Samuel Glasstone Report 2011 – 2012

submitted by the University of Wisconsin – Madison Student Section of the American Nuclear Society



Faculty Advisor: Professor Paul Wilson Vice-President: Jacob Sager Public Information: Lucas Mynsberge Governor: Abdulla Alhajri Governor: Jonathan Klabacha President: Darius Lisowski Treasure: Thomas Eiden Communications Maddie Wolter Governor: Angela Weier Governor: Mary Alice Cusentino



UNIVERSITY OF WISCONSIN-MADISON STUDENT SECTION OF THE AMERICAN NUCLEAR SOCIETY 1500 ENGINEERING DRIVE MADISON, WI 53706 (608) 265 – 8699



April 30, 2012

To whom it may concern:

It is with great pleasure that I strongly support the application of the UW American Nuclear Society Student Section (UW-ANS) for the Samuel Glasstone Award. As Faculty Advisor, I place a great value on innovation and creativity in the officers and members of the UW-ANS. As a student section with a strong history of success, it is this creativity that allows them to continue that success and maintain the value for members. With a strong and comprehensive program inherited from the previous year, adding new ideas is a challenge of both imagination and logistics.

This year, the officers looked across the portfolio of activities for possible changes and/or improvements. To benefit the career awareness and professional development of their members, the UW-ANS hosted 10 different speakers and coordinated visits to 3 different facilities. A joint trip to Fermilab with other regional ANS student sections was an innovative addition. To support the breadth of the active member program, they also identified some additional community service activities with visits to a local food pantry. Although the bid was not successful, the UW-ANS also marshaled the energy of their members to prepare a robust and detailed proposal to host the 2013 ANS Student Conference. This was a valuable opportunity for our members to learn about the many important elements to hosting such an event.

Enacting these improvements while maintaining the large outreach program that is a hallmark of UW-ANS success requires dedicated effort by the officers. Their efforts to grow the organization and its programs are a testament to their leadership and evidence of a robust and successful student section. I hope that the Glasstone award committee recognizes the continued outstanding accomplishments of this organization when they award the 2012 Samuel Glasstone award.

Sincerely,

Paul Wilson, Faculty Advisor wilsonp@engr.wisc.edu 608/263-0807

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1 Introduction

Through the past year, the University of Wisconsin-Madison chapter of the American Nuclear Society (UW-ANS) has remained a strong and highly active organization with activities emphasizing public outreach, professional development, community service, and creating close ties between both its own members and other members of ANS and the engineering community at large. Besides just holding events with its own members and the Department Engineering Physics, UW-ANS has also held joint events with Women in Nuclear (WIN), the American Institute of Aeronautics and Astronautics (AIAA), and the Aviation and Space Law Student Association.

UW-ANS has organized a number of professional development opportunities this past year where members had the opportunity to meet and talk with representatives from government regulators, industry, national labs, and other organizations. Speakers this past year included NRC Commissioner Apostolakis, Shirley Johnson from the IAEA, Amy Lapse from Sandia National Labs, and Admiral Donald Kirkland as well as other speakers from Dominion, Idaho National Labs, Knolls Atomic Power Laboratory, and EPM. In addition to bringing people to campus, UW-ANS also made several trips to nuclear science-related sites including Argonne National Labs, Point Beach nuclear power plant, and Fermi National Lab. The trip to Fermi National Lab was a first time joint meeting between UW-ANS and the ANS chapters from Purdue and the University of Illinois which was highly successful.

As in past years, UW-ANS has continued its tradition of doing a great deal of community service and outreach events. This year UW-ANS continued to take part in the Adopt-a-Highway project and also made two trips to St. Vincent de Paul's food pantry to help stock shelves and assist the less fortunate in picking out their food. Members also undertook a project to beautify their campus by cleaning chalk off one of the engineering buildings. In pursuit of the goal of spreading knowledge about nuclear engineering and science in general, UW-ANS took part in many outreach events ranging from Boy Scout Workshops, Science Olympiad, Science Nights, Science Pub, and a high school essay contest.

