



American Nuclear Society University of Illinois

2017-2018

Samuel Glasstone Award Submission

Assembled by the 2017 - 2018 Executive board:

Jeremy Mettler, PRESIDENT
Gregory Romanchek, EXTERNAL VICE PRESIDENT
Alec Kleczkowski, INTERNAL VICE PRESIDENT
Kelsey Luo, TREASURER
Jacob Tellez, SECRETARY
Isabella Iaccino, OUTREACH
Demetrio Velazco, PUBLIC RELATIONS
Jazz Kroeger, FALL 2017 SOCIAL CHAIR
Grant Schumock, SPRING 2018 SOCIAL CHAIR

Special Thanks to:

Rizwan Uddin, DEPARTMENT HEAD
Kathryn Huff, ANS STUDENT SECTION ADVISOR
Becky Meline, COORDINATOR OF ACADEMIC PROGRAMS
Barbara J. Russell, ADMINISTRATIVE AIDE
Susan Mumm, MEDIA SPECIALIST AND COORDINATOR OF ALUMNI RELATIONS



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1. Introduction

The University of Illinois student section of the American Nuclear Society has continued to build on the successes of recent years. Despite stagnant enrollment within the department of Nuclear, Plasma, and Radiological Engineering (NPPE), our student's section has been able to continue to increase chapter participation. We have done this by focusing on (1) building a strong base of freshmen and sophomore students who will continue to participate throughout their entire undergraduate education, (2) expanding our reach to other departments and student groups, and (3) focusing chapter events in areas which maximize participation and benefit to chapter members.

Despite significant restrictions in how funding by the NPPE department can be used to support student events and travel, ANS-Illinois was able to maintain and improve upon yearly events. This includes sending 30 students across the country to participate in the ANS Student Conference despite restrictions applied by the Engineering College requiring all conference attendees to produce presentations. We also engaged with the newly expanded Illinois Women in Nuclear (WIN) chapter to host joint events and maintain high levels of participation in both ANS and WIN, organizing numerous coffee chats and tours to put focus on the contributions of women to the nuclear field.

To spur additional involvement amongst younger students we encouraged our Underclassmen Round Table (URT) to produce a project for the ANS booth at the annual Engineering Open House (EOH). With support from older members, URT constructed a simple electrostatic fusor to help demonstrate fusion concepts to young children. This project, amongst several other new initiatives, helped our chapter win Best Presentation by a Society at the EOH.

In summary, ANS-Illinois has shown an incredible amount of growth in the past year, despite funding challenges. Our chapter had remarkable success in many events this year, gaining prestigious recognitions amongst our broader college community despite being one of the smallest Engineering student organizations at the University of Illinois. We hope you consider our chapter for the honor of winning the Samuel Glasstone Award.

2. Section Management

At the core of any strong ANS student section is its leadership. This year, ANS-Illinois had an executive board that was extremely dedicated to growing ANS membership and providing more events than recent years. This year the ANS board included diverse representation from students at every stage of their academic career, including the first graduate student board member in over four years.

This section details the leadership of our student section and the interaction we have with the Department of Nuclear, Plasma, and Radiological Engineering and the College of Engineering at the University of Illinois. Without these crucial elements, the student section would not be nearly as successful as it has been this past year.



Figure 1: *2017-2018 ANS Executive Board Members*

2.1 Executive Board

This year's executive board was made up of eight positions. Each position is detailed below, along with the board member that filled that role in the 2016-2017 school year.



Jeremy Mettler, President

Jeremy is a senior studying NPRE in the Plasma Concentration. He decided to study nuclear engineering because of his longstanding interest in fusion energy. He is active in undergraduate research and in his free time enjoys skiing and totally not nerdy video games such as Kerbal Space Program.



Gregory Romanchek,
External Vice President

Gregory is completing his final undergraduate semester studying physics and nuclear, plasma, and radiological engineering (NPRE). He will be remaining at UIUC for my masters and PhD in NPRE. He served as secretary of ANS last year. If you catch him between lab groups, good fo you.



Alec Kleczkowski,
Internal Vice President

Alec Kleczkowski is a senior majoring in Nuclear, Plasma, and Radiological Engineering with a concentration in Power, Safety, and the Environment. Alec is also a part of the Illini Solar Car team on campus and has represented them in the Student Sustainability Leadership Committee. Alec's role as Internal Vice President includes maintaining relationships with Engineering Council, Co-Chairing the annual Engineering Open House demonstration, and generally making the UIUC Chapter better!



Kelsey Luo, Treasurer

Kelsey Luo is a current sophomore in the Radiological Concentration track in NPRE. She is also planning on getting a minor in Mathematics and a certificate in Arms Control and Domestic and International Security. She started serving as Treasurer during the Spring 2017 semester and really enjoys contributing to UIUC's ANS chapter. When she's not in class, you can find her on campus dodging the squirrels.



