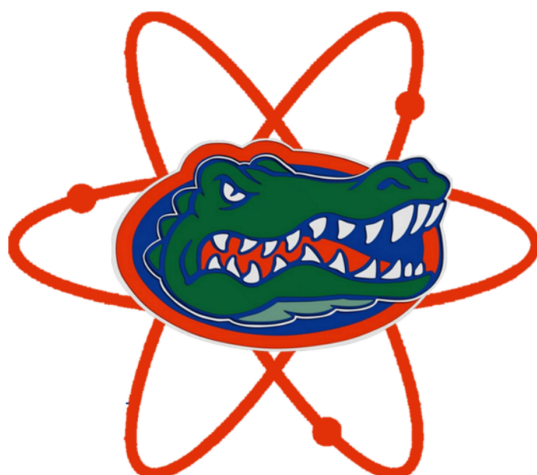


# SAMUEL GLASSTONE AWARD SUBMISSION

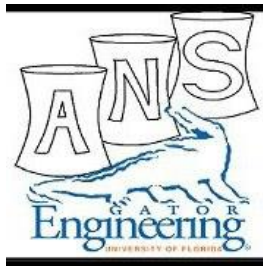
2015 - 2016

University of Florida  
American Nuclear Society Student Section



Assembled by:

Hannah Morbach  
Victoria Graham  
Sonata Valaitis  
Alexander Mausolff  
James Hippler  
Patrick Moo  
Noah Heintz



## University of Florida American Nuclear Society Student Section



April 29, 2016

To whom it may concern:

I take great pleasure in strongly supporting the application of the University of Florida American Nuclear Society Student Section (UF-ANS) for the Samuel Glasstone Award. As a faculty advisor I have had the pleasure of observing and interacting with the creativity, drive and energy of the officers and members of the UF-ANS. This has been my first full academic year as a UF-ANS faculty advisor and it has further shown the amazing and dedicated work that the local chapter does over the course of a full academic year. It has been an eventful year, and I am very impressed with the vitality of the UF-ANS student section and its members in particular.

A large number of educational and informative activities and site visits have been organized by the UF-ANS chapter the past year. This includes conferences, local outreach, study visits, and industry interactions among others. Several invited guest speakers have been a part of the general UF-ANS meetings to bolster participation and create connections. A large number of social events have been planned and conducted without problems generating a positive camaraderie and bolstering our retention rate for students in the nuclear engineering program and the ANS-related degrees. The chapter has also expanded the ANS exposure beyond the traditional nuclear field by conducting events together with other organizations. That has also been evident in events such as boy-scout day for nuclear badges, engineering fair and UF engineering knowledge bowl. Fundraising for good causes have also been conducted and speaks volumes about the big hearts and good intentions in UF-ANS. The UF-ANS chapter has further participated in and conducted a variety of events such as NRC hearings, NPP site approval hearings, local elementary school outreach, newsletter distribution and industry outreach.

They have taken steps towards modernizing their fundraising, and taken great initiative in setting up an UF-ANS online store for memorabilia. The fundraising has enabled a vibrant program and a very large presence at all the national ANS meetings which is a tremendous bonus to our UF-ANS students. And a number of national ANS conference awards, and scholarship and fellowship awards have further affirmed the UF-ANS presence at the ANS national stage, and I am confident that will keep increasing. I hope that the Samuel Glasstone award committee recognizes the outstanding work and accomplishments of this organization when they consider candidates for the 2016 Samuel Glasstone award.

Sincerely yours,

Andreas Enqvist, Ph.D.  
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# **1 Introduction**

The University of Florida's Nuclear Engineering (NE) Program has continued to develop over the past few years. The growth of the program fueled to the desire to revamp the University of Florida (UF) American Nuclear Society (ANS) Student Section. This year we continued the work done during the 2014-2015 school year to revitalize the chapter and the program. This report demonstrates the involvement and efforts set forth to organize activities that promote this purpose. Snapshots from the past year include organizing the participation of over 15 UF students in the ANS Winter Meeting in Washington, DC, hosting numerous recruitment and information sessions with companies such as Southern Company, the Savannah River Site, and the Navy, and planning service events with the faculty of NE program, the Florida local chapter of ANS, and the community. Additionally, a priority this year included setting up professional development workshops that created a positive environment for students to obtain internships and improve their professional skills.