To keep the members of UW-ANS a tight-knit, cooperative group, many social events were held throughout the year. The semi-annual picnic, aptly called Pic-Nuke, held at the start and end of every school year continues to bring over 100 students and faculty from the Engineering Physics Department as well as many of their friends and family. Every Wednesday during the school year free coffee and doughnuts are provided as a place for students and professors to chat and mingle in the middle of the week. At the beginning of each semester, UW-ANS hosted a bowling outing for new and returning members. At the end of summer this year, several members went on an overnight camping trip to nearby Devil's Lake State Park to swim and hike and become much closer friends in the process. The spring semester saw UW-ANS host a paintball outing with 20 people attending to run around and shoot each other with high velocity paint for an afternoon. As in previous years, several games nights were held in the middle of the week as a way for members to kick back and have some fun during the more stressful times of the semester. Another ongoing tradition was the weekly gathering at Mickey's Dairy Bar every Friday morning of several students and professors for breakfast and camaraderie. The strong foundation laid by previous year's officers and members has been continued at UW-ANS this past year with a large number of professional opportunities being made available to members in addition to numerous socials and outreach events. A concerted effort has been made to continue all of the past traditions or the organization while attempting to expand to new horizons.

2 <u>Section management</u>

The success of UW-ANS stems largely from the quality of those individuals in leadership positions. Though ultimately it is the members that define an organization, a strong governing body is crucial for laying the foundation and framework for goals, activities, and the sections lasting impact.

2.1 Executive Officers

The executive committee consists of seven officers: the President, Vice-Price, Public Information Officer, Treasurer, Communications, and two Governors. A group photo, taken at the start of the Fall 2011 semester, is shown in Figure 1.



Figure 1: Executive officer group photo, Fall 2011. (bottom, left) Darius, President. Maddie, Communications. Thomas, Treasurer. Mary Alice, Governor. (top, left) Prof. Wilson, Advisor. Lucas, Public Information. Jon, Governor. Jacob, Vice-President

2.1.1 President

The president this year was Darius Lisowski, a 3rd year graduate student in the Nuclear Engineering department. He was active through the semester in hosting guest speakers, organizing tours, and working with the other officers in the overall planning of ANS related activities. Additionally he led the weekly executive meetings, where previous events were reflected upon and upcoming activities were planned. Lucas Mynsberge, the current Public Information officer, has been elected to lead ANS for 2012 - 2013.

2.1.2 Vice-President

The Vice-President's responsibilities are organizing the section's social activities, bookkeeping active membership status of students, and leading UW-ANS in the President's absence. This year the vice president was Jacob Sager. He organized an overnight camping trip to Devil's Lake State Park, a bowling social following the fall kick-off meeting to welcome new members, a pizza sale fundraiser, cleaning chalk off the exterior of one of the engineering buildings on campus, a spring paintball outing, and coordinated both the fall and spring Pic-Nuke events. For the 2012 - 2013, Jacob Sager will continue his position as Vice-President.

2.1.3 Public Information

The Public Information (PI) Officer this year was Lucas Mynsberge. His time was painstakingly spent developing, organizing, and executing the section's prolific public outreach efforts. In addition, he appointed the Boy Scouts chair and ensured seamless communication between those efforts and the other officers. Science Olympiad and the Essay Contests were also headed by him. Performing these tasks require purchasing adequate supplies from radioactive sources to simply bags upon bags of decadent M&M's—for Boy Scouts. Presentations were updated and written as well as posters designed. From here, they made their appearance at schools throughout the community. Next year, the Public Information Officer will be Angela Weier.

