

PENN STATE NUCLEAR ENGINEERING SOCIETY
Final Agenda – September 23, 2018 – PSNES On-Campus Meeting
12:00 noon – 3:00 pm, 125 Reber Building
Dial-In Number: (712) 451-0817, Access Code: 666810

MINUTES of MEETING (MoM)

Participants:

PSNES Officers and Directors (with vote):

Douglas Wood – President
Jason Beebe – Vice President
Hilary Ruby (Neal) – Secretary/ Treasurer
John Atchison – At-Large Director
Matt Ellis – At-Large Director – On Phone
Duane Karchner – At-Large Director
Michael Pantano – At-Large Director On Phone (with proxy for Matt Wargon)
James Tusar – At-Large Director – On Phone
Rick Etling – Immediate Past President – On Phone
Dr. Arthur Motta – Nuclear Engineering Chair

PSNES Board Members (ex officio members without vote):

Emily Humes – PSU ANS Student President
Jacob Gorton – PSU ANΣ Student President
Kerri Smalec – PSU WIN Student President
Marc Wonders – PSU INMM Student President

Other Members and New Board Electees:

1. Tom Maatta – COE/MNE Director of Major Gifts
2. Candace Davisonon – RSEC Staff and PSU WIN Student Chapter Advisor
3. Pat Loftus – Past President – On Phone
4. Ed Klevans – Former Department Head
5. Tyler Cousins – Incoming PSNES Secretary/Treasurer
6. Jennifer Butler – Incoming At-Large Director
7. Joe Sholtis - PSNES Time Capsule Historian – On Phone

Note: The meeting notes follow the order of the meeting rather than the agenda, which was dictated by the availability of attendees.

Opening

Opening and Roll Call (Ruby, Wood, and Cousins)

The meeting was called to order at 12:11 pm by Hilary Ruby (Neal). Hilary stated the primary purpose of this face-to-face was to build and execute a new strategy.

Old Business

Status of the Nuclear Engineering Program (Dr. Motta with Q/As)

Dr. Motta gives overall update:

- There has been a proposal from the College of Engineering (COE) to split Mechanical and Nuclear into separate departments. We are working through this transition, planned to be effective in Summer 2019. This is not official and there is a proposal for faculty senate that is expected to be approved, but still TBD. This will be done in the Fall 2018. The Dean and Provost will have significant investment in the new Nuc. E. Department.
- Professors will look to increase to 14 tenure track lines to compete for academic recognition. PSU currently has three faculty searches. If we fill them all, we will increase to 10 faculty positions. Once the senate approves the proposals, we will launch a national search for a department head. There will be a search forum and department input looking to head the effort for the next few years.
- The Nuclear Power Advisory Board will morph into an IPAC in the Fall, and there will be a new in-person meeting in the spring. We will be expecting to expand the range of people we hire, such as professors of the practice to understand industry problems. We are developing and increasing the online MSENG program to focus on nuclear science and nuclear security. Dr. Unlu created a suite of courses for a nuclear security option for the master program. This is a five-course sequence and will result in a nuclear security option diploma. As separation continues, we need to take over things that MechE used to encompass. NucE faculty members are very stretched in fulfilling this.
- Jim Tusar supported funding to provide Exelon scholarships to undergraduate NucEs. This encompasses students in the major and those considering going into the major.

Jason Beebe: What's the top reason for separation?

Dr. Motta:

-Dean articulated in proposal.

1. Merger in 1997, and incoming NucE was 6 or 7. Now it is bigger.
2. Funding for NucE in 1997 is 0. Now it is \$35-45 Million.
3. Looked at other top 10 programs nationally; we are the only one that is combined, with the exception of Wisconsin.
4. Greater visibility and investment and greater attention to the field to attract better faculty by increasing the number of new faculty and decrease the workload for current faculty.

Jason Beebe: Will you offer dual major?

Dr. Motta:

-Does not depend on NucE, but instead based on MecE. Industry says they like this combo for job candidates. Any major is possible, but we will try to make it possible to try to finish in 4.5 years. If the curriculum diverge, it may be difficult to do this. We should try to continue, but no decision at this point.

Marc Wonders: Areas of emphasis for faculty searches?

Dr. Motta:

-Made it open, but large pool. Any area; however, looking at needs for computational materials and thermal-hydraulics. We want the best people, not a specific area. We have patience here. We have success in increasing diversity in terms of hiring females. If we can, this will be a goal. Currently we have 14 slots, with 6 or 7 searches. Keep in mind that we are competing with other schools, and it is a very crowded field, with tough competition.

