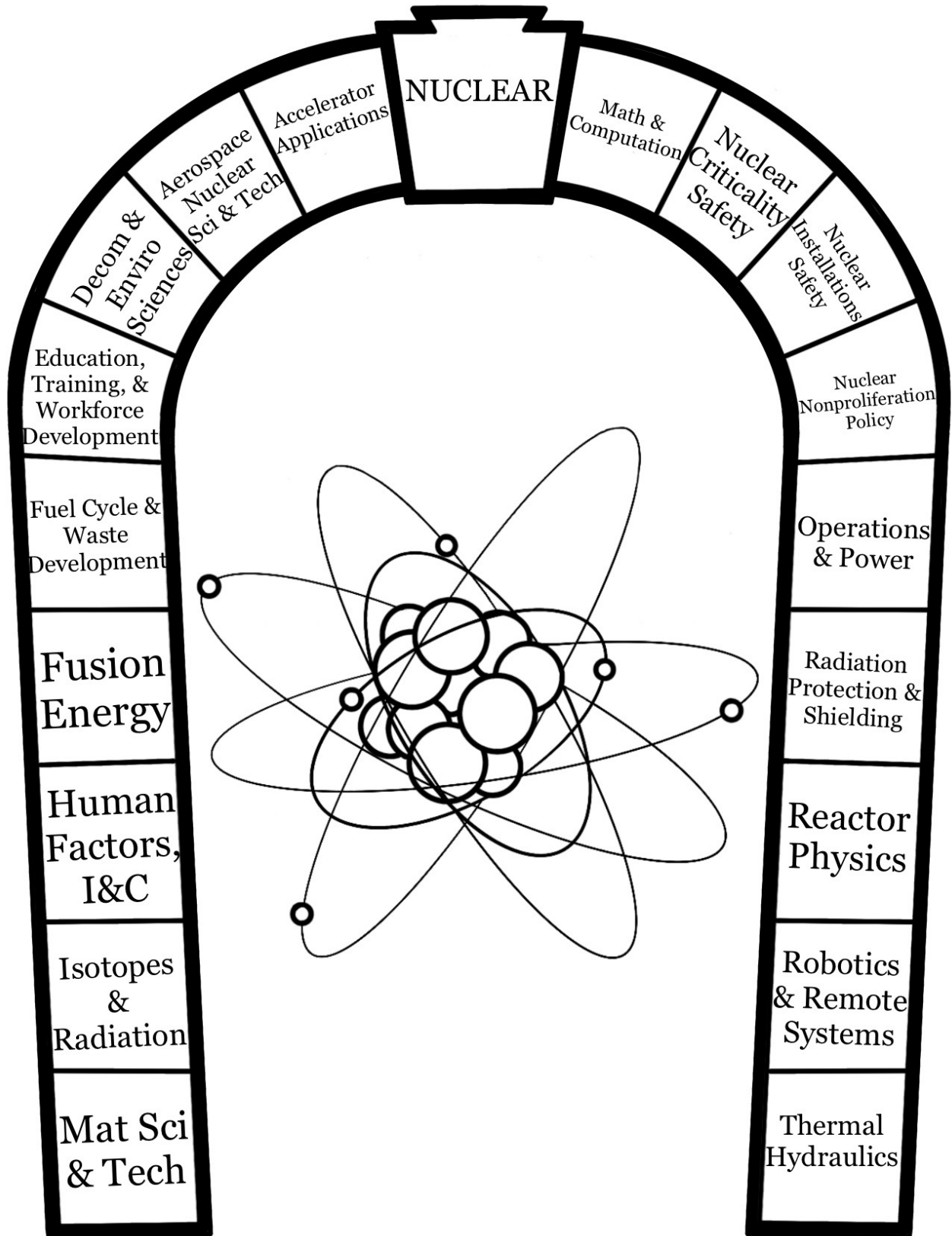


NUCLEAR

KEYSTONE TO A CLEAN FUTURE



September 28, 2022

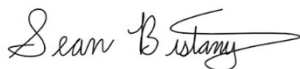
Dear American Nuclear Society Student Sections Committee,

The American Nuclear Society, The Pennsylvania State University (ANS-PSU) Student Section is excited to submit its proposal for the 2024 ANS Student Conference. The ANS-PSU section is undergoing a renaissance with a growing number of members and increased collaboration with other student sections as well as industry, outreach, and research. Over the past two years, ANS-PSU has reorganized its leadership positions and increased its active membership significantly. Outreach has always been a strong aspect of ANS-PSU and is evident in our leadership in events such as the Breazeale Nuclear Reactor (PSBNR) Open House, Westinghouse Science Honors Institute, Boy Scout Merit Badge workshops, and Girl Scout "Get to Know Nuclear" workshops. Several members have also had experience in organizing related nuclear security workshops, such as the Quantification of the Likelihood of an Attack and Security of Advanced Reactors workshops hosted by the PSU Institute of Nuclear Materials Management (PSU INMM) and organizing programs at an ANS National level. With these experiences and the effort detailed in this proposal, we believe ANS-PSU is prepared and qualified to host a student conference that will drive students to connect with peers, employers, and leaders in the nuclear industry while also showing how nuclear can help build the clean energy future we need.

Our theme is "Nuclear: Keystone to a Clean Future." This theme highlights the importance of nuclear science and technology to constructing of a clean energy future as ANS-PSU views nuclear energy as the keystone to this effort, just as the keystone is the central supporting stone in an archway. Without the keystone, the structure will fail; without nuclear, achieving net zero goals is not feasible. While policymakers and citizens around the world increasingly see nuclear energy as a fundamental and mandatory technology to reach clean energy goals while providing grid stability and energy at scale. In addition to energy generation, nuclear science and engineering is needed in many areas: medicine, manufacturing, space travel, etc. These form the supports for nuclear as a keystone technology and are needed for humanity to continue to advance and strive.

ANS-PSU is prepared and itching to take on the challenges of hosting a student conference. On behalf of the ANS-PSU Conference Planning Committee, we thank you for considering our proposal to host the 2024 ANS Student Conference. We hope that our theme and the message behind it connects with the Student Sections Committee as it did in our own discussions that formed the foundation for this proposal.

Sincerely,



Sean Bistany
General Chair



Jonathan Balog
Technical Chair



PennState

Ken and Mary Alice Lindquist Department of Nuclear Engineering
College of Engineering
The Pennsylvania State University
232 Hallowell Building
University Park, PA 16802-1412

(814) 867-4329
wjw24@psu.edu

8/24/2022

Dear ANS Student Conference Selection Committee,

As the ANS student section faculty advisor at Penn State University, I fully endorse our bid to host the 2024 ANS Student Conference here in State College. Penn State has the facilities, organization, and enthusiasm to host a great conference and I have no doubt that it would be successful.

The Penn State ANS student section is vibrant, well-organized, and very enthusiastic to prepare and host the conference in 2024. The current group has organized many events such as invited speakers, Boy Scout tours of our reactor, high school outreach, tours of Westinghouse and Constellation facilities, and others. I have participated in several of their conference planning meetings and was very impressed with their enthusiasm, organization, and progress. They have an impressive array of social, technical, and tour events planned for the conference.

Penn State has one of the largest and oldest nuclear programs in the country. The Ken and Mary Alice Lindquist Department of Nuclear Engineering is now back to being a stand-alone department after being merged with Mechanical Engineering for almost 20 years. The faculty is growing, as are the research facilities.

The 2014 ANS Student Conference was held at Penn State, and was a great success; we have the infrastructure and organizational framework to do it again, as well as lessons learned from the previous group. The student section has the full support of the faculty, the Nuclear Engineer department and the College of Engineering for this endeavor.

I have complete confidence that a 2024 ANS Student Conference held at Penn State would be an amazing success, and hope that you strongly consider the application. Please do not hesitate to contact me if you have any questions.

Sincerely,

William Walters, PhD
Associate Professor of Nuclear Engineering and Chair of Undergraduate Studies
Ken and Mary Alice Lindquist Department of Nuclear Engineering
The Pennsylvania State University
(814) 867-4329
wjw24@psu.edu

Contents

1	Judge Evaluation Sheet with Associated Page Numbers	1
2	Nuclear: Keystone to a Clean Future	2
3	Welcome to Penn State!	3
3.1	State College and University Park	3
3.1.1	Accessibility and Accommodation	3
3.1.2	Weather	4
3.2	The Pennsylvania State University: We Are!	4
3.3	PSU ANS Student Chapter (ANS-PSU)	5
3.4	Research at PSU	7
3.4.1	Research Areas	8
3.5	Research Labs	10
3.5.1	Materials for Nuclear Power Group-Dr. Arthur Motta	10
3.5.2	Computational Radiation Transport Lab-Dr. William Walters	10
3.5.3	Thermal Hydraulics Laboratory-Dr. Saya Lee	10
3.5.4	Radiation Science and Engineering Center (RSEC) – Dr. Kenan Ünlü	10
3.5.5	Radiation and Surface Science Engineering Lab (RSSEL) – Dr. Jean Paul Allan	10
3.5.6	Computation Nuclear Materials Group – Dr. Mia Jin	11
3.5.7	Global Nuclear Power Safety (GNPS) Center – Dr. Fan-Bill Cheung	11
4	Conference Logistics	11
4.1	Date Selection	11
4.2	Conference Facilities	13
4.3	Conference Contingency Plan	19
4.4	Hotels and Accommodations	19
4.5	Banquet Facilities & Dining	20
4.5.1	Breakfast	20
4.5.2	Lunch	20
4.5.3	Dinner	20
4.6	Travel and Transportation	21
4.6.1	Getting to State College/University Park	21
4.6.2	Getting to the Conference	23
5	Conference Program	24
5.1	Potential Speakers	24
5.1.1	Dr. Rita Baranwal, Chief Technology Officer at Westinghouse Electric Corporation (WEC)	24
5.1.2	Dr. Kathryn Huff, Assistant Secretary for Office of Nuclear Energy-DOE	24
5.1.3	Dennis Whyte, Director at MIT Plasma Science and Fusion Center	25
5.1.4	John Wagner, Laboratory Director at Idaho National Laboratory (INL)	25
5.1.5	Kurt Terrani, Director at Ultra Safe Nuclear Corporation (USNC)	26
5.1.6	Jessica Lovering, Co-Founder & Executive Director Good Energy Collective	26
5.1.7	Hans Gougar, Product Engineering Manager for Xe-Mobile, X-Energy	27
5.1.8	Chris Levesque, President & CEO of TerraPower	27
5.1.9	Allison Macfarlane, Director and Professor of the School of Public Policy and Global Affairs at the University of British Columbia (UBC)	28
5.1.10	Stephen Burns, Senior Visiting Fellow at Third Way	28
5.2	Keystone to a Clean Future Panel Series	29

5.2.1	The State of Fusion	29
5.2.2	Impact Technologies for Advanced Reactors	29
5.2.3	Nuclear Supply Chains	29
5.2.4	Medical Isotopes: Hidden Commercial Feature vs Standalone Capacity	29
5.2.5	Microreactors: Promise, Status, and Moving Forward	29
5.2.6	Public Policy: How to Move the Dial	30
5.2.7	Diversity, Equity, & Inclusion in the Workforce: What Can You Do?	30
5.2.8	Educational Outreach & Training the Workforce of Tomorrow	30
5.2.9	How to Host a Conference	30
5.3	Workshops	30
5.3.1	Additive Manufacturing & Design	30
5.3.2	Science Communication with the PSU Bellisario College of Communication	31
5.3.3	NEK5000 and Monte Carlo/OpenMC Coding Workshop	31
5.3.4	Nuclear Advocacy Workshop	31
5.4	Technical Sessions	31
5.5	Poster Session	32
5.6	Career Fair	33
5.7	Tours	33
5.7.1	Technical Tours	33
5.7.2	Non-Technical Tours	34
5.8	Socials	34
5.8.1	Climb Nittany	34
5.8.2	Axemann Brewery	35
5.8.3	Pegula Ice Arena	35
6	Conference Management	36
6.1	Committee Structure	36
6.2	Committee Biographies	37
6.3	Position Responsibilities	42
6.4	Conflict Resolution	43
6.5	Staffing Requirements	44
6.6	Milestones	44
7	Website and Social Media	46
7.1	Website	46
7.2	Social Media	46
8	Budget	46
8.1	Projected Attendance	46
8.2	Revenue	47
8.3	Expenses	47
8.4	Financial Contingency	49
8.5	Sponsorship and Fundraising	49
8.6	Banking	50
8.6.1	Financial Oversight	51
8.7	Cost of Attendance and Student Reimbursement	51
8.8	Student Travel Reimbursement Procedure	52

9	Liability	52
9.1	Socials & Specific Facilities	52
9.1.1	Climb Nittany	52
9.1.2	Pegula Ice Arena	52
9.2	Axemann Brewery	52
9.3	Stage West	53
9.4	Hotels	53
9.5	Transportation	53
9.6	Dining	53
9.7	Bank Account & Expenses	53
9.8	Release of Information	53
9.9	Disabilities	54
9.10	Alcohol	54
10	Appendix A: Conflict Calendar	55
11	Appendix B: Judging Forms	57
12	Appendix C: Graphical Schedules	62
13	Appendix D: Building Layouts & Floor Plans	65
14	Appendix E: Maps of Campus and Event Locations	71
15	Appendix F: Staffing Requirements	72
16	Appendix G: Quotes	73
17	Appendix H: Letters of Support	90

1 Judge Evaluation Sheet with Associated Page Numbers

PART 1 - GO/NO-GO (Objective Scoring)		Section Number
<i>Each item is either pass or fail. Optional items in italics - do not mark these as a FAIL.</i>		
Dates	Minimum of 2 sets of dates is provided	4.1
	Rationale for selection of dates is provided	4.1
	Graphical calendar is included	4.1, Appendix C
Attendance	Projected attendance figures are provided	8.1
	Discussion is provided if attendance is <400 or >600	N/A
	Discussion of contingency plans is provided	4.3 & 8.4
Preliminary Program	Graphical schedule is provided	Appendix C
	Event descriptions are provided for all events	5.2-8
	Event descriptions contain logistical notes	5.2-8
Facilities	Facility descriptions are provided	4.2 & 4.5
	Room requirements are estimated	4.2, 5.4, 8.1
	Room requirements match attendance figures	4.2, 4.5, 8.1
	Room requirements match event descriptions	4.2, 4.5, Appendix D
	<i>Detailed schedule for each room is provided</i>	Appendix C
	<i>Overall graphical schedule is provided</i>	Appendix C
Hotels	2 sets of hotels are identified	4.4
	Room cost per person is provided	4.4
	Hotel capacities are provided	4.4
	Map of hotels in relation to other facilities is included	Appendix E
Transportation	Air travel to local airports is addressed	4.6.1
	Ground transportation from airports to hotel is addressed	4.6.1
	Ground travel from hotel to events is addressed	4.6.2
Budget	Budget matches attendance figures	8.1 & 8.2
	Budget matches event descriptions	8.3
	Budget matches facility descriptions	8.3
	Budget matches transportation descriptions	8.3 & Appendix G
	Fundraising plan is provided	8.2
	Order of budget cuts is identified	8.4
Banking & Financial Oversight	Banking method is identified	8.6
	Financial oversight method is identified	8.6.1
	Approach to tax-exempt status is provided	8.6
Committee Organization	Org chart is provided	6.1
	Names are present on Org chart	6.1
	Descriptions of responsibilities is given for each position	6.3
	Committee member experience is provided	6.2
	If chairs are new, letter of endorsement is provided	?
	<i>Decision-making process for committee is outlined</i>	6.1
Schedule/Milestones	Milestones, key tasks, and target dates are identified	6.6
	Tasks are assigned to committee members	6.3 & 6.6
Staffing	Number of day-of-staff and rationale are provided	6.5, Appendix F
	Roles of staff and reporting relationship are given	6.5, Appendix F
Liability	Liability issues are addressed	9
Support	Letter from student section faculty advisor is included	Preamble
	Letter from department head is included	Appendix H
	<i>Other letters are included</i>	Appendix H
Pass or fail?		

2 Nuclear: Keystone to a Clean Future

Due to the threat of climate change, world leaders have set an aggressive deadline of 2035 to decarbonization the energy sector. While there are many solutions that can help bridge the world to a net zero future, there is one solution that must play a key role in successful decarbonization: nuclear energy. We see nuclear energy as the keystone to this effort, just as the keystone is the central supporting stone in an archway. Without the keystone, the structure will fail; without nuclear, achieving net zero targets is neither economic nor feasible. In order to pursue a cleaner future with lowered carbon emissions and cleaner air, nuclear can and must be the keystone that supports change.

It is fitting that PSU, a Keystone State institution, submits a bid to host the ANS Student Conference as our passion for nuclear science and engineering has a home in our department, our on-campus reactor, and, most importantly, our students. Pennsylvania (PA) has suffered from environmental degradation due to legacy industries such as coal mining, manufacturing, and energy production. These issues have motivated many efforts to mitigate and reverse these impacts, some of which are reflected in our nuclear sector. PA is home to the first commercial reactor built and operated on peacetime efforts alone in the Shippingport Atomic Power Station. The Commonwealth is also home to the second largest reactor fleet and produced approximately 30% of all electricity generated in PA. Lastly, PA is home to Three-Mile Island, the site of a partial meltdown in 1979, which is currently undergoing decommissioning to return it to its original state. PA not only serves as a home for nuclear history, but also has a hand in its future.

There are many key and exciting developments currently underway across the Commonwealth. Westinghouse Electric Corporation (WEC), a global leader in nuclear technologies, is performing research and development in the area of micro-reactors via the eVinci platform, which hopes to provide clean, scale-able energy to remote locations. Additionally, Talen Energy is using Susquehanna Steam Electric Station Units 1 & 2 to explore other applications of nuclear power such as providing power for data centers and mining cryptocurrency using clean energy.

PA has and will continue to be a keystone in the nuclear industry, and it seems only appropriate that PSU is located directly in the center of it all, both geographically and figuratively. Our alumni network stretches across the Commonwealth and beyond, with a presence in nearly every area of nuclear science and technology. Just as a keystone links the two spans of an arch, ANS-PSU believes that this student conference can be used to connect students across the world with not only peers, professionals, and opportunities, but the PSU students, alumni, and faculty. In addition, this conference offers ANS-PSU and PSU graduates the opportunity to highlight their work and form connections with peers and professionals that will last a lifetime.

Energy is not everything, however. Every aspect of nuclear science, which we wish to highlight as well, will make a contribution symbolized in our logo. This leads to the final aspect of the theme we are incorporating into this conference: while nuclear power will be a keystone to the future of the electrical grid, every aspect of nuclear science will serve as building blocks in this mission to ensure that nuclear is the keystone technology to a cleaner future. As much as nuclear energy will serve as a keystone, it is only as strong as the supports below it. Outreach, advocacy, and policy/legislation matter just as much as any new reactor coming online. We hope to provide the skills necessary for attendees to not only discuss policy and how to grow the nuclear science community but also learn about innovations in our field, such as SMRs/microreactors, developments in fusion and plasma technology, advancements in manufacturing, and more so they are technically sound as well.

ANS-PSU would like to host the ANS Student Conference for 2024 to inspire the growth and success of nuclear energy in the coming years. We are, as a field, experiencing rapid technological changes and innovations, and PSU is intimately involved through alumni connections, university research, and passionate new graduates entering the field. We are entering a new era of nuclear that requires the efforts of everyone at ANS, academic institutions, national laboratories, and companies to manifest change. We are the keystone to a clean future.

3 Welcome to Penn State!

3.1 State College and University Park



Figure 1: State College-Allen Street

Sitting approximately 1,200 feet above sea level, State College is the heart of Happy Valley! Incorporated in 1896 as a college town due to its proximity to PSU, State College is considered one of the best places to live in the Commonwealth as the borough brings the town to the gown of PSU with an incredible downtown filled with numerous hotels, bars, restaurants, and family run stores all within easy walking distance of campus. With a population of 41,632 residents as of the 2020 Census, State College is the 12th largest city in Pennsylvania (PA) but becomes the 3rd largest city in the state during football games! Every weekend sees a vibrant and social downtown as college students bring their eccentricity and recover from the school week. In addition, the State College area is home to plentiful municipal parks and provides easy access to state parks, recreation areas, and game lands. This area is also home to some of the best wild trout waters in the country via Spring Creek and Bald Eagle Creek, with several presidents visiting the area to fish the waters, including Dwight Eisenhower and Jimmy Carter! There is always something to do in State College, and it helps to promote the 'Happy' in Happy Valley!

The State College area is home to numerous businesses, laboratories, and spin-offs/startups from the university. The PSU Applied Research Laboratory (ARL) is a Department of Defense (DOD) designated US Navy affiliated lab, receiving the 2nd most funding of any DOD affiliated lab. In addition, there are several other local companies that contribute to the region's economy. With respect to engineering, companies like KCF Technologies, Raytheon, Minitab, HRI Inc, Stahl-Shaefer, and Restek Corp. recruit PSU students every year. The PSU Radiation Science and Engineering Center (RSEC) also employs students to be reactor operators with the supported training and examinations required. Lastly, Accuweather, the world-renown weather forecasting service, was founded and is headquartered in State College! Given the resources of the university and area companies, there are lots of opportunities for professional development in State College!

3.1.1 Accessibility and Accommodation

The Centre Area Transit Authority (CATA) bus system is considered one of the top transit systems in the country based on ridership data. CATA provides free transportation on campus via the White Loop, Blue Loop, and Red Link lines while also servicing the greater State College area with additional routes. The Loops and Link routes will allow attendees to quickly and conveniently get from one side of campus to the other if needed. The location of buses and estimated arrival times at stops is available through the myStop App (select "CATA" after first opening the app). If attendees need to travel off campus via bus, routes beside those previously mentioned charge a one-way fare

of \$2.20. PSU also offers a shuttle service on campus using minibuses that stop at various locations around campus. SPIN e-bicycles are also available for rental on campus.

3.1.2 Weather

To determine the expected weather possible conference dates, the past five years of weather for April 3rd–7th and 10th–14th were analyzed and compared. Since 2018, there has been little to no rain and snow for both ranges of dates. The average temperature for each day and year in the date selection is presented in Figure 2a for the 3rd – 7th and Figure 2b for the 10th–14th. For the primary dates of April 3rd–7th, the average temperature across all five days and years was 49.48°F. The secondary dates were slightly warmer with an average of 54.28°F.

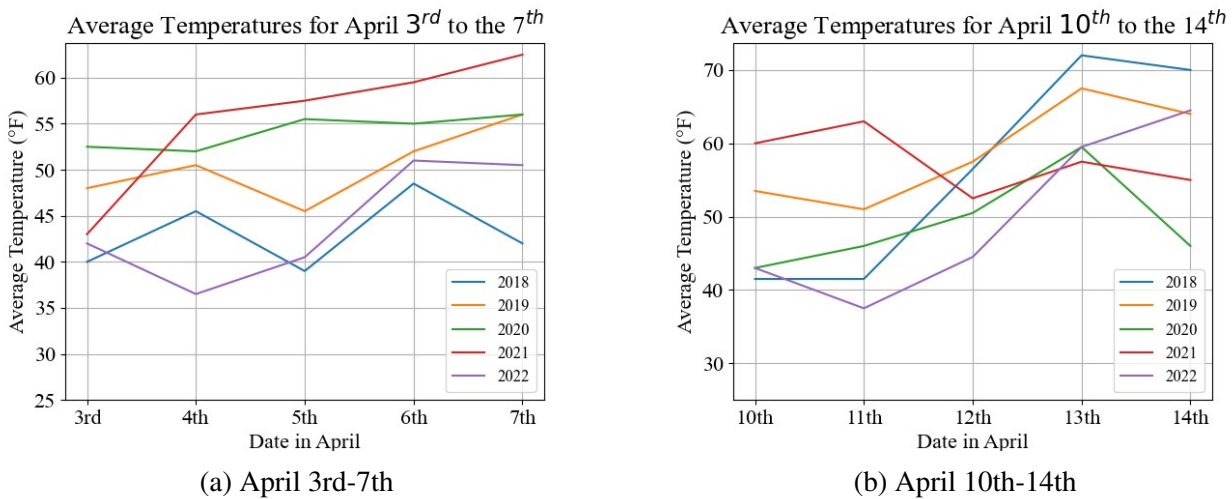


Figure 2: Average temperature data for State College selected dates

3.2 The Pennsylvania State University: We Are!



Figure 3: The Nittany Lion Shrine at University Park

Founded in 1855 as the Farmers High School of Pennsylvania, the following 167 years has seen PSU develop into a world-class research and educational institution. PSU is one of only two universities in the country that is not only a Land-Grant university, but also a Space Grant, Sun Grant, and Sea Grant university. As such, PSU has made important contributions, both technical and alumni to the world. In 1951, Erwin Mueller invented the field ion microscope and used it to examine the crystals on the atomic scale, becoming the first person to "see" atoms. Mueller also developed the atom-probe field ion microscope in 1967. The university is also the Alma Mater to many innovators including former Johnson Space Center director Paul Weitz and astronaut Guion Bluford, the first African American to go to space. For anyone that has played with a slinky, you can thank the

inventor, Richard James, who graduated from PSU in 1939. Alongside engineering and scientific developments, Jonathan Frakes, the actor of Commander William Riker from *Star Trek: The Next Generation*, was first a theater major at the university.

The PSU College of Engineering offers 14 undergraduate majors and 55 graduate degree options to over 12,000 students across the Commonwealth. At the undergraduate level, almost every major is ranked in the top 25 in the country. Out of 24 campuses, nuclear engineering is only offered at the main campus- University Park. Many commonwealth students enroll in the 2+2 program which allows them to study at a commonwealth campus for 2 years, then migrate to University Park for the remaining 2 years to complete their degree. The nuclear engineering program continually invites and supports commonwealth students, as numerous commonwealth students join the program every year. PSU also has a rich nuclear engineering history with the nation's oldest operating research reactor at the Radiation Science and Engineering Center (RSEC), which possesses Reactor License R-2. PSU became the first university licensed by the Atomic Energy Commission to operate a nuclear reactor in 1955. In 1956, PSU was one of two institutions where the International School of Nuclear Science and Engineering was established to educate scientists and engineers from around the world as part of President Dwight Eisenhower's "Atoms for Peace" initiative. A total of 175 scientists and engineers from 39 countries participated in one of six programs that were conducted at Penn State from April 1956 to January 1959. The facility also conducted training programs for commercial reactor operators in the United States. In the late 1950s, it was estimated that approximately 1/3rd of all commercial nuclear reactor power operators in the U. S. received training at the Penn State Breazeale Reactor (PSBR), and the training continued until the advent of nuclear power plant simulators in the early 1980s.



Figure 4: Old Main Building

PSU provides all students with state-of-the-art resources, collaborative atmospheres, and alumni connections that last beyond the years of the degree. Visiting PSU will leave the attendees with a sense of belonging, curiosity, and community. Happy Valley is a home to not only PSU, but the vast discoveries and alumni that were made here. Whether visiting or staying for a while, WE ARE PSU!

3.3 PSU ANS Student Chapter (ANS-PSU)

The ANS-PSU section strives to contribute to the advancing nuclear community by holding outreach, professional development, and social events. It is the goal of the chapter to excite and educate people of all backgrounds on nuclear science and technology. One of the chapter's most rewarding programs is the Nuclear Science Merit Badge program where they bring a large number of Boy Scouts to the RSEC to earn this unique badge! The chapter also has a large focus on research and industry by getting undergraduate students involved with the Nuclear Engineering department research groups as well as hosting company recruitment events. Every year, ANS-PSU has 2-3 guest speakers present to the chapter, ranging from ANS leaders, such as the current ANS President Steven Arndt, to industrial and academic representatives. ANS-PSU currently has around 70 - 80 members and has been rapidly growing due to the return of in-person activities. ANS-PSU also works very closely with the PSU INMM and WIN chapters by hosting joint events and encouraging members to be active in as many of the nuclear student organizations as possible. ANS-PSU also has an active Alpha Nu Sigma Honor Society (ANSHS) chapter which inducts about 30 PSU nuclear engineering ANS students per year. While ANS-PSU is centered on outreach and advancing nuclear science, the chapter hosts or partners with others to hold socials and other events. These include the now annual "Welcome Back" social

at a local park, Smash Bros game nights, and beer sampling at the State College bars. Below is a collection of pictures from some of these events and other ANS-PSU have participated in over the last year!



Figure 5: ANS-PSU Delegation at the 2022 ANS Student Conference



Figure 6: ANS Welcome Back Social at Lederer Park



(a) ANS-PSU at the Engineering Orientation Network (EON) Club Fair



(b) Nuclear Science Merit Badge Event at PSBNR

Figure 7: ANS-PSU Outreach Across the Community & Campus

3.4 Research at PSU

Faculty and students in the Ken & Mary Alice Lindquist Department of Nuclear Engineering at PSU conduct multidisciplinary research in areas across the nuclear sciences. Both graduate and undergraduate students actively participate in research that will contribute to the future of nuclear energy and science. The research programs of the department at Penn State can be broadly classified into seven areas which are supported by truly incredible and engaging faculty as well as unique, world-class facilities briefly described below.