Jacob Tellez, Secretary

Jacob is a junior pursuing the Power, Safety, and the Environment track as well as a minor in Mathematics. His research interests lie in a variety of topics but he hopes to apply research to power generation technology. Jacob enjoys a number of hobbies outside of school such as rollerblading, hiking, and riding his bike. He looks forward to helping ANS this year and wants to find new ways for our chapter to be successful. If you can't find Jacob in the nuclear building, he's probably at the engineering library.



Isabella Iaccino, Outreach

Isabella is a sophomore in nuclear, plasma, and radiological engineering. She is considering the Plasma and Fusion Science track within the department but is pursuing a minor in Physics. She is excited to be able to reach out to the community and to younger people about the opportunities that nuclear energy and nuclear engineering provide. Isabella volunteers at the Center for Plasma-Material Interactions. If she cannot be found in the nuclear engineering building, she is probably napping somewhere.



Demtrio Velazco, Public
Relations

Demetrio chose to study nuclear engineering because he comes from a small small town and nuclear energy was interesting to him. When he came here to U of I he did not realize that there were more fields other than just nuclear power and that's how he ended up choosing the Radiological track in NPRE. Demetrio currently acts as the public relations chair for the ANS UIUC student chapter, and his main job involves coordinating events and company sessions along with procuring members on behalf of ANS.



Jazz Kroeger, Fall 2017
Social Chair

Jazz is a senior in NPRE with a concentration in Radiology. His role is social chair for the American Nuclear Society UIUC chapter. He schedules events that allow everyone to have a good time! Oh, yeah, baby!



Grant Schumock, Spring
2018 Social Chair

Grant Schumock is a senior in NPRE in the Power, Safety, and the Environment track. When he is not ogling over p-values, you can find him conducting PRA research in the Socio-Technical Risk Analysis Lab. He'll be attending Johns Hopkins in the fall for a PhD in Biostatistics.

2.2 Committees

Underclassman Round Table

The Underclassman Round Table (URT) was an initiative started in 2013 to increase underclassman involvement. It is an all underclassmen (or transfer student) committee that is oversaw by the Internal Vice Presidents whose goal it is to enable the underclassmen to be active in ANS by planning their own events and working to create a project for EOH.

Internal Vice President Subcommittee

The Internal Vice President Subcommittee was created to assist the IVP as well as allow members to have a greater impact on the chapter. The subcommittee worked together to create the nuclear news portion of each meeting. The committee also worked on a variety of other events such as the nuclear advocacy workshop, 4 year plan panel, and Boy Scout merit badge curriculum.



Figure 2: *IVP Subcommittee working on nuclear news*

NPRE Degree 4 Year Plan Panel

One of the assignments that every NPRE major has to do in NPRE 100 is to make a tentative plan of the classes they want to take to graduate. Usually this can be difficult because all new students have to go on is the complicated and outdated course explorer system. The panel allowed for students to see practical examples, learn from others experience and ask questions about actual workloads of the courses. The event attendance greatly exceeded expectations as well as the interest. The panel ended up going for an extra hour after it was planned to be over to get to everyones questions. We were lucky to be able to build a diverse panel with a variety of background in each track in the NPRE major as well as students who came in as transfers and students who switched concentrations halfway through.

Nuclear, Plasma and Radiological Engineering Degree 4 Year Plan Panel !

Featuring:

Power, Safety, Environment :

Alec Kleczkowski
Grant Schumock
Matthew Kabelitz

Plasma:

Jeremy Mettler
Isabella Iaccino

Radiological:

Kelsey Luo
Demetrio Velazco

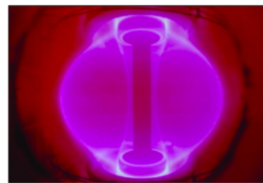


Figure 3: *NPRE Degree 4 Year Plan Panel Promotional Image*

2.3 Faculty Advisor & The University

ANS-Illinois is lucky to have a fantastic relationship with our department and faculty advisor. Our faculty advisor, Professor Katy Huff, stays up to date with our chapter and attends many of our events, despite her busy schedule. Our students have the opportunity to interact with her often at our weekly happy hour, and her door is always open for questions on section management. She has been integral in increasing student's voice within the department and also pioneering our sections committee meeting to construct a proposal for the next student conference.

We also maintain a strong relationship with the NPRE department at Illinois. Many events are co-hosted with the department, such as seminars, luncheons with industry representatives, and the annual awards banquet. Historically many of our off-campus events were funded by the NPRE department, however, due to budgetary restrictions this has been reduced in the past year. Despite this the department has continued to support us in every way possible.

Finally, our student section is recognized as an official registered student organization, both at the University level, and the College of Engineering level. At the university level, we are eligible to obtain funds from a pool of money set aside by the Student Organization Resource Fee (SORF), and at the college level we can obtain Engineering Council funding. By being registered at these levels, we are also able to participate in events that allow us to advertise our society at the beginning of the year.



Figure 4: *ANS-Illinois Faculty Advisor Katy Huff*

3. Operations & Meetings

This section details the administrative details that keep the section running.

3.1 Weekly Executive Meetings

Every Sunday our chapter held an executive board meeting. This meeting was used to brainstorm new events, delegate tasks, keep up to date on what each board member is doing, and recap events that happened in the previous week.