Who will be attending ANS Winter Meeting?

-Jim Tusar, Emily Humes, ANS VP, and Tyler Cousins

Rick Etling: What about industry experience? Keep this as criteria?

Dr. Motta:

-Yes. We are continuing with the Capstone design in the future. If we had one person like this, we would strongly consider him/her. We will keep asking for contribution to project design capstone. The Westinghouse section of the capstone design has worked out really well. This is all set up for next year, and we want to continue.

Hilary Ruby:

We want to stay connected, and move forward in this direction. PSNES has a diverse collection of resources in this area.

Rick Etling: Physical move in split?

Dr. Motta:

-Yes. I do not know where. Right now we have combined offices. We should hire staff in parallel to obtain the experience and set up a new location. This will be ready to go by July of 2019. Transition task force has set up a space subcommittee, led by Dr. Unlu, which has established the requirements necessary of the new space. We keep in mind that faculty does not want to keep moving due to their research. We will plan to move only once.

Joe Sholtis: Will this separation affect RSEC relationship?

Dr. Motta:

-I do not believe so. We always had a strong connection there. Recently RSEC finished the creation of new beam lines. We will still have labs and research by faculty at RSEC. Keep in mind that RSEC reports to the vice president of research, and is not part of the College of Engineering, as such we are working with staff to do behind the scenes work.

Hilary Ruby: Jason and I plan to initiate a direct discussion with Dean Schwartz. This will include direction of the department with PSNES as a critical alumni support to the college. The following questions should be addressed:

What can we do to help the department?

How are we all aligned?

This will result in a follow-up phone call.

Ed Klevans: Will RSEC become part of the department again?

Dr. Motta:

-No.

Duane Karchner: What is the status of the incoming class?

Dr. Motta:

-There are 48 students in the current year from NUC E 310W roster. 2012 saw a peak of ~80 students. We continue to lead the country, by a large margin, in producing NucE graduates. PSU has 13% of the nationwide NucE graduates in the last few years..

Marc Wonders: What about NucE Grad Students?

Dr. Motta:

-These will scale with faculty and research available, not counting the 6-7 MSENG in the steady state. New post-docs do not come in with entourage of students.

Pat Loftus: Can you comment on the growth in masters seeking security option online and residence?

Dr. Motta:

-Residence masters through research (NRC, DSF, etc...) get paid out of research, or TA positions. Currently about 2/3 of the students seek Ph. Ds, while 1/3 seek Masters Degrees. We currently possess 43-45 residence students. Online students are in degree granting status, but might not find the courses they wish to take in a current semester. These students account for 63-65 in degree granting status. Ramp course helps to support students coming from other majors. This will allow reaching of broader base.

-With respect to nuclear security, courses involve:

- *Physical security
- *Detection of special nuclear materials
- *Demanding Lab Courses Teaching
 - principles
 - equipment (hard to do online)

Additionally, for online students, there is an idea for a 5 day sequence where students travel to RSEC to conduct work, and then write-up reports afterwards. If we did this what is the market?

Thoughts about potential department head?

Dr. Motta:

-I am on as acting head for the time being but do not intend to be the permanent choice. Over the next year we will keep the PSNES officers informed, but remain unsure at this point. We will continue to conduct regular interviews to see how this evolves. Consider periodic phone calls with PSNES officers. Motta is current chair of NEDHO.

Hilary Ruby:

-We would like minimum quarter-based meetings to allow those available to provide updates and thoughts. We'll be setting this up in the near term, and they will be months in advance. Lunch time EST (**ACTION**).

Financial Report:

Pat Loftus: As of July 10th, PSNES treasury balance is \$1,541.61.

Announcement of and Transition to New Officers (Doug Wood and Hilary Ruby)

Doug Wood: Transition of officers and new positions allow us to hit the ground running. Acknowledgment of past members that will not remain on the Board:

- Rick Etling – Immediate Past President
- Eric Beaumont – Past At-Large Director
- Hamilton Gubanc – Past At-Large Director (will still help with any special activities of talks or events)
- Doug Wood will remain on the Board for 2 years as Immediate Past President

Thank you for your outstanding support!

Also, thanks to Pat Loftus for helping and aiding in this transition. You have helped greatly since you have been president.

I would like to welcome, Mara Levy, and Jen Butler who are coming in now as new elected Directors. I look forward in continuing to help.