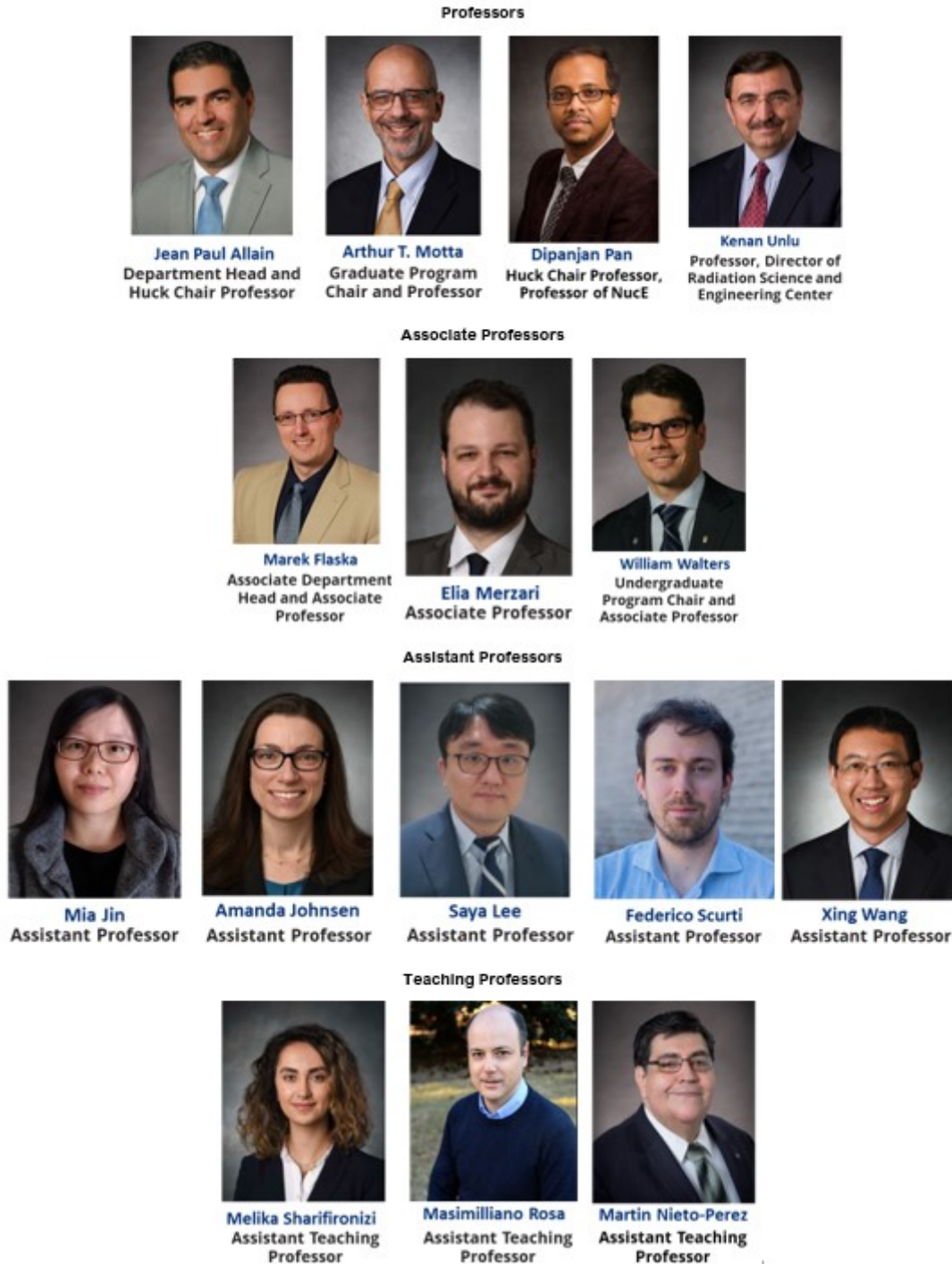


Figure 8: Faculty Members in the Ken & Mary Alice Lindquist Department of Nuclear Engineering

3.4.1 Research Areas

Nuclear Materials

The Ken & Mary Alice Lindquist Department of Nuclear Engineering and its colleagues at Penn State, national laboratories, and industry continue to innovate in the advanced materials space with advanced characterization and computational modeling tools. The department in particular focuses on research into radiation damage, environmental degradation, and computational materials science. Professors that cover these areas include:

- Drs. Jean Paul Allain, Arthur Motta, and Xing Wang (Radiation Damage)
- Drs. Hojong Kim and Arthur Motta (Environmental Degradation)
- Drs. Jean Paul Allain, Miaomiao Jin, and Xing Wang (Computational Materials Science)

Plasma Physics and Engineering

Plasma physics and engineering at Penn State explores several distinct but interconnected fields. These include nuclear fusion, plasma propulsion, industrial plasmas, and plasma medicine. Another large component is the study of materials for use in fusion systems. Professors that cover these areas include:

- Drs. Jean Paul Allain and Martin Nieto (Nuclear Fusion)
- Dr. Jean Paul Allain (Industrial Plasmas and Plasma Medicine)

Nuclear Security, Safeguards & Safety

PSU is a leader in nuclear security, safeguards and safety as well as analyzing nuclear threats and performing nonproliferation work. PSU offers a nuclear security option for graduate students and is home to the Nuclear Security Education Lab, a multi-million dollar lab that provides students with hands-on experience with radiation detection systems, source technologies, sensors, and devices. Research topics in this area include nuclear nonproliferation, safeguards, and forensics; source and detector technologies; nuclear policy; and threat analysis & physical security. Professors and staff that cover these areas include:

- Drs. Marek Flaska and Amanda Johnsen (Nuclear Nonproliferation, Safeguards, and Forensics)
- Drs. Marek Flaska and Kenan Ünlü (Source and Detector Technologies)
- Dr. Kenan Ünlü (Nuclear Policy)
- Matthew Zerphy (Threat Analysis and Physical Security)

Nuclear Science & Applications

This area covers research into radiation detection, particle transport, isotope production, neutron beam techniques, medical physics, and nuclear for sustainable development. Professors that cover these areas include:

- Dr. Marek Flaska (Radiation Detection)
- Drs. William Walters and Massimiliano Rosa (Particle Transport)
- Dr. Amanda Johnsen (Isotope Production)
- Drs. Jeffrey Geuther and Kenan Ünlü (Neutron Beam Techniques)
- Dr. Dipanjan Pan (Medical Physics)
- Drs. Jean Paul Allain and William Walters (Nuclear for Sustainable Development)

Nuclear Thermal Hydraulics

While a rapidly evolving field due to the development of new reactor concepts, nuclear thermal hydraulics is a key area of research at Penn State. With the combined resources of Penn State, other academic institutions and national labs, staff and researchers at Penn State are leading the way in advanced thermal hydraulics! This area covers research in computational and experimental thermal hydraulics as well as nuclear safety analysis. Professors that cover these areas include:

- Dr. Elia Merzari (Computational Thermal Hydraulics)
- Drs. Fan-Bill Cheung and Saya Lee (Experimental Thermal Hydraulics)
- Dr. Fan-Bill Cheung (Nuclear Safety Analysis)

Nuclear Fuel Cycle

From manufacturing nuclear fuel to spent fuel storage, from policy considerations to safety concerns, the nuclear fuel cycle affects every aspect of nuclear power plant operation. The Ken & Mary Alice Lindquist Department of Nuclear Engineering at Penn State is building upon a legacy of advances in all aspects of nuclear fuel. Researchers emphasize work in radiochemistry and spent fuel management, with the facilities at the Breazeale Nuclear Reactor available to conduct hands-on experiments. This focus covers research in radiochemistry and spent fuel management. Professors that cover these areas include:

- Drs. Amanda Johnsen and Melika Sharifironizi (Radiochemistry)
- Drs. Martin Nieto and Melika Sharifironizi (Spent Fuel Management)

Law, Policy & Engineering

No other university has developed a comprehensive approach to bring law, policy, and engineering disciplines together. PSU's strategic plan aims to impact the world via solutions-oriented approaches to major societal issues, many of which lie at the interface between these three disciplines. Due to PSU's internationally recognized engineering programs and research as well as an interdisciplinary, collaborative nature among PSU Law at University Park and the University's School of International Affairs, the university is uniquely situated to address this need. As a result, an innovative and ambitious set of new degrees, certificates and courses, and interdisciplinary research and scholarly collaborations that will propel the University to national and international leadership have been developed into the Law, Policy, and Engineering (LPE) initiative.

Led by Dr. Sandra Allain, this initiative will provide students with new cross-disciplinary perspectives and tools needed to solve complex multidisciplinary problems and address societal changes through the integration of law, policy, ethics, and engineering principles. In nuclear engineering, this takes the form of using engineering knowledge to provide policymakers with the information needed to change regulatory laws and policy to enhance the safety and security for the deployment of advanced reactor technologies. One goal of the program is to connect local, national, and global problems with solutions. Using PSU's internationally recognized programs, students have the chance to connect with international nuclear industry experts who have deployed advanced reactor technologies. With a background in nuclear engineering and knowledge in the fundamental principles of law, technology, and technology policy, students can help guide changes in regulations to implement advanced reactor technologies.

Reactor Physics & Advanced Reactor Design

The underlying design of nuclear reactors is linked to a fundamental systems-level understanding of neutronics, thermal hydraulics, nuclear materials and spent fuel management. The Ken & Mary Alice Lindquist Department of Nuclear Engineering at Penn State conducts intensive research on advanced nuclear reactor concepts including molten salt reactors, very high-temperature reactors, and microreactors. This focus covers research in reactor modeling and simulation as well as advanced reactor design. Professors that cover these areas include:

- Drs. Massimiliano Rosa and William Walters (Modeling and Simulation)
- Drs. Saya Lee and Elia Merzari (Advanced Reactor Design)

3.5 Research Labs

3.5.1 Materials for Nuclear Power Group-Dr. Arthur Motta

The Materials for Nuclear Power Group seeks to develop and expand the fundamental behaviors of materials used primarily in fission reactors. The primary areas of research for this group are waterside corrosion of zirconium alloys and steels, hydrogen pickup, hydride formation, and material behavior under irradiation. Synchrotron x-rays, SEM, and TEM are common materials characterization tools used by lab researchers. The lab is in 107 Hallowell and contains a gaseous hydriding system and a fume hood for wet chemistry.

3.5.2 Computational Radiation Transport Lab-Dr. William Walters

The CRTL works to develop innovative computational methods for radiation transport and uses these methods to solve difficult problems in a variety of nuclear systems, including reactor physics, nuclear security, safeguards, and more. CRTL members utilize the computational resources available at Penn State and partner institutions to perform extensive computational analyses.

3.5.3 Thermal Hydraulics Laboratory-Dr. Saya Lee

The Thermal Hydraulics Lab is currently preparing experiments on liquid metal heat pipes for microreactors as well as molten salt natural circulation loops. The research group looks to employ advanced analysis techniques such as laser and x-ray assisted particle image velocimetry and fiber optic sensing to investigate internal phenomena of heat pipes and molten salt systems.

3.5.4 Radiation Science and Engineering Center (RSEC) – Dr. Kenan Ünlü

RSEC was established in 1990 to manage Penn State's comprehensive nuclear research facilities, including the PSBNR, Gamma Irradiation Facility (GIF), radioactive sources, Small Angle Neutron Scattering (SANS) beamline, and Radiation measurement resources. RSEC is an independent unit under the Vice President for Research and the Dean of the College of Engineering at Penn State University. RSEC provides safe nuclear analytical and testing facilities in support of the research and education activities of faculty, staff, and students at Penn State. The Center's resources are also available to users from other universities and educational institutions, governmental agencies, and corporations as part of the public service functions of the Penn State University, symbolized by its status as the Land Grant Institution of The Commonwealth of Pennsylvania. RSEC facilities, most of which are housed in the Breazeale Nuclear Reactor Building, are some of the most unique and flexible in the country.

3.5.5 Radiation and Surface Science Engineering Lab (RSSEL) – Dr. Jean Paul Allan

RSSEL designs self-organized nanostructures with directed irradiation synthesis (DIS) and directed plasma nanosynthesis (DPNS) to enable multi-functional and multi-scale properties at surface and interfaces of complex material systems (e.g., natural polymers, high-entropy, resorbable and refractory alloys, ceramics, self-healing materials and biomaterials).

The lab deciphers the process-structure-property and multi-function relationships that result in rational design of complex materials for applications in extreme environments. Our work is focused on tailoring surfaces at the first-layer-of-atoms (FLOA) and interfaces in 2D and 3D systems depending on the specific application. The RSSEL performs work in the MSC-MCL as well as their own laboratory space in the Hallowell building.

3.5.6 Computation Nuclear Materials Group – Dr. Mia Jin

Materials performance has been critical for nuclear energy to further improve safety and economics. The current and proposed future nuclear energy systems present an exceptionally complex and harsh environment for structural materials due to the combination of high temperature, high stress, corrosive coolant, and intense radiation fluxes. The unique addition of radiation brings out several degradation issues and as a result, calls for meticulous long-term material behavior studies. Additionally, there is an impetus to develop advanced materials that are resistant to degradation.

Extensive computational characterization of radiation damage in materials is pursued with multiple methods including physics-based models and data-driven techniques. These efforts have been aimed at creating a robust descriptive and predicative paradigm for materials in nuclear applications. The Computation Nuclear Materials Group under Dr. Mia Jin utilizes numerous tools to explore material behavior and properties. This includes atomistic simulations of radiation resistance and defect interactions in advanced materials designs, multiscale modeling to describe (micro)structural evolution, and the integration of machine learning to accelerate materials discovery and investigation.

3.5.7 Global Nuclear Power Safety (GNPS) Center – Dr. Fan-Bill Cheung

The GNPS Center, partnered with numerous units at PSU, including but not limited to the PSU Applied Research Laboratory, RSEC, and the Materials Research Institute, aims to advance the base technology in nuclear power safety and developing marketable research tools and products for:

1. Promoting the safe operation and performance of existing nuclear power plants.
2. Providing essential information in the design and development of inherently safe, future advanced high-power reactors.
3. Educating and training professional engineers, practitioners, designers, and researchers working in the NP safety area as well as students aiming at becoming future industry and academic leaders in the global NP safety area.

The various research, education, and training activities being conducted at the GNPS Center, along with the marketable research tools and products being developed will provide much-needed technical support to the U.S., as well as international (global) nuclear power designers and vendors. The research products of the GNPS Center should also help improve the capability of reactor safety analysis for licensing purposes in the U.S., as well as in other countries. Dr. Fan-Bill Cheung is the founding Director of the GNPS Center.

4 Conference Logistics

4.1 Date Selection

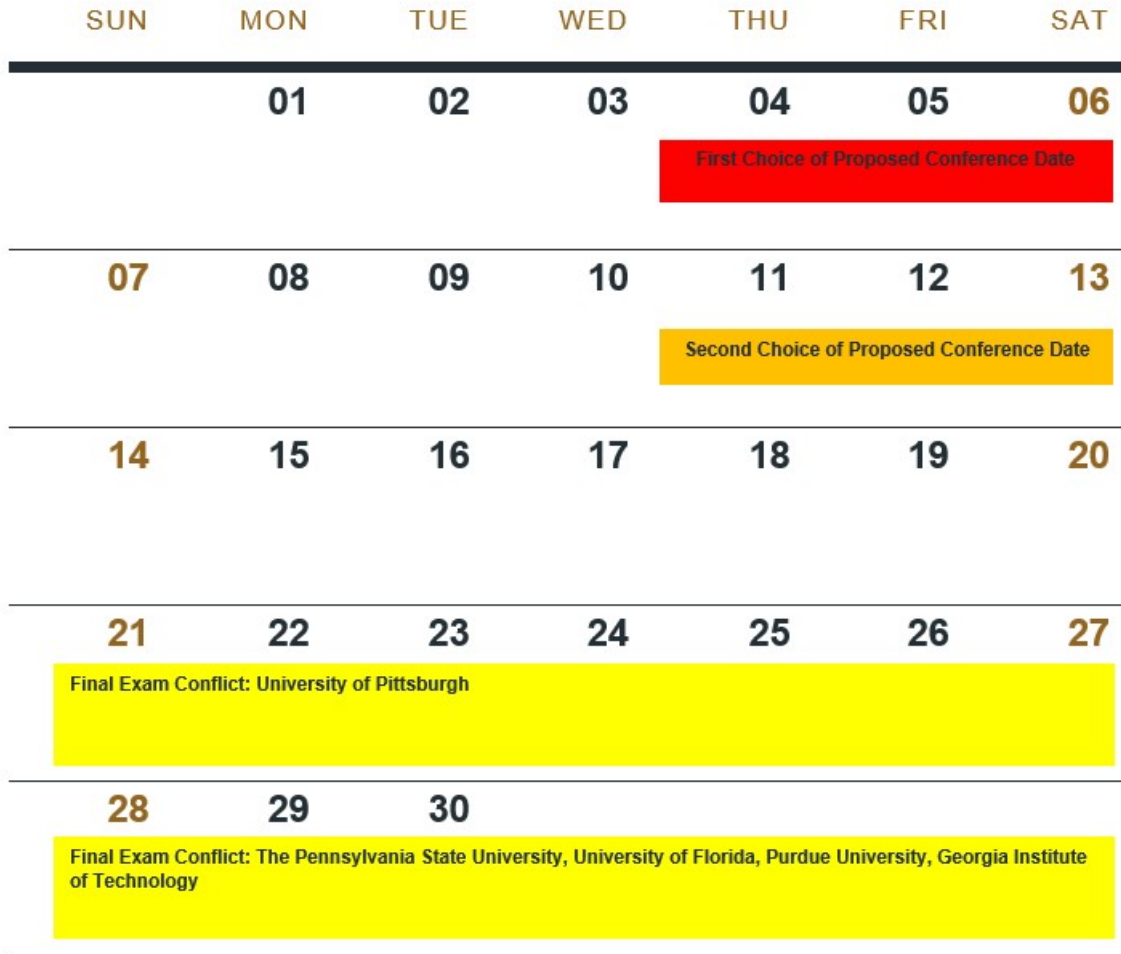
The proposed date is April 4th – 6th, 2024. This date considered all national holidays, other student chapter university spring breaks, other student chapter university final exam schedules, as well as any annually recurring events at Penn State. A contingency date was chosen to be the following week, April 11th – 13th, 2024. This contingency date also considered all the previously stated potential conflicts.

MAR2024



Figure 9: Conference Date Selection Calendar – March 2024

APR 2024



Spring Break	
Final Examination	
First Choice of Dates	
Second Choice of Dates	
Religious Holiday	

Figure 10: Conference Date Selection Calendar – April 2024

4.2 Conference Facilities

All spaces that this conference intends on using have A/V equipment provided as part of the room or rental package. If for some reason A/V equipment is not available or breaks, the committee will work with the venue and Ken & Mary Alice Lindquist Department of Nuclear Engineering to secure the needed equipment. Additional information on these rooms is provided in Appendix D.

Eric J. Barron Innovation Hub



Figure 11: Eric J. Barron Innovation Hub

Opened in 2022, the Eric J. Barron Innovation Hub is a new university event space focusing on innovation, entrepreneurship, and community engagement. Inside are meeting rooms, university office space, the Happy Valley Launchbox, classrooms, and a maker space, all of which are open and available to the public. Rooms 603 and 612 are the premier meeting spaces in the building, with Room 603 easily capable of hosting 180 guests in a theatre arrangement. It is envisioned that this room be used for a workshop on Thursday, technical presentations on Friday and panels on Saturday. Room 612 is a smaller space, with a capacity of around 40-50 using a theatre style seating arrangement. It is envisioned that this room will be used for technical presentations as well as the SSC meeting; the "How to Host a Conference" panel will likely be held in this room as well. The Additive Manufacturing workshop may also be held in the maker space on the first floor, depending on capacity and capabilities.

Additional rooms in the building can be secured for use if desired, such as a professional lounge, secondary registration desk/student office, and presentation practice space.

Hallowell Building



Figure 12: Hallowell Building

The Hallowell Building has been the home to the Ken & Mary Alice Lindquist Department of Nuclear Engineering at PSU since 2019. In September of 2021, the Nuclear Innovation Commons (NIC) was officially opened, providing an open commons area (capacity of 152 people) along with office and lab space. In addition, three study rooms and the Nuclear Smart Lab will be spaces available for use. The conference/student office for the conference will be located in 204 Hallowell with check-in/registration located in Hallowell on the first floor. Technical presentations will be held in the NIC Friday and Saturday, with one workshop on Thursday. The study rooms will be available for attendees to practice in and/or for companies to use for interviews as part of the career fair.

Hintz Family Alumni Center



Figure 13: Hintz Family Alumni Center

The Hintz Family Alumni Center will be used for workshops, panels, and technical presentations on Thursday and Friday. Only two parts of the facility will be rented out for the conference: Robb Hall and the Conference Rooms. Robb Hall is the main gallery space in the Alumni Center, with a theatre-style seating capacity of 180 people. It will be used for a workshop on Thursday and panels on Friday. The Conference Rooms consist of three rooms that can be combined or separated depending

on needs. It is envisioned that two rooms will be combined to form a room with a theatre-style seating capacity of approximately 60 people and the other room will be used as is, with a theatre-style seating capacity of at least 32 people. These rooms will be used for technical presentations on Friday and will be available on Thursday for those who would like to practice their presentations.

West 2 Building

Opening in Fall 2023, the West 2 Building is located across the greenspace of the West Campus quad, between the Earth and Engineering Sciences Building to the north and Leonhard Building to the south. West 2 will be one of two new engineering buildings built in West Campus and adds 105,000 gross square feet of space in addition to 2 active learning, general-purpose classrooms and 8,200 square feet in support of research. This building will also host the School of Engineering Design, Technology, and Professional Programs and includes an expansion of the Bernhard M. Gordon Learning Factory and the Factory for Advanced Manufacturing Education (FAME) Lab. The fourth floor of West 2 is extremely open and framed in with glass along the east wall; this space should accommodate approximately 200-300 people in an open concept. This provides beautiful views of PSU and Mount Nittany and will serve as the background for the Career Fair as well as the Poster Session. Depending on the state of the building and resources available, this building may also be a site for the additive manufacturing and design workshop.



Figure 14: Render of West 2 from the Hallowell & Leonhard Buildings



Figure 15: Render of West 2 Fourth Floor View

Reber, Deike, Hosler, Hammond, and Leonhard Buildings

Due to the the closure of the Hintz Family Alumni Center during the weekend, additional rooms across the southwest corner of campus will be utilized. These rooms are in the Reber, Deike, Hosler, Hammond, Leonhard Buildings respectively. Details on the buildings and specific spaces within them are detailed below and in Appendix D.

- Reber Building



Figure 16: Reber Building

Home to the Mechanical Engineering Department, the Reber Building contains the Gurshaney Family E-Knowledge Commons and 135 Reber. The study rooms in the Gusharney Family Commons will be available for attendees to practice in and/or reserved for companies to conduct interviews in as part of the career fair. 135 Reber will be used for technical presentations on Saturday only and has a seating capacity of 110.

- Deike Building



Figure 17: Deike Building

Home to the College of Earth and Mineral Sciences (EMS), the Deike Building contains the EMS Museum & Art Gallery, featuring the Steidle Collection. This building also holds 022 Deike which will be used for technical presentations on Saturday only. This room has a seating capacity of 164. For those interested, the museum and gallery are open from 9am-4:30pm Monday thru Friday.

- Hosler Building



Figure 18: Hosler Building

The Hosler Building is directly connected to the Deike Building, which provides easy access to 026 Hosler. This room will be used for technical presentations on Saturday only and has a seating capacity of 202.

- Hammond Building



Figure 19: Hammond Building

The Hammond Building is the current home for the College of Engineering and the School of Engineering Design, Technology, and Professional Programs at PSU. It is anticipated that 220 Hammond is the only space this conference will use in the building and will only be used on Saturday for technical presentations. The seating capacity of 220 Hammond is 106.

- Leonhard Building



Figure 20: Leonhard Building

Should additional space be needed for presentation practice, interviews, or technical presentations, the Leonhard Building will be used on Friday and Saturday. Specifically, 102 Leonhard can be used for technical presentations while rooms 105A-F can be used as presentation practice spaces and/or interview spaces. 102 Leonhard has a seating capacity of 89.

4.3 Conference Contingency Plan

In the case that the conference must be moved due to conflicts/venue availability, the conference will be held during the secondary date at the Penn Stater Hotel at Innovation Park. This hotel and conference center is located a short drive from downtown State College and has the capacity to house all attendees as well as host all of the technical sessions and panels. The Penn Stater has complimentary breakfast as well as a series of catering services, some of which would be complimentary with conference packages. Depending on what venues would be available, some events would held on campus at the Hollowell Building, Eric J. Barron Innovation Hub, West 2 Building, and/or Hintz Family Alumni Center. This would be done so that attendees would be able to experience the PSU campus as the Penn Stater is fairly isolated from the rest of campus.

4.4 Hotels and Accommodations

State College/University Park feature two areas for hotels: the downtown hotels consisting of the Scholar, Hyatt, and the Graduate, and the Penn Stater, which located northeast of main campus. While the downtown locations have smaller guest capacities per hotel as well as some logistical concerns, it is this bid’s preference to use these hotels so that attendees can easily immerse themselves in the atmosphere of State College and PSU. In contrast, The Penn Stater does not have these issues but is far from the heart of State College/University Park. Regardless, both areas are capable of fully accommodating all expected guests while also having overflow capacity. In addition, both areas are within short distances of their respective conference center choices, removing the need to have a constant shuttle between the hotels and conference centers.

The primary choices for downtown hotels are the Scholar and Hyatt. We envision housing most professionals at the Scholar and housing any remaining professionals as well as all student attendees at the Hyatt downtown. Both hotels are within walking distance of the Hollowell and the Hintz Family Alumni Center, not to mention the downtown stores, restaurants, and bars should attendees want to experience State College on their own. The Hyatt features a complimentary breakfast while the Scholar has a breakfast buffet which can be negotiated as part of a room block. Should attendance exceed the room blocks of each hotel, the Graduate will be used for overflow rooms.

Table 1: Hotel Costs

Hotel	Distance from Hollowell Commons (mi)	Dates	Number of Rooms	Rates*	Per person**
The Hyatt	0.6	4/3-4/6	156	199	\$49.75
The Scholar (King)	0.7	4/3-4/6	40	109	\$27.25
The Scholar (Suite)	0.7	4/3-4/6	18	209	\$52.25
The Graduate	0.3	4/3-4/4	150	130	\$32.50
The Graduate	0.3	4/5-4/6	150	300	\$75.00
The Penn Stater	3.5	4/3-4/6	260	128	\$32.00

**Price for a queen double, unless otherwise noted*

***Assumes 4 people per room*

4.5 Banquet Facilities & Dining

4.5.1 Breakfast

Breakfast will be either complimentary or part of the hotel room package. Otherwise, breakfast will be the responsibility of each attendee. Light refreshments such as coffee and bagels may be available in the Eric J. Barron Innovation Hub, Hintz Family Alumni Center, and Hallowell Building.

4.5.2 Lunch

Conference attendees are encouraged to explore the campus and State College, including getting lunch on West College Avenue, Beaver Avenue, and Calder Way. As a result, lunch will not be provided for the conference. However, box lunches will be provided for the Student Sections Committee meeting from 11:30pm to 1:30pm on Friday as well as any "lunch and learns" hosted by sponsors on Friday and Saturday. The catering service, PSU Auxiliary & Business Services, will be used. Sponsors can also choose to sponsor/host a lunch in one of the technical session rooms on Friday or Saturday. If more rooms are required, there are available rooms in the Eric J. Barron Innovation Hub and Hallowell Building on Friday, with additional rooms available on Saturday across various buildings. Sponsors will be able to use PSU Auxiliary & Business Services to cater their lunch or use a local food vendor in town or the HUB Robeson Center.

4.5.3 Dinner

Thursday Night

Our welcome dinner will be held at Alumni Hall which is located in the HUB Robeson Center. Alumni Hall is a large event space in the heart of campus, serving as a venue for club involvement fairs, concerts, and large events. As an open area, it can accommodate up to 1000 people. The HUB Robeson Center is centrally located on campus allows those coming to the welcome dinner to get a full glimpse of the Penn State campus. The evening will also try to foster conversation between those in attendance through a standing dinner experience with cocktail tables provided by catering. Idea generation is another keystone to the future of clean energy and our welcome dinner hopes to create the flow of ideas between those in the ANS community.



Figure 21: Alumni Hall at HUB Robeson Center

Friday Night

The Friday night dinner event will be held at the Axemann Brewery located in Bellefonte, which is about 15 minutes from State College. Buses will be provided to transport attendees from PSU to Axemann. Opening in 2019, this 27,000 square foot venue is an extremely popular restaurant and brewery with locals. The location is beautifully set alongside the Logan Branch of Spring Creek and can accommodate 500-600 people across multiple levels as well as provide plenty of room to interact. The dinner will be catered by two local companies, Brown Dog and Harrison Eat Well Catering. The theme of the evening will be net-

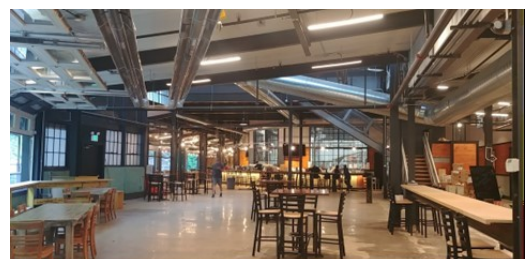


Figure 22: Axemann Brewery-1st Floor

working, so placing the caterers in different places and the ad-hoc seating will allow for attendees to mix and network. Dress will be business casual as the social will follow at this location.

Saturday Night

Our final dinner event will be held at the Arena in the Bryce Jordan Center (BJC). The BJC is the largest event space on campus, excluding Beaver Stadium, hosting sporting events, concerts, and PSU's annual THON Dance Marathon. It is commonly used for corporate events, dinners, awards ceremonies, and other large gatherings. They have extensive experience accommodating dinners and events such as the ANS Student Conference. For an event as big as this, approximately 2/3rds of the floor space would be set aside for tables, chairs, and stage while the remaining space would be open or host the buffet. As the final dinner will accompany the Awards Ceremony, the BJC is the perfect option for our keynote speaker of the evening and the awardees for the conference to be held for their final evening at Penn State. The catering will be provided by BJC and includes an Italian buffet followed by dessert.



Figure 23: BJC Setup for Dinner Event

*Dinner plans are subject to change based on location availability. Another event has a hold on the BJC over our event for the weeks of March 29th-April 13th, specifically due to the US Olympic Wrestling Team-Trials being hosted at the BJC. One out of the three weekends can be chosen so our weekend is not guaranteed. Our contingency plan if this were to happen is to hold the final dinner and the Awards ceremony at the Presidents Hall in the Penn Stater.

*Caterers were unable to provide quotes for 2024 menus so estimated prices were calculated utilizing current menus shown in Appendix G which are also subject to change.