An agenda was made and placed in the ANS-Illinois google drive such that every member could pull up the agenda and follow along. An example can be seen to the right.

These agendas were also used by the secretary to take meeting minutes, so any board member could go back to the Agenda folder and see the meetings minutes if they forgot what they needed to do that week.

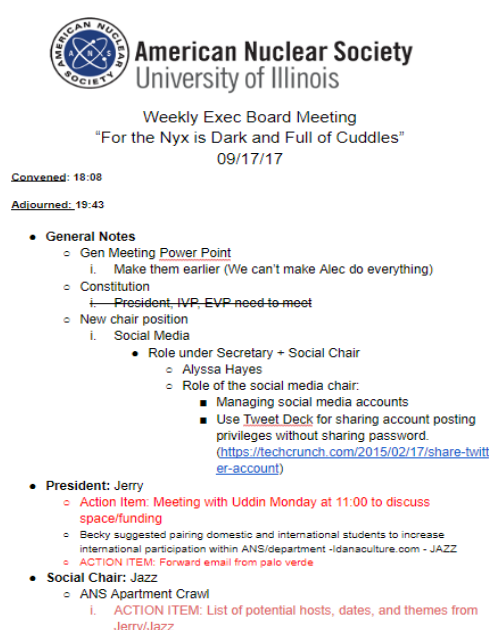


Figure 5: *Example Executive Meeting Notes*

3.2 General Meetings

General meetings were held on a semi-regular basis, depending on the density of upcoming events. For the majority of the year, general meetings were held on a biweekly basis, adjusting to account for exams and large class projects to help maximize member attendance. Outside of email and social media communication, meetings were used as the most direct way to communicate information to the

general body. All trips and large events were first announced at general meetings, and then were added to newsletters and other communication methods later.

Meetings always have PowerPoint presentations, which were made available online for members who were unable to attend. Compared to previous years, meetings were streamlined to consist of the most important information relevant to members. This helped reduce wasted time at meetings and increased the value of attending general meetings.

Nuclear News was a segment created this year as a recurring part of each meeting. The idea was to add value to each meeting by highlighting the most interesting and important nuclear related current events. These segments were used to spark discussion about events relevant to future job prospects and to encourage members to become interested and involved in the broader nuclear community. These segments were put together by the Internal Vice President's committee, helping provide opportunities for students not on the executive board to get involved with meeting planning.

Another new component to general meetings were post-meeting panels, which were designed to be more focused to specific segments of the student body. These panels included four year planning sessions to help freshmen create productive plans for their college careers, as well as talks about graduate student life and how to get involved in undergraduate research. These more specific panels helped provide valuable information to help encourage underclassmen participation.

3.3 Communication

One of the goals of the University of Illinois Student chapter was to increase communication and make getting involved a more relaxed and friendly process. This year, we sought to accomplish this goal by increasing accessibility of the executive board to general members, making it easier for members to ask questions and communicate concerns. Historically ANS-Illinois has used a weekly email newsletter as the primary form of communication with the general body. Sent out at the beginning of each week, the newsletter notifies members of new opportunities and events hosted by the American Nuclear Society. To help make communication within our chapter a two way street, a chapter wide Slack channel was created and shared with all members.

Slack allowed any member of the chapter to communicate, share ideas, and express concerns directly to executive board members at any time. This helped improve the executive board's ability to adapt to member concerns and also provided us with great feedback on events, both good and bad. Announcements were also made using slack, and individual channels were set up for the purpose of planning larger events, such as the Engineering Open House. This greatly improved productivity and improved planning and coordination between board members and committee members.