## **1.1 Executive Board**

The Executive Board (E-Board) consists of nine officers: the President, Vice-President (VP) Internal, Vice-President External, Secretary, Treasurer, Benton Engineering Council (BEC) Representative, and three members of the Board of Governors. Elections for these positions are held at the last general body meeting of the semester every year, which takes place in April, and terms last for one year.

### **1.1.1 President**

The President this year was Hannah P. Morbach, a senior in the nuclear engineering program. She lead the general body and executive board meetings, hosted guest speakers from the nuclear industry, planned professional development workshops, organized the UF ANS sections participation in the ANS Winter meeting and the Student Conference, and planned all ANS related activities with the executive board. Alexander Mausolff, a second year graduate student, has been elected as President for the 2016-2017 year.

### **1.1.2 Vice-President Internal**

This year's Vice-President Internal was James Kent Hippler, a senior in the nuclear engineering program. Throughout the year, the VP Internal assisted with the organization of the general body and executive board meetings and with the coordination of the ANS Fall Retreat, a spring social with other engineering societies, the ANS End of the Year Banquet, and the Boy Scouts Nuclear Merit Badge Workshop. Kristin Smith, a rising senior, has been elected as VP Internal for the 2016-2017 year.

### **1.1.3 Vice-President External**

Dustin Popp, a junior in the nuclear engineering program, represented ANS as this year's Vice-President External. His duties this year included organizing the fall Savannah River Site Tour, and representing UF at the all three of the ANS National meetings. Oscar Espinoza, the current Social Chair, has been elected as VP External for the 2016-2017 year.

#### **1.1.4 Secretary**

Noah Heintz, a sophomore in the nuclear engineering program, was the 2015-2016 Secretary. Noah sent out ANS announcements and correspondence to the student body and worked with the eboard to help advertise social events. Rae Bruenderman has been elected as Secretary for the 2016-2017 year.

#### **1.1.5 Treasurer**

Victoria Graham, a senior in the nuclear engineering program, served as treasurer for the fall and spring semester. Her duties as Treasurer included organizing the budget and finances for the section and assisting with fundraising, which included ANS Local sponsorship and kicking off a new practice of using local venues to raise money. David Lopez has been elected as Treasurer for the 2016-2017 year.

#### **1.1.6 Benton Engineering Council Representative**

Lindsey Olson, a sophomore in the nuclear engineering program, served as the Benton Engineering Council (BEC) representative for the 2015-2016 year. The BEC serves the engineering student body by assisting in the development and government of many engineering societies and organizations found at UF. Her duties included representing the student members of ANS at UF to the Council and promoting the needs and interests of the nuclear student body to the College of Engineering as a whole.

#### **1.1.7 Board of Governors**

Patrick Moo, a second year graduate student and past president, Lucas Rolison, a third year graduate student, and Nicolas Yap, a senior, served on the Board of Governors, attending and advising during executive board meetings and assisting with the organization of events. Dustin Popp, Patrick Moo and Lucas Rolison were elected to serve on the Board of Governors for the 2016-2017 year.

### **1.2 Chairs**

The chair positions are determined by the president of the section each year and elections are held at the first general body meeting of each school year; the term for these positions is one year.

#### **1.2.1 Social Chair**

The position of Social Chair reports to the VP Internal and is responsible for the planning of social events and activities. Oscar Espinoza, a junior, served as Social Chair and assisted with the organization of events such as fall tailgates and the spring social.

#### **1.2.2 Fundraising Chair**

The position of Fundraising Chair was held by Rae Bruenderman for the fall and spring semesters. The duties of the Fundraising Chair included organizing two fundraising events at a local venues for students.

### 1.2.3 Boy Scouts Committee Chair

Chris Greulich held the position of Boy Scouts Committee Chair and was responsible, along with the VP Internal, for organizing and hosting an all-day Boy Scouts Nuclear Science Merit Badge Workshop.

### 1.2.4 Historian

Sonata Valaitis held the position of Historian for the spring semester and was responsible, along with the Secretary, to attend and document each ANS event.