4.6 Travel and Transportation

4.6.1 Getting to State College/University Park

The Pennsylvania State University owns and operates University Park Airport located in State College. The airport is approximately 5 miles from the main campus and offers multiple car rental and taxi services. Due to the small size of the airport, it only services flights to and from Chicago, Detroit, Newark, and Philadelphia. Table 3 shows the airfare costs of one-way flights with at least one connecting flight due to the limited number of serviced airports. There will be one Fullington Trailways bus utilized to transport attendees from the airport to the hotel on Wednesday from noon until midnight. This bus will only operate as needed based on the arrival times for the day. During the conference, all buses will be utilized for transportation on campus and to tour locations so attendees arriving after Wednesday will be encouraged to utilize rental vehicles from companies at the airport. After the conclusion of the conference, on Sunday, one Fullington Trailways bus will be utilized to transport attendees from the hotel to the airport. Similar to Wednesday, this bus will only operate when needed based on the departure time of flights. For some schools and students, driving may save more time or money than flying to University Park Airport. Table 2 shows the approximate cost and travel time for schools within ten driving hours of University Park.

Table 2: Estimated Costs of Ground Transportation

School	Estimated Distance (mi)	Driving Time	Fuel Cost*	Per Person**
University of Pittsburgh	138	2h 22min	\$54.78	\$13.69
University of Maryland	196	3h 17min	\$77.95	\$19.49
United States Naval Academy	198	3h 21min	\$78.51	\$19.63
City College of New York	242	3h 47min	\$96.08	\$24.02
United States Military Academy	254	4h 2min	\$100.77	\$25.19
Virginia Commonwealth University	318	4h 53min	\$126.45	\$31.61
Ohio State University	340	5h 10min	\$135.12	\$33.78
Excelsior College	322	5h 11min	\$132.14	\$33.03
Rensselaer Polytechnic Institute	333	5h 12min	\$132.26	\$33.06
Three Rivers Community College	366	5h 40min	\$145.61	\$36.40
University of Michigan	393	5h 58min	\$156.07	\$39.02
Purdue University	539	8h 16min	\$214.26	\$53.57
Clemson University	646	9h 59min	\$256.80	\$64.20
University of Cincinnati	422	6h 46min	\$167.75	\$41.94
University of Tennessee	584	8h 54min	\$232.15	\$58.04
North Carolina State University	471	7h 42min	\$187.23	\$46.81
Massachusetts Institute of Technology	436	6h 41min	\$173.32	\$43.33
University of Massachusetts-Lowell	441	6h 48min	\$175.31	\$43.83
Vanderbilt University	699	10h 30min	\$277.87	\$69.47
Average	386	5h 47min	\$153.71	\$38.43

**Assuming the price of gas is \$4.81 and gas mileage is 24.2 mi/gal*

***Assuming 4 people per vehicle*

Table 3: Estimated Costs of Air Travel

School	Departure Airport	Number of Connections	Fare to SCE
University of Wisconsin-Madison	Dane County (MSN)	1	\$239
Georgia Institute of Technology	Atlanta (ATL)	1	\$239
Southern Polytechnic State University	Atlanta (ATL)	1	\$239
Missouri University S & T	St. Louis (STL)	2	\$264
University of Texas-Arlington	Dallas/Fort Worth (DFW)	1	\$269
Louisiana State University	Baton Rouge (BTR)	2	\$274
Iowa State University	Eastern Iowa (CID)	1	\$309
University of Texas-Austin	Austin-Bergstrom (AUS)	1	\$309
Chattanooga State Community College	Chattanooga (CHA)	2	\$314
Colorado School of Mines	Denver (DEN)	2	\$319
University of New Mexico	Albuquerque (ABQ)	2	\$319
University of Texas-Permian Basin	Midland (MAF)	2	\$319
Kansas State University	Manhattan (MHK)	2	\$325
University of Nevada-Las Vegas	Las Vegas (LAS)	1	\$329
University of Florida	Gainesville (GNV)	2	\$334
South Carolina State University	Columbia (CAE)	2	\$337
University of South Carolina	Columbia (CAE)	2	\$337
University of California-Irvine	Orange County (SNA)	2	\$339
Oregon State University	Portland (PDX)	2	\$339
Idaho State University	Idaho Falls (IDA)	2	\$380
Air Force Institute of Technology	Colorado Springs (COS)	1	\$409
Utah State University	Salt Lake City (SLC)	2	\$419
University of Utah	Salt Lake City (SLC)	2	\$419
University of California-Berkeley	San Francisco (SFO)	2	\$433
University of Missouri-Columbia	Columbia, MO (COU)	2	\$518
Texas A & M University	College Station (CLL)	2	\$518
University of Washington	Seattle-Tacoma (SEA)	1	\$537
Average Air Travel Cost:			\$339
Average Travel Cost:			\$215

4.6.2 Getting to the Conference

Most events scheduled for the conference will be occurring on campus with, at most, about ten minutes of walking in between events. As such, buses will not be used to transport all attendees between events on campus. If attendees require assistance being transported between events, there will be once accessible bus available. Additionally, there are several buses, run by CATA, that follow designated routes throughout University Park. These buses are not affiliated with the event but happen to run while the conference is ongoing. Attendees are welcome to use these buses as public transport between events at their own discretion. Resources will be available to those who wish to utilize this mode of transportation during the conference.

5 Conference Program

5.1 Potential Speakers

5.1.1 Dr. Rita Baranwal, Chief Technology Officer at Westinghouse Electric Corporation (WEC)



Dr. Rita Baranwal is the Chief Technology Officer for WEC, where she leads the company's global research and development investments and spearheads a technology strategy to advance the company's innovative nuclear solutions. She spent nearly a decade with WEC in the Global Technology Development, Fuel Engineering, and Product Engineering groups before serving as the Assistant Secretary for the Office of Nuclear Energy in the U.S. Department of Energy (DOE) from 2019-21. At the DOE, Dr. Baranwal directed the Gateway for Accelerated Innovation in Nuclear (GAIN) initiative at Idaho National Laboratory (INL), which provided industry and other stakeholders access to DOE R&D expertise, capabilities, and infrastructure. Dr. Baranwal has also served as the Chief Nuclear Officer and VP of Nuclear for the Electric Power Research Institute (EPRI).

Dr. Baranwal has advanced degrees in materials science and engineering, including a Ph.D. from the University of Michigan and is distinguished as an ANS Fellow. Dr. Baranwal is a clear choice to discuss how to improve nuclear legislation and how companies can accelerate development of new nuclear technology. We would ask her to give a call to action for students on the final night of the conference and serve as a panelist for the Impact Technologies for Advanced Reactors panel.

5.1.2 Dr. Kathryn Huff, Assistant Secretary for Office of Nuclear Energy-DOE



Dr. Kathryn Huff currently leads the Office of Nuclear Energy as the Assistant Secretary. Prior to her current role, she served as a Senior Advisor in the Office of the Secretary and as the Principal Deputy Assistant Secretary for Nuclear Energy. Before joining the Department of Energy, she was an Assistant Professor in the Department of Nuclear, Plasma, and Radiological Engineering at the University of Illinois at Urbana-Champaign where she led the Advanced Reactors & Fuel Cycles Research Group which focused on modeling and simulation of advanced nuclear reactors and fuel cycles. She was also a Blue Waters Assistant Professor with the National Center for Supercomputing Applications. She was previously a

Postdoctoral Fellow in both the Nuclear Science and Security Consortium and the Berkeley Institute for Data Science at UC-Berkeley. She is an active member of the American Nuclear Society, a past Chair of the Nuclear Nonproliferation and Policy Division as well as the Fuel Cycle and Waste Management Division, and recipient of both the Young Member Excellence and Mary Jane Oestmann Professional Women's Achievement awards. She also advocates for best practices in open, reproducible scientific computing. Assistant Secretary Huff's active role in DOE would provide attendees with valuable insight into how the US government is approaching a diverse array of issues, such as microreactors, supply chains, technology development/deployment, and regulatory guidance. We would ask her to speak at the opening dinner, as well as participate in one or two panels.

5.1.3 Dennis Whyte, Director at MIT Plasma Science and Fusion Center



Dennis Whyte is the Hitachi America Professor of Engineering at MIT, a professor in the MIT Department of Nuclear Science and Engineering, and the Director of the MIT Plasma Science & Fusion Center. Whyte's research interests focus on accelerating the development of magnetic fusion energy systems. He has published over 350 papers across the multi-disciplinary fields of magnetic fusion including plasma confinement, plasma-surface interactions, blanket technology, plasma diagnostics, superconducting magnets and ion beam surface analysis. He also leads the overall MIT research team on SPARC, a private-sector funded compact high-field tokamak presently under development to demonstrate net fusion plasma energy gain. and the Laboratory for Innovations in Fusion Technology at PSFC, which has energy company sponsorship to explore early-stage, disruptive fusion technologies. He has served as leader of the Boundary-Plasma Interface Topical Group of the US Burning Plasma Organization and is a Fellow of the APS Division of Plasma Physics. His awards and honors include: the Department of Energy's Plasma Physics Junior Faculty Award in 2003, the IAEA Nuclear Fusion Prize in 2013, and the Fusion Power Associates Leadership Award in 2018. He is also a two-time winner of the Ruth & Joel Spira Award for Distinguished Teaching from the School of Engineering at MIT. Whyte has been a committee member on three previous NAS studies: "A Review of the DOE Plan for U.S. Fusion Community Participation in the ITER Program" (2009), "An Assessment of the Prospects for Inertial Fusion Energy" (2013), and "Bringing Fusion the U.S. Grid" (2021). We believe Dennis would be an excellent voice for students to hear regarding the state of nuclear fusion research and development, as well as its future. He would be a primary speaker at Thursday's Opening Dinner and on the State of Nuclear Fusion panel.

5.1.4 John Wagner, Laboratory Director at Idaho National Laboratory (INL)



John Wagner has been at INL since 2016, serving as Associate Laboratory Director for Nuclear Science and Technology starting in 2017 and in 2020, he was named Laboratory Director for INL. Wagner has more than 20 years of experience performing research and managing and leading research and development projects, programs and organizations. Prior to joining INL, he worked at Oak Ridge National Laboratory (ORNL) and Holtec International. Wagner earned his doctorate and master's degrees from The Pennsylvania State University and his bachelor's degree in nuclear engineering from the Missouri University of Science and Technology. He is an American Nuclear Society Fellow and a recipient of the 2013 E.O. Lawrence Award. He has authored or co-authored more than 170 refereed journal and conference articles, technical reports and conference summaries. Dr. Wagner's insight into the lab structure and the work being performed at the national laboratories to bring advanced reactors on to the grid as well as construction efforts for the various test reactors INL will host will be extremely valuable to attendees and may serve as a great speaker at Thursday's opening dinner to get attendees excited about the rest of the conference.

5.1.5 Kurt Terrani, Director at Ultra Safe Nuclear Corporation (USNC)



Kurt Terrani is a Director for USNC leading the company's advanced fuels and materials development programs in addition to managing USNC's research and development efforts. A Weinberg Fellow at ORNL, Kurt is also a former National Technical Director at ORNL where his work included leading the effort to build the Transformational Challenge Reactor (TCR). This project brought to bear advances in Additive Manufacturing (AM) and Artificial Intelligence (AI) technologies to support the development and construction of the TCR, which will be of practical use to the construction of advanced reactors. Kurt is an internationally recognized technology leader in nuclear fuels with a strong track record of combining computational and experimental techniques to develop, process, irradiate, and test a range of nuclear fuels. We believe that Kurt would be a strong candidate to discuss the advanced manufacturing technologies that can be used to build new reactors, such as AM, AI, and Digital Twins due to his experience working on TCR. He would be a key figure for panels focusing on advanced manufacturing techniques for nuclear reactors.

5.1.6 Jessica Lovering, Co-Founder & Executive Director Good Energy Collective



Jessica Lovering is the Co-Founder and Executive Director of the Good Energy Collective, a policy research organization focused on making a progressive case for advanced nuclear energy as part of the tools to combat climate change. In addition, the Good Energy Collective works to raise awareness in the clean energy field for environmental justice and sustainability goals. Dr. Lovering holds a PhD in Engineering and Public Policy from Carnegie Mellon University, as well as M.S. in Environmental Studies, M.S. in Astrophysics & Planetary Sciences from the University of Colorado, Boulder and a B.S. in Astrophysics from UC-Berkeley. Doctoral research focused on how commercial nuclear trade affects international security standards and how very small nuclear reactors could be deployed at the community level. She is also a Fellow with the Energy for Growth Hub, looking at how advanced nuclear can be deployed in emerging economies. Prior to co-founding the Good Energy Collective, Jessica was a part of the Breakthrough Institute as the Energy Program Director. Given the opportunity that advanced reactors and microreactors have to transform not only our electrical grid, but to improve communities across the United States, we believe Dr. Lovering would be an excellent speaker for the closing dinner on Saturday to provide context for attendees as to the real-world implications that their actions, and the efforts to make nuclear a keystone to a clean future, will have on the world. In addition, Dr. Lovering would be an excellent panelist for the Public Policy and Diversity, Equity & Inclusion panels.

5.1.7 Hans Gougar, Product Engineering Manager for Xe-Mobile, X-Energy



Hans Gougar, Ph.D., is the Manager of Product Engineering at X-energy. He serves as the lead engineer on the design of the Xe-Mobile microreactor. Hans began working on advanced reactors at INL in 1998 and in the 24 years since, he has worked on several advanced reactor programs. Hans is a Penn State graduate with both a master's and PhD degrees in nuclear engineering. He took a one-year sabbatical in South Africa, serving as a Senior Consultant for Pebble Bed Modular Reactor (PBMR™), and returned to Idaho in 2009 for a role as the Deputy Technical Director and, later, the Director of the Advanced Reactor Technology Program. Hans was also the U.S. Department of Energy's National Technical Director for Gas-Cooled Reactor Technology from 2016-2019. He concluded his term

at INL with a brief stint as Director of Nuclear Design and Analysis Division before joining X-energy in August of 2019. Given the theme of the conference, Hans would be an excellent speaker to provide insight into how microreactors are being developed as well as discuss X-energy's work with Dow to build a reactor to provide process heat for their facilities. He would also be a perfect panelist for the Microreactors panel.

5.1.8 Chris Levesque, President & CEO of TerraPower



Chris Levesque is a board member and the current President & CEO of TerraPower. Levesque leads TerraPower in its pursuit of next-generation nuclear energy solutions and oversees TerraPower's new venture into therapeutic medical isotopes. He has a proven track record in scoping, planning and implementing complex projects with more than 30 years of experience in the nuclear field. As a result, under his leadership TerraPower announced it would begin construction of its Natrium (TM) reactor in Kemmerer, WY with construction starting in 2021. Prior to joining TerraPower, Levesque led major new reactor build efforts at both WEC and AREVA, overseeing projects in both the U.S. and Finland. Levesque has extensive experience with the nuclear-industrial base and nuclear component manufacturing via his work at WEC's Newington, NH facility and management work at two nuclear-capable shipyards. Levesque began his

career as a nuclear submarine officer and served on both the USS Boise (SSN 764) and the USS Will Rogers (SSBN 659). We believe that Chris can speak to the conference's theme, showing how companies are taking the lead in building new reactors to bridge our grid to a clean future. His experience with the nuclear supply chain, component manufacturing, and reactor construction will be extremely valuable to all in attendance, especially since the Natrium reactor is under construction. A speech on the "lessons learned" for constructing a reactor such as Natrium would be a great way of closing the conference and dinner on Saturday. He would also potentially be a good panelist to discuss advanced manufacturing techniques for nuclear applications as well as participate in the microreactors panel.

5.1.9 Allison Macfarlane, Director and Professor of the School of Public Policy and Global Affairs at the University of British Columbia (UBC)



Allison Macfarlane is the current director and a professor at the School of Public Policy and Global Affairs at UBC. She is a former Chair of the Nuclear Regulatory Commission (NRC) from 2012-2014. As NRC Chair, she pushed for public dialogue about nuclear science and greater engagement with internationally recognized regulators. Before her NRC appointment, she was to serve on the Blue-Ribbon Commission on Americas Nuclear Future to develop a national strategy for high-level waste management. Macfarlane obtained her B.S. in Geology at the University of Rochester and her Ph.D. from MIT in Geology where she co-edited, "Uncertainty Underground: Yucca Mountain and the Nation's High-Level Nuclear Waste" which was published in 2006. She has also chaired the Science and Security Board of the Bulletin of Atomic Scientists and serves on the National Academy of Sciences panel. In 2018, Allison was the

Fullbright Distinguished Chair in Applied Public Policy at Finders University and Carnegie Mellon Adelaide. Due to Allison's research on environmental policy and international security issues associated with nuclear energy, she is an excellent candidate to speak on behalf of the challenges that advanced reactors may see in international security and policy. Her policy making experience also makes her a great panelist for the "Public Policy: How to Move to Dial" panel.

5.1.10 Stephen Burns, Senior Visiting Fellow at Third Way



Stephen Burns is currently an advisor to Third Way's Climate and Energy Program. He is also a member of the advisory board at Fermi Energia where he advised the licensing and regulation of the potential deployment of Small Modular Reactors (SMR). Previously, he was appointed Chairman of the NRC in 2015. Mr. Burns obtained a B.A. in German History from Colgate University, followed by a J.D. from The George Washington University Law School. From 1991-2009, he held multiple positions at the NRC until he left to become head of Legal Affairs at the OECD Nuclear Energy Agency. With the theme of our conference, Stephen would be an excellent voice to have on the microreactors panel as he can give his first-hand experience in licensing and regulation of a SMR.

5.2 Keystone to a Clean Future Panel Series

Technical and non-technical panels encourage interaction between students and professionals at the conference. Each panel is designed to address one or more of the stated goals for the conference. They also serve as a way for students and professionals to learn more about relevant issues, find inspiration for their next project, and feel encouraged for the future of the nuclear field.

5.2.1 The State of Fusion

Over the past decade, there has been an increased interest in nuclear fusion not just from the research community, but private capital as well. With commercialization of the technology appearing to be closer than ever, especially with ITER wrapping up construction in. Featured panelists could include Dr. Jean Paul Allain (PSU) and Dennis Whyte. This panel will be held in Room 603 of the Eric J. Barron Innovation Hub.

5.2.2 Impact Technologies for Advanced Reactors

Universities, national laboratories, and companies have made great strides in developing technologies and manufacturing techniques needed to bring advanced reactor designs to life. As a result, it's worth discussing the impact technologies that will make advanced reactors...well, advanced! Considerations for in-core innovations as well as construction/production innovations will be the focus of this panel. This panel could feature speakers such as Dr. Kurt Terrani, Dr. Rita Baranwal, and Dr. Guha Manogharan (PSU). This panel will be held in Robb Hall at the Hintz Family Alumni Center.

5.2.3 Nuclear Supply Chains

Due to the invasion of Ukraine in 2022, nuclear fuel supply chains were adversely affected by the lack of Russian sourced uranium. While this is a major consideration for new fuel designs, such as High Assay-Low Enriched Uranium (HALEU), other types of nuclear supply chains are also under stress: construction materials and skilled labor! This panel will be held in Robb Hall at the Hintz Family Alumni Center. Potential panelists include Karen Fili (President & CEO–Urenco USA), Jason Murphy (VP of Nuclear Fuels– Constellation), Dr. Rita Baranwal, and Hans Gougar.

5.2.4 Medical Isotopes: Hidden Commercial Feature vs Standalone Capacity

Over the past five years, the growing need for medical isotopes has been recognized by the nuclear community. However, there appears to be two approaches to this: new, standalone medical isotope reactors or add-on capabilities to commercial power plants. The aim of this panel is to create a discussion as to why certain decisions were made and how those decisions worked out. Feature panelists such as Dr. Dipanjan Pan (PSU), Craig Piefer (SHINE) and representatives from utilities/fuel vendors. This panel will be held in Robb Hall at the Hintz Family Alumni Center.

5.2.5 Microreactors: Promise, Status, and Moving Forward

Microreactors are an increasing focus of the nuclear industry to address the clean energy needs of remote communities, industry, and US military bases. As companies begin to enter the demonstration phase how are things progressing? What major issues have presented themselves? What are the next steps? When can we expect them to be commercially available? For this panel we plan to feature some industry leaders in microreactor technology from INL, Westinghouse, X-Energy, BWXT, etc. Potential panelists could include Chris Levesque, Hans Gougar, and Dr. Elia Merzari (PSU), Yasir Arafat (INL), and Joe Halackna (WEC). This will be held in Room 603 of the Eric J. Barron Innovation Hub.

5.2.6 Public Policy: How to Move the Dial

With new reactor designs and challenges to existing reactor operations, now is an integral time to showcase the role policy plays in the success of nuclear. With the recent passing of the Inflation Reduction Act (2022) which allocates tax credits per megawatt/hour to operating plants, and potential legislation for advanced reactors- the push for nuclear is bi-partisan and the push is happening now. To achieve the goal of net-zero by 2035, legislation is acting quickly to support nuclear. This panel will explore the challenges faced in the past with nuclear legislation, and moreover what can be done to continue this momentum of support. This panel could feature Kathryn Huff, Jessica Lovering, and Allison Macfarlane as well as legislators from Pennsylvania, West Virginia, Maryland, and New York. This panel will be held in Room 603 of the Eric J. Barron Innovation Hub.

5.2.7 Diversity, Equity, & Inclusion in the Workforce: What Can You Do?

Having a diverse workforce is essential to solving complex problems, as it allows for a diverse set of opinions and experiences to foster innovative solutions. At PSU, we value the need for diversity and inclusion in our day-to-day lives and would like to continue the discussion on how to improve the culture and environment in the nuclear industry. This panel would provide insight for attendees on the current atmosphere in industry, and create a safe space for discussion about what students can do to improve their environment and support DE&I. This panel will be held in Room 603 of the Eric J. Barron Innovation Hub. Potential panelists include Jhansi Kandasamy, Past-Chair of U.S. Women in Nuclear (WIN) and U.S. WIN DEI Oversight Committee Member; Kelvin Henderson, Chief Nuclear Officer at Duke Energy, Jacqueline Stevens, Engineering Manager at Framatome, and Ari Pribadi, the Head of Marathon Capital's Office and Co-Head of their D&I Committee.

5.2.8 Educational Outreach & Training the Workforce of Tomorrow

The mission of the American Nuclear Society is to advance, foster, and spur the development and application of nuclear science, engineering, and technology to benefit society. One of the most effective ways of adhering to that mission and engaging the workforce of tomorrow is through outreach. Nuclear outreach is encouraged at all ages, especially at the K-12 level. This panel will take attendees through effective ways to engage the public in nuclear science and will give attendees ways to partake in outreach at any level. As nuclear is becoming more "popular", the ability to communicate and relate nuclear science to all ages is essential to people acknowledging it as a potential career path. This panel could feature Candace Davison (PSU, retired) and Mary Lou Dunzik-Gouger (ISU), along with training personnel from utilities/vendors. This panel will be held in Robb Hall in the Hintz Family Alumni Center and run about 2–3 hours.

5.2.9 How to Host a Conference

This panel is devoted to sharing the experience of this conference's planning committee with students from other schools that may want to host their own student conference. This panel is for students by students. Students from other schools will be able to ask questions and gain insights for their own conference hosting process. This will be held in Room 612 of the Eric J. Barron Innovation Hub.

5.3 Workshops

5.3.1 Additive Manufacturing & Design

Additive Manufacturing (AM) has become an increasingly important tool in not only prototyping, but also product manufacturing. Trying to take advantage of the unique design spaces AM provides

can be daunting, which is why this workshop will provide attendees with an overview of the AM process and different design philosophies! This workshop will take place in the West 2 or in the Maker Space of the Eric J. Barron Innovation Hub and led by ANS-PSU members as well as the 3D Printing Club at PSU. This workshop should last approximately three hours.

5.3.2 Science Communication with the PSU Bellisario College of Communication

The Bellisario College of Communication has a Science Communication Program (SCP) that assists individuals in STEM fields improve in their ability to communicate their field of study to a variety of audiences. Communicating complex science topics such as nuclear engineering to a widespread audience has its challenges. Hosted by SCP, this workshop will take attendees through the challenges of science communication and work with attendees to improve their communication effectiveness. This workshop will take place in Robb Hall at the Hintz Family Alumni Center and will be approximately 1.5–2 hours in duration.

5.3.3 NEK5000 and Monte Carlo/OpenMC Coding Workshop

Open-source software is an incredibly powerful tool for researchers and students to use. For nuclear engineers and scientists, Monte Carlo/OpenMC and NEK5000 are powerful tools for radiation transport and thermal hydraulics respectively. This workshop will be led by Dr. William Walter and Dr. Elia Merzari of Penn State University. Dr. Walters is an expert in Monte Carlo/OpenMC use while Dr. Merzari is an expert in computational thermal hydraulics and has led virtual workshops on NEK5000 with ANS National. The workshop will be approximately three hours of instruction in the Nuclear Innovation Commons in the Hallowell Building.

5.3.4 Nuclear Advocacy Workshop

One of the most potent ways nuclear scientists and engineers can impact the future is by educating the public about nuclear science and technologies. Public education is a broad topic and has many pathways to success, one of those being advocacy on an individual level. This workshop will give participants the tools to become effective and active advocates to promote nuclear in their communities! In this workshop, the hosts will discuss current nuclear legislation, provide interactive scenarios, and teach attendees how to get involved in local, legislative communication. This workshop will be led by members of Nuclear Matters and will be held in Room 603 at the Eric J. Barron Innovation Hub for about 2 hours.

5.4 Technical Sessions

Technical sessions are an integral part of the conference experience as they provide students with a platform to present their research work to an audience, answer their questions/comments, and have productive interactions with attendees. The goal of these presentations is for the audience to gain insight into the presenter's research and to see different perspectives about the various areas of nuclear science and engineering. Each presenter's time slot will be a total of 20 minutes, with the first 15 minutes dedicated to presenting and the final five minutes open for questions/discussion. Students will be presenting one after another, so it is important to not go over their allotted time. Podium presentations will take place in lecture hall type rooms, where students will have access to the projectors, podium stands, and a remote to navigate through their presentation. Presentations will take place at several locations in University Park/State College through the course of Friday and Saturday. These venues include the Hintz Family Alumni Center, Eric J. Barron Innovation Hub, Hallowell Building, Reber Building, Deike Building, Hammond Building, and Hosler Building. The Hintz Family Alumni Center will be available for Friday only while the Reber, Deike, Hammond, and Hosler Buildings will

be available only on Saturday. The Eric J. Barron Innovation Hub and Hallowell Building will be available throughout the conference. There will be approximately 4-5 technical sessions running in parallel across the program, with the possibility of adding or dropping sessions dependent on paper presentation submissions. Conservatively, if each technical session room is used and all sessions are filled, at least 176 attendees can present at the conference.

The technical sessions will be organized along the lines of the ANS divisions, with additional tracks included for work falling outside or tangential to the divisions. These divisions include:

- Accelerator Applications
- Aerospace Nuclear Science & Technology
- Computational Medical Physics
- Decommissioning & Environmental Sciences
- Education, Training & Workforce Development
- Fuel Cycle & Waste Management
- Fusion Energy
- Human Factors, Instrumentation & Control
- Isotopes & Radiation
- Materials Science & Technology
- Mathematics & Computation for Nuclear Engineering
- Next Generation Reactors & Advanced Reactors
- Nuclear Criticality Safety
- Nuclear Energy Applied to Biology & Medicine
- Nuclear Installations Safety
- Nuclear Nonproliferation
- Probabilistic Risk Analysis
- Operations & Power
- Radiation Protection & Shielding
- Reactor Physics
- Robotics & Remote Systems
- Thermal Hydraulics

5.5 Poster Session

Posters are a great way for attendees to present their work in the form of an exhibition. Posters will be displayed upon booths besides the student presenters, where they can be approached by an audience and asked to talk about their poster and answer questions. The session will take place on the 4th floor of the West 2 Building with materials to put up posters provided after the career fair has ended.

Judges will be part of the audience and will assess the poster as well as the student's performance. Prizes and awards for the best undergraduate and graduate poster will be available, with students awarded funds donated by the ANS technical divisions if possible. Posters will be evaluated based on their quality of research, relevancy, ability to engage the audience and answer questions. The poster session judging form is provided in Appendix B.

5.6 Career Fair

The career fair will be held all day on Friday, from 8am to 5pm, and on Saturday from 8am to 11:30am in the West 2 Building on the 4th floor. This space is open and has a capacity of around 400 people.

All companies that sponsor the conference at the “Foundation” level or above will be given a table at the career fair. Location will be determined in order of sponsorship amount and when the agreement was made. Universities may freely request a table at the career fair while space is available. Recruiters can mail bulkier items prior to their arrival in State College/University Park. Based on previous conferences, the career fair is expected to host approximately 45 companies and universities. There will be rooms available in the Nuclear Innovation Commons, Reber Building, Leonard Building, and Eric J. Barron Innovation Hub for companies to interview potential candidates.

5.7 Tours

Tours are one of the most popular and anticipated parts of an ANS Student Conference as it allows the host chapter to showcase the technical and non-technical aspects of their local area. Currently, we are planning five tours, which are subject to change.

5.7.1 Technical Tours

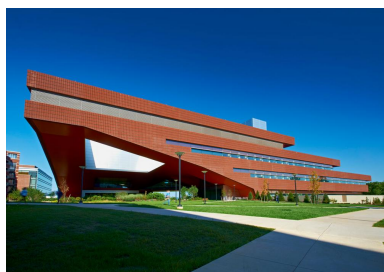
Breazeale Reactor, Millennium Science Complex, and Berkey Creamery Tour

This tour will consist of three sections to highlight Penn State’s research capacity: 1) the PSBNR at RSEC, 2) the Millennium Science Complex (MSC), and 3) the Berkey Creamery. Transportation accommodation will be provided for those who are unable to walk between destinations.

- The tour of the Breazeale Reactor includes a reactor pulse, control room viewing, and an overview of RSEC’s other facilities including the Co-60 Pool, the Dry Irradiation Facility, and the new SANS beam line! This leg of the tour will take about 1-2 hours.
- At the MSC, a walkthrough of the Materials Characterization Laboratory will be done to highlight the scientific equipment available for students. In addition, a tour of the building and the Material Research Institute will occur, with a potential seminar or lab visit included. This leg of the tour will take about 1-2 hours.
- At the Berkey Creamery attendees can observe the ice cream making process and sample some of the flavors available that day at their leisure.