Hilary Ruby:

-There are lots of shifts in the nuclear industry as a whole, and we want to set our future Nuc. E. graduates up for success, carrying the path forward in research, industry, and security. There are lots of different functions and opportunities in this field. This board possesses the duty to educate students on the different roles they can take and career paths, in addition to assisting the department. Will formally post changes to the PSNES website

President	Hilary Ruby	2018-2020
Vice President	Jason Beebe	2018-2020
Secretary/Treasurer	Tyler Cousins	2018-2020
At-Large Director	John Atchison	2018-2022
	Jennifer Butler	2018-2022
	Duane Karchner	2018-2022
	Mara Levy	2018-2022
	Michael Pantano	2018-2022

New Business

E-Commons / PSNES Computer Update? (Maatta)

Tom Maatta:

-Started with the college in November 2017, following Susan Bohna. I act as one of eight front-line fundraisers for the college. Three positions are open currently, and they are looking to fill two more soon. I learn a lot from talking to PSNES to educate potential donors. Update:

-Received \$25,850

-Pledged \$11,110

-Total \$36,960, from 19 total donors.

Tabling further discussions until the separation takes place.

Tom is available for all questions at: tmm34@psu.edu, 8148657378

Joe: What happens to the E-Commons after separation? Can NucE's utilize this area?

Dr. Motta:

-Under discussion at this point, but that area will be open to all engineers.

Pat Loftus:

-New plaques on wall to recognize the contributors to the computer lab naming opportunity. There are separate plaques for both MechE and NucE.

Status of NucE Department (Dr. Motta)

This was covered earlier in old business. Active student societies → WIN created a workshop Fall 2017 to bring in interesting guests. This will be covered in the roundtable at end of meeting.

Radiation Science and Engineering Center (RSEC) (Dr. Unlu)

Dr. Unlu is in Vienna, and cannot attend. Candace will update.

Candace

Davison:

-This summer we shut down the reactor to construct a moderator beam port where we drained half of the pool into the storage tank. We took out the old D2O tank in the beam lines and did a dry fit of the tower structure. Installation of a Cantilever increased coupling to the tank. We refilled and were back up running by mid-August. We are starting back up and going through new cold source design. The DOE has fully funded this project.

Ed: How many beam holes?

Candace Davison:

-4 beam ports plus the cold source. 5 holes through the wall, with three guides on the cold source. It's straight through and there's no longer a tangential beam.

ANS Update (Emily Humes)

Update saved for roundtable.

Penn State Engineering Alumni Society (PSEAS) (Jane Clampitt)

Jane Clampitt was unable to attend. Doug can provide update.

Doug Wood: PSNES operates under the PSEAS umbrella. We received \$1,000 in APG grant funding over the past year. We used the grant to purchase the following PSNES banners, as well as cover the refreshments for the January Career/Mentoring Event:

- Table scarf
- 6-foot pull up banner
- Podium banner

The banners will help us promote PSNES and get the name out there at ANS meetings and other functions. Vanilla "Penn State Nuclear Engineering Society" can be used for years to come.

Hilary Ruby: We hope to increase engagement and our number of on-campus events. In the future we need to keep track of the banners through the department moves.

Doug Wood: PSNES president is a voting member of PSEAS board. There are monthly phone calls and a few face-to-face meetings.

2018-2019 PSNES Priorities and Focus Areas (Brainstorming and Validation)

(Hilary Ruby and Justin Beebe)

- Review current mission statement & vision/objectives
 - Jason talked about his background and career.

Overall discussion question:

How do we drive talent and passion to make the most out of PSNES?

What is the mission of PSNES?

Ed Klevans: Give back to the people that helped us.

Doug Wood: Not exclusively helping the department, but getting in front of the students and let them know what they can do here.

Hilary Ruby: Creating a community for life after PSU.

Formal Definition: "For the fellowship and communication of alumni, faculty, students, and friends of Penn State Nuclear Engineering."

Current Focus Areas:

- Mentorship
- Recruiting/engagement
- Support the Nuc. E. Program, RSEC, and student clubs

Time Line of Transformation:

-We have some new people now; what is the next step? How do we move forward? What are the key focus areas we can make a difference on? Open to discussion and ideas. We want key 3-5 topics to focus on in the year upcoming.

Overall timeline moving forward:

Sept 2018: Set transformation strategy

Nov 2018: PSNES President and Vice President approve Transformation Actions for each Focus Area

Feb 2019: Short Term Actions Due. (What can we quickly win and gain momentum in)

May 2019: Status update and long-term check-in.