2.1.4 Treasurer

The Treasurer's responsibilities included drafting budgets for each semester and for the entire year, keeping track of all transactions completed by the organization, writing grant proposals, acting as liaison between ANS and the UW-Madison Student Leadership Center (an organization that oversees the donated funds of College of Engineering student organizations), and advising the other executive officers on how best to spend the section's funds. The treasurer this year was Thomas Eiden, and

Darius Lisowski has been elected for the 2012 - 2013 term.

2.1.5 Communications

The Communications Officers duties are to take minutes at executive committee meetings, to send out weekly announcements, advertise for upcoming events (usually by flier or email), and to maintain and update the ANS announcement mailing list. The importance of this position is to ensure that the members, students, and community are properly informed about the events going on within ANS. Although this is a one semester term, we have had the same Communications officer, Maddie Wolter, for both semesters this year. Next semester's Communications Officer will be Kalin Kiesling.

2.1.6 Governors

The main purpose of the Governor position is to get acquainted with the workings and dealings of the ANS executive committee and to develop their leadership skills. Because of this, Governors are preferred to be underclassmen or those just starting to get involved. Some of their responsibilities are are planning and facilitating special events throughout the semester, such as Adopt-A-Highway and E-Week. There are two Governor positions, and like the Communications officer is only a one semester term. The governors in the fall semester were Mary Alice Cusentino and Jonathan Klabacha, and in the spring term were Abdulla Alhajri and Angela Weier. Next semester's governors will be Amanda Lang and Andrea Jedele.

2.2 Chairs

The various chair positions of the UW-Madison's ANS section are appointed by the President or the Public Information Officer and approved by the rest of the executive committee. As a result, an individual can be nominated, but not elected. Being a chair demands a sufficiently larger amount of dedication to ANS than the average active member, but not quite as much as being a full-fledged officer. These positions are held for the entire year.

2.2.1 Boy Scouts Chair

The Boy Scout Chair this year varied due to a transition. Carlos Paz-Soldan's long-sought retirement proffered a slightly tumultuous ground, but it was filled by Lucas Mynsberge for the fall semester, while a replacement was searched for. Chris Patterson was then found to take over for the spring semester and into next year. The main responsibility of the Boy Scouts chair is to smoothly facilitate and organize the UW-ANS's Boy Scouts Merit Badge Workshops. It demands much time and

even writing letters to apply for grants in order for the Scouts to see the UW-Nuclear Reactor.

2.2.2 Science Olympiad Chair

The Science Olympiad chair this year was Lucas Mynsberge. This chair works with the UW-ANS members to find volunteers who travel to Mt. Horeb Middle School and assist the students there in a variety of construction and science related applications. In addition, he must secure transportation through the college.

2.2.3 Scholarship Chair

The Essay Contest/Scholarship Chair, who planned and coordinated the Essay Contest, was Lucas Mynsberge this year. The actual essay was selected from a panoply of proposed questions and voted for by the executive committee. The winner, once chosen, will receive a scholarship.

2.3 Other Positions

In addition to our executive and chair positions, there were several other ANS members that provided support to the UW-Madison chapter in one way or another. Like the Chairs, some of these are appointed, and others come based on the need at the time.

2.3.1 Webmaster

The two main responsibilities of the Webmaster are to maintain the UW-ANS website and to provide support for the use of Google. Tasks included in maintaining the website are syncing the website "s forms with Google Docs, updating pictures and presentations, and ensuring that the website continues to function as intended. To aid the executives in using Google (email, calendar, and docs), the Webmaster organizes information, aids in turnover between administrations, and teaches current users the capabilities of using Google. This year, the Webmaster was Thomas Eiden.

2.3.2 Polygon Representative

Polygon is the student council for all the student organizations of the College of Engineering. The ANS representative attended Polygon meetings, informs the ANS executive board of its decisions, advocates for ANS in student council meetings, and makes ANS eligible for funding opportunities from Polygon. This year, the Polygon Representative was Thomas Eiden.