(a) Breazeale Reactor Building



(b) Millenium Science Complex



(c) Berkey Creamery

Figure 24: On Campus Technical Tour Stops

Westinghouse Waltz Mill Tour

The Waltz Mill site is a research & development for the eVinci microreactor as well as training center for commercial reactor outage workers. This site is located just outside New Stanton, PA and is only

2 hours from PSU. The tour will consist of seeing the research facilities for the eVinci and the outage worker training facility, where attendees can see a working facility. In addition, attendees can see first hand the scale of components in a nuclear reactor, such as a pressure vessel and steam generator for AP1000. This tour is expected to last 2-3 hours, excluding travel time.

Susquehanna Steam Electric Station & Data Center Tour

Susquehanna Steam Electric Station (SSES) Units 1 & 2, located east of Berwick, PA, are the closest operating commercial reactors to PSU. In addition to its training facility for reactor operators, the site will be hosting a data center and cryptocurrency mining operation. Due to site security and constraints, touring inside the plant security area may be limited or not possible. However, the training facility as well as the data center will be tour stops if allowed. This tour is expected to last 2-3 hours, depending on site specifics and excluding travel time.

5.7.2 Non-Technical Tours

Axemann Brewery Tour

Axemann Brewery is located just outside Bellefonte, PA along the Logan Branch of Spring Creek. Opened in Fall of 2019, this brewery is located inside a 27,000 sq. ft facility and produces a variety of European, East Coast, and West Coast styled beers. Food trucks, indoor-and-outdoor seating along with yard games make this a great spot to not only enjoy a drink or two, but also learn about the brewing process! For this tour, attendees must be at least 21 years old. This tour will last about 2-3 hours, excluding travel time.

Penn State Sports Museum-Beaver Stadium Tour

Collegiate athletics at PSU is one of the defining attributes of the university. Not only is the university home to one of the largest athletic departments in the country, sponsoring 15 men's and 14 women's programs, but it is also home to the second largest stadium in the western hemisphere: Beaver Stadium! This tour aims to showcase the history, pride, and success of PSU athletics while also allowing students to tour Beaver Stadium. This tour is expected to last approximately 2 hours.



Figure 25: PSU All Sports Museum at Beaver Stadium

5.8 Socials

5.8.1 Climb Nittany

The Thursday night social consists of two parts. First, for those below the age of 21, attendees can go to Climb Nittany where they will be able to scale multiple rock walls of varying difficulty, as well as learn proper climbing form in case they have no prior experience. For those who are over 21, or simply do not wish to participate in the rock-climbing, another group will be traveling downtown to enjoy Stage West. This venue provides a large open area which can be used for socializing and an approximation of Penn State nightlife, as well as an upstairs area equipped with a bar. This venue is

frequently used by local music groups as well as many on campus organizations, especially fraternities and sororities. This venue will be performing its own verification of age for those below 21, and we will be providing drinks tickets only to those above 21 as a second method of insurance.



(a) Climb Nittany



(b) Stage West

Figure 26: Thursday Night Social Locations

5.8.2 Axemann Brewery

The social planned for Friday night will take place at Axemann Brewery. This event will feature casual interaction between attendees, with drink tickets for those over 21 to spend at the bar on site. The two-level venue, along with the mixture of indoor and outdoor seating, allows for a variety of activities and games, and should provide a relaxing opportunity for one last conversation between attendees of different schools, as well as making connections between students and industry professionals.

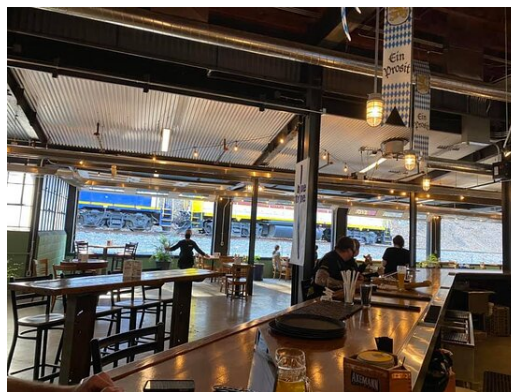


Figure 27: Axemann Brewery

5.8.3 Pegula Ice Arena

The final social planned for the conference will be held in the Pegula Ice Arena. Between the main rink, the community rink, and the upper gathering areas, there will be multiple areas for interaction between peers, as well as many activities such as broomball, curling, and ice skating. This venue will provide ample opportunity for collaboration and team building early in the conference. In fact, many members of the curling club at Penn State have already volunteered to help facilitate this social event, helping attendees on the ice and in leading games. For those who do not wish to take to the ice, the upper levels of Pegula offer the option to socialize on stable ground. Refreshments will be provided as well.

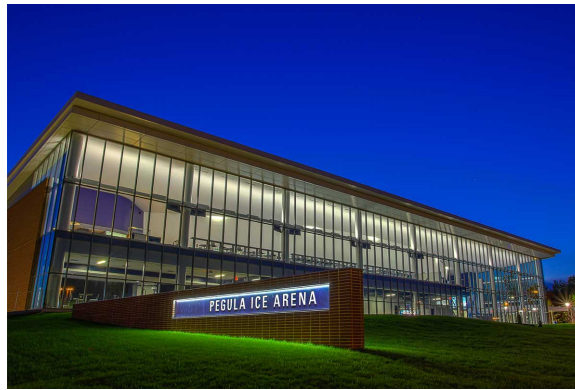


Figure 28: Pegula Ice Arena

6 Conference Management

6.1 Committee Structure

The Conference Planning Committee is separated into two categories: Chairs and Coordinators. The two chairs, Technical and General, are responsible for setting up major milestones and ensuring that the milestones are met. Together they oversee the Technical and General subcommittees respectively; however, both are expected to be knowledgeable and/or cognizant of what the other chair is doing as well as the general state of the conference. They will serve as the primary contacts between subcommittee chairs, the department faculty/staff, and professionals. The chairs have the final word on all conference decisions and will serve as the faces of the conference to external organizations. Chairs beneath the Technical and General Chairs oversee more specialized subcommittees and are responsible for making decisions in their respective areas. They must communicate with their subcommittees and other chairs to ensure there are no conflicting decisions. Coordinators work in an even more specialized area and help the chair by handling a single task or item. The current subcommittee structures along with the names of the students holding these positions are provided in Figure 29 below ¹.

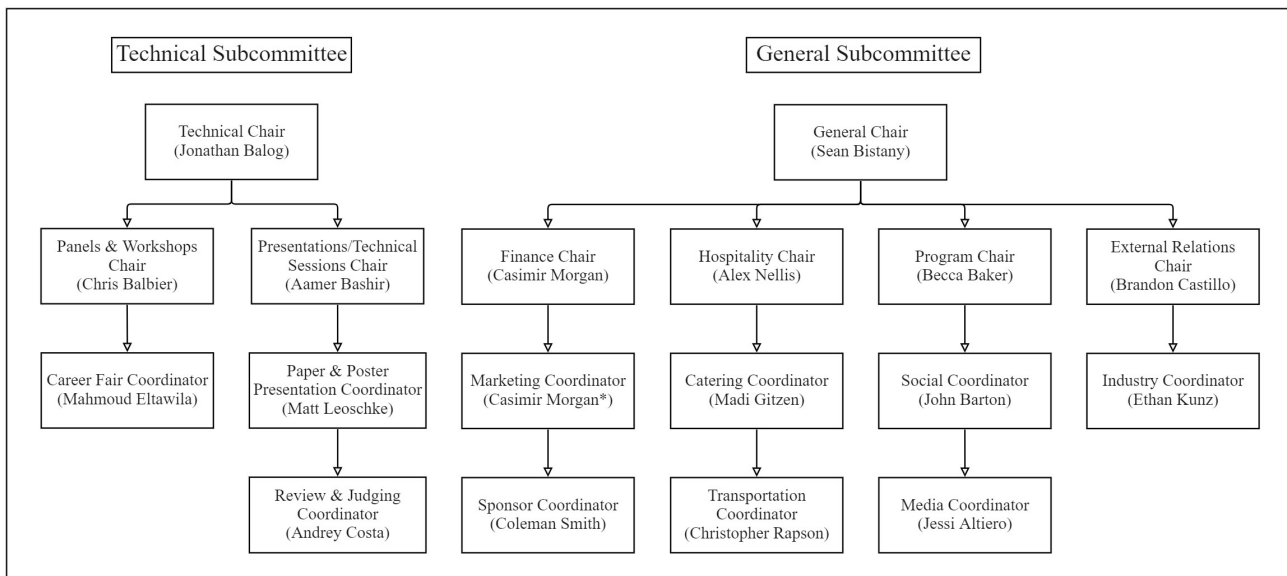


Figure 29: Technical and General Subcommittees for the ANS-PSU 2024 ANS Student Conference Bid

¹As of submission, Casimir Morgan is temporarily serving as the Marketing Coordinator until the position is filled.

6.2 Committee Biographies



Technical Chair – Jonathan Balog (he/him)

Jonathan Balog graduated with B.S. in Mechanical and Nuclear Engineering and a minor in Engineering Mechanics from PSU in 2019. He is currently a 3rd year Ph.D. Candidate in Nuclear Engineering in the Materials for Nuclear Power group at PSU and a Rickover Fellow, where he studies the impacts of stress on hydride dissolution and precipitation kinetics in zirconium alloys. Jonathan has been involved in ANS since he first arrived at PSU in January 2016, holding the positions of Conference Chair, Treasurer, and Historian of the ANS-PSU. He has also served as the Student Program Co-Chair for the 2022 ANS Annual Meeting. Jonathan attended his first ANS Student Conference in 2017 and co-presented a poster at the 2019 ANS Student Conference, which won a Best Poster award. He plans on attending the 2023 ANS Student Conference at UT-Knoxville and Annual Meeting.



General Chair – Sean Bistany

Sean Bistany is a 4th year undergraduate pursuing a B.S. in Nuclear Engineering and minor in Environmental Engineering. He currently does research in the Thermal Hydraulics Laboratory, studying glass-water and sodium heat pipes. Over the past summer, worked in the Computational Thermal Hydraulics group examining the gap instability between fuel rod bundles with modeling and simulation. He is the outgoing President of ANS-PSU and its incoming Historian. He also serves as the Social Chair for the PSU-INMM Student Chapter, and is a Committee Member of the ANS SSC. He is also serving as the interim-President of PSU Alpha Nu Sigma and is a former Technical Director of WIN. He anticipates attending the 2023 ANS Student Conference at UT-Knoxville.



Panels & Workshops Chair – Chris Balbier

Chris graduated with B.S. in Mechanical and Nuclear Engineering from PSU in 2020. He is currently a 2nd year Ph.D. Student in Nuclear Engineering in Dr. Saya Lee's research group, where he studies applications of heat pipes for use in microreactors. Chris has served as the President of the PSU INMM chapter and currently serves as its Treasurer. During a previous stint as Treasurer, he helped organize, oversee, and run a virtual INMM workshop on the "Quantification of the Likelihood of an Attack" at PSU.



Presentations/Technical Session Chair - Aamer Bashir

Aamer is a 2nd year Ph.D. Student in Nuclear Engineering. He graduated with a B.S. in Nuclear Engineering from Penn State in 2018. He is part of the Radiation Detection, Imaging and Characterization (RADIAC) group under Dr. Marek Flaska. His research involves alpha particle detection, specifically from radon and its progeny. Currently, he is developing a portable radon monitor for home use that is affordable and accurate. In addition, he is an active member of ANS-PSU and PSU-INMM.



Program Chair – Becca Baker (she/her)

Becca is a 4th year undergraduate in Nuclear Engineering, minoring in Environmental Engineering. She is an active member of ANS-PSU and has been involved in the organization since 2020. In addition, Becca has been the President of the PSU WIN chapter since February 2021. She is a member of the 2022 Nuclear Engineering Student Delegation (NESD) and not only learned about the program but applied for it after attending the 2022 UIUC Student Conference. She plans on attending the ANS Student Conference at UT-Knoxville in 2023.



Hospitality Chair– Alex Nellis

Alex Nellis is a 4th year undergraduate in Nuclear and Mechanical Engineering. He is currently pursuing his Reactor Operator License at PSU RSEC and has been an intern at RSEC since the start of 2022. An active member in ANS-PSU, he has been a member since his freshman year in 2019. The first student conference he attended was at UIUC in 2022. In addition to ANS-PSU, Alex is a member of the PSU WIN chapter and is the Treasurer for the Alpha Nu Sigma chapter at PSU. He intends on attending the 2023 ANS Student Conference at UT-Knoxville.



External Relations Chair – Brandon Castillo

Brandon Castillo is a 3rd year undergraduate in Nuclear Engineering. He has previously worked as the Academic Excellence Director, and Outreach Chair for the Society of Hispanic Professional Engineers (SHPE) at Penn State. Brandon has been an active member with ANS-PSU since his first year in 2019. He is currently the Outreach Chair for ANS-PSU, planning out outreach events and coordinating with volunteers to see that the events are successful. He intends on attending the 2023 ANS Student Conference at UT-Knoxville.



Catering Coordinator – Madi Gitzen

Madi graduated with a B.S. in Nuclear Engineering from Penn State in May of 2022. Following graduation, she entered the Master's in Engineering, Law, and Policy program just launched by PSU hoping to understand how the three disciplines can be integrated in nuclear engineering to promote timely innovation. Madi became the Treasurer of the ANS-PSU chapter in 2021 and attended her first conference, the ANS Student Conference in 2022. At this conference, she presented on her capstone research project at the poster session. Madi is also the Vice President for PSU INMM and is helping to organize and plan the INMM Security for Advanced Reactor Workshop hosted at PSU in early November of 2022. She plans to attend the ANS Student Conference at UT-Knoxville in 2023.



Social Coordinator – John Barton

John Barton is a 4th year undergraduate in Nuclear Engineering pursuing a minor in Environmental Engineering. He is also a member of the Schreyer Honors College where he is writing his thesis on the natural convection molten salt loop found at UW-Madison. He is an active member of ANS-PSU and holds the position of Social Chair. He is also the Secretary for the Alpha Nu Sigma Chapter at PSU. As Social Chair, he has worked to increase outreach within the STEM community at PSU by organizing events between ANS-PSU and other clubs such as the American Society of Civil Engineers (ASCE) and organizing ANS-PSU social events. He intends on attending the 2023 conference in UTK, where he will present his honors thesis results as well as his senior capstone results.



Sponsor Coordinator – Coleman Smith

Coleman is a 4th year undergraduate student in the Ken & Mary Alice Lindquist Department of Nuclear Engineering at PSU, pursuing a B.S. in Nuclear Engineering and a minor in Environmental Engineering. Coleman is also a Schreyer Honors Student at PSU and has worked as a student Reactor Operator at the PSBNR on campus since his freshman year. Cole is also the founder and CEO of one of the first nuclear-technology startups out of PSU: Radical Energy and Materials. Cole is an active member of ANS and hopes to continue his involvement in his professional career. As ANS-PSU president from 2019-2021, Coleman has a ton of experience working both in-person and online with companies and organizations interested in furthering the success of ANS. He also helped secure a grant from ANS to purchase a cloud-chamber for ANS-PSU to use for outreach events.



Transportation Coordinator – Christopher Rapson

Christopher is a 3rd year undergraduate in Nuclear and Mechanical Engineering. Chris is the current treasurer of the Penn State Glee Club where he also sings as the Tenor 2 section leader. He is a new member of the ANS-PSU chapter and is looking forward to contributing to the success of the chapter and conference bid. He plans to attend the 2023 ANS Student Conference in UT-Knoxville.



Career Fair Coordinator – Mahmoud Eltawila

Mahmoud Eltawila graduated with a B.S. in Nuclear Engineering from Alexandria University, Egypt. He is currently a 2nd year Ph.D. student in Nuclear Engineering at Penn State working in Dr. William Walter's Computational Radiation Transport Lab to design a new, high-temperature molten salt irradiation facility. This facility will be part of future PSBNR infrastructure upgrades.



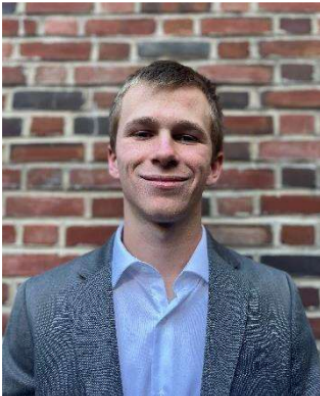
Media Coordinator - Jessi Altiero

Jessi Altiero is a 2nd year undergraduate in Mechanical Engineering at PSU. Jessi is actively involved in the Nuclear Engineering department as a member of ANS-PSU and as the Vice President of WIN. She is also a member of the Clark Scholars Program, a group dedicated to promoting engineering equity on campus. In addition, she is a member of Engineering Ambassadors, which focuses on providing K-12 engineering outreach to underrepresented school districts in Pennsylvania. This summer Jessi completed a five-week study abroad trip to Peru, studying energy sustainability in developing countries. Currently, Jessi has a co-op with the Region 1 office of the United States Nuclear Regulatory Commission, and focuses on technical support for the Division of Operating Reactor Safety. She plans on attending the 2023 ANS Student Conference in UT-Knoxville.



Industry Coordinator - Ethan Kunz

Ethan is a 3rd year undergraduate in Nuclear Engineering at PSU. Before starting his degree at PSU, he worked as a naval nuclear operator on the USS New Mexico. He currently serves as a senior reactor operator at the PSBNR at RSEC. Ethan is a former Conference Chair and Vice President of ANS-PSU; he is the current President of ANS-PSU and has overseen efforts to restructure the chapter as well as expand its professional development opportunities. He plans to attend the 2022 ANS Winter Meeting as well as the 2023 ANS Student Conference in UT-Knoxville.



Financial Chair – Casimir Morgan

Casimir is a 1st year undergraduate student in the Pre-Engineering track, intending on pursuing both Mechanical and Nuclear Engineering degrees. He is the current Vice President of ANS-PSU and is looking forward to contributing to the ANS-PSU chapter as well as this conference bid. Casimir is looking forward to attending the 2023 ANS Student Conference at UT-Knoxville as he begins to learn about nuclear and mechanical engineering.



Paper/Poster Presentation Coordinator – Matt Leoschke

Matt is currently a 1st year Ph.D. student in Nuclear Engineering, researching fiber optic sensors for superconducting magnets in Dr. Federico Scurti's group. He graduated with a B.S. in Nuclear Engineering from the University of Illinois (UIUC), where he was also an active ANS member. He was involved in the effort to host the 2022 ANS Student Conference.



Review & Judging Coordinator – Andrey Thome da Costa

Andrey Costa is a 1st year Ph.D. student in Nuclear Engineering. He graduated with a B.S. in Nuclear Engineering at Federal University of Rio de Janeiro, Brazil. As an undergraduate, he was president of the Nuclear Engineering Student Chapter. He was part of the Nuclear Safety group as well where he studied the atmospheric dispersion of a radioactive plume from an accident at a nuclear power plant using HotSpot Health Physics and MCNP. In 2021, he participated in a social project called +Energy in a favela in Rio de Janeiro as a teacher of “Principles of Nuclear Energy and Ionizing Radiation”.

6.3 Position Responsibilities

- **General Chair**

In addition to the responsibilities stated previously, the General Chair oversees the General Subcommittee, delegates tasks, and ensures the operational success of the conference committee. They are in charge of planning committee meetings and working with the Technical Chair.

- **Technical Chair**

In addition to the responsibilities stated previously, the Technical Chair oversees the Technical Subcommittee, delegates tasks, and ensures the operational success of the conference committee. They coordinate with the General Chair to ensure committee meetings are planned and executed.

- **Financial Chair**

Manages the ANS Planning Committee account with the PSU ASA office and ANS National. The Finance Chair is also responsible for keeping track of receipts, setting a budget for the committee, and keeping track of all transactions.

1. **Marketing Coordinator**

Handles the registration for professional and student attendees. Communicates the number of attendees to the Program Chair.

2. **Sponsor Coordinator**

Assists the Financial Chair with matters involving sponsorship as well as working closely with the Marketing Coordinator and the General and Technical Chairs. Also works with External Relations Chair.

- **Hospitality Chair**

Coordinates with ANS National to negotiate room rates and room blocks for hotels. Works with university and local services to address accessibility/accommodation concerns.

1. **Catering Coordinator**

Responsible for planning and organizing all catered meals for the conference. That includes contacting the catering services, reserving the venues where meals are held, and making sure the venues are staffed.

2. **Transportation Coordinator**

Reserves buses for the necessary times and events. Responsible for examining transportation of student chapters to Penn State.

- **Program Chair**

The Program Chair oversees the programming for the conference, sets the conference schedule to minimize overlap between events, and increases student involvement. Communicates with the Panels & Workshops Chair about the schedule of events to limit event overlap. Also oversees the design and purchase T-shirts for attendees as well as arranges the gift bags for attendees alongside the Sponsor Coordinator to create the gift bags. Helps oversee and organize the tours, non-technical workshops, and non-technical panels for the conference.

1. **Social Coordinator**

Works with program chair to form tours, non-technical workshops and panels. Oversees the planning and execution of conference social events.

2. **Media Coordinator**

Responsible for designing the conference website, developing and updating social media presence, and obtaining information from other members of the planning committee for the website. They will also oversee PSU ANS website and answer any external media requests.

- ***External Relations Chair***

Works with all non-PSU companies, organizations, and institutions to ensure they have an excellent experience at the Student Conference. This includes getting posters printed, securing any mailed materials from external organizations, and answering any external questions. This chair will also work with the Sponsorship Coordinator and Career Fair Coordinator to ensure a successful career fair. Also assists the Sessions Chair when needed.

1. ***Industry Coordinator***

Serves as primary contact with industrial sponsors and attendees, communicating conference updates to them and updating the committees on industrial involvement. Works with the Program Chair on gift bag items and works with the Career Fair Coordinator to ensure industrial partners are included and accommodated at the Career Fair.

- ***Panels & Workshops Chair***

Works with ANS National, PSU College of Engineering, and the Ken & Mary Alice Lindquist Department of Nuclear Engineering to contact potential panelists as well as workshop hosts and secure their involvement. Helps organize the panel and workshop schedules and locations in addition to securing moderators and other resources for events.

1. ***Career Fair Coordinator***

Contacts companies, labs, universities, government organizations, and more to participate in our career fair. Coordinates the career fair location and ensures enough resources (tables, chairs, etc.) are available. Works with the industry coordinator to match sponsors with tables at the career fair.

- ***Presentations/Technical Sessions Chair***

Oversees the submission review processes and helps organize the presentations into the technical areas as well as the time slots in which attendees will present. Ensures that rooms for technical sessions are reserved, staffed, and ready for presenters to use.

1. ***Paper & Poster Presentation Coordinator***

Helps determine the session times and venue(s) for displaying posters, presentations; helps arrange A/V for presentations if not provided for. Leads troubleshooting efforts for any technical issues that arise during the conference.

2. ***Review & Judging Coordinator***

Contacts and sets up reviewers to examine submitted papers/presentations; gathers/solicits judges for competitions/awards and creates judging forms for use.

6.4 Conflict Resolution

Committee members should hold professionalism at the forefront of their composure in order to avoid and resolve issues amicably without the involvement of higher powers. As such, members are encouraged to settle conflicts without invoking this protocol. If an issue arises that immediately presents itself as overwhelming, the scope of the issue exceeds an individual's ability to handle it, or the issue imposes certain implications that jeopardizes the mission of the planning committee, members should not hesitate to refer to this section. In the event of a conflict between members of the planning committee, a document for decision-making and conflict resolution has been drafted and approved by the general committee. All General Committee members are expected to abide by the resolution. Key points of the resolution are as follows:

1. Subcommittees are encouraged to resolve conflicts internally and as democratically as possible. If an independent resolution cannot be reached, the Co-Chairs should be involved. The Co-Chairs have the final word on all decisions. If the Co-Chairs are unable to agree on a solution, the faculty advisor will be involved to mediate.

2. Conflicts between individual committee members are to be resolved outside of the committee. Should such a conflict jeopardize the mission of the conference, the Co-Chairs will be involved.
3. Any cases of misconduct or negligence will be handled appropriately by the Co-Chairs.
4. For extreme cases of misconduct or negligence, separate steps for the removal and replacement of a member are outlined for General Members, Subcommittee Chairs, and Co-Chairs. These include a discussion with the offending member, consultation of the Faculty Advisor, and a hearing with the General Committee to decide if removal is necessary.

6.5 Staffing Requirements

Staffing for room breakdowns and setups, registration, socials, workshops, tours, etc. will be supplied by either ANS-PSU members or students of the Ken & Mary Alice Lindquist Department of Nuclear Engineering. While it is likely that members of our student chapter will voluntarily fill all the staffing requirements of conference hosted events. If not, we will rely on other student organizations for support including, but not limited to: Institute for Nuclear Materials Management (INMM), Women in Nuclear (WIN) and Materials Research Society (MRS). Participating in conference events on a staff level is a beneficial experience for any undergraduate who wants to become more familiar with ANS or support their ANS Chapter. Throughout the conference, interacting with registering students, directing/leading students to tours of facilities, and turning rooms for technical sessions provide plentiful opportunities for volunteers to interact with attendees on several levels. As a result, this conference will be an overall positive experience for volunteers. Quantitative needs are outlined in Appendix F.

6.6 Milestones

Table 4: Milestones for hosting the 2024 ANS Student Conference at PSU

Deadline	Task	Responsible Committee
November		
11/5-8/22	Announcement of 2024 Conference Location	
11/5-8/22	Update Milestones with Lessons Learned	
11/8/22	Notify Department of Selection	Chairs
11/15/22	Confirm Conference Committees	Chairs
11/29/22	Finalize Conference Date	Chairs
December		
12/1/22	Contact ANS National for Support with Hotel Negotiations	Chairs & Hospitality
12/1/22	Setup Banking through ANS National	Financial
12/10/22	Confirm Conference Reservations	Hospitality
12/10/22	Finalize Facilities Reservations	Program
12/17/22	Finalize Logo Design	Program & External Relations
12/17/22	Begin Designing Website and Social Media	Program & External Relations
2023		
January		
1/15/23	Finalize Meeting Schedule	Chairs
February		
2/1/23	Launch social media plan	Program & External Relations
2/17/23	Finalize List of Potential Speakers	Technical
2/17/23	Finalized Technical Topics	Technical
March		
3/3/23	Contact Speakers and Presenters	All

3/10/23	Reassess Budget	Financial
3/10/23	Create Sponsor Letters and Contact	Financial
3/31/23	Prepare Tours	Program
April		
4/13-15/23	Attend Student Conference at UT-Knoxville	All
4/15/23	Request Lessons Learned from UT-Knoxville	Chairs
May		
5/12/23	Confirm Tours and Costs	Program
5/19/23	Submit Progress Report to SSC	Chairs
5/31/23	Create a Call for Papers	Technical, Program & External Relations
June		
6/11-14/23	Send Representatives to Annual Meeting in Indianapolis	Chairs, All
July		
7/14/23	Confirm with all Speakers and Presenters	Technical
7/21/23	Report on Sponsorship	Financial
7/28/23	Reassess Budget	Financial
August		
8/11/23	Update with Sponsors	Financial
8/18/23	Submit Second Progress Report to SSC	Chairs
September		
9/15/23	Updates on Conference Deadlines	Financial
9/22/23	Finalize Gift Bag Order	Financial & Program
October		
10/15/23	Confirm Hotel Blocks and Contracts	Hospitality
10/27/23	Registration Opens	Financial
10/27/23	Create and Test Online Paper Submission	Technical
November		
11/5-8/23	Attend Winter Conference 2023 in Washington D.C.	Chairs, All
11/10/23	Finalize Marketing Material	Program & External Relations
11/17/23	Report from Winter Conference	Chairs
December		
12/1/23	Reassess Budget	Financial
12/15/23	Update Website	Program & External Relations
12/15/23	Third Progress Report to SSC	Chairs
12/15/23	Send out Call for Papers	Technical
2024		
January		
1/5/24	Confirm all Judges, Panelists, and Speakers	Technical
1/19/24	First Paper Deadline – Send to Reviewers	Technical
1/26/24	Recruit Student Volunteers	All
1/26/24	Finalize Tours	Program
1/26/24	Finalize Conference Transportation	Hospitality
February		
2/1/24	Finalize Program	Program
2/1/24	Order Gift Bag Items	Hospitality & External Relations
2/9/24	Final Paper Deadline	Technical
2/23/24	Finalize Website	Program & External Relations
2/29/24	Finalize Budget	Financial
March		
3/22/24	Finalize Awards	Technical
3/22/24	Finalize Staff Schedule	Program

3/22/24	Final Progress Report to SSC	Chairs
3/29/24	Prepare Gift Bags, Print Tags, Banners, and Posters	Program & External Relations
April		
4/4-6/24	Host ANS Student Conference	
4/26/24	Return Seed Money	Finance
4/30/24	Process Student Reimbursements	Finance
4/30/24	Finalize Financial Report	Finance
4/30/24	Submit Conference Report	Chairs

7 Website and Social Media

7.1 Website

After the Host is Announced, ANS-PSU will obtain a domain name and create a website in conjunction with ANS National. The website will be hosted on a free service called GitHub pages. The domain name can be purchased from three dollars to maintain for the first year, then \$20 annually. If the budget requires cuts to cost, the website still can be hosted without a purchased domain. This website will include various forms of essential information. While being integrated with our social media, the website can display information such as calendars, schedules, maps, contact information, and file submission services for the conference. A mobile web app will be developed in tandem allowing for faster access through mobile phone.

7.2 Social Media

Two accounts will be used to work at the conference. A slack account will be created mainly for giving out information and updates. The platform will allow for quick and rapid updates, while also being easily embedded within other social media. The second account will be an Instagram page which will serve to promote social media and contain more interactive forms of communication for attendees, such as polls and supplemental information.

