

**Penn State Nuclear Engineering Society
(PSNES) Annual Report**

to the

Penn State Engineering Alumni Society

July 2017 to June 2018

Prepared June, 2018

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Table of Contents

1. Mission Statement
2. Purpose
3. Membership
4. Board of Directors
5. PSNES Priorities and Focus Areas
6. Summary of PSNES Activities & Events
7. Grant Reports
8. Mentoring Program Synopsis and Statistics

Appendix A – APG Grant Reports

Appendix B – PSNES Constitution

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

1) Mission Statement

As Alumni, our mission is:

- 1) To foster a lifelong relationship among the Penn State nuclear engineering alumni and the Penn State Nuclear Engineering Program,
- 2) To facilitate, for all Penn State nuclear engineering graduates, a career avenue to the nuclear profession, and
- 3) To provide our individual and collective effort to support the Penn State Nuclear Engineering Program.

Note: Through its Constitution, PSNES explicitly includes both the College of Engineering's Nuclear Engineering Program and the Radiation Science and Engineering Center. Our Alumni view both organizations as integral and unique parts of the Penn State Nuclear Engineering experience. For this PSNES Annual Report, both organizations are included.

2) Purpose

PSNES was created as an Affiliate Program Group of the Penn State Engineering Alumni Society (PSEAS) in 2001.

The purpose of PSNES shall be to promote fellowship and communication among the alumni, faculty and students of the Nuclear Engineering Program (NE or Program), Radiation Science and Engineering Center (RSEC), the Mechanical and Nuclear Engineering Department, and other nuclear engineering technology related programs across the College of Engineering and University in order to work for the improvement of these organizations.

3) Membership

Since inception, the Pennsylvania State University has 2357 Nuclear Engineering graduates with 1640 having active e-mail addresses on file with Penn State. Of this population, 564 are active in the Penn State Alumni Association. (Source: Development and Alumni Relations database, provided by Erin Tench on 6/21/2018)

Note: The PSNES LinkedIn private group has 127 (1 more than last year). The membership in this group is open to Students, Alumni, Faculty and Friends of the PSU Nuclear Engineering Program and the PSU College of Engineering Radiation Science and Engineering Center.

APG Membership	
Number of Members	280 (Source: MNE Webmaster. June, 2018)
How is membership determined? (registration with APG, all living alumni, etc.)	E-mail Registration via the PSNES Website or via methods as outlined in Article III of the PSNES Constitution. (See Appendix B)

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

4) Board of Directors

Name	Title	Company Affiliation	PSU Degree / Year	Board Term	Office/Notes
Doug Wood		Retired	BS NucE 1973	Board Appointed (5/2017 to 2018 election turnover)	President (Note 1)
Jason Beebe	Manager LOCA Integrated Services	Westinghouse - Cranberry	MS NucE 2008	Board Appointed (4/2018 to 2018 election turnover)	Vice President / President-Elect
Hilary Ruby (Neal)	Manager, Performance Improvement	Westinghouse - Cranberry	BS ME/NucE 2009 ME NucE 2012	Board Appointed (8/2016 to 2018 election turnover)	Secretary/ Treasurer
John Atchison	Senior Engineer	ISL Inc – Idaho Falls	BS NucE 1976	2013-2018	At-Large Director
Jeremy Barnhart	ECCS System Engineer	Exelon - Limerick	BS NucE 2017	Board Appointed (4/2018 to 2020 election turnover)	At-Large Director
Eric Beaumont	VP Global Research	Barclays	BS NucE 1992 MS NucE 1994	2013-2018	At-Large Director
Matt Ellis	NucE PhD Student	MIT	MS NucE 2012	2016-2020	At-Large Director
Hamilton Gubanc	Nuclear Programs Officer	US Navy Recruiting Command – Memphis	BS NucE 2011	Board Appointed (8/2017 to 2018 election turnover)	At-Large Director
Duane Karchner	Nuclear Consultant	Retired	BS NucE 1981	2013-2018	At-Large Director
Michael Pantano			BS NucE, ME, Math 2012	2013-2018	At-Large Director
James Tusar	Senior Manager, Nuclear Fuels	Exelon – Kennett Square	BS NucE 1984	2011-2020	At-Large Director
Matt Wargon	Innovation Engineer	TerraPower, LLC	2014 BS NucE	2016-2020	At-Large Director
Vacant				Ex-Officio member with vote per Constitution	Current NucE Faculty Member (appointed by NucE Program Chair)
Rick Etling		Retired	1978 BS NucE	2013-2018	Immediate Past President with vote (see Note 2)

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Name	Title	Company Affiliation	PSU Degree / Year	Board Term	Officer/Notes
Dr. Arthur Motta	Nuclear Engineering Program Chair	Pennsylvania State University		Ex-Officio member with vote per Constitution	NucE Program Chair
Dr. Kenan Unlu	Director, Radiation Science & Engineering Center, Professor of Nuclear Engineering	Pennsylvania State University		Ex-Officio member with vote per Constitution	Also voting as NucE Faculty
Emily Humes		MNE Student		Ex-Officio member without vote per Constitution	PSU ANS Student President (changes each school year)
Jacob Gorton		MNE Student		Ex-Officio member without vote per Constitution	PSU Alpha Nu Sigma Student President (changes each school year)
Kerri Smalec		MNE Student		Ex-Officio member without vote per Constitution	PSU WIN Student President (changes each school year)
Marc Wonders		MNE Student		Ex-Officio member without vote per Constitution	PSU INMM President (changes each school year)
Dale Hoffman	PSEAS President			Ex-Officio member without vote per Constitution	

Note 1: As PSNES President, Doug Wood serves as co-PSNES APG representative on the PSEAS Board with PSNES Past President Pat Loftus.