## 1.3 Faculty Advisor

The Faculty Advisor for the section serves as the liaison between the organization and the department, as well as ANS National. Dr. Andreas Enqvist began his term as advisor in 2014 and is expected to continue serving in this position for the next year.

## 2 Operations

### 2.1 Financial Planning

The UF ANS student section has one spending account through Student Government (SG) which holds all of the outside revenue the section has accumulated throughout the years. The account with SG allows students to use ANS funds in a reimbursement type system, with approval required from both the President and Treasurer before funds can be allocated. The Benton Engineering Council (BEC) is an organization that serves as a liaison between the engineering societies and SG; BEC allocates funds, approximately \$1,200 each, to ANS for use for the ANS Winter Meeting and Student Conference, and also provides around \$300.00 each year for use for programs. Special requests can be submitted to the BEC for extra funds for events such as the ANS End of the Year Banquet. The Materials Science Department (MSE) also provides funding for ANS for students to attend the ANS Annual Meeting and allocates \$1,000 to be used for any purposes throughout the year. This year, those funds were used to assist in providing food for a joint Materials/Nuclear Beginning of the Year Banquet and for the Florida International University (FIU) ANS student section/ and ANS South Florida local section revitalization. In addition, the ANS Florida Section assists with funding; this year, the ANS Florida Section provided the funds for the awards given out at the ANS End of the Year Banquet and provided the student award winners with monetary gifts as part of the awards. Sources of ANS funding and the amounts provided for the 2015-2016 year are shown in Table 1.

Table 1: Funding Sources and Amounts provided for the 2015-2016 year

Source of Income	Amount
BEC	\$2,310.15
MSE	\$1,000.00
ANS Florida Section	\$3,400.00

## 2.2 ANS Emails and Google Drive

To simplify communication between officers, Gmail accounts were created for the majority of the E-Board members this year. These accounts were used for all ANS at UF communication and will allow for a smoother transition between board members in the years to come. The e-mail addresses for each of the officer positions are listed in Table 2. This year, Google Drive was used to store

Table 2: ANS officer e-mails

Position	Email
President	ufl.ans.president@gmail.com
VP Internal	ufl.ans.vpinternal@gmail.com
VP External	ufl.ans.vpexternal@gmail.com
Secretary	ufl.ans.secretary@gmail.com
Treasurer	ufl.ans.treasurer@gmail.com
BEC Representative	ufl.ans.bec@gmail.com

important files for the E-Board to use. E-Board meeting notes, agendas for general body meetings, financial planning information, conference and tour sign-ups, and chapter logo storage are just a few of the important documents which are stored and shared among the officers through use of the drive. This year, using the Google Forms application, the polls for the elections were set up to allow students to vote electronically, providing a much more efficient polling process.

## 2.3 Social Media

Throughout the year, a Facebook group created during the past school year was utilized as an efficient and effective tool for communication among members. The Facebook group, ANS at UF, was used to notify members of events, general body meetings, tours, and socials, and to allow members to post interesting facts or questions for the benefit of the group. The link for the Facebook page is [www.facebook.com/groups/ansgators/](http://www.facebook.com/groups/ansgators/) and the figure on the next page shows an example of what the Facebook page looks like as of April 29, 2016.



### 3 General Meetings and Events

#### 3.1 ANS General Body Meetings

The ANS chapter at UF hosts General Body Meetings (GBM) generally the first or third Wednesday of every month at either around 5:30 PM or 6:00 PM. During these meetings, the president, or guest speakers discuss various upcoming events and opportunities that allow student members the opportunity to become more active in the organization while participating in some form of professional development. Some of these opportunities include: volunteering events, scholarships, fundraising events, workshops, and traveling events. The dates, location, and meeting times for the 2015-2016 General Body Meetings are shown in Table 3.

#### 3.2 ANS Executive Board Meetings

ANS E-Board meetings are held the second Tuesday of each month, the week before the GBM to allow the E-Board members to meet with each other and the faculty advisor to plan upcoming events and discuss activities and opportunities for the section.