8 Budget

8.1 Projected Attendance

We project to have 400 student attendees and 100 professional attendees. We have based these projections on the attendance from previous years and on our mid-Atlantic/east coast location. Additionally, this estimate allows ANS-PSU to create the most conservative budget possible and be prepared in the event that attendance is unusually high. A summary of the previous attendance is shown in Table 5.

Table 5: Projected Attendance from Previous ANS Student Conferences

Host	VCU	UF	UPitt	UWM	T. A&M	Penn	MIT	UNLV	GIT	UIUC	Mean
Students	450	430	500	438	375	388	536	400	425	339	428.1
Professionals	100	120	75	130	137	134	101	200	150	114	126.1

8.2 Revenue

We have compared the predicted and actual revenues from previous reports and used these to estimate our expected revenue. To maintain reasonable accuracy in the budget, we were financially conservative in our estimates to account for fluctuating economic conditions and attendance numbers. Should our bid be selected, these conservative estimates will result in a smoother planning and execution process. We have also accounted for an estimated number of waived professional registration based on previous conferences. This correlates to the number of waived fees given in our expected tier sponsorship figures and also factors in discounts to speakers, panelists, and workshop instructors.

Table 6: Attendance Revenue

Item	Quantity	Cost	Subtotal
Student	400	\$40	\$16,000.00
Professional	100	\$250	\$25,000.00
Waived	45	-\$250	-\$11,250.00
Total Registration Revenue:			\$29,750.00

Table 7: Sponsorship Revenue

Tier	Quantity	Cost	Subtotal
Keystone	1	\$30,000.00	\$30,000.00
Crown Level	2	\$15,000.00	\$30,000.00
Ringstone Level	3	\$10,000.00	\$30,000.00
Support Level	8	\$5,000.00	\$40,000.00
Pier Level	18	\$3,500.00	\$63,000.00
Foundation Level	8	\$2,500.00	\$25,000.00
Ground Level	5	\$1,500.00	\$7,500.00
Bridge Drafting	5	\$1,000.00	\$5,000.00
Total Sponsorship Revenue			\$230,500.00

Total Revenue:	\$260,250.00
----------------	--------------

8.3 Expenses

A conservative breakdown of conference expenses is outlined in Table 8 on page 48. Emphasizing some of the points shown in the table, most rooms for workshops, panels, and technical sessions can be used free of charge for student organizations, which allows us to save significantly on event space. Gratuity is omitted for all catering provided by the University Catering service, as the University is unable to accept gratuity on purchases. Under our most conservative estimates for budget and revenue, the spending margin is found to be 8.5%. This margin is acceptable and provides significantly higher student travel reimbursements than what were accounted for in previously proposed budgets. Additional margin could be gained by reducing the travel reimbursement amount if needed. Assuming maximum expenses and an attendance of 400 students, the total cost per student is estimated at \$600.00. Assuming every student traveled here by the method outlined in Table 3, our current travel reimbursement package would cover 100% of the average travel costs for the 400 students. Neglecting the cost of travel reimbursements, the average cost per student falls to \$384.00. In Appendix G, we included quotes where possible.

Table 8: Budget Expenses

Item	Priority	Cost Per Unit	Thursday	Friday	Saturday	General	Total Cost
Facilities							
Hintz Alumni Center, Robb Hall	I	\$1,300.00	1	1	-	-	\$2,600.00
Hintz Alumni Center Conference Rooms	I	\$1,000.00	1	1	-	-	\$2,000.00
Technical Sessions Rooms	I	\$0.00	-	-	-	1	\$0.00
Panel Rooms	I	\$0.00	-	-	-	1	\$0.00
Workshop Rooms	I	\$0.00	-	-	-	1	\$0.00
Office of Physical Plant (Includes A/V)	I	\$600.00	1	1	-	-	\$1,200.00
Dinner Room-Alumni Hall	I	\$0.00	1	-	-	-	\$0.00
Dinner/Social Room-Axemann Brewery	I	\$20,000.00	-	1	-	-	\$20,000.00
Dinner Room-Bryce Jordan Center	I	\$10,000.00	-	-	1	-	\$10,000.00
Tables for Alumni Hall and BJC	I	\$10.00	50	50	1	-	\$1000.00
Facilities Subtotal:							\$36,800.00
Transportation							
Shuttles To/From Airport and Hotel	II	\$2,000.00	-	-	-	2	\$4,000.00
Waltz Mill Tour	II	\$2,250.00	1	-	-	-	\$2,250.00
Axemann Brewery Tour	II	\$900.00	1	-	-	-	\$900.00
Climb Nittany Social	III	\$900.00	2	-	-	-	\$1,800.00
Axemann Brewery Dinner/Social	II	\$900.00	-	4	-	-	\$3,600.00
Bryce Jordan Center Dinner	II	\$900.00	-	-	4	-	\$3,600.00
Pegula Ice Arena Social	III	\$900.00	-	-	4	-	\$3,600.00
Transportation Subtotal:							\$19,750.00
Food							
Dinner at Alumni Hall	II	\$26.99	500	-	-	-	\$14,647.90
Dinner at Axemann Brewery	II	\$29.44	-	500	-	-	\$14,720.00
Dinner at Bryce Jordan Center	II	\$35.85	-	-	500	-	\$19,077.90
Coffee/Tea	II	\$2.95	-	500	500	-	\$2,950.00
SSC Lunches	I	\$20.00	-	-	100	-	\$2,000.00
Food Subtotal:							\$53,395.80
Socials							
Stage West and Climb Nittany	III	\$25,000.00	1	-	-	-	\$25,000.00
Pegula Ice Arena	III	\$750.00	-	-	4	-	\$3,000.00
Axemann Tab	IV	\$2,000.00	-	1	-	-	\$2,000.00
Pegula Ice Arena Tab	IV	\$3,000.00	-	-	1	-	\$3,000.00
Social Subtotal:							\$33,000.00
Miscellaneous							
Printing Posters/Signs	I	\$40.00	-	-	-	15	\$600.00
Axemann Tour	II	\$4.00	50	-	-	-	\$200.00
Award Certificates	II	\$2.50	-	-	-	50	\$100.00
Student Travel Reimbursements	I	\$215.00	-	-	-	400	\$86,000.00
Swag	IV	\$10,000	-	-	-	1	\$10,000.00
Miscellaneous Subtotal:							\$96,900.00
Total Expenses:							\$239,845.80

8.4 Financial Contingency

The budget is structured with priority levels outlining the order of cuts, should they be necessary. Priority I expenses are not subject to cuts under any circumstances as they are considered necessities for hosting the conference. The first series of cuts will be made to most Priority IV expenses by at least 50 % in order to preserve events while still saving money. Priority III cuts mean eliminating all Priority IV expenses and either eliminating or reducing of the duration of social events by half. Priority II cuts entail complete elimination of social event expenses, along with elimination of tour expenses and reduction of dinner costs through cheaper buffet options and desserts. The expenditure savings from these cuts are outlined in Table 9. While this contingency plan does not consider cuts to the reimbursement funds, this could be considered if needed since reimbursements were set aside at a level close to those used by UIUC, if not slightly lower.

Table 9: Contingency Budget Cuts

Priority Cut	Money Saved
IV	\$7,500.00
III	\$41,500.00
II	\$70,400.00

8.5 Sponsorship and Fundraising

The sponsorship breakdown for our conference pulls from averages of sponsorship packages from previous conferences, with eight tiers/levels related to the conference theme. These are provided in Table 10 along with targeted sponsors for given levels. Contributions via these levels will allow companies, laboratories, ANS Sections, and others to represent themselves at the conference through the career fair, socials, sessions, technical, and meals as well as in conference shirts and attendee bags. These levels will allow organizations such as DOE national laboratories to participate in a financially manageable manner, with the higher tier having logo representation on shirts as well as the opportunity to sponsor a coffee break or lunch & learn session. Lastly, lower levels are left to benefactors who are recognized in the conference program and represent the anticipated support from ANS divisions or local industry or PSU contributors as well as potential out-of-state companies.

Table 10: Proposed Sponsorship Levels and Targeted Sponsors

Tier	Perks	Target Sponsors
Keystone \$30,000	Name and logo on website Career fair booths 8 Waived registrations Shirt logo Session/workshop/panel/social sponsorship Coffee/lunch sponsorship Award ceremony sponsorship and keynote slot	Westinghouse Constellation
Crown Level \$15,000	Name and logo on website Career fair booths 6 Waived registrations Shirt logo Session/workshop/panel/social sponsorship Coffee/lunch sponsorship Award ceremony sponsorship	GE Hitachi Arriva Talen Energy NNL Energy Harbor
Ringstone Level \$10,000	Name and logo on website Career fair booths 5 Waived registrations Shirt logo Session/workshop/panel/social sponsorship Coffee/lunch sponsorship Award ceremony sponsorship	Terrapower X-Energy Commonwealth Fusion Systems Mirion Technologies Duke Energy Dominion Energy Ansys KCF Technologies Southern Nuclear
Support Level \$5,000	Name and logo on website Career fair booths 4 Waived registrations Shirt logo Session/workshop/panel/social sponsorship Coffee/lunch sponsorship	NuScale USNC Bechtel Plant Machinery Holtec Framatome Energy Solutions BWXT PSU ARL
Pier Level \$3,500	Name and logo on website Career fair booths (Start here) 3 Waived registrations Session/workshop/panel/social sponsorship	INL ARNL ORNL LANL BNL PPPL PNNL NSUF Radiant
Foundation Level \$2,500	Name and logo on website 2 Waived registrations	Kairos Power ANS Divisions Jensen Hughes Y-12 National Security Complex
Ground Level \$1,500	Name and logo on website 1 Waived registration	Oklo ANS Divisions
Drafting Level \$1,000	Name and logo on website	Additive Manufacturing Companies ANS Divisions PSU ME Department

8.6 Banking

In order to properly handle all of the conference expenses, two accounts will be used. One account will be with the national ANS headquarters, and the second will be through the PSU Associated Student Activities Office (ASA Office), where ANS-PSU is required to hold its funds. Per PSU rules, ANS-PSU is not allowed to maintain an external (i.e. commercial or credit union based) checking

account. Similar to previous conferences, the national ANS account will be the primary account due to their previous experience in handling conference funds and their 501(c)(3) tax exemption status. Although an account with the national ANS organization is currently not maintained by ANS-PSU, should this bid be selected, the opening of an account would happen almost immediately. An account with the PSU ASA Office allows for convenience when using them as a secondary account as ANS-PSU has funds in this account and has been maintained here since the section's founding. This also is beneficial as financial oversight, expensing, and reimbursement training is required in order for any registered student organization to remain in good standing with the university. A restricted account can be opened as part of this process such that conference funds would be placed in and withdrawn from this account such that ANS-PSU funds and conference funds completely separate. This account will be used for small expenses that can occur during the conference. Although the ANS-managed account could be used for such purposes, the presence of the ASA Office allows for more flexibility if a purchase becomes time sensitive. If ANS National desires to manage all funds, accommodations will be made to consolidate the funds.

Tax exemption will be discussed with meeting planning staff located at ANS Headquarters. The Pennsylvania State University is tax exempt in the state/commonwealth of Pennsylvania and any registered student organization is also considered tax-exempt. In addition, ANS-PSU will work directly with ANS Headquarters to ensure tax exemption. Since ANS is incorporated under the General Not for Profit Corporation Act of Illinois, we expect this will be straightforward.

8.6.1 Financial Oversight

Financial integrity must be maintained when providing a conference of this size. To do so, diligent oversight will be practiced for all transactions related to the conference. The Finance Chair will be required to perform Treasurer training offered through PSU for clubs and registered student organizations. Expense requests will be required for all transactions. These requests must carefully outline the reason for the purchase and the total cost. If the purchase is recurring, automation will be required at the time of request. These requests will require the approval of both the General and Technical Chairs as well as the Financial Chair. Only the General and Technical Chairs as well as the Finance Chair will have authority, assuming the previously mentioned permission, to complete transactions through the ANS-PSU account. To ensure transparency, the Finance Chair will update a public record containing all transactions.

8.7 Cost of Attendance and Student Reimbursement

The cost of attending the student conference, per student, varies among schools and is highly dependent on distance from PSU and the preferred mode of travel. We will assume that minimizing cost is a priority for schools, thus number of persons per hotel room is assumed to be double the number of beds. PSU is about a 2 hour drive from Harrisburg International Airport (MDT) and a 3 hour drive from Pittsburgh International Airport (PIT). PSU owns and operates the small State College University Park Airport (SCE) located just 10 minutes outside of campus. While some students may find other options more economic, we assume that most attendees will fly into SCE as it is the most convenient and usually the more inexpensive option. The average cost of this trip, including schools under 10 hours away driving, is \$215.00, as shown in Table 3. Adding this to the registration and lodging costs (see Table 1) for four nights (as students often arrive Wednesday evening) and assuming four students per room, the total cost of attendance for each student comes out to an average of \$600. The travel reimbursement is meant to help mitigate some or most of the costs for students traveling to this conference as well as encourage future attendance at other conferences, and will cover the transportation portion of that cost, an average of \$215 per student.

8.8 Student Travel Reimbursement Procedure

The procedure for student travel reimbursement will require each section send via email all acquired expenses in their travels and lodging for this conference. Each chapter will be required to send us:

1. The number of students that attended.
2. The number of hotel rooms reserved.
3. The location of the hotel rooms.
4. Modes of transportation used.
5. Parking costs (excluding airport reserved parking).
6. Receipts for all purchases will be required for all submitted purchases.

A form will be emailed to each of the chapter presidents for their section to fill out and attach the appropriate receipts. We will require that the form along with the necessary receipts be submitted via email to the Finance Chair in one PDF, two weeks after the Sunday following the conference. The Finance Chair will review all of the submitted documents for any corrections that need to be made. Any section that needs to make corrections to their reimbursement form will be emailed the following Tuesday. The reimbursement form must be re-submitted to us by that Friday. Once all the sections have their forms submitted, a master list will be sent to ANS National for reimbursement distributions. Checks will be mailed to each of the chapter presidents or a selected representative for the chapter.

9 Liability

In the process of hosting a conference, especially a student conference, great care must be placed to assure the protection of all involved parties, particularly ANS National and the host university, should a concern for liability arise. The following sections outline such cases. Since ANS-PSU is a registered student organization at PSU, any spaces used for or paid in our name will be covered under PSU's general liability coverage.

9.1 Socials & Specific Facilities

9.1.1 Climb Nittany

Climbers are legally presumed to have knowledge of, and expressly assume the risks of legal responsibility for, any losses that result from such risks. Under Ohio and Pennsylvania law, this express assumption of risk is a complete defense against liability in tort or other civil action against a climbing facility operator by a climber for injuries resulting from assumed risks of climbing.

9.1.2 Pegula Ice Arena

Organization, on behalf of itself, its members, agents and employees hereby releases University, its trustees, officers, agents and employees, from all liabilities and claims for damages and/or suits for or by reason of any injury or injuries to any person or persons or property of any kind whatsoever from any cause or clauses whatsoever while Organization is in or upon University premises or any part thereof during the terms of this Agreement, or occasioned by any occupancy or use of University premises or any activity carried on by the Organization in connection therewith.

9.2 Axemann Brewery

Axemann Brewery assumes no liability for damages or lost/stolen property.

9.3 Stage West

Stage West assumes no liability for damages or lost/stolen property.

9.4 Hotels

The Hyatt, Scholar, Graduate and Penn Stater hotels are not responsible for lost, stolen, or damaged items. Damages to their premise will be charged to those responsible. These terms are to be agreed upon contractually on a guest by guest basis as rooms become occupied. Hotels are covered through their own insurance policies. A map of the campus hotel locations is available in Appendix E.

9.5 Transportation

Fullington Trailways, the bus vendor for this bid, is a PSU Approved Vendor. They are covered by a 5-million-dollar liability insurance and PSU is included as an additional insured party on the general liability policy as required by written contract.

Car rental companies operating at the University Park Airport and in the State College area have their own supplemental liability insurance available for purchase when renting vehicles. Otherwise, any damages or issues are assumed by the renter.

Although CATA is the recommended method of transportation while on campus, they are not affiliated with the conference. They are, however, liable for the safety of their passengers.

The use of SPIN bicycles on campus is not recommended. However, should attendees use these bicycles, all liability is assumed by the rider.

9.6 Dining

PSU Auxiliary & Business Services as well as the BJC assume all liability regarding foodborne illness derived from their respective events. Hotels serving breakfasts also assume all liability regarding foodborne illness derived from their respective events. The caterers for the events at Axemann assume all liability regarding foodborne illness derived from the dinner and social.

9.7 Bank Account & Expenses

ANS claims liability for unpaid expenses with primary banking orchestrated through ANS National. All receipts will be managed by the Financial Chair. It is thus imperative to save expenditure receipts and review all contracts involving the exchange of money carefully as to avoid unexpected expenses.

9.8 Release of Information

Since personal information - such as credit card numbers, addresses, and contact information - is necessarily gathered during registration, it is imperative that any and all leaks be avoided. ANS claims liability for leaks of secure information. Such information provided by attendees to secondary services do not fall under the liability of the conference.

9.9 Disabilities

PSU takes pride in being a fully ADA compliant university. As a result, all events hosted on campus/university properties will be compliant with ADA regulations. There can be no guarantee regarding the compliance of off-campus establishments.

9.10 Alcohol

During conference hosted or sponsored events at which alcohol is being served, only those at or above the age of 21 years who can produce a valid ID will be served. Establishments licensed to serve alcohol are liable for ensuring the age of their customers. Catering services reserve the right to deny service to those who cannot produce a valid form of ID regarding the sale of alcohol. Of note, the events at Axemann Brewery will require those under the age of 21 to be seated together or with someone at least 25 years old per Pennsylvania law. In this case, wrist bands or stamps will likely be required to help the serving staff. Special care will be taken at events serving alcohol to ensure safe consumption and avoid cases of illness due to over-consumption, as well as ensure individuals deemed too drunk will no longer be served and can return to their rooms safely. Patrons of State College bars must be 21 years old to enter or accompanied by someone over the age of 25 per Pennsylvania law. It is the responsibility of those establishments to verify the age of their customers before serving alcohol. ANS does not assume liability for underage consumption of alcohol.

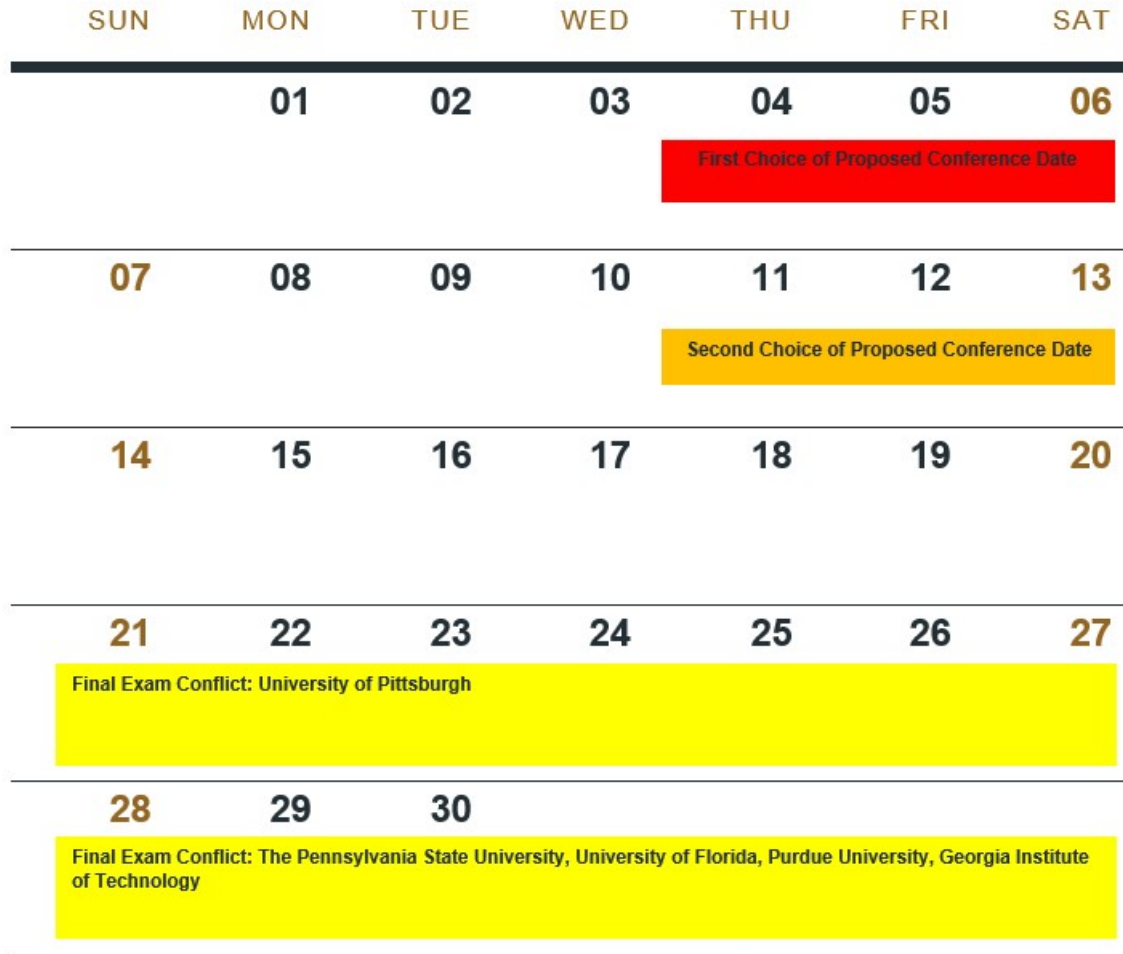
10 Appendix A: Conflict Calendar

MAR2024

SUN	MON	TUE	WED	THU	FRI	SAT
					01	02
Spring Break Conflicts: University of Michigan						
03	04	05	06	07	08	09
Spring Break Conflicts: University of Utah, The Pennsylvania State University, University of South Carolina, University of Florida, University of Pittsburgh						
10	11	12	13	14	15	16
Spring Break Conflicts: University of Wisconsin, University of Illinois – Urbana Champaign, Purdue, University of Iowa, University of New Mexico, University of North Carolina – Chapel Hill, Ohio State University						
17	18	19	20	21	22	23
Spring Break Conflicts: University of Idaho, Georgia Institute of Technology, University of Texas at Austin						
24	25	26	27	28	29	30
	Holi					
31						
Easter						

Figure 30: Conference Date Selection Calendar – March 2024

APR 2024








Spring Break	
Final Examination	
First Choice of Dates	
Second Choice of Dates	
Religious Holiday	

Figure 31: Conference Date Selection Calendar – April 2024

11 Appendix B: Judging Forms

THIS PAGE WAS
INTENTIONALLY
LEFT BLANK



Poster Presentation Judging Form

Date: (___/___/___)

Start Time: (___:___) AM/PM

End Time: (___:___) AM/PM

Presentation Title and #	
Presenter(s)	
Presenter's Institution	

Content

	Points	Comments
Objective and Message	___/10	
Supporting Data	___/10	
Data Analysis	___/10	
Conclusions and References	___/10	

Delivery

	Points	Comments
Poster Quality and Organization	___/10	
Figures/Tables	___/10	
Speaking Ability	___/10	
Professional Attire	___/10	



American Nuclear Society



Audience Engagement

	Points	Comments
Body Language	___/10	
Ability to Answer Questions	___/10	

Total points: ___/100

Concluding Remarks

Name of Judge: _____

Judge's Affiliation: _____



American Nuclear Society



Technical Presentation Judging Form

Date: (___/___/___)

Start Time: (___:___) AM/PM

End Time: (___:___) AM/PM

Presentation Title and #	
Presenter(s)	
Presenter's Institution	

Content

	Points	Comments
Objective and Message	___/10	
Supporting Data	___/10	
Data Analysis	___/10	
Conclusions and References	___/10	

Delivery

	Points	Comments
Slide Organization and Legibility	___/10	
Figures/Tables and Progression/Order	___/10	
Speaking Ability	___/10	
Professional Attire	___/10	



American Nuclear Society



Audience Engagement

	Points	Comments
Body Language	___/10	
Ability to Answer Questions	___/10	

Total points: ___/100

Concluding Remarks

Name of Judge: _____

Judge's Affiliation: _____

12 Appendix C: Graphical Schedules

Thursday						
8am	Registration 8am - 4pm Hallowell NIC	Susquehanna Power Station Tour 8am - 4pm Departs Fullington Bus Terminal	Waltz Mill Tour 8am - 4pm Departs Fullington Bus Terminal			
9am				PSU RSEC, MSC, and Creamery Tour 9am - 1pm RSEC	Nek5000 and MCNP Workshop 9am - 12pm Hallowell Building	Additive Manufacturing & Design Workshop 9am - 12pm West 2 Building or Innovation Hub Makerspace
10am						
11am						
12pm						
1pm				Beaver Stadium Tour 1pm - 4pm Beaver Stadium	Axemann Brewery Tour 1pm - 4pm Departs Fullington Bus Terminal	Communication Workshop 1pm - 3pm Robb Hall
2pm						
3pm			Nuclear Advocacy Workshop 3pm - 5pm Innovation Hub Room 603			
4pm						
5pm						
6pm	Dinner 6pm - 8pm Alumni Hall					
7pm						
8pm	Social 8 - 11pm Downtown/Climb Nittany					
9pm						
10pm						
11pm						

Figure 32: Tentative Graphical Schedule for Thursday

Friday					
8am	Registration 8am - 4pm Hallowell NIC	Career Fair 8am - 4pm West 2 Floor 4	Technical Sessions 8am - 9:30am Innovation Hub 603 & 612, Hallowell NIC, Conference Rooms	Medical Isotopes Panel 9am - 10am Robb Hall	
9am			Technical Sessions 10am - 11:30am Innovation Hub 612, Hallowell NIC, Conference Rooms		SSC Meeting 10am - 11:30am Innovation Hub 603
10am			Technical Session 1pm - 2:30pm Innovation Hub 603 & 612, Hallowell NIC, Conference Rooms	Policy Panel 1pm - 2:30pm Robb Hall	
11am			Technical Session 3pm - 4:30pm Innovation Hub 603, Hallowell NIC, Conference Rooms		Nuclear Supply Chain Panel 2:30pm - 4pm Robb Hall
12pm			HOW TO HOST a Conference 4pm-5pm Innovation Hub 612		
1pm			Dinner 6pm - 8pm Axemann Brewery		
2pm					
3pm			Social 8pm - 11pm Axemann Brewery		
4pm					
5pm					
6pm	Social 8pm - 11pm Axemann Brewery				
7pm					
8pm					
9pm	Social 8pm - 11pm Axemann Brewery				
10pm					
11pm					