2.3.3 Faculty Advisor

The Faculty Advisor for ANS is there to provide the chapter with advice and act as a liaison between the organization and the department. Often, the Faculty advisor retains his position for many years, so they are able to provide valuable information to the organization, as the Executives and Chairs often are served by people new or just getting involved in ANS. This year, the Faculty Advisory was Paul Wilson, who just returned from sabbatical.

2.4 Goal-Setting

At the start of a school year, every student organization faces the daunting tastes of successfully planning, organizing, and hosting activities for their members. UW-ANS, especially, aims to provide their members with a mix of community services, professional development, and social activities. We began our year over the summer of 2011, with an assessment of the goals and results achieved by last year's officers. We discussed the events that were successful, the events that had the largest impact, and those which needed improvement. Additionally, we isolated key activities that we wanted to continue, and proposed new ideas that we could introduce to our members. By setting goals in this manner, the officers were able to spend their time more effectively and become more aware of what is most important for our organization.

3 **Operations**

In addition to the contributions of the executive committee and its general members, UW-ANS attributes its success to the administrative procedures and processes that kept it organized. Furthermore, these processes made it possible for turnover to be carried out with relative ease between last year's executive committee and this year's, and this year's executive board is confident that the same success will be realized next year.

3.1 Office Hours

This year, UW-ANS hosted office hours in which members of the executive board were available at the ANS office located in the Engineering Centers Building on UW-Madison campus. For ten hours every week, ANS executives were available for questions, t-shirt sales, and even informal tutoring.

One hour each week of these office hours included the weekly executive meetings in which the executive board discussed current issues, upcoming events and their logistics, and other items of interest regarding the section. Chairs, the Webmaster, the Polygon Representative, and general

members were welcome and were present at these meetings to provide input for the executive board.

3.2 Active Membership

Active membership is a distinguished title that UW-ANS awards to members who demonstrate a strong commitment to the continuation and betterment of ANS and its programs. Established in 2005, UW-ANS continued the active membership program for the 2011 - 2012 years. Active membership is meant to encourage participation in events besides socials. Extra benefits, typically financial ones, are offered to active members at social events, conferences, and tours. We decided upon three categories: Public Outreach, ANS Service, and Community

Service / Professional Development. Examples each category are given below.

- 1. Public Outreach
 - Boy Scouts, Girl Scouts
 - Science Olympiad, Science Night
 - Summer Outreach (Camp Badger, Grandparents University, etc)
- 2. ANS Service
 - Help plan or setup an event (games night, Pic-Nuke, etc.)
 - 2013 ANS Student Conference Committee
 - Pizza sales
- 3. Community Service / Professional Development
 - Food Pantry, Highway Cleanup, E-hall cleanup
 - WPUI conference, ANL Tour, ANS National meetings, The Hacker Within

To attain active membership status, members were required to acquire a certain number of active membership points in order to achieve this status. This was accomplished by attending the meetings, workshops, outreach events, tours, etc. that ANS hosted or encouraged. The members reward was based on a tier system, the first giving them reduced prices for social events and t-shirts, and the second tier providing them with full lodging during the ANS Student Conference, plus an invitation to the end of the year banquet.

3.3 Financial Planning

Spending money and obtaining funds is always a challenge for any student organization. UW-ANS applied principles that have worked in previous years in conjunction with lessons learned to allocate funds appropriately and ensure that sufficient funds would be available for next year's administration. The student section has two spending accounts. We have a checking account with Associated Bank and an account through the Student Leadership Center (SLC) in the engineering department. The SLC requires us to maintain an account with them to apply for certain grants. The account is used to pay for large events such as conferences. The checking account is used to reimburse members and smaller items due to the ease of use. All checks written must be signed by two members of the following authorized signers: the President, Vice-President, Treasurer and Faculty Advisor. This method ensures more responsibility when spending and works well.