Table 3: General body meeting dates, types, locations, and times

Date	Meeting Type	Location	Time
September 2	Welcome Back/Chair Elections	Rhines 125	5:30 pm
October 7	ANS Winter Conference Debrief	Rhines 125	5:30 pm
November 4	Guest Speaker: Westinghouse	MAE 126	5:30 pm
December 2	Fundraising and Social Planning	Rhines 125	5:30 pm
January 20	Guest Speaker: UF Faculty	Rhines 125	6:00 pm
February 17	Guest Speaker: Navy/ANS Student Conference Debrief	Rhines 125	6:00 pm
March 16	Election Info Session	Rhines 125	6:00 pm
April 16	Elections	Rhines 125	6:00 pm

### 3.3 Invited Guest Speakers

#### 3.3.1 Internship Workshop

On September 2, 2015, three undergraduate nuclear engineering students presented on their summer 2015 internship experiences at the first general body meeting of the year. The purpose of this workshop was to engage younger students by providing insight into what to expect from a nuclear engineering internship. Each presenter discussed their technical experiences as well as tips and advice for those seeking future internship opportunities. Lucienne Behar presented on her internship with Nextera Energy at Turkey Point Nuclear Generating Station. She talked in detail about the application process and explained effective interviewing strategies such as how to use STAR (Situation, Task, Action, Result) to highlight relevant past experiences. She then discussed how she had analyzed fission product worth in order to determine whether it could be efficiently factored into monthly power maneuvers at the plant. She was responsible for streamlining maneuvers in Linux, compiling large data sets, and drafting a procedure for the establishment of fission product worth. Sonata Valaitis worked with Duke Energy at Oconee Nuclear Power Station, where her project involved increasing procedural efficiency through automation and developing additional functionality for a core behavior projection code. She discussed the application process and outlined what to expect from in-processing and training at a nuclear power plant. She concluded by describing some of the other experiences offered by the internship, including a tour of the spent fuel pool and an opportunity to briefly operate a control room simulator. Kent Hippler spent the summer working on Missiles and Fire Control in the Lockheed Martin mechanical engineering department, where technologies such as the laser-guided bomb and instrumentation and control systems are developed. During his project, he utilized both AutoCAD 2D drawing and Pro Engineer 3D modeling software in order to conduct engineering investigations into a pneumatics system, an optics sensor, and a DIN connector. He discussed these projects as well as providing tips on finding and securing an internship. He recommended being open to experiences outside of nuclear engineering, having specific questions ready for the interview, and taking advantage of personal connections to acquire an internship.

#### 3.3.2 Naval Reactors Engineers Presentation

In October of 2015, a group of about ten current and retired naval officers visited the UF campus to talk about the numerous benefits of the NUPOC program. A longtime recruiter of the Jacksonville District, Lt. Bill Boyd, detailed the five positions available through the Navys nuclear propulsion program: Surface Warfare Officer, Submarine Officer, Naval Reactors Engineer, Nuclear Power School Instructor, and Nuclear Prototype Instructor. A former commander of the Naval Submarine

Base at Kings Bay, GA discussed his stories of being on a submarine and working on the reactor. He stressed the importance of recruiting new nuclear officers into the Navy, bringing up benefits such as leadership, technical experience, and an opportunity to use nuclear engineering knowledge to keep America safe.

After presenting the NUPOC program, a question and answer session was held for students to learn about the most rewarding and challenging aspects of the Navy nuclear program. Lt. Boyd stated that his biggest challenge was time management, while the reward was the fascinating technology and lasting friendships built with fellow navy engineers.

As of May 2016, three students from the UF engineering program were accepted into the NUPOC program: Alden Chodash, Nathan Doerr, and Noah Heintz.

### 3.3.3 Lunch and Learn with Southern Company AP1000 Operator

On October 21st, in honor of Nuclear Science Week, a national week-long celebration that brings focus on all aspects of nuclear science, ANS at UF hosted a Lunch and Learn session with Southern Nuclear's WIN member Cynthia Werneke. Cynthia is a Shift Support Supervisor (in training) in Operations for the two new AP1000 units being built at Vogtle 3 and 4 near Augusta, Georgia. During lunch time, she recounted her experience in the nuclear industry as an operator at Vogtle and provided students with an updated status of events for the completion of the two new AP1000s. Students were able to ask questions ranging from how she began her nuclear career to where her next career goals would take her. Cynthia also demonstrated the ins and outs of what operating a nuclear power plant was like. She discussed controlling the flow of electricity, adjusting and maintaining plant equipment, implementing procedures that regulate the start-up or shut-down of the reactors, and what it was like to respond to an abnormality in a control room setting. Through the Lunch and Learn, students were made aware of ways that they could contribute to the nuclear science industry by hearing from someone who worked in it every day. An image taken of the attending students at the Lunch and Learn is shown below.