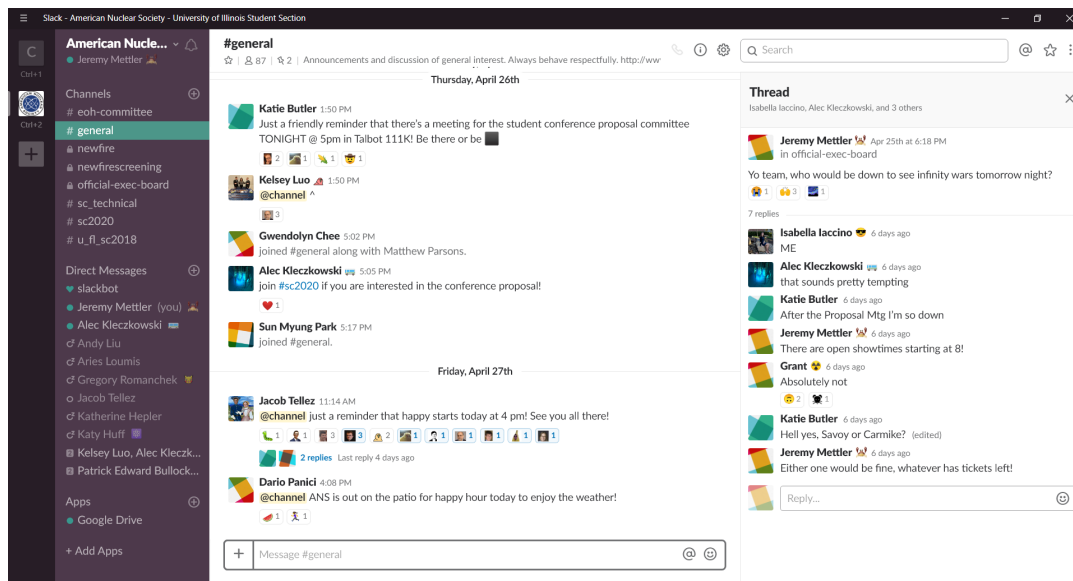


Figure 6: *Example of the ANS-Illinois Slack Channel*

3.4 Funding & Financial Planning

In order to be able to fund the professional and social events that we held this year, our ANS chapter received a lot of support beyond the \$20 per active undergraduate member dues which generates around \$2,000 a year. We also raised \$210 from selling nuclear themed shirts to our members. Other events considered on a case-by-case basis, like our broomball social event that partnered with other student organizations, raised over \$40. In addition to these generated funds, our ANS chapter is grateful for and would like to thank the support and funding received from the following sources:

The Nuclear, Plasma, and Radiological Engineering (NPPE) department at the University of Illinois graciously contributed over \$10,000 for transportation, lodging, professional events and trips our chapter attended such as the 2018 ANS Student Conference, Millennial Nuclear Caucus at Argonne National Laboratory, and The New Fire Screening in Indianapolis.

The Student Organization Resource Fee (SORF) at the University of Illinois also permits a maximum allotted allocation of \$10,000 for things such as contractual services, travel, publications, and permanent equipment. This source was primarily used to purchase items for permanent equipment such as for a cloud chamber, materials used in demonstrations at Holy Cross, EOH exhibit supplies, and travel assistance to the 2018 ANS Student Conference. This year, we received just under \$2,000 from SORF.

Our ANS Student Chapter also supported the University of Illinois's Women in Nuclear (WiN) Student Chapter by co-sponsoring events such as their Women in Nuclear's Sunflower Sale, and Exelon Cantera trip.

Table 1: *Summary of Yearly Budget for 2017-2018*

Total Income	\$ 13,622.25
Total Expenditures	\$ 13,004.63
Balance for Next Year's Board	\$ 617.62

4. Professional Events

The ANS UIUC chapter partnered with the department to host what is now an annual event called speed interchange. Students in the nuclear field in the past have had difficulty at campus career fairs where there is a lack of consistency of companies hiring nuclear engineers. This event brings alumni back to the university that work for nuclear related companies to both network and potentially recruit in a casual and approachable setting. Companies in attendance this year included Exelon Corp, Jensen Hughes, and the Nuclear Regulatory Commission. The UIUC ANS Chapter hosted the lunch session with the recruiters.



Figure 7: *Speed Interchange Promotional Image*

5. Trips & Conferences

A core pillar of our ANS student section are the opportunities available to the students to take off-campus trips, enriching their understanding of industry, expanding their exposure to National Labs, and becoming more involved with the national organization. These trips specifically help students grasp the opportunities available to them post graduation, and often help students refine their future career interests.

5.1 Clinton Power Station 30th Anniversary of Operation

A common trip for our chapter is a visit to our neighbors at the Clinton Power Station, the closest nuclear reactor to the University of Illinois. Last year, the trip focused on the technical side of the facility, whereas this year, the plant was celebrating its 30th year of energy production. Students who attended got to tour the visitors center, mingle with staff engineers, and learn about the history of Clinton. A highlight of the trip was the test operations and control room.



Figure 8: *Clinton Power Station*

5.2 The New Fire Premiere

What started as a planned social with the Purdue and Wisconsin-Madison chapters of ANS for The New Fire premiere, turned into a lone UIUC excursion into Lafayette, Indiana. This was the first opportunity for many students to view The New Fire, a documentary focusing on the hopes of utilizing nuclear power in a diverse energy portfolio to combat climate change. This trip is in hopes to further our relationship with the neighboring ANS chapters in future years. This event was very successful, so our ANS student chapter held its own screening on campus attended by over 100 students.



Figure 9: *The New Fire Screening Promotional Image*

5.3 Argonne National Lab - Millennial Nuclear Caucus

The UIUC ANS chapter was invited to the Argonne National Laboratory for its installment of the Millennial Nuclear Caucus. Focused on ushering in new and young minds to addressing the complicated technical, political, and social issues that nuclear is facing, students and professionals from all over the midwest came together for a full day of workshops, presentations, and networking. The event consisted of a showing of The New Fire, tours of the nuclear museum, a workshop on communication in science, a panel from professionals, and much more.