Figure 33: Tentative Graphical Schedule for Friday

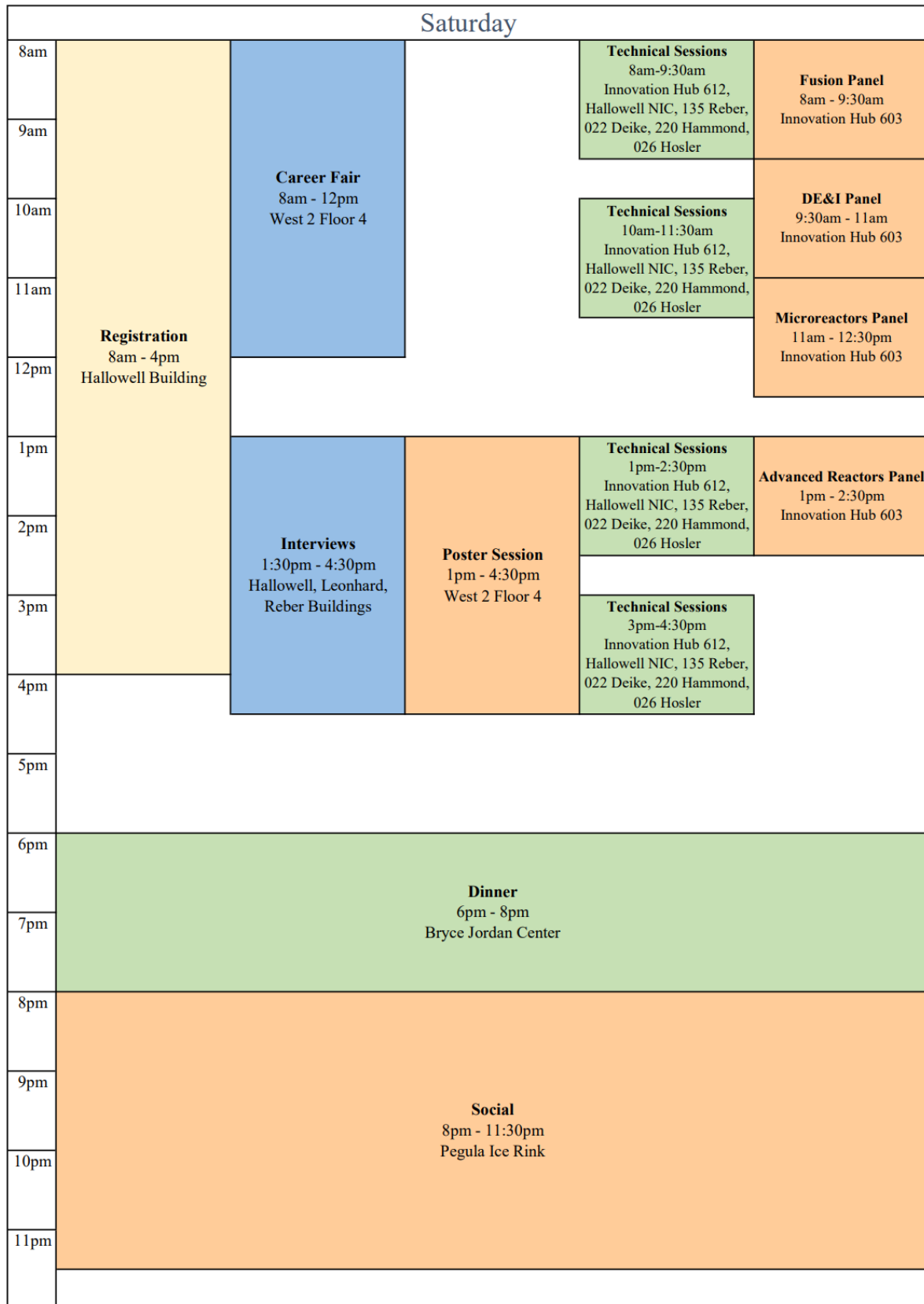


Figure 34: Tentative Graphical Schedule for Saturday

13 Appendix D: Building Layouts & Floor Plans

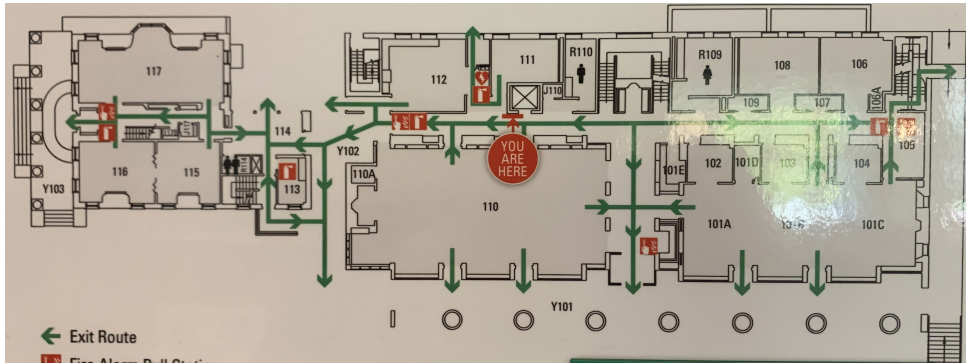


Figure 35: Hintz Family Alumni Center Floor Plan

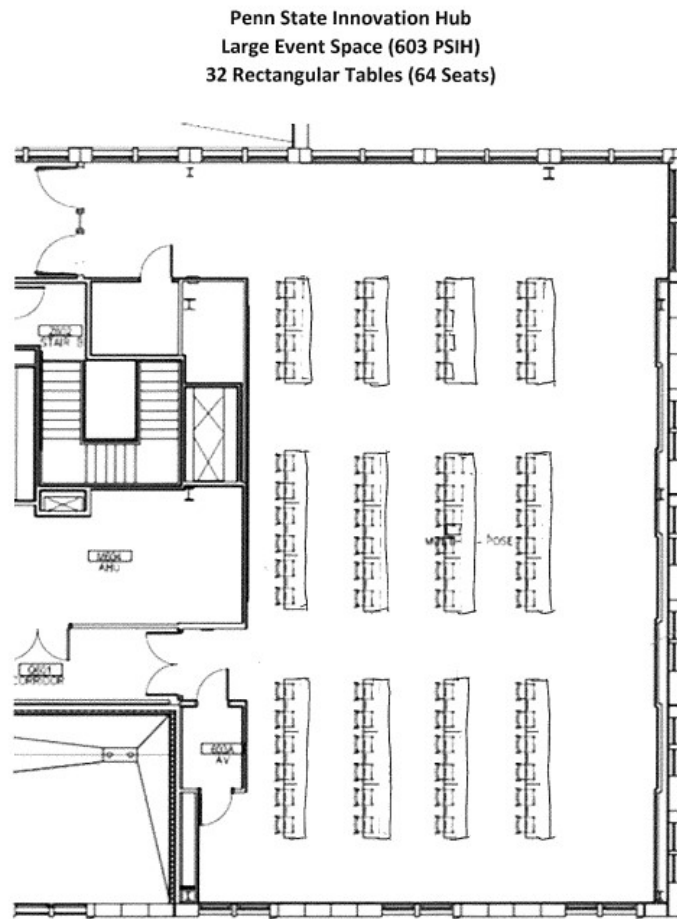


Figure 36: Eric J. Barron Innovation Hub Room 603-Tabled Layout

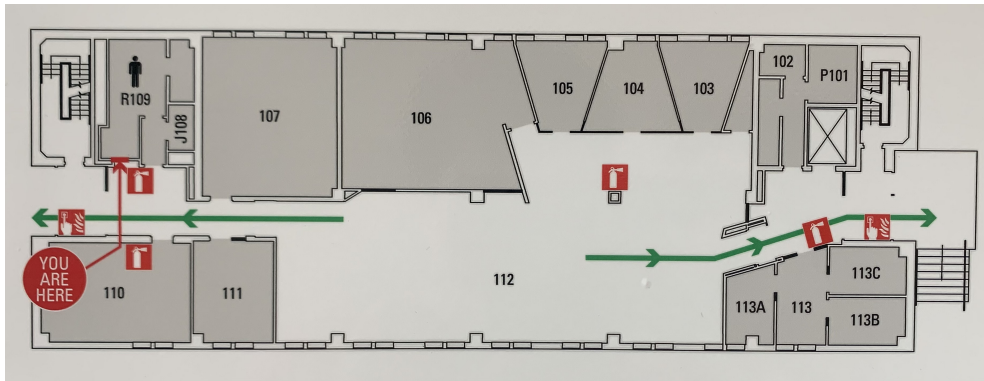


Figure 37: Hallowell First Floor Plan

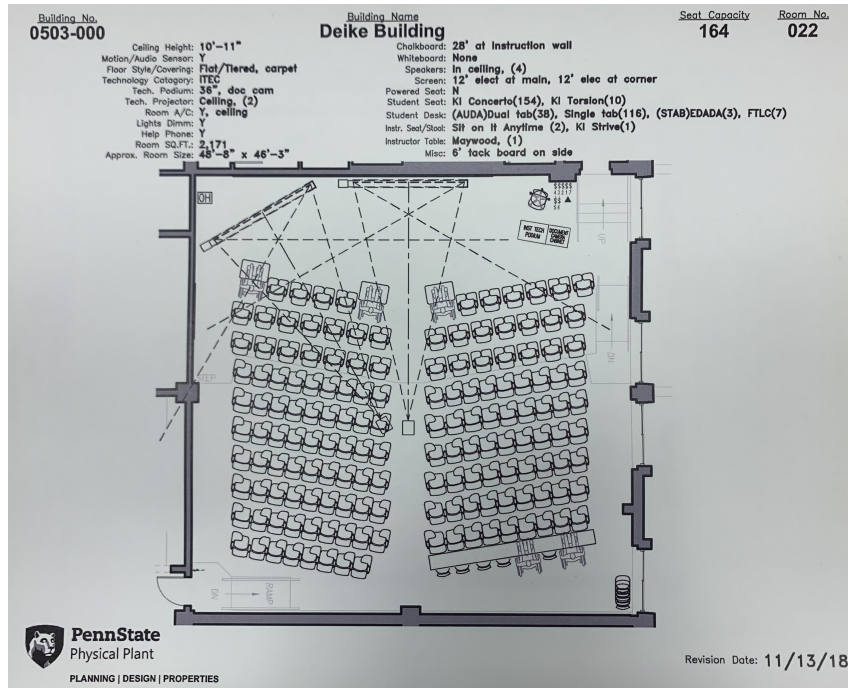


Figure 38: Seating Arrangement for 022 Deike



Figure 39: Deike Floor Plan

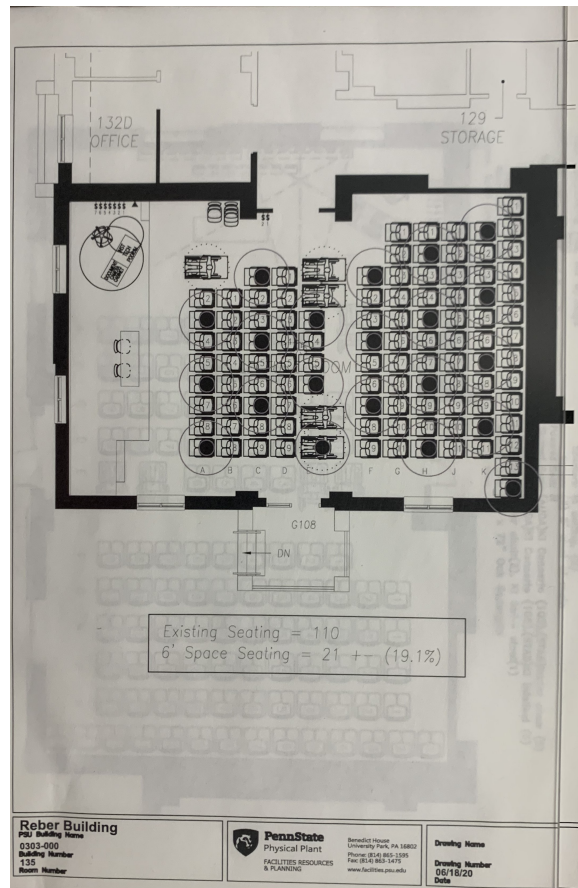


Figure 40: Seating Arrangement for 135 Reber

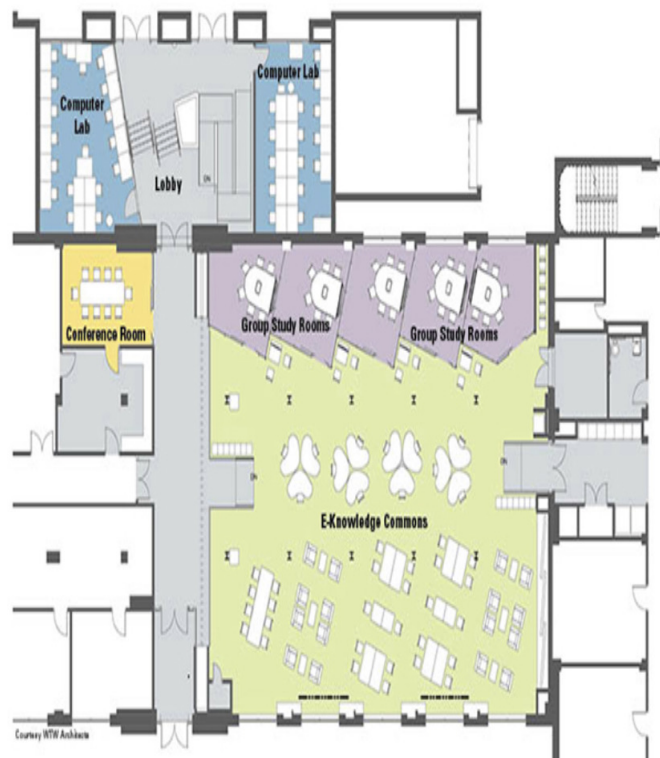


Figure 41: Gusharney Family Commons & Reber First Floor Plan

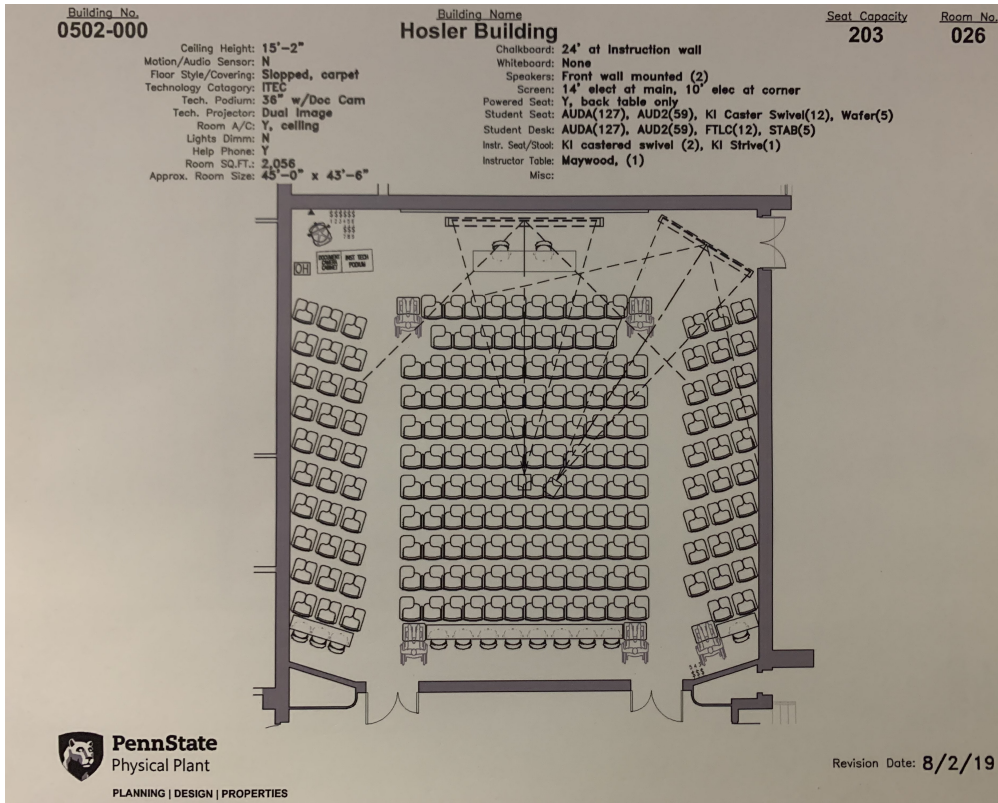


Figure 42: Seating Arrangement for 026 Hosler

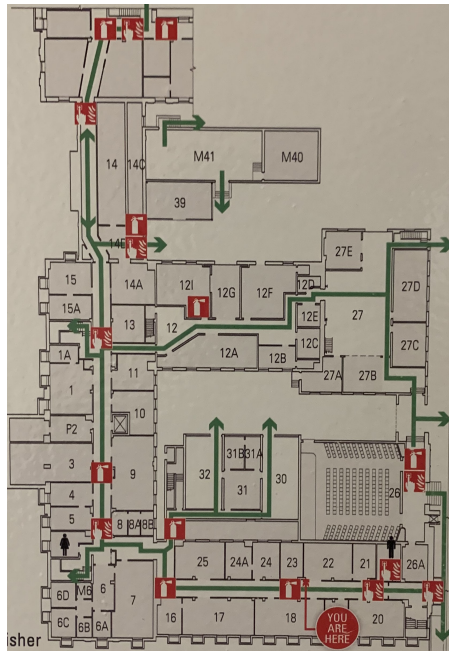


Figure 43: Hosler Floor Plan



Figure 44: Hammond Building Floor Plan-2nd Floor

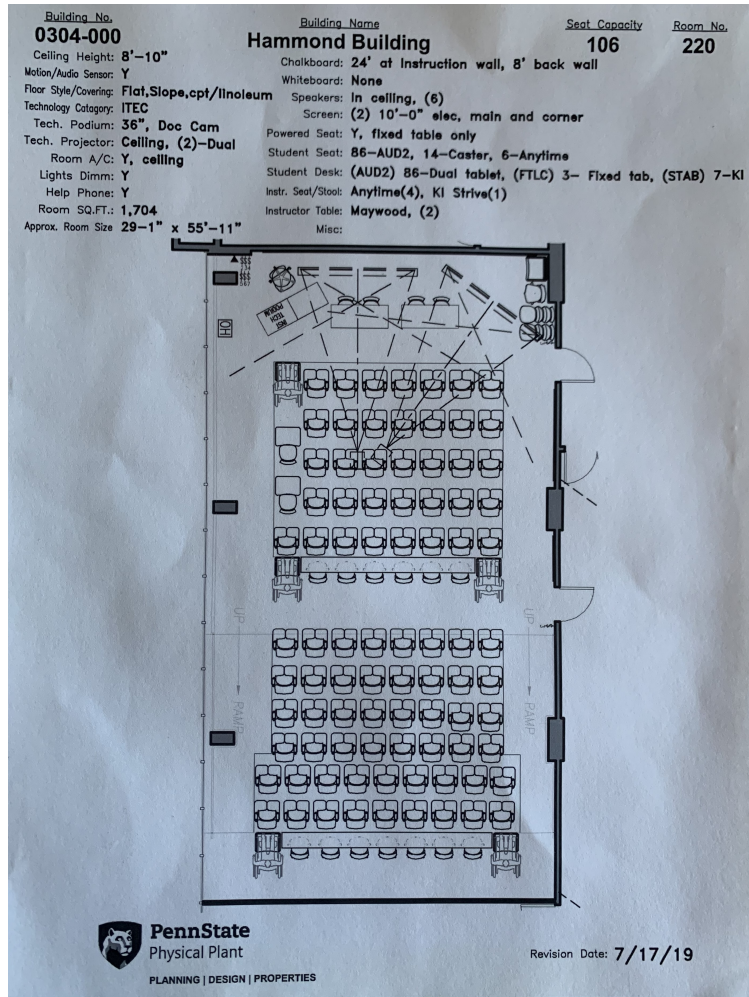


Figure 45: Seating Arrangement for 220 Hammond

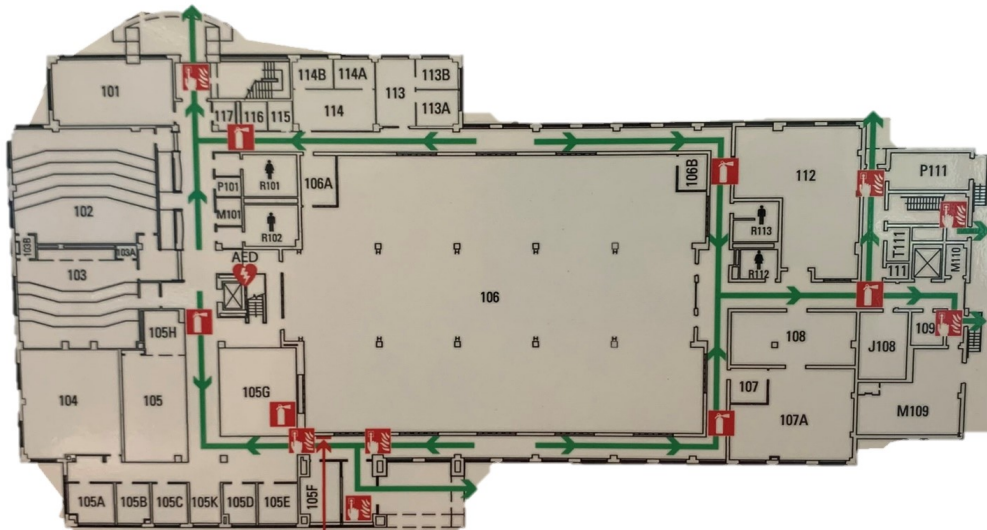


Figure 46: Leonhard Floor Plan

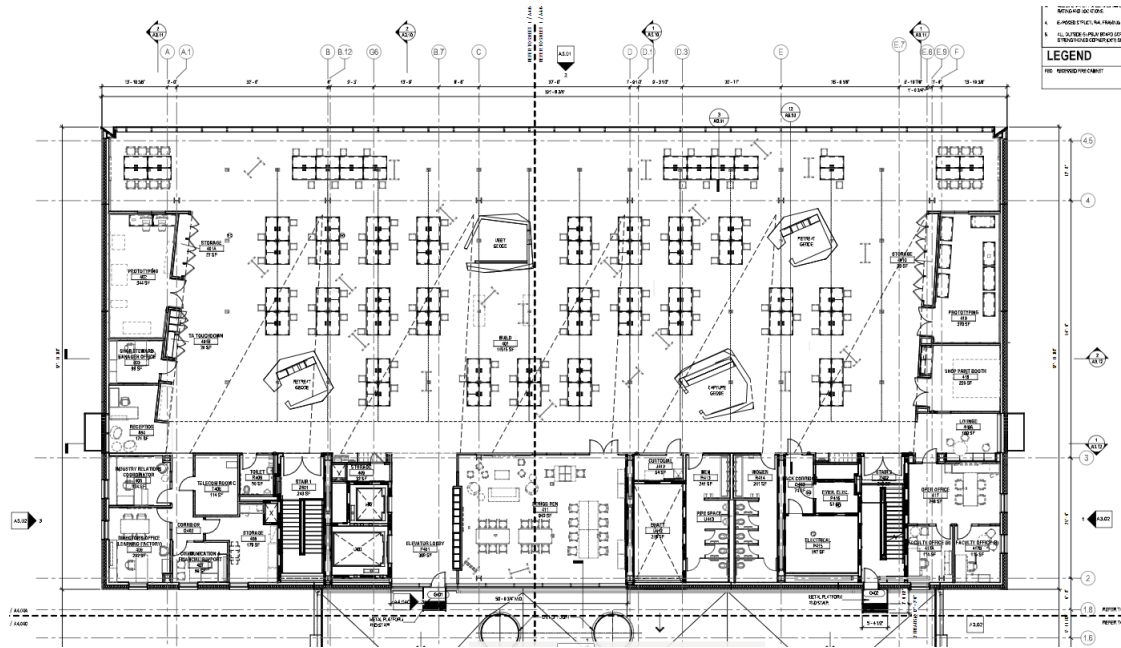


Figure 47: West 2 Floor Plan

14 Appendix E: Maps of Campus and Event Locations



Figure 48: Map of Facilities on/off Camps for the 2024 ANS Student Conference Bid

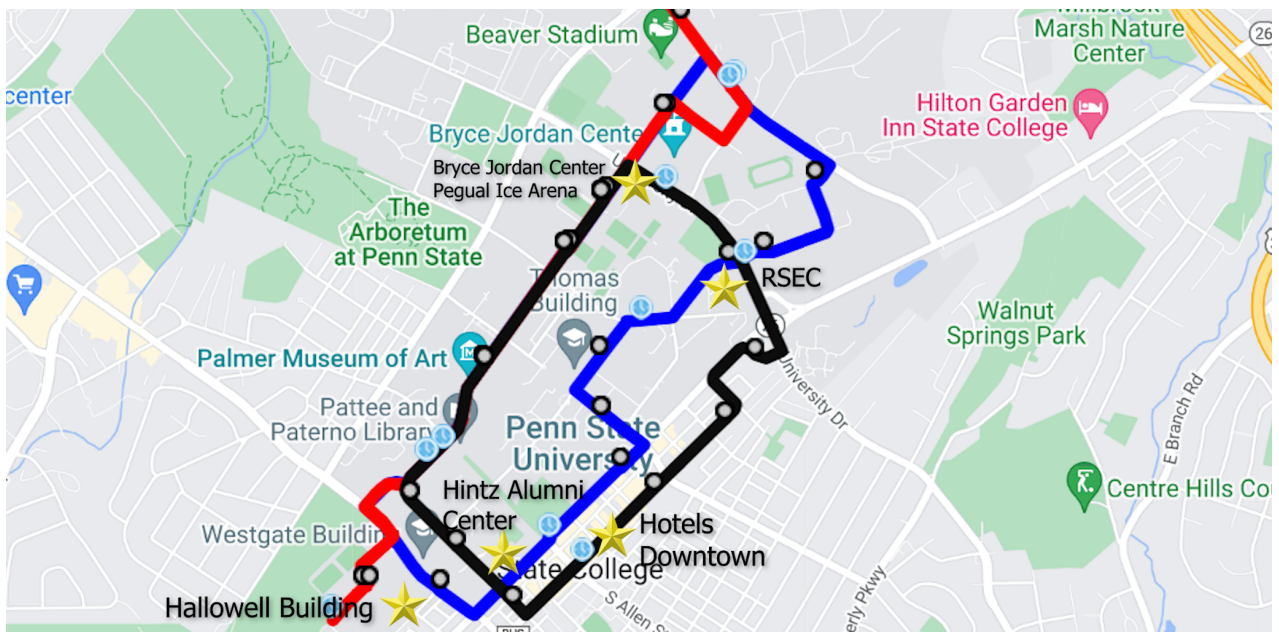


Figure 49: Map of Free CATA Bus Lines with Event Locations Marked

15 Appendix F: Staffing Requirements

Table 11: Staffing Requirements by Day

Event	Description	Volunteers	Reports To
Thursday			
Registration	3/shift, 5 2-hr shifts	15	Hospitality Chair
Student HQ	2/shift, 5 2-hr shifts	10	Program Chair
Workshops	2/workshop	8	Panels & Workshops Chair
Bused Tours	1/tour, 3 tours	3	Program Chair
Campus Tours	2 per group,	4	Program Chair
Dinner	4 all purpose	4	Hospitality Chair
Social	2 all purpose	2	Hospitality Chair
Career Fair Setup	3 to assist recruiters	3	Career Fair Coordinator
Total		49	
Friday			
Registration	2/shift, 5 2-hr shifts	10	Hospitality Chair
Student HQ	2/shift, 5 2-hr shifts	10	Program Chair
Technical Sessions	Session MCs	19	Presentations/Technical Sessions Chair
Panels	1/panel for technical assistance	5	Panels & Workshops Chair
Dinner	4 all purpose	4	Hospitality Chair
Social	2 all purpose	2	Hospitality Chair
Total		50	
Saturday			
Registration	2/shift, 5 2-hr shifts	10	Hospitality Chair
Student HQ	2/shift, 5 2-hr shifts	10	Program Chair
Technical Sessions	Session MCs	20–24	Presentations/Technical Sessions Chair
Panels	1/panel for technical assistance	4	Panels & Workshops Chair
Poster Session	2 all purpose	2	Paper & Poster Presentation Coordinator
Dinner	4 all purpose	4	Hospitality Chair
Social	2 all purpose	2	Hospitality Chair
Total		52–56	

16 Appendix G: Quotes

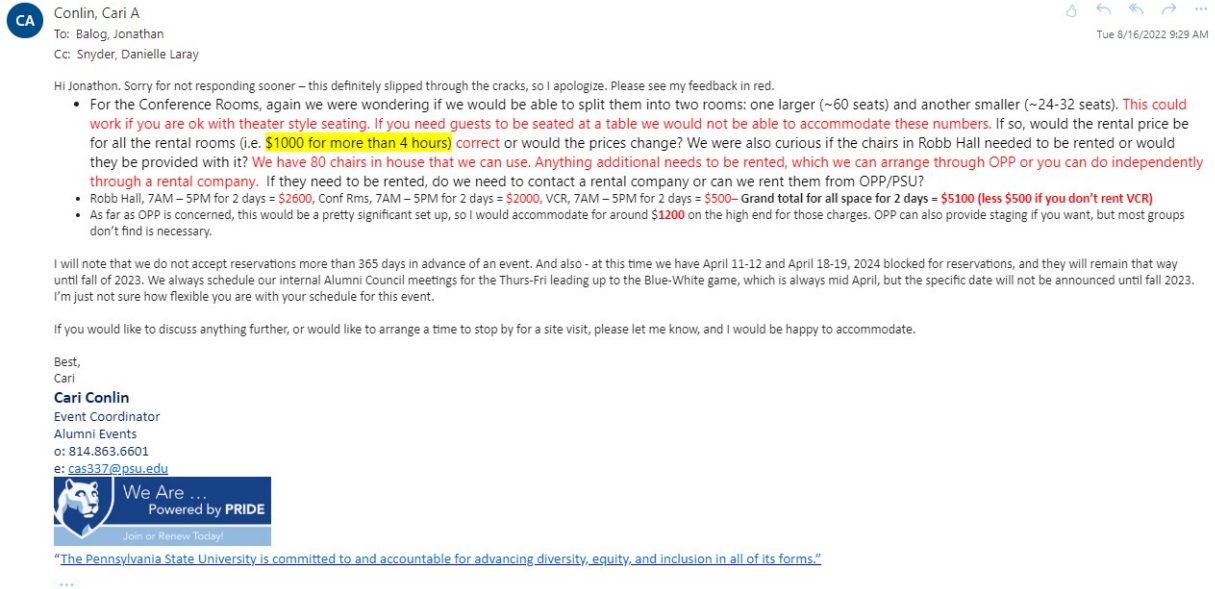


Figure 50: Rental quote for Hintz Family Alumni Center (Robb Hall, Conference Rooms, and Volunteer Conference Room)

From: Mike Olmstead <mo@axemannbrewery.com>
Sent: Friday, August 26, 2022 11:38 AM
To: Bistany, Sean <csxb5925@psu.edu>
Subject: Re: Venue Information for Future Event

This is the best info and quotes I can give you with current pricing. My answers are in RED

I first would like to summarize what the three possible events would look like:

- Tour:**
 - When:** Thursday from 1 PM – 4 PM (3 hours total).
 - Who:** We would have a group of 60 people (all 21 or over).
 - What:** A tour of the building, a tour of the brewery (with a sampling if applicable), and a small social/open bar with games. The group would be split into two groups of 30 and rotate between the two tours.
- Social:**
 - When:** Friday from 8 PM – Midnight (4 hours total).
 - Who:** We would likely have a group between 250 – 400 people (a percentage of this group will be under 21 as this is a student conference).
 - What:** We are not sure yet what the social will be on our end, but probably a networking social with maybe a DJ and dance floor.
- Social + Dinner:**
 - When:** Friday from 6 – 8 PM (Dinner) and 8 PM – Midnight Social (6 hours total).
 - Who:** We would be looking to have around 500 people a dinner and people will have the option to leave after the dinner is over (I would predict the social attendance to be higher than only doing a social so probably around 350 – 450 people, again with a percentage under 21).
 - What:** The social would be the same as described in the former. For the dinner, it would be a seated dinner with the potential for guest speakers. This would also be a networking type dinner as well.