Note 2: In December 2016, the PSNES Board of Directors appointed Rick Etling (last elected President) to remain in the Immediate Past President position through the 2018 election turnover.

2018 PSNES Election Summary:

A new PSNES Constitution provision effective May 19, 2018 (see Appendix B) allows the PSNES Board, in the event all final nominated candidates are running unopposed, to declare the candidates winners of the election without balloting Society members. A motion to that effect was approved by a majority of a quorum of the PSNES Board on June 16, 2018. The new Board transition/turnover will occur at the PSNES Annual Meeting in the Fall of 2018.

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Following that transition, the elected Officers and Directors will be as follows:

Officers (all terms 2018-2020)

- President - Hilary Ruby (Neal)
- Vice President - Jason Beebe
- Secretary/Treasurer – Tyler Cousins

Elected At-Large Directors

- Terms ending 2020: Matt Ellis, Jim Tusar, Matt Wargon, Jeremy Barnhart
- Terms ending 2022: John Atchison, Duane Karchner, Michael Pantano, Jennifer Butler, Mara Levy

5) PSNES Priorities and Focus Areas

Not surprisingly, the PSNES Priorities and Focus Areas remain largely the same as previous years. The progress for each has been updated to reflect any significant changes and the current status.

Priorities and Focus Area	Progress Update
<p>PSNES Revitalization & 2018 Elections / BOD Transition</p>	<ul style="list-style-type: none"> • The PSNES Revitalization is continuing • The 2018 election candidates (all unopposed) have been declared winners as now allowed by the Constitution • A PSNES Constitution change approved in May 2018 (See Appendix B) also added the student presidents to the Board for three additional nuclear student clubs (Alpha Nu Sigma, WIN, & INMM) following the long-standing model for the ANS student president. Since these are not PSNES elected positions, they were added effective immediately. The Board Roster in Section 1 reflects these additions. • Transition of PSNES elected officers and directors will occur at the Fall 2018 Annual Meeting
<p>What can PSNES do to help, support, and advance the NucE Program, RSEC, and the four PSU nuclear student clubs (American Nuclear Society, Alpha Nu Sigma honor society, Institute for Nuclear Materials Management, and Women in Nuclear - WIN)?</p>	<ul style="list-style-type: none"> • MNE and COE Development (Susan Bohna) took the initial lead for the MNE E-Knowledge Commons PSNES Computer Lab Naming Opportunity promotion during the summer of 2017. The emphasis was on large contributions. The fundraising had some initial alumni interest but lost momentum when some COE Development personnel left and Susan Bohna was reassigned to responsibilities outside COE. At the present time, total alumni gifts and pledges toward the PSNES Computer Lab Naming Opportunity goal of \$60K remain unchanged from April 2017. PSNES has reopened discussions with COE Development in support of a grassroots support campaign to reach additional member donors. • PSNES may elect to reinstate a PSNES specific (rather than MNE) social media campaign to attract a larger number of “modest” gifts to achieve the initial naming goal of \$60K. PSNES will maintain its position that fundraising is not the primary activity or priority for the organization.

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

	<ul style="list-style-type: none"> • PSNES continued to participate in the MNE Senior Recognition Banquet to recognize student achievements including the Outstanding Early Career Award and Beecher-Loftus Leadership & Service in Nuclear Engineering Awards. PSNES currently supports the selection process for these two awards. PSNES may revise its role in the endowed Beecher-Loftus Leadership & Service Award selection process. In addition, individual alumni (and their companies) have provided financial sponsorships for student attendees at the Banquet. • During this past year, PSNES has greatly enhanced the ease of engaging and coordinating activities with the 4 PSU nuclear student clubs by adding their student presidents to the PSNES Board as ex-officio members. Going forward, increase the active engagement with these student clubs and with the PSEAS Board through APG representation on their board. • Continue career path coaching to Students and Alumni (see separate item below regarding Student Mentoring/Networking Growth & Engagement) • Nuclear Engineering Time Capsule content compilation project was placed on hold. The Time Capsule purchased through PSNES funding remains in Reber Building.
<p>PSNES Membership Growth and Engagement</p>	<ul style="list-style-type: none"> • Continued the Alumni Outstanding Early Career Award initially awarded at the 2017 MNE Annual Senior Recognition Banquet. The 2018 recipient was Hilary Ruby (Neal). • Continued digital outreach via PSNES LinkedIn private group posts, PSNES E-News Briefs, PSNES Website, Social Media posts on MNE Facebook page. • Re-invigorated focus on off-campus regional events such as the successful 4/2017 Student-Alumni Tailgate prior to Pirate Baseball game and the October 2018 Welcome Reception in Washington DC. Reaching relatively large concentrations of PSNES member alumni by bringing them meaningful activities perceived to be of value to them is key to expanding membership and engagement.
<p>Student Mentoring/Networking Growth & Engagement</p>	<ul style="list-style-type: none"> • Began piloting student driven mentoring/networking on demand by promoting and actively using the PSU-wide LionLink capability and encouraging NucE alumni to register. The ANS Student Club has taken the lead role in advocating for this approach. • Continued support to annual New Student Orientation (speakers) & social event participation. • During this year, PSNES hosted a student mentoring