### **3.3.4 Westinghouse Engineering Information Session**

Andrew Blanco, an engineer from Westinghouse and UF alumni, attended our general body meeting on November 4th and gave an hour presentation on his experience in the workplace. He discussed the transition from college life to a professional job, the typical day as a Westinghouse engineer, and how his education at UF and ANS membership helped prepare him for his career. The technical content of his presentation provided an overview of how to perform a spent fuel pool criticality analysis, what regulatory expectations entail, and a summary of risk mitigation strategies implemented at Westinghouse. 4Rivers BBQ was served, and all Materials and Nuclear Engineering organizations were encouraged to attend.

### **3.3.5 LaTeX Workshop**

On January 20th, Dr. Andreas Enqvist attended the general body meeting and gave a presentation on LaTeX software, a high quality type-setting system. He discussed its usefulness in the production of scientific and technical documentation, demonstrating how he applied it in his graduate studies at the University of Michigan, as well as his current research with University of Florida. He encouraged nuclear engineering students to learn the free software and apply it to their research, providing links to helpful information on how to get started with LaTeX.

## **3.4 ANS Conferences**

### **3.4.1 2015 ANS Winter Meeting and Nuclear Technology Expo**

This year ANS at UF provided the opportunity for many students to attend the 2015 ANS Winter Conference in Washington DC. ANS at UF is committed to providing its student members with the opportunity to network on a national level, present research, and get involved in the organization of ANS. This opportunity provides value to the student, who are given an opportunity to network on a national level as well as the UF Nuclear Engineering Program as a whole, as many students present research and join committees for the national organization.

Over 20 ANS at UF members traveled to Washington, D.C. to attend the 2015 ANS National Winter Conference held at the Marriott Wardman Park. These students represent a diverse group of the UF nuclear engineering program, ranging from undergraduate freshman attending their first conference, to doctoral candidates presenting their research in the student poster session. The conference began with a reception for students participating in the Student Assistant Program Sunday night, followed by the Presidents Reception, which featured a student poster session and a nuclear technology expo with several companies including AREVA, Westinghouse, and ORNL. Many students from ANS at UF presented in the student poster session, including graduate student Hannah Gardiner, and undergraduate students Kent Hippler and Sonata Valaitis, who won the Best Undergraduate Poster Award. Throughout the week students assisted at technical sessions and attended committee meetings to learn more about how ANS functions on a national level. Lastly, the ANS at UF student section attended the Southeastern Reception hosted by UF, Texas A&M, NC State, and the University of Tennessee, for a night of social networking with students from other nuclear engineering programs at universities in the southeast. The conference also included time for site-seeing around the DC area, and students were able to tour the Capitol building, the Library of Congress, and the Smithsonian museums, among other sites. Conference attendees and other UF alumni and professors are shown on the next page.