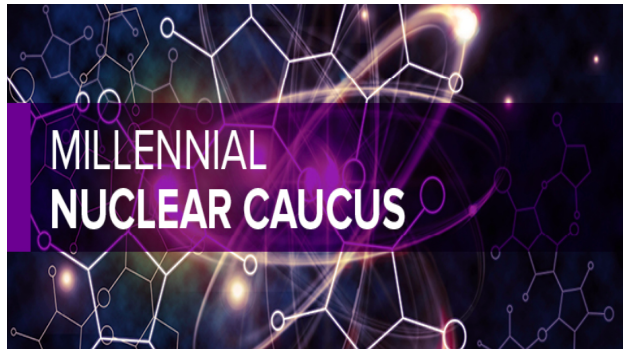


Figure 10: *Argonne National Lab - Millennial Nuclear Caucus Promotional Image*

5.4 ANS Student Conference

The ANS student conference is always a huge part of our chapter's focus and center of anticipation in the Spring semester. Benefits of attending the Student Conference are myriad for undergraduate and graduate alike, from the specialized career fair to recognitions for research. This year, we had a contingent of 30 students attend, driving all the way to the University of Florida at Gainesville, and every single one presenting research at either the poster session or in podium talks. Not only was this a huge accomplishment for our own chapter and the students which make it up, but also in hoping for the opportunity of hosting in the coming years.



Figure 11: *2018 ANS Student Conference at the University of Florida*

6. Outreach Events

Outreach events work to combat the stigma and misinformation about the nuclear industry by spreading facts and awareness. Through targeting both young and old audiences, these events bring the whole ANS student section together to promote nuclear energy.

Nuclear Science Week Advocacy Booth

During Nuclear Science Week in the fall, the ANS Illinois student section set up a nuclear advocacy booth on the main quad. By grabbing the attention of people walking past and having them play a nuclear trivia game and try out a geiger counter, a large number of students who had never learned anything about nuclear energy were reached. Many passing students stayed and asked questions to members of our ANS student chapter, and walked away more informed about the benefits of nuclear energy.

Boy Scouts

In the spring, the ANS Illinois Student chapter brought twelve of our members to the Holy Cross Boy Scout merit badge session. We taught two classes of scouts of ages ranging from 10 to 15 years old. Each class was four hours long for a total of eight hours of teaching by members of our student chapter. Throughout the course of the class, the scouts learned what makes up an atom, what radiation is and how to detect it, how nuclear fission works, how a nuclear power plant functions, and the benefits of nuclear energy. Throughout the classes the scouts asked many questions about things they had heard about nuclear energy, which allowed members of our student chapter to disprove misinformation the scouts had heard. Not only did this event help educate the scouts, but also parents that had come with their scouts. Parents approached us after the class had ended to thank us for not only informing their child but also them, and they appreciated our enthusiasm and the effort we put in to involve the scouts in the learning process.

Engineering Open House (EOH)

The ANS Illinois student chapter presents an exhibit every year at the university's Engineering Open House. It is our most important, longest outreach event of the year. A huge range of people come see our exhibit, from babies in strollers to teachers and their classes to grandparents coming with their grandchildren, EOH is our biggest opportunity to educate the general public on what we do as nuclear engineers and the benefits of it.

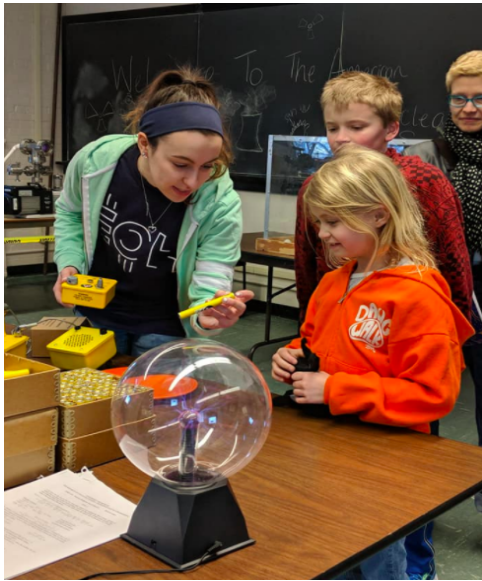


Figure 12: *Dosimeter Exhibit*

Our exhibit this year had three main focuses based on the three concentrations of the nuclear engineering department here on campus. The first of these, our most interactive part, was radiological instrumentation. We had a table set up with a television showing a cloud chamber, a geiger counter and uranium-coated plate, and boxes of dosimeters and dosimeter chargers. The dosimeters were handed out as souvenirs after they were explained to anyone who wanted one, and the dosimeter chargers were given to teachers or parents who wanted one. Visitors were also able to test out the geiger counter we had on display and use it to detect radiation from the uranium-coated plate.

The second part of our exhibit focused on nuclear energy and is the favorite of younger visitors. It is called our "mousetrap reactor" and involves setting many mousetraps and placing one or two ping-pong balls on the side of the trap that does not set it off. A large see-through plastic cover is placed over the mousetraps and the explanation of what a chain reaction is and how it is used in nuclear reactors begins. A blackboard behind the setup is utilized to draw out the fissioning of uranium into fission fragments and neutrons. Once the explanation is



Figure 13: *Setting up the Mousetrap Exhibit*

over, one lucky visitor gets to take a ping-pong ball, or "the first neutron" and throw it into a small hole at the top of the plastic lid, setting off a chain reaction of all the mousetraps. Nearby this station was also a poster board discussing common nuclear myths and disproving them.