3.4 Budget

As the school year commenced, each member of the executive board submitted a budget detailing the costs and earnings that their respective position could predict for the year. Some activities, such as supporting local Science Olympiad groups, earn money for our section, while some activities, such as food for unfunded meetings and supplies for outreach activities, entail a cost. This meeting enabled a discussion to inform the way in which the money could best be allocated and served to highlight distribution of events that each officer in our organization should prepare to focus on and take responsibility for. This year, the budget compiled from this meeting was made available in our Google Docs account. Thus, members of the executive board had access to the agreed-upon budgets for the events under their supervision and could make appropriate appeals if unexpected expenses happened to arise. This year our section went slightly over budget due to a sharp decrease from average of funds secured from Polygon, the engineering student council in the second semester. However, because this section has a generous portion saved in the off-campus account as a safeguard, this was deemed a non-issue.

This year the UW ANS section spent approximately \$10,100. To balance our spending, we solicited donations from many companies and organizations in the nuclear field and associated with the University of Wisconsin. By relying on materials from past years and applying lessons learned, our spending this year was slightly lower than previous years' spending, Even with the addition of some events.

3.5 Funding

A significant fund-raising effort was put forth to account for the large amount of money spent. The treasurer put many requests out to nuclear and energy companies for general funding, and several other members put in requests for their individual events. Although not all of these requests received responses, we were pleased to receive support from both Dominion and Excel Services. Dominion, a consistent supporter of the University of Wisconsin ANS section, provided funds for coffee and donuts, and \$100 per student, up to fifteen students, to attend the student conference in Atlanta. Excel generously donated \$100 per student as well. Grant money that we received came from the university's engineering student council (Polygon) each semester. This money was applied to conference hotels and travel. Other sources of funding came from Science Olympiad volunteering, Boy Scouts Merit Badge Workshops, and the selling of our student section t-shirts. The money received from these sources was used for our semi-annual picnic (Pic-Nuke), food for meetings, and outreach supplies.

3.6 T-Shirts

As a means to both raise money for UW-ANS and advertise UW-ANS and the UW Department of Nuclear Engineering and Engineering Physics, UW-ANS sells "I ♥ Nuclear" t-shirts, Figure 2. UW-ANS sells these t-shirts for \$10 to active members and \$15 to everyone else. The t-shirt sales were especially a success at Boy Scouts Workshops. T-shirts were also raffled off throughout the year at various UW-ANS meetings to encourage participation.



Figure 2: An UW-ANS member winning a 'I ♥ *Nuclear' t-shirt raffle*

3.7 ANS Website & Google Docs

UW-ANS has now been using the atomicbadger.org domain and Google Apps for more than three years. The Google word processor, spreadsheet, and presentation software are all used to assemble, coordinate, and disseminate organizational activities and proceedings. A non-exhaustive list of these uses follows:

- Executive committee meeting agendas and minutes
- Expo planning committee and minutes
- Budgetary planning
- Membership rosters
- Active Membership Point Submission
- Conference tour and sign-ups
- General meeting introductions / presentation
- Guest speaker presentations
- Descriptive source inventory
- Chapter logo storage
- Collaborative editing / sharing

In addition to these "standard" document abilities, Google Docs also offers Forms. Forms is a simple tool that allows us to quickly create surveys or applications that can be embedded in a website. When filled out and submitted, the Form sends the information to a spreadsheet and creates summary statistics for all of the submissions. This service from Docs is an important part of the current website, and its use is discussed in more detail below.

Two features of Google Docs are extremely useful in the day-to-day operations of UW-ANS. The first is the use of Shared Folders. All of the aforementioned Google Docs content is not only shared with all of the executive committee but also placed into a folder structure that clearly labels the document's purpose. Secondly, on the technical side, Google Docs now offers Google Apps Script as a means to read, process, and write data between all the services of Google Apps (Sites, Calendar, Docs, etc.). For example, our past Webmaster wrote a program to automatically determine active from nonactive members on our roster using this tool. We will be continuing to develop proficiency in and explore new uses for Google Apps throughout the year.