Aug 2019: Long-term actions due.

- Some key preliminary thoughts:
 - **Early Career Support**
 - Including while in school and transitioning into the work place
 - Directly support a January 2019 event to help prepare for the career fair (i.e. resume work shops, mock interviews, career panel discussion)

How can we help them get jobs?

-better resume?

-better interning?

-better connections? what about mentors?

Thoughts?

What are we currently doing:

- 1. Career Day with student chapters**
- 2. Supporting resume workshops**
 - a. Target just nuclear engineering**

It's important to build first impressions, and preparing for interviews.

Jen Butler: Should be done before the fair to prepare students.

Joe Sholtis: Opportunities in the nuclear space arena that students are completely unaware of. Students do not know what to expect at their first job. Students get very good in a specific area, but this is not how the job works. Wherever students go, they should build trust and have a mentor to help open doors and introduce them to the organization.

Marc Wonders: Set up the resources for students to reach out to specific people.

Hilary Ruby: We have also established a LinkedIn page for students to connect with alumni, and friends of NucE program.

Jason Beebe: Make sure the people care when you invite speakers.

Doug Wood: LinkedIn is transparent and easy to use. Promote the PSNES LinkedIn within student groups.

Emily Humes (ANS): PSNES talked about non-traditional career options for NucE.

- Exelon Systems Engineer.
- Jan 2018 this occurred.

Doug: Coordinated last year's event with college of engineering resume review day. People were already signed up to come on to campus to conduct the review. Date setup in the future. We should replicate this, and then branch out. This date will be: January 22, 2019

- **Engagement / Recruitment**

- Finding a way to engage our members more actively & recruit new alumni more effectively (designate "company" leads?)
1. Find ways to inspire us to do things.
 2. Ensure the society doesn't end. This means:
 - a. Retention
 - b. Recruiting
 - c. Team building
 - d. Make sure people know about PSNES, find out why they are not involved. Rotation of areas to meet, if necessary.
 - i. Unwritten rule that have to meet in Penn State?
 - ii. What about Zoom? (Hilary Ruby) Other face-to-face options? Screen sharing?

Joe Sholtis: Often times it takes a while for alumni to get established, and then they want to give back.

Pat Loftus: Established revision to the constitution to enable younger people. These actions were recently taken to ensure inclusivity. Leverage constitution change to make a step change to achieve the outreach.

Jason Beebe: I have reached out to Westinghouse, and we have 10-15 people that want to join PSNES.

Jen Butler: Keep those in the loop, even if they move away, and cannot actively participate. Do not let the PSNES members leave and not come back.

Joe Sholtis: Communication is essential. In all forms available.

- **Funding / Financing**

- Pursue APG Grant Funding for 2019 and identify other potential funding sources
- Make/Manage budget

Jason Beebe: We need to get a handle on the budget, raise money to have money. Delayed initiative:

1. What do we want to do?
2. How much money does this require?
3. How do we obtain this money?
 - a. Time is just as valuable as money (Hilary Ruby)
 - b. Continue to foster community, build community, and help community (Hilary Ruby).
4. Understand where we are going, and make sure we stay on track.

Hilary Ruby: Set-up volunteering events throughout the PSU community to build community. Some things take money, while others take time.

– **Industry / University Relations**

- Foster relationships between the industry and the university with the intention to identify / provide opportunities to improve the Nuc. E curriculum at PSU and match future industry needs
- Identify key areas where alumni can support the university in driving research, recruitment, etc...

Jason Beebe: Need to understand, how can we best help the industry? What can we do to help students provide the skills that industry needs?

Dr. Motta: Students need a company that can support them for a semester in terms of engineering help, input and working feedback. Companies benefit; however, they need to be directly involved in student learning process.

Jason Beebe: Need to sponsor and champion within our orgs to let them know that PSU has opportunities for resources through the academic world. Sponsor networks between industry and student development.

Dr. Motta: Best way to achieve this is one-on-one relationships. If a need exists, have industry reach out to faculty member, and can engage with students.

Jason Beebe: How can we leverage these ideas in ways we are not doing right now?

Joe Sholtis: Industry finds great value out of relationships with universities. Directory will identify areas of focus, and allow for beginning of “spreading braches.”

Doug Wood: This group needs to remain plugged into all areas of nuclear prospects:

- National Labs
- Industry
- Security
- I.E. Younger alumni in all areas of prospect

SHORT TERM GOALS:

Topic 1:

- Put things together to act on these items.
- Potential pamphlet
- Events not only for students, but also early career engineers.
- Some sort of network to allow for information interchange for PSNES alumni and young career/current student body

Topic 2:

- Everyone fill out sheet with career summaries. Distribute among students and alumni. (near-term).