The final station of the exhibit is the plasma and fusion science section. There was a small plasma ball set up for the younger visitors to give them a simplified explanation that they could understand. After that was our can crusher. This device provides an explanation of magnetic fields, which are used to confine a plasma. The can crusher runs a current through a wire wrapped around an empty pop can, which then due to the induced magnetic field inside of the can, crushes it. After this explanation is given, visitors move to either our DC glow machine or our newest addition, the fusor. These devices exemplify to visitors just what a plasma is, and different ways we can confine and manipulate it.



Figure 14: *The Fusor Exhibit*



Figure 15: *The Can Crusher Exhibit*

Throughout all of the different stations of the exhibit, our ANS members were able to tailor their explanations and demonstrations to allow each visitor to best understand what was happening. This ability was vital with the huge range of ages we saw visiting our exhibit. Combined with our members' ability to answer visitors' questions about all things nuclear, this was the event which allowed us to educate the largest number of people.

The thorough set-up and execution of our exhibit did not go unnoticed, as our ANS student chapter won first place for best presentation of society at this year's Engineering Open House. The publicity this award provided meant that the second day of exhibiting brought an even higher influx of visitors and people curious about nuclear engineering, allowing our student chapter to continue our goal of educating and informing anyone and everyone.

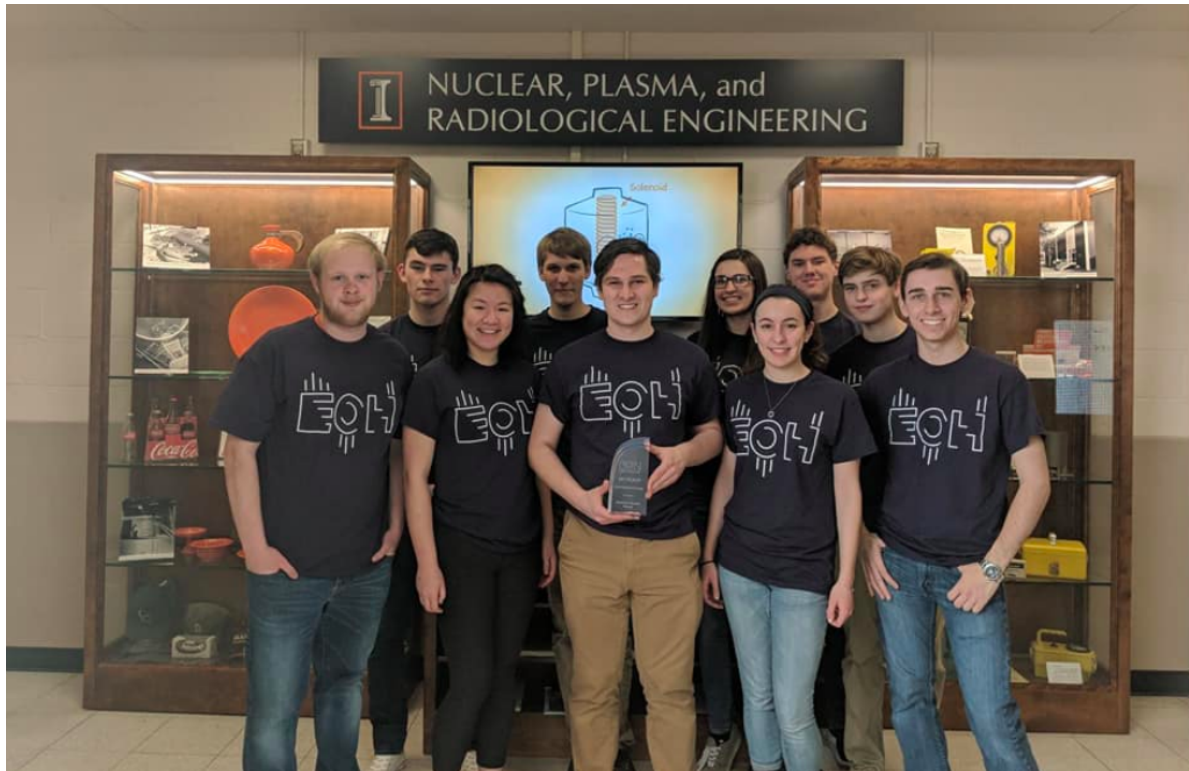


Figure 16: *ANS members who volunteered to help run EOH with the Best Presentation of Society Award*

7. Social Events

With such a small industry, the students in ANS today will be peers tomorrow, so ANS-Illinois puts a lot of weight on social events so the students can get to know each other.

Beginning of the Year BBQ

The department of Nuclear, Plasma, and Radiological Engineering at the University of Illinois is a small department, so the students benefit from getting to know each other with our first social event every year, the barbecue. This event was filled with food, plasticware, and jovial students. Many freshmen met their peers for the first time at this event, and it was a great opportunity for students to form inter-class bonds. Additionally, due to the large faculty turnout, students had the opportunity to chat with their professors. Exercise was an option, because cornhole and frisbees were provided.