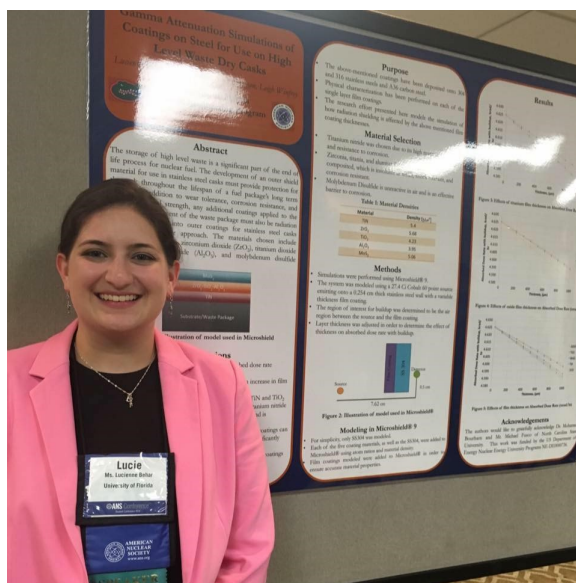




### 3.4.2 2016 ANS Student Conference

The 2016 student conference was hosted at the University of Wisconsin at Madison from March 31st to April 3rd. Eleven UF students attended the conference and took advantage of the many opportunities available, going on technical tours, participating in the PyNE (Python in Nuclear Engineering) workshop, and even touring a local brewery. These students were exposed to notable speakers such as Jim Meister, VP of Operations at Exelon Generation, Donald Hoffman, CEO of Excel Services Corporation, Joyce Connery, Chairman of the Defense Nuclear Facilities Safety Board, and Robert Fine, Executive Director of the American Nuclear Society. Students were also able to network with recruiters throughout the weekend at the career fair. Several undergraduate students presented their research at the conference. Kent Hippler and Sonata Valaitis each gave presentations on their work done with Dr. Leigh Winfrey in the plasma physics group at UF. Luci Behar presented a poster on her research in gamma attenuation simulations for dry cask storage. Dustin Popp presented on the motivation behind using generalized geometry in the modeling and simulation groups reactor kinetics code, and he won Best Undergraduate Presentation in the Reactor Physics Division. All students left the conference with new connections and experiences that will prove valuable as they continue in their careers. A picture of the group of UF students and a picture of poster presenter Luci Behar are shown below.





### 3.5 ANS Student Conference Proposal Committee

With the resurgence of the University of Florida Nuclear Engineering Program and recent success of the ANS Student Chapter, students and faculty alike are now determined to demonstrate to the nuclear community that they are on the forefront for producing nuclear scientists, engineers, and leaders. Led by a dedicated group of students, a committee was formed for the planning and drafting of a proposal to host the 2017 ANS Student Conference. This was the first proposal that UF ANS submitted since they last hosted in 2009. Amid a competitive field of proposals from other leading universities, UF was ultimately chosen as a runner up for hosting the conference. Nonetheless, with feedback provided by the ANS SSC, UF ANS is determined to submit a winning proposal for an upcoming conference within the coming year.

### 3.6 ANS End of the Year Banquet

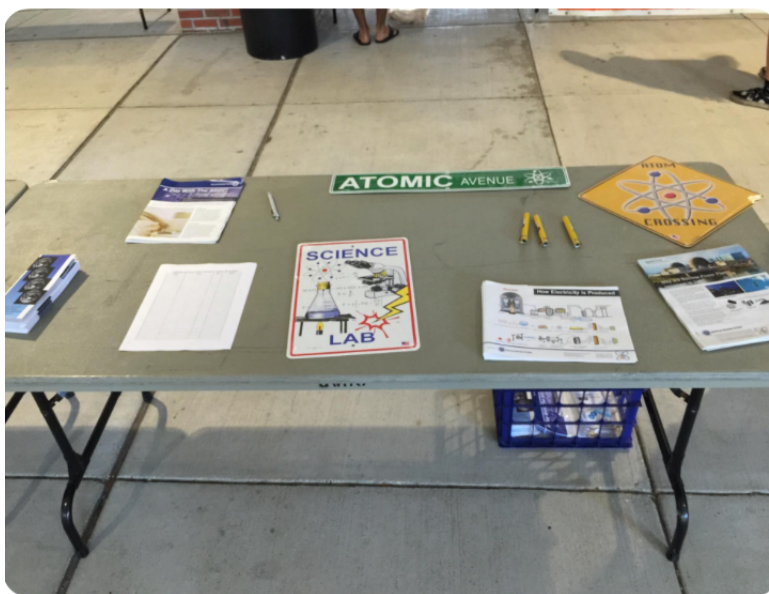
On April 21st, ANS at UF held its annual End of the Year Awards Dinner on campus in Rhines Hall, which houses the Materials Science and Nuclear Engineering departments. The banquet was given a luau theme to celebrate a fantastic year and recognize the hard work of the ANS chapter and outstanding students. As part of the banquet, ANS at UF awarded one undergraduate student, graduate student, and professor with the Outstanding Undergraduate Student Award, Outstanding Graduate Student Award, and the Outstanding Professor Award. Additionally, several undergraduate students were named as runners up for the Outstanding Undergraduate Student Award. The recipients this year were Kent Hippler for Outstanding Undergraduate Student, Jessica Kelley for Outstanding Graduate Student, and Dr. DuWayne Schubring for Outstanding Professor. Undergraduate students Darren Skitt, Lucienne Behar, and Hannah Morbach were named as runners up to the Outstanding Undergraduate Award. The banquet also included the transfer of positions between incumbent and newly elected E-board members, and president-elect Zander Mausolf presented on his vision for the chapter in the year to come. Lastly, at the awards dinner, the ANS at UF student section recognized the ANS Local Section for its constant support as a primary sponsor of the student chapter. Over 45 students attended this year, and program faculty in attendance included Dr. DuWayne Schubring, Dr. Leigh Winfrey, and Dr. Sedat Goluoglu. The awards dinner was also attended by the president of the ANS Local Section, Katherin Goluoglu, and a notable