Request for Quotes:

- Tour:** As we discussed, this would all be done before Axemann opens. Would there be any costs associated with doing this tour? If there is a tasting during the brewery tour, do we need to cover that? **Tour - \$200 covers both groups and tastings of beer**
- Social:** **\$1000 to book the Space in the loft. General Tab minimum is 1 drink per hour per person age 21+ X \$6 drink price**
 - If we hold a social from 8 PM – Midnight at Axemann, will you be open to the public? Depending on the # in your group, 250 and lower we would have you upstairs, over 250 we would have to close to the public for the capacity up to 500. **To close Axemann for a group of 500 plus for just the social 8pm to Midnight, Quote would be \$5000-10,000 depending on the alcohol Tab minimum agreed upon.**
 - If you are still open to the public, would it be possible to have a reservation for a certain number of people from our party? If so, would these people need to all be 21 or over? **All Ages would be acceptable but prefer the majority to be 21+**
 - If we would have to reserve Axemann for the night what would that look like? I understand this would also affect the restaurant, could we also get the contact information for the restaurant? **Justin Leiter is Smokey Axe Grille, jleiters209@gmail.com**
 - One last option, would it be possible to just rent out the top floor for our event if we just do a social at Axemann? **Yes we would host this in the upstairs Loft/Deck area and the total amount couldn't go over 250 people**
- Social + Dinner:** We would likely be reserving Axemann for the entire night if we also did a dinner. What would the cost look like for reserving the entire venue for a Friday night (6 PM – 12 PM)? Also, please send any available menus. If there are any vendors you could suggest for us: furniture rentals, catering, and AV. **\$15,000-\$20,000 would be an accurate amount to close Axemann Friday Night for the Dinner and Social combo event. Food : Brown Dog Catering, Benjamin's Catering, Carters Table, Harrisons Catering, Paul's Provisions, Bonfire BBQ, Doan's Bones. For that size group you might want to have 2-3 caterers. Any Event Rentals for furniture and AV, Mike's Video for AV**

Sean Bistany
Penn State Nuclear Engineering '23
General Chair – PSU ANS Conference Planning Committee

Figure 51: Quote for Use of Axemann for Brewery Tour, Dinner, and Social

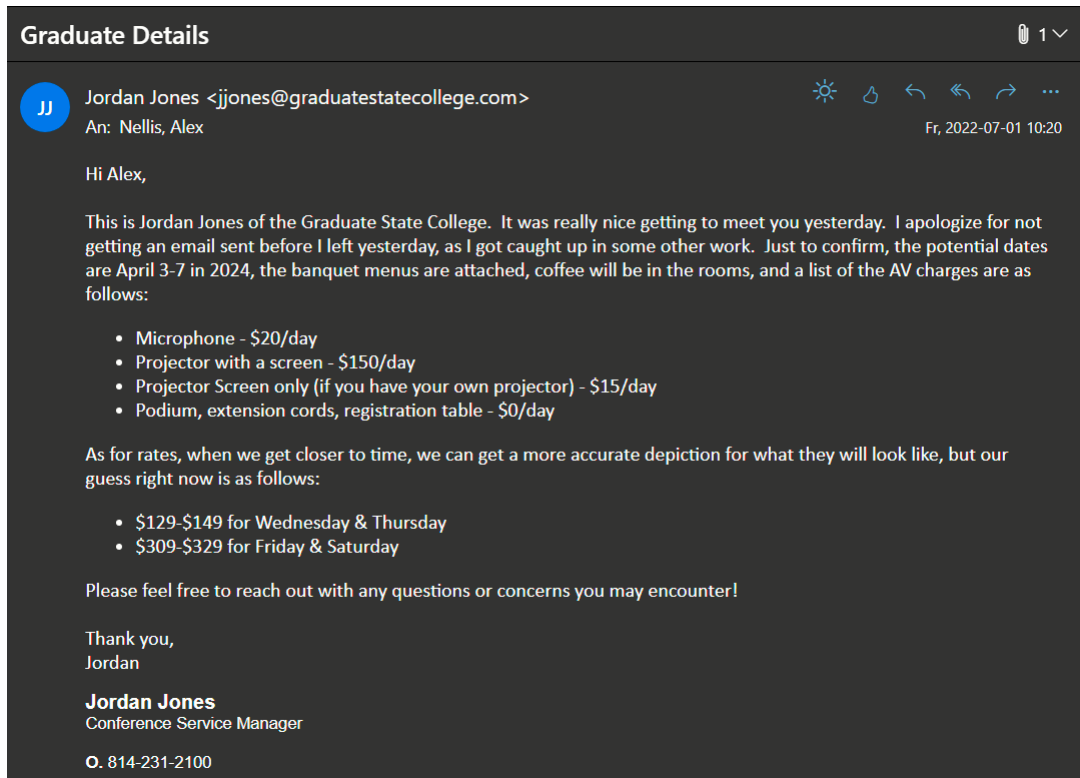


Figure 52: Quote for The Graduate Hotel

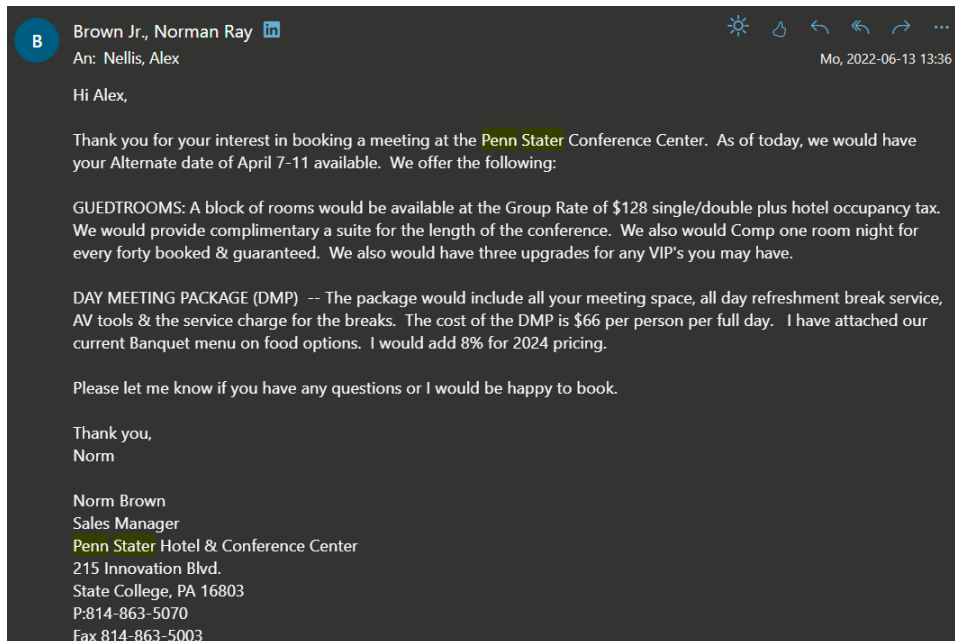


Figure 53: Penn Stater Quote

Alex,

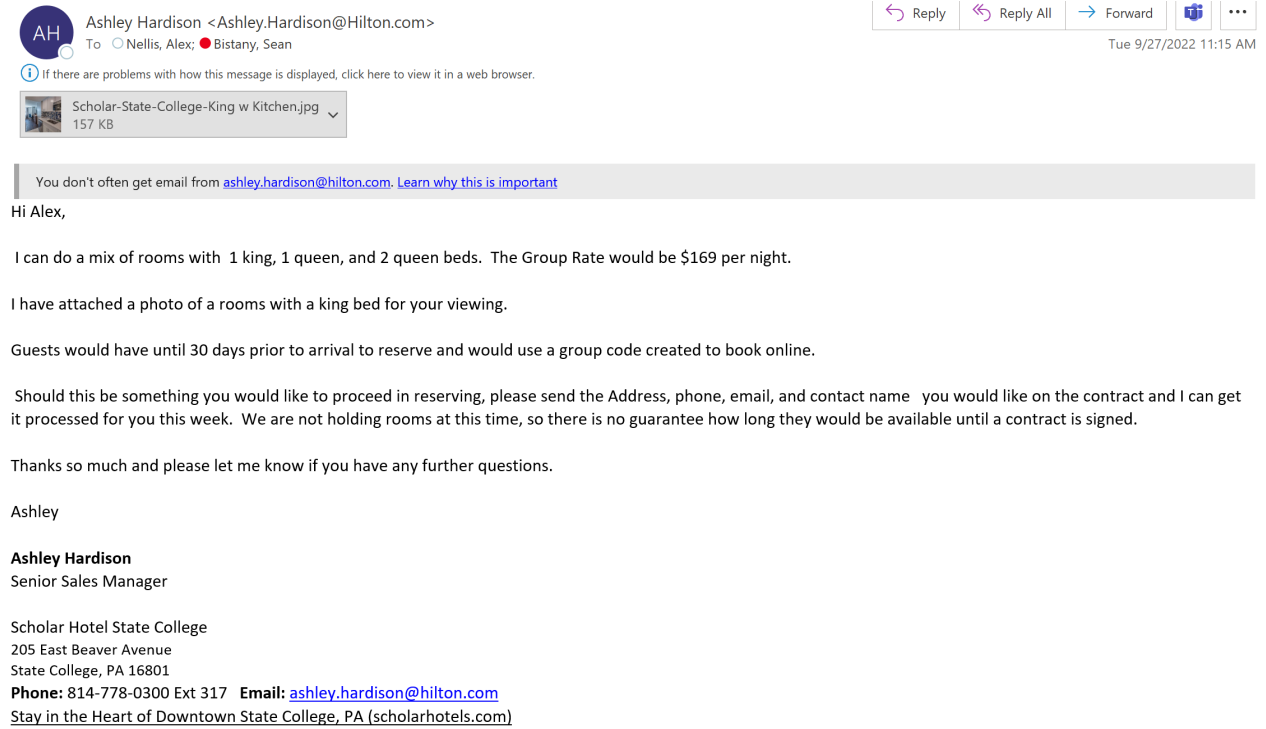
Thank you for taking the time to meet today. As promised, I have attached the Day Meeting Package & our current Banquet Menu. I will drop the room rate to \$114 single/double plus hotel occupancy tax.



I did check availability for April 5 & 6 for Presidents Hall & it is not available. Sorry.


Please let me know if you have any questions.


Thank you,
Norm

Figure 54: Penn Stater Room Quote



AH Ashley Hardison <Ashley.Hardison@Hilton.com>
To:  Nellis, Alex;  Bistany, Sean

 If there are problems with how this message is displayed, click here to view it in a web browser.

 Scholar-State-College-King w Kitchen.jpg
157 KB

You don't often get email from ashley.hardison@hilton.com. [Learn why this is important](#)

Hi Alex,

I can do a mix of rooms with 1 king, 1 queen, and 2 queen beds. The Group Rate would be \$169 per night.

I have attached a photo of a rooms with a king bed for your viewing.

Guests would have until 30 days prior to arrival to reserve and would use a group code created to book online.



Should this be something you would like to proceed in reserving, please send the Address, phone, email, and contact name you would like on the contract and I can get it processed for you this week. We are not holding rooms at this time, so there is no guarantee how long they would be available until a contract is signed.

Thanks so much and please let me know if you have any further questions.

Ashley

Ashley Hardison
Senior Sales Manager

Scholar Hotel State College
205 East Beaver Avenue
State College, PA 16801
Phone: 814-778-0300 Ext 317 **Email:** ashley.hardison@hilton.com
[Stay in the Heart of Downtown State College, PA \(scholarhotels.com\)](http://scholarhotels.com)

Reply Reply All Forward  

Tue 9/27/2022 11:15 AM

Figure 55: Scholar Room Quote

■ ITALIAN RISTORANTE BUFFET | \$19.95

Caesar Salad:

Romaine Lettuce, Parmesan Cheese, Croutons & Caesar Dressing

Three Bean Salad

Zuppa Toscana

Steamed Broccoli

Eggplant Parmesan

Pasta Dishes | Select 2:

- Baked Ziti
- Cream Sauce Vegetarian Lasagna
- Penne Alla Vodka
- Tortellini with Pesto Cream Sauce

Entrees | Select 2:

- Chicken Parmesan
- Beef Lasagna
- Beef Braciola
- Rosemary Garlic Roasted Pork Loin with Pan Gravy
- Shrimp Fra Diavolo

Marm Garlic Parmesan Bread Sticks

■ BUFFET BEVERAGE PACKAGE 3 | \$5.95

Premium Coffee, Decaf, & Tazo Tea

Iced Tea, Lemonade, and Ice Water

Assorted Pepsi Cans

■ COOKIES AND CREAM | \$9.95

Penn State Bakery Chocolate Chip Cookies

Choice of Penn State Berkey Creamery Ice Cream

Assorted Toppings to include:

- Sprinkles
- Cherries
- Chocolate Sauce
- Whipped Cream
- Oreo Crumbs

Figure 56: BJC & Pegula Catering Prices

Formal Dinner Buffet – minimum of 40 people or surcharge applies

Classic Entrees - \$22.99 per person + 6% sales tax & 18% Service Charge

~~Premium Entrees - \$26.99/person + 6% sales tax & 18% Service Charge~~

Formal Dinner Buffets are perfect for banquets or other more ceremonial gatherings. The buffet includes an abbreviated china service with your choice of two entrees, Tossed Salad, your selection of two side dishes, artisan rolls & butter, light dessert, iced tea & water.

Please select your two entrees from the same grouping (classic or premium.) If you select from different groupings, buffet priced at highest entree price.

CLASSIC ENTREES

- Pretzel Chicken with Herloch's Cream Sauce
- Traditional Stuffed Chicken with White Wine Sauce
- Crab Stuffed Flounder with Lemon Caper Sauce
- Braised Beef Brisket with Bourbon Peppercorn Gravy
- Meat Lasagna
- Baked Salmon with Fruit Salsa
- Eggplant Rollatini with Marinara V
- Gluten Free Chicken Ravioli with Marinara Sauce GF

PREMIUM ENTREES

- Chicken Saltimbocca with White Wine Sauce
- Chicken with Swedish Cream Gravy
- Crab Cakes with Sweet Chili Sauce
- Slow Cooked Beef Pot Roast
- Prime Rib Carving Station with Au Jus
- Roasted Pork Tenderloin with Garlic and Honey Mustard Glaze

SELECT TWO SIDE DISHES

- Twice Baked Potatoes V / GF
- Garlic Smashed Potatoes or Buttery Mashed Potatoes with Gravy
- Roasted Redskin Potatoes V / GF
- Rice Pilaf V
- Flame Roasted Corn with Poblano Peppers V / GF
- Vegetable Medley V / GF
- Peas and Baby Carrots V / GF

SELECT ONE DESSERT

- Cookies & Brownies
- Peach-blueberry, Apple or Cherry Pie
- Peach or Cherry Cobbler
- Basic Sheet Cake (chocolate, white, or marble)
- Assorted Cheesecakes
- Homemade Carrot Cake Cupcakes
- Ice cream buffet with assorted toppings & syrups (+\$4.50 per person)

***Please Note: If this menu is used for wedding receptions at any location, additional costs may apply.*

Figure 57: Hoags Catering Menu & Prices for Alumni Hall Dinner

BEVERAGES

OLD FASHIONED BEVERAGE STATION...\$4.95/person

(Minimum of 60 guests)

Choose TWO beverages:

- Lemonade
- Sweet Tea
- Unsweetened tea
- Cucumber Water

Served with the appropriate sweeteners & garnishes such as fresh mint, berries & citrus. Starting quantities at ten guests per gallon – additional quantity at \$35.00 per two gallons.

COFFEE BREAK... \$2.95/person

- Coffees (16oz per person, split between regular & decaf)
- Hot tea (for half the group)

COLD REFRESHMENTS BREAK... \$2.95/person

- Assorted sodas in the afternoon, or juices in the morning (1 per person)
- Bottled waters (1 per person)

EXECUTIVE BREAK... \$4.50/person

- Assorted sodas & bottled water (1 per person)
- Coffees (16oz per person, split between regular & decaf)
- Hot tea (for half the group)

***Available with minimum \$6.00 per person food charge.*

Figure 58: Hoags Beverage Menu for Alumni Hall Dinner

Cocktail Tables & Bar Toppers

These 3 foot round or square cafe/social tables are perfect for mingling. Dismantles to three pieces – stand, post & top. Suggested table-coverings – 72" or 85" square linen will cover the table top, or a 120" round linen will drop to the ground. Combine a 72" & 120" linen (underlay & overlay) for upscale events. Also perfect to add dimension & elevation to the center of a buffet line between two rectangular tables.

Cocktail Table ... \$10.00

Available in two sizes, 6'x18" or 8'x18". Place topper on top of 6'x30" or 8'x30" table for complete bar front. Suggested table-coverings – 120"x54" linen. Table skirting can be added.

Figure 59: Cocktail Table Rental Info

Below are menus for buffet-style meals. At this time, some of our menu items and services may be limited.
Please check with our catering department for the most up to date availability.

HARRISON'S EAT WELL CATERING

814-237-4422

EatWell@HarrisonsMenu.com

www.HarrisonsEatWellCatering.com

2022 SAMPLE MENUS - DINNER BUFFET-STYLE MEALS

Below are several examples of menus that may work for your group. Since each group has unique needs, we can mix & match to best fit your group.
See more menu selections on our A La Carte Menu.

Hot Entrées

Vineyard Chicken, Chicken Wellington, Basil Pesto Chicken (gf), Apple-Pecan Stuffed Chicken, Chicken Parmesan
Greek Chicken (gf), Balsamic Glazed Chicken (gf,df), Roast Turkey Breast (gf,df), Beef Tips w/ Mushrooms (df)
Beef Bourguignon (df), Grilled Salmon (gf), Mango Mahi-Mahi (gf,df), Boardwalk Crab Cakes,
BBQ Pulled Pork (df), BBQ Beef Brisket (df), Eggplant Parmesan (v), Grilled Portobello w/ Balsamic Glaze (v, gf,df)

Sides

Rosemary Roasted Red Potatoes (v, gf,df), Roasted Sweet Potatoes (v, gf,df) Fresh Vegetable Saute (v, gf), Mashed Potatoes (v, gf)
Chef's Mac & Cheese (v), Four Cheese Baked Pasta (v), Red Pesto Gnocchi (v), & more...

Salads

Herbed Potato Salad (gf,df), Fresh Cut Fruit (gf,df), Grilled Veggies (gf,df), Marinated Mushrooms (df)
Smoked Mozzarella Pasta Salad, Ranch Pasta Salad, Sesame Noodles (df), Fiesta Black Bean Salad (gf,df)
Cole Slaw (gf), Mango-Napa Slaw (gf,df), Dill Cucumber Salad (gf,df), Chef's Seasonal Quinoa (gf,df)
"Leafy" Green Salads (all are gf): Tossed Garden (df), Caesar, Mixed Greens (df), Greek, Seasonal Salads

Sweets

Our own fresh-baked Chocolate Chip Cookies, Assorted Fresh Baked Cookies, Brownies, Assorted Dessert Bar Quarters
Lemon Bar Triangles, Chocolate-Dipped Strawberries (gf), Filo Cups w/ Lemon-Lime Mousse & Berry, Coconut Macaroons (gf)
Fresh Grape or Strawberries (gf,df), New York-Style Cheesecake with Fresh Berries

Beverages

Assorted Pepsi Products, Flavored Seltzer, Canned Iced Tea & Lemonade, Bottled Water, Pellegrino, Fruited Water
Fresh Brewed Iced Tea (unsweetened), Lemonade, Cranberry Lemonade, Coffee, Decaf, Hot Tea

Serving Materials

Platters, bowls, serving utensils, plates, napkins, eating utensils, tablecloths (disposable or rented linen)
Service staff available (minimums apply)

SAMPLE MENU #1: Dinner for 24 - with Delivery

	Quan.	Unit	Cost/Unit	Total
Hot Entrées & Sides				
Vineyard Chicken	24	4 oz (half portions)	\$5.99	\$143.76
Grilled Salmon w/ Lemon Beurre Blanc (df)	24	4 oz (half portions)	\$8.50	\$204.00
Rosemary Roasted Red Potatoes (v, gf, df)	5	Qts	\$12.99	\$64.95
Fresh Vegetable (v, gf, df)	5	Qts	\$12.99	\$64.95
Salad				
Mixed Greens w/ Balsamic Vinaigrette (v, gf, df)	2.5	Gallons	\$29.99	\$74.98
Marinated Mushrooms (v, trace gluten, df)	2	Qts	\$16.99	\$33.98
Baked Goods				
Parkerhouse Rolls, sliced	2	Doz	\$7.99	\$15.98
Sweets				
Fresh Baked Chocolate Chip Cookies	6	Dozen	\$9.99	\$59.94
Service - Delivery (Local)				
Premium Platters & Salad Bowls (recyclable)	2	each	\$6.99	\$13.98
			Subtotal:	\$706.52
			Per Person Cost:	\$29.44

SAMPLE MENU #2: Dinner for 24 - Affordable & Delicious - with Pickup

	Quan.	Unit	Cost/Unit	Total
Hot Entrées				
Chicken & Vegetable Scampi w/ Linguine	6	Qts	\$18.99	\$113.94
Four Cheese Baked Pasta (v)	6	Qts	\$16.99	\$101.94
Salad				
Garden Salad w/ Vinaigrette & Ranch (v, gf, df) / (v)	2.5	Gallons	\$29.99	\$74.98
Chef's Seasonal Quinoa (v, gf, df)	2	Qts	\$16.99	\$33.98
Char-grilled Vegetables (v, gf, df)	2	Qts	\$16.99	\$33.98
Baked Goods				
Baguette - sliced into eighths, w/ butter	3	Baguettes	\$6.99	\$20.97
Service				
In aluminum pans & deli containers (recyclable)	2	each	\$1.99	\$3.98
			Subtotal:	\$383.77
			Per Person Cost:	\$15.99

(v) Indicates VEGETARIAN; (gf) Indicates GLUTEN-FREE (prepared in a kitchen that uses products containing gluten); (df) Indicates DAIRY-FREE

Figure 60: Axemann Catering Menu from Harrison's

THE PREMIUM DAY MEETING PACKAGE:

The Premium Day Meeting Package (“DMP”) at a cost of \$ per person, per day has been selected for your group and includes the following:

1. *A personal conference services manager assigned to your conference. As a meeting professional, this individual will be available to consult and to assist the group in coordinating the preplanning of the meeting. They will also provide meeting services while the group is in-house and assist with any post-meeting activities as requested.*
2. *A main meeting room (small or large), and one breakout room, upon request, for every 20 DMP’s, personally selected for your group size and with a desired fixed room configuration for the entirety of the group’s meeting or conference. Charges will be applied for any additional meeting space requested.*
3. *The Premium DMP includes the following for the group’s main meeting room:*
 - *One LCD Projector*
 - *Board Systems (one white board or bulletin board with markers)*
 - *One Podium*
 - *One lavalier microphone, lapel microphone, or hand held microphone.*
 - *Fixed Screen*
 - *Wi-Fi*
 - *Two Flipcharts with markers*
 - *Pens, Pads & Candy*
4. *The Premium DMP includes the following for the group’s breakout room:*
 - *Board Systems (one white board or bulletin board with markers)*
 - *One Podium*
 - *One lavalier microphone, lapel microphone, or hand held microphone.*
 - *Fixed Screen*
 - *Wi-Fi*
 - *One flipchart with markers*
 - *Pens, Pads & Candy*
5. *Continuous refreshment breaks served in one of the centrally located Coffee Break Areas throughout the group’s workday. An array of fresh pastries, snacks and fruit, carefully selected by the Chef, are artfully displayed along with an assortment of beverages to include juices, coffee, tea and soft drinks.*

Beverages from 7:00am – 5:00pm
Morning Snack from 9:00am – 11:00am
Afternoon Snack from 2:00pm – 4:00pm

If early AM or PM food services are desired, then an additional charge will be incurred.
6. *An elaborate Chef’s choice luncheon buffet featuring a variety of salads, hot food, and dessert items served in the Gardens Restaurant at The Penn Stater with full beverage services. ***If a private meal is requested a surcharge will apply****
7. *All food services gratuities for coffee breaks and for all meals are included in the DMP cost.*

Acceptance

Fullington Trailways and VIP Limousine

Client ID	Christopher Rapson	Quotation ID	32457
Client	American Nuclear Society	Movement ID	38313
Company	Airport Transport	Passengers	
Client Ref 1			
Client Ref 2			

First Pick-up	University Park Airport	Destination	Hyatt, State College
Pick-up Date	Wed 4/3/2024 Time 08:00	Arrival Date	Wed 4/3/2024 Time
Single Journey	No	Leave Date	Wed 4/3/2024 Time
Vehicle To Stay	Yes	Back Date	Wed 4/3/2024 Time 20:00

First Pick-up Instructions	Destination Instructions
----------------------------	--------------------------

Shuttles throughout day based on flight arrivals.

Quantity	Seats	Vehicle Description
1	55	Deluxe Motorcoach
Movement Totals		\$2,000.00

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature		Print Name		Date	
-----------	--	------------	--	------	--

Acceptance

Fullington Trailways and VIP Limousine

Client ID		Quotation ID	32459
Client	Christopher Rapson	Movement ID	38315
Company	American Nuclear Society	Passengers	
Client Ref 1	Waltz Mill		
Client Ref 2			

First Pick-up	Hyatt, State College	Destination	Waltz Mill, Ruffs Dale, PA
Pick-up Date	Thu 4/4/2024 Time 08:00	Arrival Date	Thu 4/4/2024 Time
Single Journey	No	Leave Date	Thu 4/4/2024 Time
Vehicle To Stay	Yes	Back Date	Thu 4/4/2024 Time 16:00

First Pick-up Instructions	Destination Instructions
	680 Waltz Mill Road

Quantity	Seats	Vehicle Description	
1	55	Deluxe Motorcoach	
Movement Totals			\$2,250.00

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature		Print Name		Date	
-----------	--	------------	--	------	--

Acceptance

Fullington Trailways and VIP Limousine

Client ID	Christopher Rapson	Quotation ID	32460
Client	American Nuclear Society	Movement ID	38317
Company	Axemann	Passengers	
Client Ref 1			
Client Ref 2			

First Pick-up	State College, PA	Destination	Axemann Brewery Bellefonte PA
Pick-up Date	Thu 4/4/2024 Time 08:00	Arrival Date	Thu 4/4/2024 Time
Single Journey	No	Leave Date	Thu 4/4/2024 Time
Vehicle To Stay	Yes	Back Date	Thu 4/4/2024 Time 15:00

Quantity	Seats	Vehicle Description	
1	55	Deluxe Motorcoach	
Movement Totals			\$900.00

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature _____ Print Name _____ Date _____

Acceptance

Fullington Trailways and VIP Limousine

Client ID Client Company Client Ref 1 Client Ref 2	Christopher Rapson American Nuclear Society Penn Stater	Quotation ID Movement ID Passengers	32461 38318
--	---	---	----------------

First Pick-up Pick-up Date Single Journey Vehicle To Stay	State College, PA Thu 4/4/2024 Time 18:00 No Yes	Destination Arrival Date Leave Date Back Date	Penn Stater Thu 4/4/2024 Time Thu 4/4/2024 Time Thu 4/4/2024 Time 20:00
--	--	--	---

Quantity	Seats	Vehicle Description	
4	55	Deluxe Motorcoach	
Movement Totals			\$3,600.00

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature		Print Name		Date	
-----------	--	------------	--	------	--

Acceptance

Fullington Trailways and VIP Limousine

Client ID	Christopher Rapson	Quotation ID	32462
Client	American Nuclear Society	Movement ID	38319
Company	Climb Nittany	Passengers	
Client Ref 1			
Client Ref 2			

First Pick-up	State College, PA	Destination	Climb Nittany
Pick-up Date	Thu 4/4/2024 Time 20:00	Arrival Date	Thu 4/4/2024 Time
Single Journey	No	Leave Date	Thu 4/4/2024 Time
Vehicle To Stay	Yes	Back Date	Thu 4/4/2024 Time 23:59

First Pick-up Instructions	Destination Instructions
	328 Discovery Dr, Boalsburg, PA

Quantity	Seats	Vehicle Description
2	55	Deluxe Motorcoach
Movement Totals		\$1,800.00

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature		Print Name		Date	
-----------	--	------------	--	------	--

Acceptance

Fullington Trailways and VIP Limousine

Client ID Client Company Client Ref 1 Client Ref 2	Christopher Rapson American Nuclear Society Axemann	Quotation ID Movement ID Passengers	32463 38320
--	---	---	----------------

First Pick-up Pick-up Date Single Journey Vehicle To Stay	State College, PA Fri 4/5/2024 Time 08:00 No Yes	Destination Arrival Date Leave Date Back Date	Axemann Brewery Bellefonte PA Fri 4/5/2024 Time Fri 4/5/2024 Time Fri 4/5/2024 Time 15:00
--	--	--	---

Quantity	Seats	Vehicle Description
4	55	Deluxe Motorcoach
Movement Totals		\$3,600.00

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature		Print Name		Date	
-----------	--	------------	--	------	--

Acceptance

Fullington Trailways and VIP Limousine

Client ID Client Company Client Ref 1 Client Ref 2	Christopher Rapson American Nuclear Society BJC	Quotation ID Movement ID Passengers	32464 38321
--	---	---	----------------

First Pick-up Pick-up Date Single Journey Vehicle To Stay	State College, PA Sat 4/6/2024 Time 18:00 No Yes	Destination Arrival Date Leave Date Back Date	Bryce Jorcan Center Sat 4/6/2024 Time Sat 4/6/2024 Time Sat 4/6/2024 Time 20:00
--	--	--	---

Quantity	Seats	Vehicle Description
4	55	Deluxe Motorcoach
Movement Totals		\$3,600.00

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature		Print Name		Date	
-----------	--	------------	--	------	--

Acceptance

Fullington Trailways and VIP Limousine

Client ID Client Company Client Ref 1 Client Ref 2	Christopher Rapson American Nuclear Society Pegula	Quotation ID Movement ID Passengers	32465 38322
--	--	---	----------------

First Pick-up Pick-up Date Single Journey Vehicle To Stay	State College, PA Sat 4/6/2024 Time 20:00 No Yes	Destination Arrival Date Leave Date Back Date	Pegula Ice Arena Sat 4/6/2024 Time Sat 4/6/2024 Time Sat 4/6/2024 Time 23:59
--	--	--	--

Quantity	Seats	Vehicle Description	
4	55	Deluxe Motorcoach	
Movement Totals			\$3,600.00

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature		Print Name		Date	
-----------	--	------------	--	------	--

Acceptance

Fullington Trailways and VIP Limousine

Client ID Client Company Client Ref 1 Client Ref 2	Christopher Rapson American Nuclear Society Airport Transport	Quotation ID Movement ID Passengers	32466 38323
--	---	---	----------------

First Pick-up Pick-up Date Single Journey Vehicle To Stay	State College, PA Sun 4/7/2024 Time 12:00 No Yes	Destination Arrival Date Leave Date Back Date	University Park Airport Sun 4/7/2024 Time Sun 4/7/2024 Time Sun 4/7/2024 Time 23:59
--	--	--	---

First Pick-up Instructions	Destination Instructions
----------------------------	--------------------------

Shuttles throughout day based on flight arrivals.