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

	<p>and networking event on campus featuring a number of alumni and NucE faculty speakers all talking about Nuclear Engineering Career roles, some traditional but many nontraditional. This event, held in the MNE E-Knowledge Commons was well-attended by students and alumni, served as a proof of concept for a recurring (at least annual) student mentoring and networking event on campus. The student feedback was very positive, and validated their appreciation for the ability to access a number of alumni at a single event, and also confirmed that bringing alumni speakers to the students with their stories of career opportunities that may or may have been obvious to the students. Additional details for the 2018 event are provided in Appendix A (APG Grant Report). PSNES intends to continue this transition from a one-on-one encounter program (using LionLink and the PSNES private LinkedIn group) to an event-based program.</p>
--	---

6) Summary of PSNES Activities & Events

Activity/Event Name	Does PSNES have a program like this? <i>YES or NO</i>	Date(s)	Number of Alums Participating	Notes
Mentoring Program	YES	See Section 8 of Report for Details		
PSNES Leadership (Board of Directors) Conference Calls (C) & Electronic Polls (EP)	YES	9/24/2017	12 (C)	General Business (10 voting members)
		10/8/2017	4 (C)	ANS Reception Strategy
		1/4/2018	3 (C)	1/22 Event Strategy
		1/26/2018	11 (EP)	PSNES Constitutional Amendment Board Approval (11 voting members)
		4/18/2018	11 (C)	2018 Election Slate
		6/10/2018	12 (EP)	Waive member voting on unopposed final election candidates
PSNES Leadership (Board of Directors) Face-to-Face Meetings with Dial-In	YES	8/20/2017	14	PSU - Reber Building "Annual Meeting" 11 voting members incl 3 proxies
Speakers Bureau	YES		1 (Tusar)	Alumni speakers for

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Activity/Event Name	Does PSNES have a program like this? YES or NO	Date(s)	Number of Alums Participating	Notes
(informal)				classes (1 to 2/yr)
PSNES Alumni Tailgate	YES	9/9/2017	2	*piggybacked on PSEAS PSU football tailgate
PSNES Facebook Group	NO*		MNE Facebook page not group	* MNE posts are relevant to NucE. PSNES members do not directly contribute
PSNES LinkedIn Group	YES	Many posts	127	Includes Alumni, Students, Faculty and Staff of NucE/RSEC
PSNES Mailed Newsletter	NO	N/A	PSNES does not track this	*Articles in MNE publications
PSNES eNewsletter	YES	various	Entire PSNES membership	A PSNES Member Listserve exists, and it has been used frequently to send information to all members. A formal newsletter has not been issued during the past year.
PSNES Young Alumni Career Award	YES	3/2017	2	2018 2nd Awardee (Hilary Ruby) recognized at the 3/2018 MNE Senior Recognition Banquet.
PSNES Time Capsule	YES	No changes this year	PSNES Member content contributions on-hold.	Time Capsule procured & located in MNE Office. Goal to house in E-Knowledge Commons at some point. No change since 2017
Annual selection of Beecher-Loftus Service & Leadership in Nuclear Engineering Awardee	YES	3/21/2018	Awards Committee: 4	This Alumna-endowed award was given to a 2018 recipient at the MNE Senior Recognition Banquet.
Student Mentoring/Networking	YES	1/22/2018	8 Alumni Speakers	Student driven. 1-on-1 interactions being phased out in favor of

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Activity/Event Name	Does PSNES have a program like this? YES or NO	Date(s)	Number of Alums Participating	Notes
				an annual mentoring & networking event and use of LionLink. See Section 8 for additional details.
E-Knowledge Commons PSNES Computer Lab Naming Opportunity Promotion	YES	ongoing	PSU NucE Alumni e- mail listserv (280+)	Although the PSNES Computer Lab has been named and a ribbon-cutting ceremony was held on 8/20/2017, PSNES is continuing to promote alumni contributions to this initiative (coordinated with PSU COE Development.
Support MNE co-hosted Welcome Reception (Winter ANS National Meeting venue – Washington DC)	YES*	10/30/2017	5	*Wash DC ANS Winter meetings only (every other year)
New PSNES Website content support & Digital Communication Plan Execution	YES		PSNES does not have access to MNE analytics	NucE Program Communications & BOD are content contributors.
Constitution Review/Succession Planning Team	YES	5/19/2018 (approval)	PSNES BOD, PSNES General Membership: 4	A small committee was formed (4 alumni) to suggest Constitution changes to enhance engagement of students and alumni and to streamline governance processes. The changes were approved for membership balloting by the BOD, and subsequently approved by the required 2/3 majority of the General Membership votes in