Topic 3:

- Allow industry opportunities to support this. (In terms of CAPSTONE).
- Find people that are really passionate about these areas, and start building subcommittees.

Summary and Forward from discussion:

Jim Tusar: Industry advocacy. Generation Nation. Reach out to the community and point out the benefits of nuclear power with respect to environment. These types of activities allow the students to interact with the public, and build in that direction.

Joe Sholtis: PSU and Nuc. E. program strive to develop Nuc. E. potential, as well as those who communicate as an ambassador for their technology.

Pat Loftus: COE just launched new brand “inspiring change, and impacting tomorrow.” Those with the opportunity to sit down with new dean, he has passion and vision, and is a NucE. Need to find interesting opportunities to make students stand out before they leave school. Develop unique things for the resume while still in school. In many cases, GPA doesn’t really matter.

Hilary Ruby/Jason Beebe: Good for recruiting and engagement option/ could also be coupled with early career awards.

Hilary Ruby: Additional Area: Membership support for other activities such as:

- social media
- nuclear engineering early career award
- general education and early career efforts
- involvement looking for other distinctive needs.

Committee Chair and Other Responsibility Appointments (Hilary Ruby and Jason Beebe)

- Membership Committee
- PSNES Social Media
- Awards Committee (including Nuc E. Early Career Award)
- January Career/Mentoring Event Organizer/Committee
- Others?

Hilary Ruby: plans to survey board members about their interest in these responsibilities before making appointments.

Doug Wood: PSEAS request to request a grant. Deadline Aug 30th. Next opportunity after the first of year, but send a proposal for what you want even you don’t meet Aug Deadline. PSEAS said they would take action ASAP. Hilary Ruby agreed to take the action to draft a request to PSEAS for funding to support our January 2019 Career/Mentoring event.

Roundtable - Member/PSU News & Calendar of Events Look-Ahead

ANS: Decent turnout from first meeting:

- Liked networking event in January 2018
- Looking for other people to come and speak
- Two people going to ANSWinter Conference (Student ANS Pres. & VP)
- Student ANS has website now
- Helping out with reactor open-house
- Peer internship panel with WIN
- Looking to do more outreach events than last year – public education

WIN: Focusing on membership

- 15 people at first meeting, filling remaining two officer positions
- Reactor open house
- Peer internship panel with ANS
- PSNES board to do a panel with ANS/WIN??**
- Region 1 workshop at Kennett Square

Alpha Nu Sigma: Membership high, but high turnover

- Keep decent membership
- Recognize those who have gone above and beyond
- Engage good Speakers (SMEAL Speaker—Early Nov.)
- Flaska, looking to get Dr. Jack Brenizer
- Focusing on topics that cannot be captured in the classroom

INMM: No active alumni

- LinkedIn
- Bring speakers in
- Lunch with some of the speakers
- Trips every year (annual meeting)
- PNNL trip for nuclear forensics
- Leverage on PSU connections for future planning – speakers/resources
- Starting a blog for INMM to share and broadcast, build connections.
- Interested in helping out with NGFP

Student/Alumni interface has been tabled for further discussion, but leaning towards LinkedIn.

Duane Karcher: Highlighted disconnect in pairing students with mentors. This is the challenge moving forward.

Hilary Ruby: Important to get perspective from the students. Foster organic relationships through face-to-face meetings. Build/establish trust and find ways to get in front of students.

Joe Sholtis: Expressed that there is a great value on making connections sooner rather than end of senior year.

Closing

Review of Actions and Meeting Close (Cousins and Ruby)

ACTION ITEMS:

1. **Hilary Ruby:** Talk through logistics with Dr. Motta in the future. Designate someone to keep them in the interim.
2. **PSU Student Groups:** Push for people in your orgs to add PSNES on linked in. This allows for better transparency and a path forward.
3. **Hilary Ruby/Jason Beebe:** Put together short sheet for career summaries for young members, alumni and students.

4. **All**: Look for people to champion some of these things, and find/be passionate people to fulfill these goals.
5. **Hilary Ruby**: PSEAS proposal for funding for workshop and career event in Jan 2019.
6. **Jim Tusar**: Establish Timelines for Awards: There is no awards committee chair. Interest in continuing to do the awards, will include in email to gage interest. More regular turnover. Need point person for career mentoring.