alumni of the UF Nuclear Engineering Program, Brett Rampal, who currently works for NuScale in Charlotte, North Carolina. The executive board prepared the luau themed buffet, including assorted chicken, steak, and veggie kebabs and various tropical fruit.

## 4 Public Information and Outreach Events

### 4.1 eSwamp

One of the first events of the fall semester is the University of Floridas Society of Women Engineers (SWE) eSwamp retreat. It is an event hosted for female freshman and transfer students to introduce them to the Herbert Wertheim College of Engineering. At the beginning of the event, a tabling session with many of the engineering societies located on campus is open to the public, but aimed at recruiting females to STEM fields. UF ANS participated in this outreach event to inform the new students about ANS and the nuclear engineering program. Students that were undecided on their engineering major and a few who already declared nuclear engineering as their major, joined ANS and are still active participants in the UF chapter. eSwamp exposes freshman students to ANS, which affords them the opportunity to begin learning valuable leadership skills and creating a healthy network early in their college career. An example of the table and the students who worked ANS' booth at eSwamp are included in the images below.







## 4.2 Savannah River Site Tour

On October 20th, 2015 the UF Student Section took their first ever tour to the Savannah River Site in Aiken, South Carolina. Nine students, ranging from sophomores to Ph.D candidates, attended the tour. Upon arrival, attendees received an overview of the Sites operations and had Dr. Alice Murray, Associate Director of Science and Technology at the Savannah River National Laboratory (SRNL), give a presentation about the ongoing research at the lab. There was also a presentation on internship opportunities for nuclear engineering students, and job opportunities for those graduating. At SRNL, students toured the Actinide Groups facilities where they got to see and hear about shielded cells and Co-60 irradiators. Going back to the General Site Area, the tour culminated in a visit to the Tritium Extraction Facility. Former UF Nuclear Engineering graduates Bill Wabbersen and Jon Guy led students on this tour of one of the most unique facilities in the country. Students left the tour with a new perspective on the possibilities in the nuclear industry and a first hand look at what their life could look like in the nuclear industry. A picture of the group of UF students outside of the Tritium Test Facility is shown below.



### 4.3 Boy Scouts Workshop

On Saturday, February 27, from 8:30 am to 4:00 pm, ANS members Christopher Greulich and James Totten hosted a Boy Scout Nuclear Science Merit Badge Workshop, where boy scouts learned about nuclear science while completing the national requirement for their merit badge. Fourteen scouts attended, mostly aged 12 to 18, with 10 adults and 2 volunteers from ANS. The day began with an overview of basic definitions and history, with descriptions of radiation, fission. Activities included electroscope and isotope building. Lunch was provided while applications of nuclear and career opportunities were discussed. The day ended with tours of the reactor and the detection lab as well as a discussion on debunking common myths associated with the nuclear industry.

### 4.4 E-Fair

Each year, The University of Floridas Benton Engineering Council (BEC), puts on the annual Engineers Week during the third week of February. During these series of events, there are many activities across campus, designed by engineering societies to bring people together and shine a light on different engineering disciplines. One of the events is a two day Engineering Fair (E-Fair), where many of the organizations on campus bring interactive activities to visiting middle school, high school, and community college students. Here, they can learn about the different STEM societies that are a part of the University of Florida. UF ANS hosted a table at the E-Fair event

where we brought disk sources that were hidden in a model town and let the students use a Geiger counter to find these sources. It was a fun way for many of the students to have their first look at radiation. They were very responsive to the activity and had many questions about radiation detection and related jobs in the nuclear industry. Many parents were also in attendance, and the members of UF ANS were able to answer their questions about nuclear power and the local impact of it. This event demonstrated to prospective students examples of what their future as a student in UF ANS and as a nuclear engineering major could be like.