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Activity/Event Name	Does PSNES have a program like this? YES or NO	Date(s)	Number of Alums Participating	Notes
				May 2018. The resulting Constitution is attached in its entirety as Appendix B.
Annual Fall New NucE Student Orientation speakers & social event	YES	8/20/2017	PSNES BOD speakers: 2 Attendees: 7	
Annual MNE Senior Recognition Banquet	YES	3/21/2018	2 PSNES BOD members	
PSU on-campus events supported by Members	YES		1 Alumnus	RSEC Safeguards Review Committee

7) Grant Reports

Semester/Year	Grant Name	Dollar Amount Received	Status
Spring 2016 through June 30, 2018	PSNES Promotion: Engaging Alumni and Students	\$1000	Final Report (Appendix A)

In 2016, PSNES was awarded an APG (Affiliated Program Group) Grant from PSEAS for \$1000. Initially, the intended use of the funding was planned for various student-alumni receptions and social events. Ultimately, many of these targeted events were funded by non-grant sources, resulting in the grant being renewed and extended through June 30, 2018, at which time it expires. In late 2017, PSNES decided to direct the approved funding (\$1000) to purchase three re-usable banners to enhance the identity of PSNES (pull-up floor banner, podium banner, and display table skirt) and to pay for the refreshments for an on-campus career mentoring and networking event that would serve as a model for a recurring annual event. The design and printing of PSNES information cards (using a 2-sided business card format) was also planned, but was later funded independent of the APG Grant by alumni donations.

Appendix A provides the final grant report that describes and captures all of the grant expenses, and documents that a modest excess of the approved APG Grant funding will be reimbursed from the PSNES treasury.

See the 2017 PSNES Annual Report for the APG Grant Report history prior to June 30, 2017.

8) Mentoring Program Synopsis and Statistics

In previous years, the Department of Mechanical and Nuclear Engineering (MNE) and the Penn State Nuclear Engineering Society (PSNES) jointly sponsored the Nuclear Engineering Mentoring Program to facilitate the professional development of MNE students by providing guidance, counsel and networking opportunities. Mentors interacted with their student mentees on a confidential, one-to-one basis using a

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

mutually agreed-upon method of communication. Unlike the mentoring programs for some of the other engineering departments or programs, PSNES did not pair students and mentors, but rather the students drove the interaction: they decided the objectives, selected the mentor(s) they would like to contact from resumes hosted on the (now discontinued) ANGEL site, and initiated the connection. This connection was envisioned to be a one-time contact or the beginning of a long-term mentoring relationship. The table below captures the history of the PSNES mentoring program.

Number of Alumni Mentors	Number of Student Mentees	Total Number of Students Who Could Request a Mentor	Percentage of Students Requesting Mentor (as compared to potential total student population)
13 (same since Fall 2015)	N/A - Confidential, student driven		

The confidentiality of the information in this program made it next to impossible to develop usable metrics for the program, the discontinuation of the ANGEL resource by the COE, and the advent of a campus-wide mentoring resource (LionLink) all suggested that a new paradigm for the mentoring program might be advantageous. To date, 16 PSU nuclear engineering alumni are registered in LionLink.

During this past year, PSNES began to transition from a 1-on-1 student driven interaction program to an event-based program, where students have access to a number of alumni mentors at the same time and have the opportunity to obtain diverse and real-time information about many different career paths that PSU NucE alumni have taken, some traditional and some non-traditional.

The culmination of this transition was holding a very successful pilot event on January 22, 2018, the PSNES Career Mentoring and Networking event, which will become a recurring (annual) event. Please refer to a more complete description of this event in the Attachment A grant report.

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Appendix A – APG Grant Reports

PSEAS APG FINAL GRANT REPORT

APG NAME: Penn State Nuclear Engineering Society (PSNES)

Fall 2016 Grant Name: PSNES Promotion: Engaging Alumni and Students

Approved Grant Amount/Expiration (including extension): \$1000.00 / June 30, 2018

Final Report Date: 6/30/18

Description of Event/Program

The PSNES goals for the Fall 2016 PSEAS APG grant (including the requested extension) were: 1) creating awareness of PSNES to students and subsequently engaging them after graduation as alumni, 2) strengthening alumni-to-alumni and alumni/student/faculty connections through on campus and regional events, and 3) creating and procuring reusable banners and PSNES organization business cards suitable for use at these events.

In 2017, PSNES members actively supported 3 key MNE events: 1) August MNE New Student Orientation/Ice Cream Social, 2) August ribbon-cutting ceremony for the named (PSNES, PSMES) computer laboratories in the MNE E-Knowledge Commons, and 3) October Welcome Reception co-hosted by MNE at the site of the American Nuclear Society Winter Meeting in Washington DC. PSNES member donations covered member travel/time and PSNES information card and reception flier printing costs with the MNE Department covering the event costs. See below for additional event details/photos.