Figure 17: *ANS Members reunite at the beginning of the year BBQ*

Broomball

Broomball was one of the events that was brought back this year by popular demand. Broomball is a game offered at the University of Illinois at Urbana-Champaign Ice Area that is like hockey except without skates. The event was also created as a social with other University of Illinois at Urbana-Champaign student organizations including Illini Stats Club and the Illini Solar Car team. This allowed us to offer the event to our members which included ice time and equipment rental at the low price of \$3 per person and have a turnout of over 30 people.

Barnana Crawl

ANS hosted a banana-themed barcrawl to promote a sense of community among the club's members. The theme also accomplished other goals such as normalizing radiation by explaining to bystanders that bananas are radioactive, celebrating a soon-to-be extinct fruit, and promoting safety among members by wearing bright yellow banana suits. The event was a major success; several bars played "Hollaback Girl" especially for us and our group was featured on the campus' Snapchat story.



Figure 18: *ANS Barnana Crawl Snapchat Story Debut*

Happy Hour

Every Friday, we hosted a happy hour at Legends, a local bar. Students and faculty gathered to gossip about what had happened during the week. This was a great opportunity for students and faculty to mingle and become acquainted. Many times these events led to students learning more about professors, their research and the many research opportunities that they offer. At least one professor attended the happy hour almost every week, with frequent appearances from ANS faculty advisor Katie Huff.

End of The Year Party

ANS continued its annual tradition of an end of the year party this year. The theme was "Nuclear Swag" so many members wore previous club shirts and other nuclear-related apparel. It also served as a way for the current executive board members to chat with the students running in the upcoming election. This event was very well attended. Several alumni even visited from out of town! This showed the deep commitment members have to our chapter; one alumni even flew in from Pennsylvania for this event.

8. Elections & Awards Banquet

8.1 Elections

Elections this year were held in late April for the 2018-2019 school year. This year boasted a field of candidates 28 members strong for 8 positions, a record breaking number of applicants. Such strong interest in becoming involved on the executive board is indicative of the increasing interest and excitement amongst general members in the chapter. The strongest representation amongst applicants was among current freshmen and sophomores, proof that initiatives to drive participation amongst younger students have been successful. It should also be noted that gender diversity on the board will be at a record high, with a perfect 50% male/female split during the fall semester!

Additionally, 3 applicants were future graduate students within the NPPE department. Graduate participation in previous years has been consistently low, so the interest of graduate students in becoming involved within our chapter is very exciting. The new ANS-Illinois board is listed below:

President: Jacob Tellez
External Vice President: Kelsey Luo
Internal Vice President (Fall 2018): Katie Butler
Internal Vice President (Spring 2019): Dario Panici
Treasurer: Maxx Villotti
Secretary: Jimmy Shehee
Public Relations: Alex Fanning
Outreach: Isabella Iaccino
Social: Adam Pichman

8.2 Awards Banquet

Each year, ANS-Illinois and the Nuclear, Plasma, and Radiological Engineering (NPRE) department work together to put on an awards banquet to honor the hard work and dedication of ANS members and other students within the department. This year, ANS took on an even bigger role than past years, contributing advice to the planning, helping distribute awards, and putting together a video presentation highlighting the impact of the ANS-Illinois chapter over the past year. The banquet was an excellent opportunity to recognize the outstanding members within the section, and this year awards were given to more students than ever before. This event is also open to alumni and serves to recognize alumni and professors who have made significant contributions to the fields of nuclear science and technology.

This event also serves as an opportunity for current students to connect with outstanding alumni from the department, setting the stage for mentorship opportunities and for ANS and exemplary students to form connections with industry professionals.



Figure 19: *2018 ANS / NPRE Awards Banquet*

9. Attendance

The UIUC ANS Chapter did not implement a points based system for attendance during the 2017-2018 school year; though a points system has begun implementation. The Fall 2017 semester demonstrated a fair turn out of the general body at events; though the level of participation was below that of the high expectations set by the executive board. Fortunately, general members exceeded expectations with participation in the Spring 2018 semester, and drove the chapter to success with all of the events found in this document.

As a consequence of the fall semester participation, the executive board began taking attendance at all events hosted by the chapter to begin building a data set for the implementation of the points system come Fall 2018. This system remains under construction, but will likely follow the scheme below.

