268
Georgia Institute of Technology	ATL	295	404	296
Idaho State University	PIH	719	669	396
Iowa State University	DSM	379	359	377
Kansas State University (MCI)	MCI	429	303	214
Massachusetts Institute of Technology	BOS	377	260	155
McMaster University (Canada)	YYZ	502	525	483
Missouri University of Science and Technology	*	466	380	170
North Carolina State University	RDU	382	419	192
Ohio State University	*	273	341	375
Oregon State University	PDX	612	501	465
Purdue University		382	352	250
Rensselaer Polytechnic Institute	ALB	417	417	268
South Carolina State University	CAE	355	337	337
Texas A&M University	CLL	498	518	396
United States Naval Academy	BWI	432	555	374
University of California-Berkeley	OAK	589	447	394
University of Cincinnati	CVG	376	300	334
University of Florida	GNV	476	415	341
University of Idaho	GEG	540	538	569
University of Illinois at Urbana – Champaign	CMI	673	358	355
University of Maryland	BWI	432	555	374
University of Michigan	DTW	404	365	387
University of Nevada - Las Vegas	*	568	471	267
University of New Mexico	ABQ	546	503	403
University of Pittsburgh	PIT	374	358	0
University of South Carolina	CAE	355	337	337
University of Tennessee	TYS	377	417	394

University of Texas - Permian Basin	MAF	488	485	508
University of Texas at Arlington	DFW	373	260	346
University of Texas at Austin (AUS)	AUS	393	341	428
University of Utah (SLC)	SLC	496	444	297
University of Wisconsin	MSN	442	454	352
Virginia Commonwealth University	RIC	417	352	284
Virginia Polytechnic Institute and State University	DCA	415	308	236
	Average	436.2	407.225	336.575
AVERAGE AIR TICKET COST		**318.46**		

* denotes more than one airport within Campus City to chose from

n denotes suggested airport destination based upon closest campus airport

Departure airports were based off of each college's website for suggested transportation to campus

All airline data is based off of airplane tickets for the weekend of April 4-7 for tickets ordered before January 1, 2013

Average ticket cost based upon cheapest air flight ticket pricing from each campus to MDT, PIT, or SCE, choosing SCE over PIT/MDT if it is <$40 more expensive

(the charter bus would not be worth it for those schools)

APPENDIX E: ROOM SCHEDULE

Friday Room Schedule	8AM-9AM	9AM-10:15AM	10:45AM-12PM	12PM-1:PM	1PM-2:15PM	2:45PM-5:00PM
Hintz Library		Practice	Practice		Practice	Practice
Hintz Meeting 1	Breakfast	Presentation	Presentation	Lunch	Presentation	Presentation
Hintz Meeting 2	Breakfast	Presentation	Presentation	Lunch	Presentation	Presentation
Hintz Meeting 3	Breakfast	Presentation	Presentation	Lunch	Presentation	Presentation
125 Reber		Presentation	Presentation		Presentation	Presentation
217 Hammond		Practice	Practice		Practice	Practice
219 Hammond		Presentation	Presentation		Presentation	Presentation
220 Hammond		Workshop	Workshop		Workshop	Workshop
135 Reber		Presentation	Presentation	Lunch	Presentation	Presentation
Robb Hall	Career Setup	Career Fair	Career Fair		Career Fair	Career Fair
Reber Conference					Interview	Interview

Saturday Room Schedule	8AM-9AM	9AM-10:15AM	10:45AM-12PM	12PM-1:PM	1PM-2:15PM	2:45PM-5:00PM
Hintz Library		Practice	Practice		Practice	Practice
Hintz Meeting 1	Breakfast	Presentation	Presentation	Lunch	Presentation	Presentation
Hintz Meeting 2	Breakfast	Presentation	Presentation	Lunch	Presentation	Presentation
Hintz Meeting 3	Breakfast	Presentation	Presentation	Lunch	Presentation	Presentation
125 Reber		Presentation	Presentation		Presentation	Presentation
217 Hammond		Practice	Practice		Practice	Practice
219 Hammond		Presentation	Presentation		Presentation	Presentation
220 Hammond		Workshop	Workshop		Workshop	Workshop
135 Reber		Presentation	Presentation	Lunch	Presentation	Presentation
Robb Hall	Career Setup	Career Fair	Career Fair		Career Fair	Career Fair
Reber Conference		Interview	Interview		Interview	Interview