#### 4.5 Boys and Girls Club Outreach

In addition to working within the community of University of Florida, ANS at UF strives to be active in the larger community of Gainesville. Part of that effort involved working with a group of elementary aged students at the local Boys and Girls Club after school program. The goal was to expose these students to science in an engaging way. Approximately 14 ANS student volunteers created several simple experiments to perform in front of the students. The volunteers spent several afternoons practicing these experiments and working out all of the nuances so that they would run smoothly in front of the students.

For this activity, groups of children rotated around 4 stations where they performed these experiments. For some of the experiments, the younger kids were able to get hands-on experience. For experiments that included more difficult tasks where ANS volunteers did most of the work, we appropriated longer discussion times in which the students were able to explain to us what was happening. When the students were free to ask questions, the conversation often varied away from the experiment and turned into a general discussion of the underlying science. It was fantastic to see the students start asking deep questions about the world around them. Unknowingly they did many of us a favor by asking questions we did not know or prepare for. Something as simple as Why does that goo glow green, turned into fundamental questions about that nature of light. In these moments it was evident the students were the most engaged. These students may not have been exposed to information like this on a regular basis and it was clear their interest was sparked albeit briefly. A list of the science teams and experiments are shown below:

- Light Team
  - Glow in the Dark Demonstration
  - Fiber Optics and Light-bending with Pipes
- Chemistry Team
  - Slime Making Experiment
  - Ooblech Demonstration
- Weather Team
  - Gravity-free Water Demonstration
  - Why is the Sky Blue?
- Density Concept Team
  - Lava Lamps
  - Fireworks in a Jar



## 5 Socials

### 5.1 ANS Fall Retreat and Mentor Mentee Program

The annual Fall Retreat was held at Ginnie Springs, located about 45 miles from Gainesville. ANS members carpooled to the house, and around 30 members in total attended. This year, ANS at UF revived the Mentor/Mentee program, in which younger ANS members apply to be matched with an older member in the student section. Members are matched based off of similar hobby and career interests. Through this program, younger members are able to learn from the experiences and wisdom of older members. The retreat began with numerous icebreaker activities, which gave each attendee the opportunity to introduce themselves and for the students to get to know one another better. After the icebreaker activity, each mentee had a name card of their mentor taped to their back. Without revealing the names aloud, mentees worked together to determine each others mentor by asking and answering only yes or no questions. This was a memorable way of revealing mentors to their mentees, and it encouraged bonding between the new members of the section. Publix subs were provided for lunch, and following lunch the members all took part in floating down the Ginnie Springs River. This retreat established strong friendships between younger and older members throughout the school year. The image below shows mentees meeting their mentors at the fall retreat.



### 5.2 ANS Tailgate

The University of Florida is known for its borderline unhealthy obsession with tailgating, and ANS at UF embraces this every fall and hosts tailgates before home football games. This season, four tailgates were hosted outside the nuclear sciences building to promote camaraderie, school spirit, and to provide a social venue for underclassmen to interact with upperclassmen, graduate students, and professors. Tailgates this year featured homemade wings and chili, with one tailgate featuring a collaboration with the UF Masters of Business Administration (MBA) program and nuclear department professors to provide catering from a local grocery store. A photo of was taken at one of the games, shown below.





## 6 Conclusion

The American Nuclear Society student section at the University of Florida is committed to promoting nuclear science and technology on campus, in our communities, and in our world. With a common goal of benefiting and empowering our section to succeed, we continued the traditions of the past, such as maintaining a strong presence at conferences and in the service community, while implementing new ideas, such as having workshops during general body meetings and starting the Mentor-Mentee program. Submitting the student conference proposal shined a light on where we need to improve and identified the importance of placing more value in the student body. We are proud of our accomplishments this year, and look forward to the next.