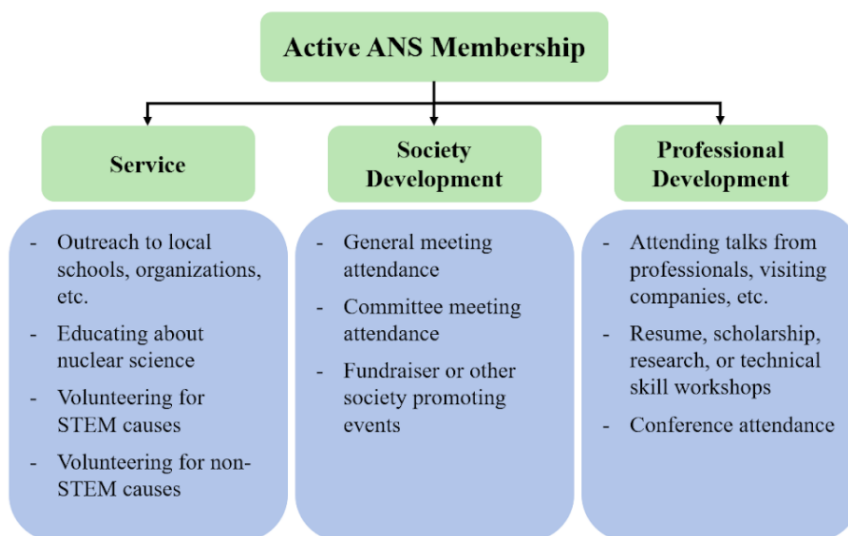


Figure 20: *Active ANS Membership Scheme*

General membership to the chapter will require fulfillment of a certain number of hours in each of the three categories seen above; and fulfillment of hours exceeding expectations will likely receive some physical reward or accolade.

10. Looking Forward: ANS-Illinois in 2018-2019 and Beyond

10.1 ANS 2020 Student Conference Proposal

This year, for the first time in as many years as anyone could remember, the ANS-Illinois chapter submitted a proposal to host the student conference. This effort began completely from scratch and brought together numerous members from the society. The proposal is a reflection of the building momentum of the ANS-Illinois chapter, and demonstrates the continued excitement and involvement of our general body. While the proposal for the 2019 conference was unsuccessful, our chapter plans to continue refining our proposal until we are successful in our conference bid. This effort is made easier due to the high level of support for the proposal coming from younger members and newly admitted graduate students, which form a basis of support that will be at the University of Illinois for several more years.

11. Appendices

11.1 Miscellaneous Items of The Year

ANS Scholarships with our Advisor Katy Huff !



The American Nuclear Society believes in rewarding its members for their academic, services and leadership excellence. To do so, scholarships are granted to qualified student members of ANS Student Sections who have demonstrated a high commitment to the standards set by the Society's constituents.

All scholarships are funded by contributions from the ANS Board, ANS professional divisions and member donations through renewals. The total number and amount of scholarships are based upon the funds available each year, which varies each year.

Scholarships are granted to high school, undergraduate and graduate students alike, and will be awarded at the beginning of each school year. Evaluation is based upon numerous factors, including: academic preparation (GPA and test scores), awards, honors, leadership within the ANS, references, and career goals and objectives

Key Dates:

- Applications open **November 15**
- Deadline for ANS General Application and all Named scholarships: **February 1**
- Deadline for Incoming Freshman Scholarship and Two-Year College Scholarship applications: **April 1**
- Notifications sent: **April 15 – May 15**
- Awards dispersed to Department Head: **After August 20**

Figure 21: *General Meeting Example Slide*

Nuclear News



India collaborating with Russia on a nuclear power plant in Bangladesh

- Two 1200 MWe VVER-1200

"China's 'artificial sun' sets world record with 100 second steady state high plasma performance this past summer- July 3rd"



"Canada's neutron scientists lament closure of world's oldest nuclear reactor"

- Chalk River started in 1957



Figure 22: *Nuclear News Example Slide*



Figure 23: *Promotional flyer for The New Fire screening at UIUC*



Figure 24: *ANS Nucooler Things Baseball Tee*



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May 1, 2018

To the ANS Student Sections Committee,

As their faculty advisor, I enthusiastically support the University of Illinois ANS student section in their efforts toward recognition as an exceptionally active section. They take the Glasstone award very seriously and every year they strive to be the most active student section in the country.

The Illinois ANS Student Section is the most vibrant and active student section I have encountered. I have complete confidence in their capability to organize and execute extraordinary events and activities, conduct outreach, and involve students across campus in nuclear engineering. This student chapter has an extraordinary membership which devotes enormous time and effort to nuclear advocacy and national involvement. The vibrance and drive of this student section was accordingly recognized with the Glasstone Award in 2016 (Best Section) and Honorable Mention in 2017. Strong departmental support of these students will also help ensure their continued success.

Additionally, this chapter has demonstrated their enthusiasm for ANS at a campus level. They recently won the "Best Presentation of Society" at the campus-wide Engineering Open House event. This event is an enormous outreach event targeted at high schoolers and winning this award is an enormous honor for the students. The Illinois students are also very involved nationally. They demonstrate their enthusiasm for the student conference through their attendance and performance at those hosted elsewhere. 30-40 Illinois students have annually attended recent student conferences. Many Illinois attendees have presented their research and received awards accordingly.

I strongly support their Glasstone submission.

Sincere regards,

A handwritten signature in black ink that reads 'Kathryn Huff'. The signature is written in a cursive, flowing style.

Kathryn Huff
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