APPENDIX F: BUDGET DETAILS

Awards Dinner	This banquet will be held for all conference participants including an awards ceremony and keynote speaker	$20,000	Advertisement space at dinner Stage time about company Larger career fair space
Welcome Dinner	An unforgettable dinner in Beaver Stadium to start off the conference in style.	$18,000	Advertisement space at dinner Stage time about company Larger career fair space
Airport Shuttles to Conference	Most students will be flying to Harrisburg or Pittsburg and taking charter buses to State College	$10,000	Company logo in the windows of charter buses Larger career fair space
Airport Shuttles from Conference	Due to the high cost of the transportation, each way will be offered to be sponsored separately	$10,000	Company logo in the windows of charter buses Larger career fair space
Friday Dinner	A more casual scene for a relaxed networking evening following a full day of conference activities	$12,000	Advertisement space at dinner Stage time about company Larger career fair space
Facilities	The Hintz Alumni Center is the perfect facility	$6,000	Advertisement space at registration
Lunch for Professionals	Hot meals will be provided for professionals	$6,000	Advertisement space at the lunch venue
Breakfast Friday	Bagels, fruit and yogurt provided for all in attendance	$4,000	Advertisement space at event
Breakfast Saturday	Bagels, fruit and yogurt provided for all in attendance	$4,000	Advertisement space at event
Student Lunch Friday	Boxed lunches provided for students	$4,000	Advertisement space at the lunch venue
Student Lunch Saturday	Boxed lunches provided for students	$4,000	Advertisement space at the lunch venue
Tours	Travel to and from tours as well as the associated costs	$2,000	Advertising on the bus windows as well as recognition
Total		**$100,000**	

Conference Bag	$10,000	Company name on drawstring bags
Name Tags	$10,000	Company name on every name tag
T-Shirts	$10,000	Company name and logo on back of shirt
Student Awards	$10,000	Company name included in the award
Lapel Pins	$5,000	Company logo on the pin
Total	**$45,000**	

APPENDIX G: COMMITTEE BIOS

CO-CHAIR – MATTHEW WARGON

Matt Wargon is a senior mechanical and nuclear engineering dual major student at Penn State University. He is graduating with both Bachelor's degrees in December 2013, and will start on his graduate degrees the following semester. He has been an active member of the American Nuclear Society since 2011, serving first as conference chair then as the officer in charge of conference. Matt attended conference at The University of Nevada Las Vegas and is currently planning the trip to MIT, with the largest Penn State delegation to date.

He is currently doing research under the direction of Dr. Fratoni in the topic of Molten Salt Reactor Core Design. Matt plans to pursue at least a Master's degree and perhaps a Doctorate degree, focusing in the areas of core design and thermal hydraulic analysis. He has also accepted an internship for this summer at Areva, working in the core design group.

As conference Co-Chair, Matt looks forward to improving upon his past conference experience and creating the best possible event. He plans to achieve this by putting the focus on professional development as well as academic achievement. His own experiences in research and in industry both up to this point and leading up to the conference make him the perfect choice for Co-Chair.

CO-CHAIR - KAREN BOBKOWSKI

Karen Bobkowski is currently in her third undergraduate year in the dual major program in mechanical and nuclear engineering. She expects to graduate in December 2014. She has been very involved in the Penn State ANS student chapter since adding a major in Nuclear Engineering. Outside of engineering, Karen enjoys rock climbing and generally being outdoors – especially in Argentina, where she studied abroad last year.