This year UW-ANS continued to fully utilize the Google Apps suite of services. Building upon the previous years' success in using Google Apps, we now consider Google Apps as a natural and effective means for effective collaboration amongst current UW-ANS officers and members while providing a steady and promises base for the future. A screen shot of our sections website is given below in Figure 3.



Home

Welcome to the Atomic Badger, home of the American Nuclear Society, University of Wisconsin-Madison Chapter. This website hosts a record of some of our activities, contact information of our officers, and more. Please, explore and enjoy.

Welcome back!

Hopefully everyone had an enjoyable winter break and is ready for another semester ANS activities. As always, there is a ton planned, so check out the <u>Calendar</u> to see what events are coming up. UW-Madison ANS has a web album (<u>https://picasaweb.google.com/uwisc.ans</u>), so feel free to check it out to see what's been going on that you may have missed.

Figure 3: Screen shot of UW-ANS website, atomicbadger.org

3.8 Member Recognition

Recognizing members who have gone "above and beyond" is something very important to an organization. For UW-ANS, this was done by awarding "Captain Neutron" to outstanding members. Nominations were taken each month, and then the officers voted on who they thought was most deserving. The winner was then announced at the next General Meeting, and their picture (complete with a Captains hat) was placed on a large poster display in the main lobby. An example of these print outs is given in the Appendix.

3.9 Facebook

The utilization of Social Networking sites has been taking off these last few years, and ANS has utilized this opportunity to keep in touch with the community. With students checking their Facebook more often than their email, it is becoming the best way to quickly and readily relay information to a particular group, and can even be utilized to advertise to the general public for the proper times. While we had many individuals advertise these events through their own personal Facebook account, ANS has also recommended at all the members of ANS become a fan of the UW - Madison Nuclear Engineering Facebook page, Figure 4, which was designed by one of the faculty members in the Engineering Physics Department. Several ANS executive members were given permission to edit the web page, which has proven to be a useful tool in helping advertise events, meetings, and keeping others informed about the current events going on in ANS.



Figure 4: Facebook fan page of UW-ANS

We are continuing to expand and utilize all these resources that are out there, such as Google, Facebook, Twitter, and LinkedIn to name a few. Utilizing these can help increase the efficiency of the organization, along with provide the means that will allow everyone to get involved and informed about the workings of ANS.

4 General meetings and events

The easiest place for our students to learn more about nuclear-related fields and professions is at our general meetings, typically held monthly throughout the academic year. We try at every meeting to host a speaker from industry, national labs, or elsewhere who can offer to our membership something unique and valuable. These meetings have led to several job or internship opportunities for members, and therefore, comprise one of the most important benefits we can provide.



Figure 5: Darius, the President, preparing to deliver the Fall 2011 kick off meeting presentation to over 45 UW-ANS members in attendance

4.1 ANS General Meetings

The UW-ANS section will host several general meetings throughout the semester, which help members preview upcoming events, learn about the Active Membership Point system, and allow a chance to suggest new events. The semester kick off meeting, we consider, as being one of the most important. Held at the start of the Fall and Spring semesters, we will provide ample food and prepare strong advertising to attract underclassmen and non-members. An overview of the organization is made, with personal introductions by each of the executive officers. After touching upon some of the more administrative points such dues and active points, everyone in attendance is invited for an after meeting social, which in this year has been bowling at the new Union South. Students bowling after a Kick Off meeting are shown below, in Figure 6.



Figure 6: Bowling after the Fall 2011 semester kick off meeting

General meetings held during the semester are typically held in conjunction with a guest speaker, and often highlight important upcoming events. We try to advertise our bigger activities, such as Student Conference, and National Lab tours at these meetings to promote participation. Theses events have been presented by the President, with the PI discussing upcoming outreach activities.