Quantity	Seats	Vehicle Description
1	55	Deluxe Motorcoach
Movement Totals		<u>\$2,000.00</u>

I have checked all the details above and agree that they are correct. I confirm that I would like to make a firm booking and I accept the above price and the terms and conditions as outlined on Fullingtontours.com.

Signature		Print Name		Date	
-----------	--	------------	--	------	--

17 **Appendix H: Letters of Support**

**THIS PAGE WAS
INTENTIONALLY
LEFT BLANK**



PennState

Anthony Atchley, Ph.D.
Acting Dean
College of Engineering
The Pennsylvania State University
101 Hammond Building
University Park, PA 16802

814-865-7537
dean@enr.psu.edu

August 12, 2022

To the ANS Student Conference Selection Committee:

As Acting Dean of the College of Engineering, it is my pleasure to support our student section of the American Nuclear Society (ANS) in submitting a proposal to host the 2024 ANS Student Conference. The Conference Planning Committee has put an enormous amount of effort into the proposal, which I believe showcases why The Pennsylvania State University is an ideal location for the 2024 ANS Student Conference.

The students have picked the perfect time to propose this conference as the Penn State College of Engineering and the Ken & Mary Alice Lindquist Department of Nuclear Engineering are expanding in an exciting manner. Since its establishment in 2019 as the only named nuclear engineering department in the country, the department has aggressively hired faculty. As a result, the department possesses an extremely diverse research portfolio and faculty roster, not to mention additional course offerings in their respective subject matters. Students have also taken notice as the department's undergraduate and graduate populations continue to increase, with students fully engaged in education, research, and outreach. In recognition of these efforts, earlier this year, the department signed a Memo of Understanding with the Westinghouse Electric Company to provide research for, as well as potentially host, an eVinci(TM) microreactor on campus. Lastly, in 2022 the Breazeale Nuclear Reactor (BNR) is adding a Small Angle Neutron Scattering beamline, making it the only university-based facility of its kind in the United States.

The effort and drive of the department's students, both in our own community and nationally, speak to the excellence they will bring to the ANS Student Conference. The chapter supports the Westinghouse Science Honors Institute, a program for Pittsburgh area high school juniors to learn about STEM opportunities, via annual tours of the BNR and presentations on nuclear engineering topics. In addition, the chapter performs community outreach through the annual BNR open house as well as Boy and Girl Scout events. At the national level, undergraduate and graduate students have served ANS in various positions while earning awards for their technical achievements. This dedication to service and hunger for excellence will certainly serve them well if selected to host the ANS Student Conference in 2024.

I offer my enthusiastic support for the efforts outlined in this proposal. I am hopeful you will likewise recognize the efforts of our students in preparing to host the 2024 ANS Student Conference.

Sincerely,

Anthony Atchley
Acting Dean
College of Engineering

September 26, 2022

To: ANS National Student Conference Selection Committee

Re: Hosting ANS 2024 Student Conference

Dear Selection Committee:

I would like to express our strongest support for our Nuclear Society (ANS) student chapter at the Pennsylvania State University and their proposal to host the 2024 ANS Student Conference in spring of 2024. Pennsylvania has a special nuclear legacy beginning with the Shippingport Atomic Power Station, designed by Westinghouse to provide both power and advance nuclear technology. Shortly after its establishment, Shippingport's chief engineer, Nunzio Palladino, became the first department head of the nuclear engineering program at Penn State in 1959. Together with the licensing of the first light-water research reactor, the Penn State Breazeale Reactor, many of the nuclear power industry's engineers were trained at happy valley. This decade is a critical one for advanced nuclear. With many advanced reactor designs under development and plans for both demonstration and first-of-a-kind (FOAK) systems to be ready by end of the 2020's. Our student leadership at Penn State has prepared an excellent bid for the 2024 ANS Student Conference. The conference committee consists of dedicated Penn State University (PSU) ANS members, undergraduate, and graduate students, who have displayed unconditional dedication to ANS. The overarching goal of this committee has been to prepare a compelling case to host the 2024 ANS Student Conference providing detailed plans of the venues proposed in our beautiful Penn State University campus.

Penn State last hosted the ANS Student Conference in 2014 and since then, Nuclear Engineering at Penn State has changed dramatically. In 2019, the Ken and Mary Alice Lindquist Department of Nuclear Engineering became an independent department once more after being combined with mechanical engineering in 1997. Our department will celebrate 65 years of an exceptional legacy in nuclear engineering since its founding in 1959. Our department now enjoys its own building in West campus in the Hallowell Building and a brand new \$2.1M Nuclear Innovation Commons space that includes our state-of-the art Nuclear Smart Lab and over 5,000 sq ft of collaborative space. Since the formation of the department in 2019, approximately 197 undergraduate and 173 graduate students have been enrolled in the department, supported by 18 faculty members with an annual research expenditure of over \$10M million. Penn State has the second highest graduating class in the country averaging 55 students per year. Our department also enjoys the integration of research and instruction at the world-leading Penn State Breazeale Reactor (PBSR) managed by the Radiation Science and Engineering Center (RSEC). More recently the College of Engineering provided our department a \$8.7M 5,000 sq ft space that also includes the brand-new Penn State small-angle neutron scattering (PS-SANS) beamline equipped with over \$10M donation from HZ Berlin to be commissioned by Summer 2023. Lastly, in May of 2022, Westinghouse and Penn State signed an agreement to support research on Westinghouse's eVinci microreactor with goal of establishing a RD&D (Research, Development & Deployment) platform to engage industry end users.

The PSU ANS student chapter has historically been a large and active ANS student chapter. As part of the chapter's mission to educate and to perform outreach on nuclear science topics, this past school year saw the return of the PSU ANS Nuclear Science Merit Badge program for The Boy Scouts of America. At this event held at RSEC, 70 Boy Scouts earned their merit badge and learned about nuclear science as well as engineering.

Our department regularly meets with our student organizations and provide support both from our staff and through travel grants for various conferences including the ANS annual meetings and the ANS student conference. I would like to express my full support of our ANS student chapter to host the 2024 ANS Student Conference and provide



PennState
College of Engineering

**KEN AND MARY ALICE
LINDQUIST DEPARTMENT OF
NUCLEAR ENGINEERING**

Department of Nuclear Engineering
206 Hallowell Building
University Park, PA 16802
814-863-6937

support for logistics, interface with our College of Engineering, Office of Physical Plant and other units needed to host and make the 2024 ANS Student Conference a success. We will provide availability of our staff and logistical funds when needed. We are excited to have our student chapter host this exceptional student conference in happy valley!

Sincerely,

Prof. J.P. Allain

Professor and Department Head
Ken and Mary Alice Lindquist Department of Nuclear Engineering
Radiation Surface Science and Engineering Laboratory (RSSEL), Director
Lloyd & Dorothy Foehr Huck Chair in Plasma Medicine
Department of Biomedical Engineering, Professor by Courtesy
Institute for Computational and Data Sciences (ICDS) Faculty Fellow
Huck Institutes of the Life Sciences, Affiliate Faculty
Materials Research Institute, Affiliate Faculty



PennState
College of Engineering

**RADIATION SCIENCE &
ENGINEERING CENTER**

The Pennsylvania State University
College of Engineering
Radiation Science and Engineering Center
Breazeale Nuclear Reactor
University Park, PA 16802-2301

Phone: 814-865-6351
Fax: 814-863-4840



ANS Student Conference Selection Committee

30 August 2022

Dear Members of the Selection Committee,

I am writing to express the firm support of the PSU Radiation Science and Engineering Center for the proposal to host the 2024 ANS Student Conference at Pennsylvania State University. This location is ideal for several reasons: the large and dynamic student ANS chapter; the size of the graduate and undergraduate nuclear student bodies; local places of interest such as the Breazeale Nuclear Reactor; and the historical importance of the State of Pennsylvania to the development of new energy technologies, including both commercial and naval nuclear power.

The student chapter has shared some of their preliminary conference plans with me and it is clear that the students have put in the “leg work” to develop a well-structured planning committee and to research the conference venues, local points of interest, and dining options required for a successful conference. I have full confidence that the chapter is large enough and has the right leadership to host the conference. I am aware that the conference would feature tours of the Radiation Science and Engineering Center, showcasing our expanded beam laboratory, state of the art control room, and the Breazeale Nuclear Reactor. The Radiation Science and Engineering Center is willing and eager to share our facility for the conference tours, and to provide security escorts and staff members to serve as tour guides. Indeed, nuclear education and outreach are two of our primary reasons for operation as the oldest university reactor still operating in the US.

Penn State has been a leader in nuclear engineering education since the nuclear reactor first went critical in 1955. The university has recently increased its commitment to engineering education, with a massive west campus engineering complex construction project to improve the engineering learning facilities, a ~\$10 million investment in the expansion of the beam laboratory and office spaces at the Radiation Science and Engineering Center, an ever-increasing number of nuclear faculty, and a recently-announced partnership with Westinghouse Energy to pursue the possible deployment of an eVinci microreactor on campus. I am glad to see that the student ANS chapter is showing a similar sense of leadership, and gladly offer the support of the Radiation Science and Engineering Center.

Sincerely,

Jeffrey A. Geuther, Ph.D.
Associate Director for Operations
PSU Radiation Science and Engineering Center



ANS Pittsburgh Section

17 September 2022

Dear ANS Section Committee,

I am the present secretary and incoming chair of the ANS Pittsburgh Section. I would like to make a strong recommendation of the Pennsylvania State University (PSU) Section as the host for the 2024 student section meeting.

The Penn State section has done an exemplary job of communicating with other parts of the American Nuclear Society, including our Pittsburgh section and the University of Pittsburgh's section, and we share ideas for programs. Like our chapter, the PSU section runs an annual Scout merit badge program; but recently they've actually put us to shame with their much larger number of scouts reached. The group's outreach to the student body and their rekindled social activities calendar show that the PSU section is healthy and thriving. They have hosted the student section meeting previously – most recently in 2014. Since then their capabilities and strength have only grown.

The committee members share in a very high level of dedication to The Society over recent years as can be seen from the members' biographies. This level of experience and commitment, coupled with the sheer number of committee members lends strong evidence that the team will be able to carry out the planning, organizing, and legwork required to run a successful student conference. The team's plan for organizing and distributing the roles is well thought-through and highly likely to lead to a successful conference.

In my role of Fellow Engineer, I am also well-aware of the continuing research and support Westinghouse gets from the Penn State nuclear engineering program, and this further demonstrates the capabilities of the school's people and facilities.

I and the other members of the Pittsburgh section executive committee recommend without reservation that this student application be given the highest consideration.

With sincere regards,

Timothy M. Lloyd, Secretary and incoming chair,
Pittsburgh Section
The American Nuclear Society
2645 Beechwood Boulevard
Pittsburgh, PA 15217



PennState

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

814-865-7537
Fax: 814-865-8767
dean@enr.psu.edu

September 5, 2022

To the ANS Student Conference Selection Committee:

As the Chief Administrative Officer (CAO) of the Penn State College of Engineering, I am very pleased to offer my enthusiastic support for our student section of the American Nuclear Society (ANS) in proposing to host the 2024 ANS Student Conference. The outstanding, comprehensive proposal submitted by our student conference planning committee showcases the capabilities for our University Park campus and the State College, PA community to host a very successful conference.

Pennsylvania and Penn State continue to build on a strong legacy of nuclear science and technology leadership. Pennsylvania is home to the first commercial nuclear power plant in the U.S., the Shippingport Atomic Power Station, and Penn State is home to the nation's first licensed and longest continuously operating nuclear research reactor, the Breazeale Reactor. This year, Penn State will complete a major expansion to the Breazeale Reactor facility with an expanded neutron beam hall including a Small Angle Neutron Scattering (SANS) instrument, enabling continued growth of an already diverse research portfolio supported by our faculty and students in a variety of disciplines across the University. Beyond campus, Penn State is seeking to innovate and accelerate adoption of micro nuclear reactor (MNR) and advanced nuclear reactor technology by spearheading the PIMA (Post-Industrial Midwest and Appalachia) Nuclear Alliance, a collaboration with Westinghouse, other industry partners, national laboratories, and other universities to impact difficult to decarbonize industrial sectors at scale.

In addition to my role supporting the Dean as CAO, I have the pleasure of teaching courses in nuclear security in the Ken & Mary Alice Lindquist Department of Nuclear Engineering as well as serving as the advisor to our Penn State Institute of Nuclear Materials Management (INMM) Student Chapter. In this capacity, I have had the opportunity to personally work with many of the students on the planning committee and continue to be amazed and inspired by their passion for Pennsylvania and Penn State advancing humanity through nuclear science and technology, reflected in the proposal theme, *Nuclear: Keystone to a Clean Future*.

I offer my most enthusiastic support for the students' proposal, and I thank you for considering Penn State to host the 2024 ANS Student Conference.

Sincerely,

Matthew D. Zerphy
Chief Administrative Officer, College of Engineering
Instructor, Nuclear Security, Ken and Mary Alice Lindquist Department of Nuclear Engineering
Advisor, PSU INMM Student Chapter, <https://sites.psu.edu/inmm/>
The Pennsylvania State University
101H Hammond Building
University Park, PA 16802
(814) 863-6720
mxz206@psu.edu



PennState

Ken and Mary Alice Lindquist Department of Nuclear Engineering
College of Engineering
The Pennsylvania State University
23 Hallowell Building
University Park, PA 16802-1412
atm2@psu.edu

September 13, 2022

To: ANS Student Conference Selection Committee

I am writing this letter to lend my enthusiastic support for the proposal by the Penn State ANS Student Chapter to host the ANS Student Conference in 2024. I am professor of nuclear engineering and materials science and engineering at the Pennsylvania State University, where I have been since 1992. I was previously Nuclear Engineering Program Chair from 2010 to 2019 and I am currently the Graduate Chair of Nuclear Engineering at Penn State.

As stated in the letter accompanying the proposal, Penn State last hosted the conference exactly 10 years ago, in 2014. Also as stated in the letter, Nuclear Engineering at Penn State has changed dramatically the last 10 years, having become an independent department, the first named nuclear engineering department in the country in honor of our former PhD student Ken Lindquist and his wife Mary Alice. In addition, Penn State is one the largest producers of NucE. NB.S. in the country, having produced over 12% of all NucE BS degrees in the US from 2010-2019.

I was Nuclear Engineering Chair when the 2014 conference happened and can attest that it was a tremendous success: we had a total of 533 registered attendees. Out of these we had over 350 students from 35 other schools which came to State College and who gave 92 platform and 47 poster presentations. In addition, 129 external professionals came to Penn State. We also had three banquets with keynote speakers the then Dean of Engineering at Penn State, Amr Elnashai, the 2014 president of ANS, Don Hoffman, Cindy Pezze from Westinghouse and Amir Shahkarami, who was then CEO of Exelon.

The current students are an excellent group and should be given the chance to tell the great story of Penn State nuclear and organize a great conference.

Sincerely,

Arthur T. Motta
Professor of Nuclear Engineering and Materials Science and Engineering
Graduate Chair of Nuclear Engineering



**KEN AND MARY ALICE
LINDQUIST DEPARTMENT OF
NUCLEAR ENGINEERING**

Elia Merzari
Associate Professor
Department of Nuclear Engineering
228 Hallowell Building
University Park, PA 16802
814-863-6938

September 8th 2022,

To: ANS Student Conference Selection Committee

I write to strongly support the proposal from the Pennsylvania State University American Nuclear Society Student chapter to host the 2024 ANS student conference in State College, PA. I am an associate professor at the university and I have had extensive experience in conference organization and reviewing of conference proposals. I serve on the ANS national program screening subcommittee as vice-chair. This committee is responsible to review all conference proposals submitted by the professional divisions. I am also the immediate past chair of the thermal-hydraulic division.

I have worked closely with the organizing committee and I have witnessed first-hand the quality of the planning and the work being done. The team assembled is first rate: they have shown great commitment, dedication and passion to the ANS mission and to nuclear engineering in general. They are meeting regularly and working as a real team, a key factor for the success of any conference. In fact, the conference organizing committee has already put together a vibrant preliminary program with timely and exciting workshops and panels with a focus on emerging technologies. I will also note the notable special events proposed which are sure to make the conference a memorable experience for students and professionals alike. I would like to note that for this edition, the students have selected a series of downtown venues that will take advantage of recent developments in State College. The vibrant downtown scene is sure to charm all attendees.

The theme of the conference "Nuclear: Keystone to a Clean Future" is incredibly timely given the increased awareness of the essential role of nuclear power to enable a transition to a low carbon economy. The location of the conference is also timely. Since 2019 Pennsylvania State University formed the Ken and Mary Lindquist Department of Nuclear Engineering, which is home to one of the largest undergraduate programs in nuclear engineering in the country, and support for nuclear power at the University remains high. For example, Westinghouse and Penn State recently signed a memorandum of understanding to build a microreactor research platform on campus. There is a lot of history of nuclear power research at Penn State, but also a bright future. In conclusion, I strongly support this application. I believe the organizing committee has put together an exciting proposal and I urge your committee to select it. I remain available for any question you may have regarding this letter.

Sincerely,

A handwritten signature in black ink that reads "Elia Merzari".

Elia Merzari

September 1, 2022

Dear ANS Student Conference Selection Committee:

I strongly recommend and support the Penn State student section in their bid as the host for the 2024 ANS student conference.

I have worked with the Penn State ANS student chapter for many years. Most of my involvement with the students is through education and outreach activities conducted at the Radiation Science and Engineering Center as well as other Penn State programs and off-site STEM activities. Most recently was the Nuclear Science merit badge workshop in spring of 2022. The students planned, organized, and conducted a very successful program for approximately 70 scouts and leaders while adhering to facility and University rules and protocols regarding visitors and pandemic concerns. Many of the students that I worked with for the Boy Scout and outreach programs are on the conference planning and organizing committee. I can say with confidence that their dedication and professionalism will result in a successful student conference.

I have reviewed the proposed conference program and activities and can vouch for the thoroughness that went into the choice of hotels, technical sessions, tours, along with formal and informal activities. The venues proposed represent a nice diversity of area interests that can handle the number of anticipated conference attendees. There is also a good mix of technical and social programs to engage attendees.

In addition to the great facilities that Penn State University offers, there have been many new and exciting developments in the nuclear area. The Radiation Science and Engineering Center has undergone many upgrades and added new capabilities. Nuclear Engineering at Penn State is once again a separate department with an endowment for continued support. It is an opportune time for Penn State to host the ANS student conference. It is with much enthusiasm that I support this effort!

Sincerely,

Candace C Davison

Candace Davison
Assistant Director for Education and Outreach (Retired)
Penn State Alumni Association member
ANS member



PennState
College of Engineering

**RADIATION SCIENCE &
ENGINEERING CENTER**

The Pennsylvania State University
College of Engineering
Radiation Science and Engineering Center
Breazeale Nuclear Reactor
University Park, PA 16802-2301

Phone: 814-865-6351
Fax: 814-863-4840



July 23, 2022

Dear ANS Student Conference Selection Committee Members:

As Outreach Coordinator at the Penn State Radiation Science and Engineering Center, I've worked closely with the students in the ANS Chapter to plan and execute events at the Breazeale Reactor and across campus. Our annual Open House event draws in over 600 visitors to the facility over the course of five hours in the fall. We partner with Westinghouse to bring high school students from the Western Pennsylvania area to Penn State for several Saturdays in the Fall. And in the Spring, the student ANS Section hosts over 100 Boy Scouts who travel to see the reactor and earn their Nuclear Science Merit Badge. These events would be impossible without the strong leadership and dedication of the students in the ANS Chapter and as such, I'd like to extend my enthusiastic support of the Chapter's proposal to host the 2024 ANS Student Conference at Penn State University.

I've personally witnessed what these students are capable of when they put their best foot forward and I believe that the same determination they have shown throughout the pandemic years will be put on display for you for this Conference. We, at the Radiation Science and Engineering Center, are excited and eager to partner with the students and assist them in any way we can as they tackle this once-in-a-lifetime opportunity.

Thank you for your consideration and I hope to see you all in Happy Valley in Spring 2024.

Sincerely,
Zach

Zachary Van Horn
Outreach Coordinator & Gamma Irradiation Supervisor
Radiation Science & Engineering Center



7 September 2022

Dear ANS Student Conference Selection Committee,

It is my pleasure to write to you in support of the Pennsylvania State University (Penn State) Student Section's bid to host the 2024 American Nuclear Society (ANS) Student Conference. I am currently a 5th year PhD Candidate in the Ken & Mary Alice Lindquist Department of Nuclear Engineering at Penn State, and I've had the privilege to participate in ANS extensively during my time here, including as social and outreach chair during the 2021-2022 school year. The Penn State Student Section (PSU ANS) leaders I've worked with are incredibly dedicated, working collaboratively with our chapters of US Women in Nuclear, Institute of Nuclear Materials Management and Alpha Nu Sigma to drive recruitment and outreach in the community. Active membership has soared 100+ members, and PSU ANS members have participated in nuclear myth-busting, STEM outreach to high school girls from across the commonwealth, and Nuclear Merit Badge workshops with regional Boy Scouts of America (BSA) troops. This enthusiasm has accompanied widespread attendance of recent student conferences, with many naming it the highlight of their educational experiences.

The nuclear engineering program has changed significantly since PSU ANS last hosted the ANS Student Conference in 2014. With the support of the Lindquists, our program was able to become an independent department again in the College of Engineering, and we have moved into a new building with a newly renovated first floor commons area and maker space. The Radiation Science & Engineering Center (RSEC), which hosts the Breazeale research reactor and other irradiation facilities, has recently completed a large building addition to host a Small Angle Neutron Scattering beamline, as well as new faculty and researcher office space. These changes have been accompanied by a large increase in student enrollment, faculty hires and research dollars which we are eager to share with the nuclear science community, and especially with rising nuclear professionals in our fellow student sections.

It is an exciting time for nuclear science & technology, and particularly for Penn State Nuclear Engineering. Recently, Penn State and Westinghouse have signed a memorandum of understanding for developing plans to site an eVinci microreactor on the University Park campus. This is an excellent opportunity both for clean energy generation locally and in preparing for microreactor deployment around the world. For these reasons and more, Penn State is well positioned to host a compelling and enriching student conference experience for both students and professionals.

On behalf of my colleagues and friends here at Penn State, I am happy to provide my full support for their bid to host the 2024 ANS Student Conference. Please let me know if I can provide any additional information.

Warm regards,

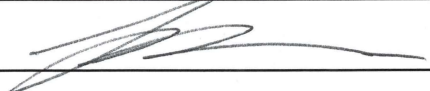
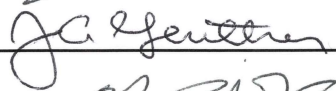


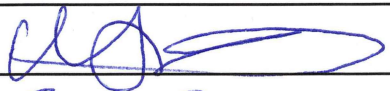

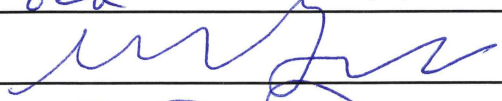


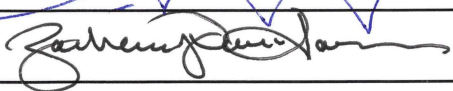
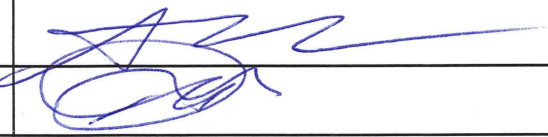


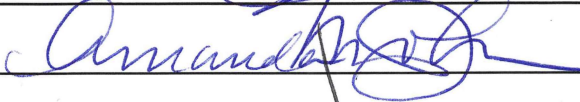


Will Searight

William Searight

Co-Vice Chair, American Nuclear Society Student Sections Committee
Secretary, American Nuclear Society Professional Divisions Committee

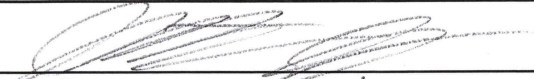




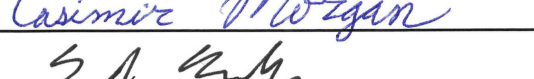

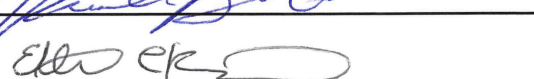

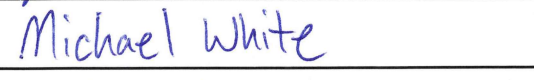
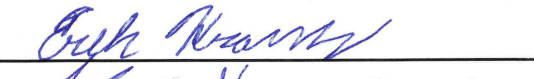

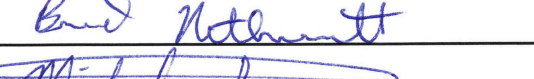



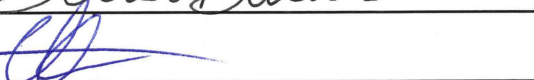
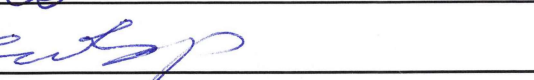


Faculty, RSEC, & Student Support

I pledge my support to the student section of the American Nuclear Society at The Pennsylvania State University in hosting the 2024 ANS Student Conference

Name	Signature
JEAN PAUL ALAN	
Jeffrey A Coenther	
Saya Lee	
Xiny Wang	Xiny Wang
Kenan Unlu	
William Walters	
ELIA NERZARI	
TASSIMILIANO ROSA	Fosa Mosimedio
Mia Jin	
ARTHUR MOTTA	
Matek Flaska	
ZACHARY VAN HORN	
Carolina Bourdot	Carolina Bourdot
Matt Zerphy	
Mulika shanfi	
MARTIN NIETO-PEREZ	
AMANDA M. JOHNSON	
MATT LEDSCHKE	
FEDERICO SEURTI	
Hamdy Arkoub	Hamdy Arkoub

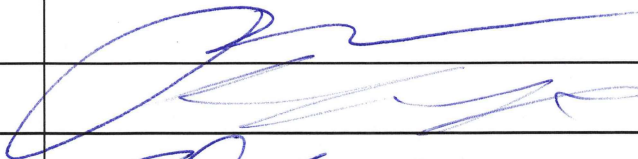


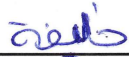


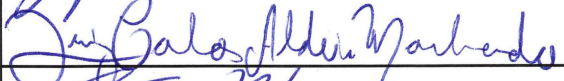




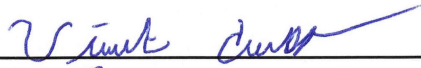


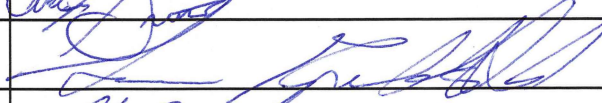





Faculty, RSEC, & Student Support

I pledge my support to the student section of the American Nuclear Society at The Pennsylvania State University in hosting the 2024 ANS Student Conference

Name	Signature
Jonathan Balog	
Sean Bistany	
John Barton	
Christopher Rapson	
Brandon Castillo	
Casimir Morgan	
James Nellis	
Becca Baker	
Ethan Kurz	
Jessi Altiero	
Michael White	
Eric Maxwell	
Alexander Hauck	
Brad Nethercutt	
Michael Seneca	
Carl Smith	
Madison Gitzen	
Scout Bucks	
Chase Hargrove	
Camila Lopez Pérez	


Faculty, RSEC, & Student Support

I pledge my support to the student section of the American Nuclear Society at The Pennsylvania State University in hosting the 2024 ANS Student Conference

Name	Signature
James Coswell	
Charles Stanke	
Daniel Holcomb	
Khalifa Bahakam	
Vitaliy Mykhnyak	
Tyler Cochran	
Bruno Galo Alder Machado	
Olivia Harmon	
Coleman Smith	
Andrew Breesder	
ERIK HISAHARA	
Vincent Cerrato	
Morgan Tran	
Alexander Scott	
Aaron Fieldsted	
Chris Babier	
Aamer Bashir	
BRANKO KORAČEVIĆ	
Alexis Nicholas	
Josef Bauer	

Faculty, RSEC, & Student Support

I pledge my support to the student section of the American Nuclear Society at The Pennsylvania State University in hosting the 2024 ANS Student Conference

Name	Signature
James Peretz	
Mark Hurey	Mark Hurey
Vincent Spallone	Vincent Spallone
Max Gillow	Max Gillow
Devin Ortiz	Devin Ortiz
Antoine Waegerecht	Antoine Waegerecht
Rachel Baker	Rachel Baker
Matthew Denisbeak	Matthew Denisbeak
Tofahim Tofahim	Tofahim Tofahim
Soyoung Kang	Soyoung Kang
Leuko Higgins	Leuko Higgins
Zack Alexis	Zack Alexis
Nikolaus Kemper	Nikolaus Kemper
Will Searisht	Will Searisht
Maxime Duret	Maxime Duret
Andrey Thome da Costa	Andrey Thome da Costa
Victor Coppo Leite	Victor Coppo Leite
John Acierno	John Acierno
David Reger	David Reger
Sinan Okayay	Sinan Okayay

Faculty, RSEC, & Student Support

I pledge my support to the student section of the American Nuclear Society at The Pennsylvania State University in hosting the 2024 ANS Student Conference

Name	Signature
Michael Morri	Michael Morri
Luke Wolfe	Luke Wolfe
Joey Brunn	Joey Brunn
Eileen Ebaugh	Eileen Ebaugh
Mahrah AlDhanhani	Mahrah AlDhanhani
Saeed Althehli	Saeed Althehli
Hamdan Alamoody	Hamdan Alamoody
Alex Ceriani	Alexander R Ceriani
James Morton	James Morton
Zachary Herzog	Zachary Herzog
Thomas Reynolds	Thomas Reynolds
Cole Horan	Cole Horan
John Dziadyk	John M Dziadyk
Drew Stuffle	Drew Stuffle
Ryan Kohn	Ryan Kohn
Connor Francis	Connor Francis
Carolina Dutra	Carolina Dutra
Tri Nguyen	Tri Nguyen
Casey Emler	Casey Emler
Zachary Dominelli	Zachary Dominelli