As conference co-chair, she hopes to create a successful event and promote the nuclear industry in the best way possible. Karen plans to keep the leadership and planning team organized and on track to avoid any unforeseen issues, and manage any problems that do arise. Having attending various national conferences for different organizations in the past, she has firsthand experience about what does and does not work.

Karen's other leadership experience has mostly been through the promotion and retention of women in engineering. She is a mentor for Penn State's Women in Engineering Program Orientation, and as such plans and implements a three-day orientation for more than 170 first-year women in engineering. This event involves a career dinner, hotel stays, and sessions about various aspects of engineering. Karen is also currently on the leadership team for the Society of Women Engineers and has attended the Society of Women Engineers (SWE) National Conference for the past two years.

FINANCIAL CHAIR - MICHAEL MCCOY

Michael McCoy is a fourth year undergraduate student pursuing an undergraduate degree in nuclear engineering. As an active member in ANS, he has been involved in outreach events, fundraising for the Penn State Dance Marathon, and intramural sports. In the little spare time left after studies and extracurricular activities, Michael enjoys reading and writing science fiction novels. After graduation in May 2014, Michael plans to work in the nuclear energy industry, hoping to specialize in power plant thermal hydraulic systems design.

PROFESSIONAL-LIAISON LEAD - RACHEL SHAPIRO

Rachel Shapiro is a first year Master's student in nuclear engineering at Penn State. She received a Bachelor's of Science degree in nuclear engineering from Georgia Tech in May of 2012. She was an active member of the Georgia Tech ANS student section and is now a member of the Penn State section. Rachel has attended the past two student conferences, and volunteered her time at the 2011 conference at Georgia Tech in various hospitality positions such as greeting attendees at the airport, working at the registration desk, and handing out programs before speakers' presentations. She is now working with Dr. Fratoni on the neutronic aspects of metal matrix and fully ceramic microencapsulated fuels.

UNIVERSITY-LIAISON LEAD – MICHAEL RILEY

Michael Riley has been a student at The Pennsylvania State University for almost seven years. He completed his Bachelor of Science in Mechanical Engineering in the spring of 2010 and his Master of Science degree in Mechanical Engineering in the spring of 2012. He is currently working on his doctoral degree, also in mechanical engineering. His research is in the area of nuclear reactor thermal hydraulics. In particular, the research is being performed under the supervision of Dr. Fan Bill Cheung and is based on the data received from the Rod Bundle Heat Transfer facility.

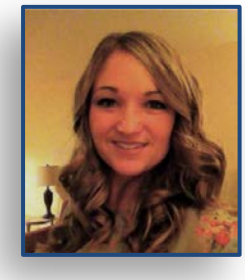
MARKETING LEAD - JACOB KRIZMANICH

Jake Krizmanich is currently a first year undergraduate student and is committed to pursuing nuclear engineering as his major. He has been interested in nuclear mechanics since his junior year of high school and has been involved in Penn State's American Nuclear Society chapter since he arrived to college. Outside of ANS, Jake is also a member of the Penn State snowboarding club, gymnastics club, and swing dance club. He plans on obtaining his Bachelor's degree in four years and entering the work force.

PROGRAM CHAIR - KELSA BENENSKY

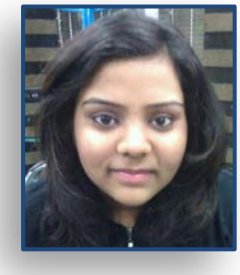
Kelsa Benensky is a second year undergraduate student majoring in Nuclear and Mechanical Engineering. This is her first year at Penn State's main campus as well as her first year being active in ANS. As a first-year student, she was president of her Penn State campus' Engineering Club and provided different projects, company visits, and networking opportunities to first and second year students interested in engineering. During her time as president, Kelsa revived the Engineering Club from being inactive previous years to becoming one of the largest organizations on campus. Kelsa works as a valve designer at Schuf Fetterolf Corporation during the academic year and has been awarded a fellowship to do research in space nuclear technology this summer. Kelsa is also a mentor for her school's Multicultural Engineering Program to assist students from different Penn State branch campuses in their transition to University Park.