In 2018, PSNES shifted to more strategically using the grant funding to purchase tools to help identify PSNES at promotional events and to demonstrate the effectiveness of one or more alumni-centered PSNES events to repeat as yearly or recurring activities. This final grant report focuses only on the use of the APG grant funding for the following items and events:

- Non-personalized PSNES “business cards” with helpful websites
- Purchase of new PSNES banners (pull-up floor banner, podium banner, and tabletop banner)
- Expenses associated with a pilot Nuclear Engineering career mentoring symposium with alumni speakers

See **Event Significance to the APG, Lessons Learned / Best Practices**, and **Additional Information** headings below for additional supporting information. For completeness and context, selected additional PSNES activities are described that did not involve the APG Grant funding.

Participant/Attendee Information

PSNES Computer Lab Ribbon Cutting



Following a long construction project in the Reber Building, a named (PSNES) computer lab funded by individual alumni donations was completed and a ribbon cutting ceremony was held on August 20, 2017. The pull of 3 on-campus events funded by MNE (Computer Lab ribbon cutting, Fall New Student Orientation/ Ice Cream Social, PSNES Annual Meeting) drew NucE alumni who donated time/travel and PSNES printed information cards. Results of alumni-student networking indicated a clear preference for on-campus PSNES events early in the fall rather than in late spring as had been the case in prior years. Virtually all the NucE students attended the ribbon cutting and the alumni pictured on the left attended.

Pat Loftus, Doug Wood, Jim Tusar, Duane Karchner, Hilary Ruby (Neal), Jeremy Barnhart

Penn State Nuclear Engineering Society (PSNES) Annual Report to the Penn State Engineering Alumni Society July 2017 to June 2018

Welcome Reception at ANS National Meeting

PSNES Members donated printing costs for PSNES info cards/fliers and time/travel to attend the Welcome Reception co-hosted by MNE at the ANS Winter meeting venue in October 2017. The reception, held in a large ballroom, was jointly hosted by a number of U. S. nuclear engineering programs/companies. Previous receptions of this type were the inspiration for the PSNES large pull-up banner to attract the attention of Penn State attendees at the reception. Since the PSNES banner had not yet been purchased, the group used a similar Penn State College of Engineering banner.



Co-hosted by Penn State Department of Mechanical and Nuclear Engineering, Naval Nuclear Laboratory, University of Michigan Department of Nuclear Engineering & Radiological Sciences, and University of Wisconsin Department of Engineering Physics



PennState
College of Engineering

**MECHANICAL AND
NUCLEAR ENGINEERING**



PSU Nuclear Engineering students, alumni and COE faculty/staff –
Brandon Drusbasky, Scott Anderson, Emily Humes, Dr. Arthur Motta, Tyler Cousins, Candace Davison (RSEC), John Garing

PSNES Career Mentoring & Networking Event

The PSNES held a career mentoring networking panel symposium on January 22, 2018 on-campus in the MNE E-Knowledge Commons in the Reber Building. The event was co-sponsored by the PSU Student ANS, and as a result, had a great student turnout. The refreshments for this event were provided by PSNES (pizza and soft drinks) and were supported by the PSNES APG Grant funding. The following is a breakdown of the attendees:

Panelists (PSU NucE Faculty & Alumni): Duane Karchner (NucE 1981), Doug Wood (NucE 1973), Jim Tusar (NucE 1984), Jeremy Barnhart (NucE 2017), Adrian Leandro (NucE 2017), Dr. Arthur Motta (PSU NucE Program Chair)

Students: 40 (estimated)



Student audience & Doug Wood



Dr. Motta

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**



Student audience & Jeremy Barnhart

PSNES Business Card and Banner

As the business card and banner purchases were not a specified event, there is minimal participant information to provide beyond the application at events such as the above. Purchase of the banners was a collective and supportive effort between PSNES board members (Doug Wood – President, Hilary Neal – Secretary Treasurer), a Past PSNES President (Pat Loftus), and the PSU MNE Department (Erin Hendrick – MNE Communications Strategist). The banner preliminary design work was done by the Communications Strategist, and PSNES coordinated the designs with PSEAS, MNE, and the College of Engineering to assure that PSU intellectual property rules were met and that the proper logos were used.

Expenses: \$1000 Grant

In the table provided, please provide a detailed accounting of how the grant funds were spent.

<u>Line Item</u>	<u>Dollar Amount</u>	<u>Amount Applied to APG Grant</u>
PSNES Information Cards distributed at multiple events (business card format)	Funded by PSNES Member donor	\$0
PSNES Computer Lab Ribbon Cutting, New Student Orientation/Ice Cream Social, PSNES Annual Meeting (8/20/17)	Time/travel covered by PSNES Members	\$0
Welcome Reception (10/30/17)	Flier printing funded by PSNES Member donor. Time/travel covered by PSNES Members.	\$0
PSNES Alumni Networking Event (1/22/18)	Refreshments: \$358.12. Time/travel covered by PSNES Members.	\$358.12
Banner Expenses (paid in June 2018)	\$671.35. Design costs covered by COE.	\$671.35
Overage to be paid by PSNES		(\$29.47)
Total	\$1029.47	\$1000.00

Event Significance to the APG

In 250 words or less, please describe the significance of the event/program to the overall APG's mission.

Impact Assessment – Information Cards: Now that the PSNES organization has designed and purchased a supply of information cards (2-sided business card format) with LinkedIn and alumni site contact information, our Society is poised to not only make an impact through our events but also to create lasting takeaways that remind students and alumni how to reach out to us when the time is right for them.

Impact Assessment – Large Floor Pull-up Banner, Podium Banner, & Table Top Skirt: Through these 3 types of banners, PSNES is now able to provide a visual presence in large meeting spaces, social events, display areas, and speaking engagements both for the attendees and documenting events in photos and videos. This will support PSNES objectives of creating and maintaining student awareness of PSNES in advance of graduation and as alumni after graduation and strengthening alumni-University connections. Prior to the purchase of the PSNES large floor pull-up banner, a group of Nuclear Engineering students and alumni used a similar COE banner at the October 2017 Welcome Reception co-hosted

Penn State Nuclear Engineering Society (PSNES) Annual Report to the Penn State Engineering Alumni Society July 2017 to June 2018

by MNE to attract PSU alumni and other interested parties attending the event, at the venue of the American Nuclear Society Winter Meeting in Washington DC.

Impact Assessment – Alumni Career Mentoring Panel: This pilot event demonstrated the viability and value of establishing such an annual or recurring event for the purpose of keeping students apprised of job opportunities in the field, particularly in non-traditional roles or occupations. A student survey taken during the January 2018 event confirmed that this topic (non-traditional roles) will always be relevant to juniors/seniors and graduate students particularly if new alumni speakers are made available each time the panel seminar is offered, and the students confirmed that this format provides an excellent environment for one-on-one mentoring discussions with a number of alumni working in the field at one event.

Lessons Learned/Best Practices

Describe lessons learned and best practices from your event/program that could be shared with other APG Leaders. If appropriate, separate Best Practice documents can be submitted.

The banner purchases went smoothly, although it was important to ensure that any school-affiliated logos were formally approved by Penn State prior to any product ordering. Interim use of a COE large pull-up banner while the PSNES version was being designed and purchased validated the value of having such a banner, and the use of the podium and table banners are expected to enhance future photos taken and PSNES/Penn State Alumni Association name recognition at events PSNES attends.

Although the original vision for career mentoring activities was to host a wide range of events and topics, feedback from the attendees at the 2018 career mentoring alumni panel on campus suggested that focusing on nontraditional career paths on a recurring (annual) frequency would always be relevant and not suffer from repetition as long as the speakers were not always the same. PSNES has therefore adopted this as a best practice for an annual on-campus event. PSNES has decided to replace a number of former mentoring practices (including but not limited to pairing students with alumni mentors and mentoring encounters self-initiated only by students) with events like the January 2018 on-campus event and teaming with the PSU Student Clubs to pilot the use of LionLink.

Additional Information

PSNES Banners The images used for the large pull-up banner, podium banner, and table skirt are shown below.



Large Pull-Up Banner



Podium Banner

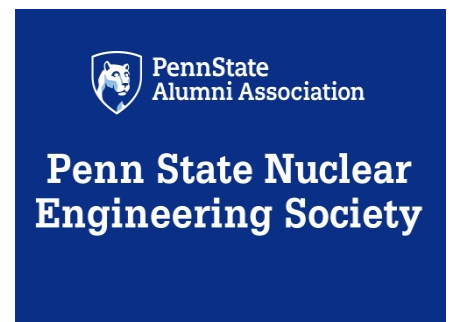


Table Skirt

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

PSNES Career Mentoring & Networking Pilot Event – January 2018

Our pilot (and first annual) PSNES mentoring event involved a multi-speaker program consisting of 5-7 alumni and the NucE Program Head. The alumni speakers were from organizations that employ NucE alumni, both in PA and out-of-state. The event was led by one of our Board of Directors members, Jeremy Barnhart, who is a very recent Nuclear Engineering graduate (less than 1 year since graduating). Although we originally had envisioned a different topic each year, feedback from the ANS Student Chapter attendees suggested that each speaker each year address the same topic of "Nontraditional Nuclear Engineering Careers," so attendees are made aware of the many possible career choices and employers that may or may not align with the traditional NucE curriculum. Since many of the NucE faculty are not from industry, they may not have a broad knowledge of the employers and specific jobs. In some cases, the day-to-day tasks of a nontraditional NucE position can be very different than what is taught in the Penn State curriculum. Despite this focus, the event also featured traditional employers (nuclear plant owner-operators, reactor manufacturers, nuclear fuel suppliers, and key industry contractors and architect-engineers). To keep the message from stagnating, we will make sure that we don't have the same speakers each time. While graduate students are included, the target audience is undergraduate juniors and seniors, so there is little concern that repetition will be an issue from year to year.