STUDENT COORDINATION LEAD - MARA LEVY



Mara is a junior studying nuclear engineering at Penn State University. After college she would like to spend four years working in the nuclear industry in France, then return to the U.S. to work on nuclear submarines. In her free time she enjoys working on Rube Goldberg machines, reading, and going to the gym. She was born and raised 10 miles outside of Philadelphia. When home, she loves exploring the city and spending time with her cat.

Hospitality Lead - Nancy Sinha



Nancy Sinha is a third year undergraduate student in nuclear engineering. She is especially interested in reactor design and hopes to pursue research in this field in the future. Apart from engineering, she enjoys singing and has recently made her debut at Carnegie Hall performing the Mozart Requiem as a choral singer. Nancy is an international student from India. One of the benefits of growing up in New Delhi is her love for cultures. She enjoys traveling, learning languages, and cooking unique and different cuisines. Growing up in India also fostered a great interest in meditation and yoga.

Transportation Lead - Jeff Archibald

Jeff, having recently transferred from California, is finishing his third year as a nuclear engineering student. Since joining ANS at the start of the school year, he has become very active in the organization. He is involved in the ANS outreach programs, including providing tours of the nuclear reactor on campus and teaching the Boy Scout Nuclear Science Merit Badge. He also participates in intramural sports for ANS, which include flag football, volleyball, and soccer. He loves animals, especially his dog, and volunteers his free time at the ASPCA.

Technical Chair - Dan Abercrombie

Daniel Abercrombie is a junior pursuing concurrent degrees in Nuclear Engineering and Physics and is a member of the Schreyer Honors College. He has been an active member of the Penn State ANS Section since his freshman year, and has held the officer positions of Governor (2011-2012) and Vice President (2012-Present). He also works as an undergraduate research assistant in the Intense Laser Laboratory under Professor Igor Jovanovic, assisting with the Direct Laser Acceleration (DLA) project. His accomplishments have been recognized in the form of multiple awards, including the ANS Accelerator Applications Division Scholarship and the NEUP Undergraduate Scholarship. Last summer, he was a Toshiba-Westinghouse Fellow. This summer, he will be participating in the University of Michigan REU at CERN.

Presentation Lead – Gregory Borza

Greg Borza is junior undergraduate student in nuclear engineering at Pennsylvania State University. He will be returning to Penn State in Spring 2014 to begin his M.S. in nuclear engineering and possibly his PhD. Greg has been the recipient of several prestigious Penn State awards including: President's Freshman Award, President Sparks Award, and Evan Pugh Scholar Award. Further, he has also received various scholarships including the Angelo F. Bisesti Scholarship and the ASME Nuclear Division Scholarship. Greg is currently working on his honors undergraduate thesis under Dr. Massimiliano Fratoni. His research aims to investigate the different designs of fast critical and subcritical reactors to incinerate the actinides in spent fuel. In the previous summer, Greg was a BWR core design intern at Exelon Generation, where he was exposed to industry issues and was able to design a core reload. Additionally, he will be going to Lawrence Livermore National Laboratory this summer to continue his education.

Website Lead - Valerie Fudurich

Valerie Fudurich is a third year undergraduate student in nuclear engineering. As a new student to the University Park campus, this is her first year as a member of the American Nuclear Society. She has been very involved in the club throughout the year, and hopes to hold a leadership position as an officer next year. As a native of Pittsburgh, PA, she is interested in joining one of the major industry companies in the area after graduation, specifically in power generation. She is also a member of a prestigious female choir at Penn State, and enjoys traveling.

App Lead - Kelly McClure

Kelly McClure is a sophomore nuclear engineering student at The Pennsylvania State University. She was born and raised in Pittsburgh, Pennsylvania and is an avid Steelers fan. In addition to American Nuclear Society, she serves as the publicity chair for South Halls Residence Association and is a member of the club gymnastics team. When she graduates, she hopes to work for Westinghouse Electric Company.