The meeting began with career path "presentations," followed by Q/A and refreshments where the student attendees were encouraged to informally engage the speakers either individually or in small groups. The MNE E-Knowledge Commons is an ideal space for this event (rather than an auditorium). We were pleased that this part of the meeting lasted more than an hour, and this is why we call this a "mentoring event". Prior to doing this, PSNES had attempted student/mentor pairing and subsequently student-initiated mentor selection with limited success. Having the event last into the evening encouraged out-of-town Alumni speakers to stay overnight, resulting in a longer event duration and more focused mentor engagement.

Although the meeting topic is always "Nontraditional Nuclear Engineering Careers," there is very little repetition of the specifics due to the intentional diversity of the speakers and their employers. Typically, there are several nuclear utility representatives, some at the plant and some at the home office, alumni that either work for the Nuclear Regulatory Commission (or their contractors) or that work for the plant interfacing directly with the regulator. Others work as independent contractors. As a result, the skill sets represented include performing mathematical calculations, presenting information at face-to-face meetings, preparing complex written documents and reports, business proposals and cost analysis, system engineering in power plants, nuclear power plant operations, domestic and foreign travel, etc.

PSNES was pleased with the insightful questions asked by the students, which vary by speaker, and it is apparent that the students were eager to have the opportunity to reach a number of working professionals at a single event. Also, the four Penn State nuclear-related student club presidents are included as members of the PSNES Board of Directors, which over the years has provided significant and valuable input to our mentoring approach including piloting the use of LionLink.

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Appendix B – PSNES Constitution

See PSNES Website: <http://www.mne.psu.edu/Alumni/PSNES/Constitution.aspx>

PSNES Constitution (May 19, 2018 Amendment)

Article I. Name

The name of this organization shall be the Penn State Nuclear Engineering Society, hereinafter referred to as PSNES or the Society. This Society shall be an affiliate group of the Penn State Engineering Alumni Society (PSEAS).

Article II. Purpose

The purpose of this organization shall be to promote fellowship and communication among the alumni, faculty and students of the Nuclear Engineering Program (NE or Program), Radiation Science and Engineering Center (RSEC), the Mechanical and Nuclear Engineering Department, and other nuclear engineering technology related programs across the College of Engineering and the University in order to work for the improvement of those organizations.

Hereinafter, reference to Program graduates or alumni includes reference to the former Department of Nuclear Engineering.

Article III. Membership

Section 1.

Members - All living Alumni of the Program and Faculty and Staff of the Program or RSEC who are PSU Alumni and who have indicated a desire to be a member of PSNES are automatically members. In the context of this Article, "Alumni of the Program" is defined as 1) graduates of the Program, 2) all persons who have received a bachelor or advanced degree from PSU involving nuclear engineering technology, or 3) all students who have completed 1 semester or 2 terms of work in any University program involving nuclear engineering technology requiring at least two years of completion or as part of an accredited post-graduate program.

Section 2.

Associate Members - Penn State Alumni who are not nuclear engineering graduates or currently enrolled University students (full or part-time) involved in nuclear engineering technology programs who desire to become a member of PSNES can do so by either self-nomination or submission of a written nomination to a PSNES Officer.

Non-Alumni friends of the University, including faculty, staff members, and others who wish to join PSNES as Associate Members can do so by either self-nomination via the PSNES website or submission of a written nomination to a PSNES Officer.

Section 3.

Honorary Members - When appropriate, the Board of Directors may designate non-alumni as Honorary Members in recognition of acknowledged eminence in some area of engineering or who have rendered

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

outstanding service to the Program or RSEC. Honorary Membership requires approval by a majority vote of the Board of Directors.

Section 4.

Members shall have the following rights and privileges: 1) vote on all Society elections (including Constitution Changes), hold office in the Society, and 3) be eligible to receive all Society communications and attend Society events. Associate and Honorary Members shall be accorded the privileges of membership in the Society except they may not hold office in the Society or vote in Society elections.

Article IV. Organization

Section 1.

A Board of Directors shall govern the general affairs of PSNES; the Board shall consist of:

- (a) the Society Officers: President, Vice-President, and Secretary/Treasurer,
- (b) the Chair of the Program (ex-officio with vote),
- (c) the Director of Radiation Science and Engineering Center (ex-officio with vote),
- (d) a current NucE faculty member (with vote),
- (e) the PSNES immediate Past President (ex-officio with vote),
- (f) six to nine members (Directors) to be elected at-large,
- (g) the President of the PSEAS or designee (ex-officio without vote),
- (h) the PSU American Nuclear Society (ANS) Student President or designee (ex-officio without vote),
- (i) the PSU Institute of Nuclear Materials Management (INMM) Student President or designee (ex-officio without vote),
- (j) the PSU Women in Nuclear (WIN) Student President or designee (ex-officio without vote), and
- (k) the PSU Alpha Nu Sigma Honor Society Student President or designee (ex-officio without vote)

Section 2.

All actions of the Board of Directors shall be decided by majority vote when a quorum is present. A majority vote is defined mathematically as one (1) plus half of those Board members who are present (either physically or by telephone conference call, assuming an even number of participants); or in the case of an odd number of participants (either physically or by telephone conference call) a majority shall be half of the participants rounded to the next higher even number present at any regular or duly called meeting of the Society. A quorum shall consist of eight members of the Board. If a quorum is not present at a scheduled Board of Directors Meeting, a detailed description of the proposed action may be prepared and distributed to all Board Members within 14 days of the meeting. Within 14 days of receiving the proposed action, each member must submit their vote electronically to the Board Secretary/Treasurer. A tally of the votes will dictate the disposition of the action.

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Section 3.

The Board of Directors may solicit funding from members as necessary to cover the cost of special projects or operations. PSNES fundraising activities shall not conflict with the University's development efforts. The College of Engineering Development Director or designee shall be informed of all fundraising activities of PSNES.

Section 4.

To remain in good standing with the PSEAS, PSNES must submit an Annual Report to PSEAS.

Article V. Elections

Section 1.

The Board of Directors will nominate a slate of candidates for At-Large Board positions and for the Society officers; President, Vice-President, and Secretary/Treasurer. The nominations will be posted on the PSNES website and the membership will be notified of this electronically three months prior to the election. Additional nominations from PSNES members may be made over the next 30 days after the list of candidates is sent to the membership electronically provided that the nominee has agreed to be nominated.

Section 2.

Officers and Board Members shall be elected by a majority vote of those Society members who have submitted their vote electronically. The electronic vote will be taken by posting nominees names on the PSNES website for one month. In the event that all of the final nominated candidates are running unopposed, the Board of Directors may waive the need for balloting (by approved motion) and declare the winners of the election without balloting Society members.

Section 3.

At-Large Members' terms shall be staggered such that half (or approximately half) are subject to election/re-election every two years. At-Large Members may be appointed at any time by the Board of Directors to fill Board vacancies. At-Large Members so appointed will serve the balance of the unexpired term.

Section 4.

Officers shall be elected for two year terms. At-Large Board Members shall be elected for four year terms. Vacancies may be filled by appointment by the Board of Directors between every two-year election. Board Members and Officers so appointed will serve the balance of the unexpired term.

Section 5.

No Officers may be elected to the same office for more than two consecutive terms. There are no term limitations for At-Large Directors.

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Article VI. Duties of Officers

Section 1.

The President shall preside at all meetings and shall be responsible for general supervision of all work of the Society. The President, Vice-President, and Secretary/Treasurer must be Penn State Program graduates.

(a) The President, or designee, shall serve on all committees as an ex-officio member.

(b) The President, or designee, shall serve as this Society's delegate to the PSEAS Board of Directors and will submit the PSNES Annual Report to PSEAS.

Section 2.

The Vice-President shall serve in the absence of the President and shall also perform such duties as may be assigned by the President. The Vice-President shall assume the duties of the President in the event of the incapacity or absence of the President. The Board may elect to appoint an acting Vice-President until the next election to assist the President as determined to be necessary.

Section 3.

If both the President and Vice-President are unable to fulfill their terms, the Board shall appoint individuals to fill one or both roles on an interim basis until either the Board elects a permanent replacement or a special or regularly scheduled election can be held.

Section 4.

The Secretary/Treasurer shall be responsible for the recording and reading of the minutes of all meetings, creating Society correspondence and reports, and shall be responsible to oversee financial controls for depositing, disbursing and accounting of all monies of the Society.

Article VII. Committees

The President may appoint standing and/or ad-hoc committees as required to accomplish the purposes and objectives of the Society. Furthermore, the President may terminate previously established standing or ad-hoc committees as required.

Article VIII. Meetings

Section 1.

At least one meeting of the membership shall be held each year to be known as the annual meeting, and it shall be held at the time and place fixed by the Board.

Section 2.

Special meetings of the Society shall be called at the discretion of the President. The Secretary shall send electronically, to the membership, written notices of the annual and special meetings at least one week in advance.

**Penn State Nuclear Engineering Society (PSNES) Annual Report
to the Penn State Engineering Alumni Society
July 2017 to June 2018**

Section 3.

The Board shall meet at the call of the President or at the request of a majority of the members of the Board. Secretary shall send electronically, to the membership, written notices of the Board meetings at least one week in advance.

Section 4.

The committees shall meet on the call of the committee chairman or at the request of the President.

Article IX. Amendments

Section 1.

This Constitution may be amended by a two-thirds vote of the Society members either present at any Society meeting as defined by Article VIII (meetings) above or participating in electronic balloting provided:

- (1) The amendments have been placed before the Board of Directors at least one month before the meeting, and
- (2) The amendments have been approved by a majority vote of the board members as defined in Article IV Section 2 above.

Section 2.

This Constitution and its amendments must not be in conflict with the constitution of the PSEAS or the rules and regulations for constituent societies as established by the Penn State Alumni Association. PSNES Constitution changes shall be submitted to a PSEAS Officer for approval.