APPENDIX H: SCHEDULE FOR PLANNING

Deadline	Task	Overseeing Chair
	April	
4-7-13	Host announced	
4-19-13	Discuss with department head and professors	Co-Chairs
	Arrange conference banking with ANS National	Financial
	Confirm hotel and facility space	Hospitality
4-30-13	Request and receive mailing list and other information from MIT	Co-Chair/Financial
	May	
5-15-13	Create complete website outline	Website
	Create letterhead	Co-Chair
5-17-13	Finalize sponsor packets	Professional Liaison
	Send out first round of sponsorship requests	Professional Liaison
	Finalize speaker requests	Program
	June	
6-15-13	Create brochures	Marketing
	Launch website	Website
6-16-13	Delegation to attend ANS National Meeting	Co-Chairs
6-30-13	Send out second wave of sponsorship requests	Professional Liaison
	Finalize reservations for major tours	Program
	July	
7-15-13	Invite judges and workshop speakers	Program
	Create beta test for the Android schedule app	App
7-31-13	Create conference program	Marketing
	Follow up with sponsors	Professional Liaison
	August	
8-15-13	Reassess budget before semester begins	Financial
	Assess which events still need sponsorship	Financial
8-30-13	Finalize and post technical track categories online	Presentation
	Follow up with sponsors	Professional Liaison
	September	
9-01-13	Submit progress report to SSC	Co-Chairs
9-15-13	Post call for papers to website	Website/Presentation
	Create beta test for the Apple schedule app	App
9-30-13	Follow up with sponsors	Professional Liaison
	October	
10-15-13	Post registration to website	Website/Co-Chairs
	Call for members to get more involved with conference	Student Coordination
10-30-13	Follow up with sponsors	Professional Liaison
	Reassess budget mid-semester to determine changes in program	Financial

	November	
11-10-13	Send delegates to ANS Winter Meeting	Co-Chairs
11-15-13	Complete testing on apps and create final program	App
	Submit app designs to Computer Science professors for editing	App
11-30-13	Follow up with sponsors	Professional Liaison
	December	
12-1-13	Send request to ANS-HQ for lanyards, nametags etc.	Co-Chairs
12-15-13	Finalize shirt design with company logos	Program
	Determine awards	Co-Chairs
12-30-13	Follow up with sponsors	Professional Liaison
	January	
1-15-14	Reassess budget and determine final budget cuts and needs	Financial
	Send progress report to the SSC	Co-Chairs
	Finalize tour details	Program
	Send out brochures to schools	Marketing
1-30-14	Do final touchups on website	Website
	Purchase various supplies for conference	Marketing
	Finalize menus	Hospitality
	Follow up with sponsors	Professional Liaison
	February	
2-15-14	Confirm hotel reservations with final numbers	Hospitality
	Finalize transportation	Transportation
	Finalize campus rooms and related assignments	Student Coordination
2-28-14	Create volunteer lists and committees	Student Coordination
	March	
3-01-14	Abstract submission (four weeks prior)	Presentation
3-15-14	Print paper needs- program, name tags, room boards, banners	Marketing
	Abstract review and notification	All
	Prepare welcome bags	Student Coordination
	Finalize volunteer schedule	Student Coordination
	April	
4-3-14 to 4-6-14	Conference	All
4-30-14	Send thank you to guest speakers	Co-Chairs
	Send thank you to sponsors	Co-Chairs
	May	
5-15-14	Send travel reimbursement	Co-Chairs
	Publish conference report and send to SSC	Co-Chairs

APPENDIX I: CONFERENCE FORMS
2014 ANS STUDENT CONFERENCE JUDGING FORM

PRESENTATION COMPETITION

Date: ___/___/___ Presentation Number:_____ Start time:_____
End time:_____

Presentation Title: _____

Presentation Track: _____

Presenter(s): _____

Attended University: _____

Education level: ☐ Undergraduate ☐ Graduate

Content (35 Points)
___/7 pts Objective
___/7 pts Data
___/7 pts Data Analysis
___/7 pts Conclusions
___/7 pts References

Communication (15 Points)
___/3 pts Eye Contact
___/3 pts Professional Attire
___/3 pts Body Language
___/3 pts Audience engagement
___/3 pts Speaking

Oral Presentation (20 Points)
___/5 pts Introduction
___/5 pts Explanation
___/5 pts Organization
___/5 pts Questions

Bonus Points (5 Points)
___/5 pts
Reason for bonus points:

Visual Presentation (20 Points)
___/5 pts Slide Design
___/5 pts Organization
___/5 pts Visual Aids (Graphs/Figures/etc)
___/5 pts Information/slide

☐ Total Points (___/100)

Timing (10 Points)
___/10 pts

Note for judges: If you feel this presentation is especially innovative, whether in terms of the topic of the research or the methods of the presentation, please fill out the attached "Innovation Competition" form.

Comments for Presenter:

_____

Comments for technical chair:

Judge's Name: _____

Judge's Affiliation: _____

2014 ANS Student Conference Judging Form

Poster Competition

Date: ___/___/___ Poster Number:_____

Presentation Title: _____

Presentation Track: _____

Presenter(s): _____

Attended University: _____

Education level: ☐ Undergraduate ☐ Graduate

Content (35 Points)
___/8 pts Objective
___/8 pts Data
___/8 pts Data Analysis
___/8 pts Conclusions
___/8 pts References

Oral Presentation (20 Points)
___/4 pts Introduction
___/4 pts Explanation
___/4 pts Reference to Poster
___/4 pts Organization
___/4 pts Questions

Visual Presentation (20 Points)
___/10 pts Poster Design
___/10pts Organization
___/10 pts Graphs/Figures/etc
___/10 pts Usefulness of information

Bonus Points (5 Points)
___/5 pts
Reason for bonus points:

☐ Total Points (___/100)

Note for judges: If you feel this presentation is especially innovative, whether in terms of the topic of the research or the method of displaying the information on the poster, please fill out the attached "Innovation Competition" form.

Comments for Presenter:

_____

Comments for technical chair:

Judge's Name: _____

Judge's Affiliation: _____

2014 ANS Student Conference Judging Form

Technical Paper Competition

Date: ___/___/___ Paper Number:_____

Presentation Title: _____

Presentation Track: _____

Presenter(s): _____

Attended University: _____

Education level: ☐ Undergraduate ☐ Graduate

Content (35 Points)

___/15 pts	Objective
___/15 pts	Data
___/15 pts	Data Analysis
___/15 pts	Conclusions
___/15 pts	References

Presentation (20 Points)

___/5 pts	Spelling and Grammar
___/5 pts	Formatting
___/5 pts	References
___/5 pts	Graphs/Figures/etc
___/5 pts	Style

Bonus Points (5 Points)
___/5 pts
Reason for bonus points:

☐ Total Points (___/100)

Comments for Presenter:

_____

Comments for technical chair:

Judge's Name: _____

Judge's Affiliation: _____

2014 ANS Student Conference Judging Form

Innovation Competition

Date: ___/___/___ ☐ Presentation ☐ Poster Paper/Presentation Number:_____

Presentation/Poster Title: _____

Presentation/Poster Track: _____

Presenter(s): _____

Attended University: _____

Education level: ☐ Undergraduate ☐ Graduate

Innovative Topic (25 Points)

___/15 pts	Impact on the industry
___/5 pts	Original idea
___/5 pts	Socially conscious design

Innovative Method of Presenting (25 Points)

___/15 pts	Effectively conveyed idea
___/5 pts	Kept audience attention
___/5 pts	Unique presentation style

Bonus Points (5 Points)
___/5 pts
Reason for bonus points:

☐ Total Points (___/50)

Comments for Presenter:

_____

Comments for technical chair:

Judge's Name: _____

Judge's Affiliation: _____