Final semester meetings will always include elections (only for the Governors and Communications during the Fall). These positions are nominated by someone either for themselves or for another ANS member. Doing away with the paper and pencil ballot system, our UW-ANS section has moved to the 21st century with electronic voting, where each voting member is given an iClicker device and is able to cast their vote by pressing a button. This have proved extremely successful in mitigating the tedious process of counting paper ballots by hand. Additionally, these final semester meetings have include a fun slideshow, with fun, silly, or large group pictures from semester events. Lastly, information about semester break outreach activities are given, before wishing the students an enjoyable winter or summer break. A table summarizing the general meetings that were held during the 2011 – 2012 semesters is given below, Table 2.

Date	Meeting Type	Location	Time
September 6 th	Fall 2011 Kick Off	Mechanical	6:00 – 7:00pm
October 25 th	General / Speaker	Engineering Hall	5:30 – 7:00pm
November 21st	General / Speaker	Engineering Hall	5:30 – 7:00pm
December 8 th	Final Semester / Elections	Tong	5:30 – 6:30pm
January 26 th	Spring 2012 Kick off	Mechanical	5:30 – 6:30pm
March 13 th	General / Speaker	Engineering Hall	5:30 – 7:00pm
May 3 rd	Final Semester / Elections	Mechanical	5:30 – 6:30pm

Table 1: UW-ANS general meetings, 2011 - 2012

4.2 Invited Guest Speakers

Of the many recurring UW-ANS activities, the invitation and hosting of speakers has proven to be one of the more popular events. These meetings introduce student members to the latest research efforts from both industry and national labs. Throughout the 2011 - 2012 academic years, over 11 speakers visited our campus and spoke to the UW – ANS students. Ranging from local business in WI, to large utilities such as Dominion, to national labs, to Nobel Peace Prize Laureates. ANS strives to bring notable and trustworthy speakers to the student section, providing the students an opportunity to learn topics and hear viewpoints not normally seen in their classes. Each meeting allots time at the end where students have a chance to ask questions during an open Q&A session, with the speaker often staying after for more personal discussion.

In early 2012 UW-ANS invited Professor Gerald Kuclinski, a current UW faculty member, to speak on "Nuclear Power in Space" at an ANS general meeting. During his March 22nd presentation, the 85 person auditorium nearly reached full capacity, with 30 members from ANS, 20 from AIAA, and 26 from the general public in attendance. Additionally, Clean Energy America, a non-profit organization that tours with scientists and engineers to speak on nuclear energy in the US, visited our campus to speak to our ANS section and general public. They addressed some of the common misconceptions about renewable energies, and presented an unbiased view of the currently viable energy solutions. One of our most notable speakers, Shirley Johnson, a Nobel Peace Laureate from the IAEA spoke of her nonproliferation work during the 1st Gulf War. Her presentation included pictures of her travels and inspection in Iraq, as well as an update on the current situation in Iran.

In addition to guest speakers and lecturers, UW-ANS has actively promoted recruiting sessions. Companies from around the nation visit our campus to deliver a recruiting pitch to interested students. Scheduled around the career fair at the start of each semester, this provides students with a more personal atmosphere than the hectic day of the Career Fair. By allotting one to two hours, a company is able to provide a more in-depth overview of what a typical employer may encounter when applying and working for their company. Their presentation helps students decide if the area of work would be well suited, and since an active recruiter is presenting, they are available to answer any questions the students may have. During the 2011 - 2012 school year, companies such as Dominion, Knolls Atomic Power Lab, Idaho National Lab, EPM Hudson, and Sandia National Lab have all visited and spoken to the UW-ANS students. A complete list of speakers and recruiting sessions organized during the 2011 - 2012 academic years is given below in Table 2.

Date	Organization	<u>Speaker</u>
September 13 th	NGFP (PNNL)	Samuel Zenobia
September 20 th	Knolls Atomic Power Lab	Eric Edwards
September 22 nd	Idaho National Lab	Thomas Steele
October 4 th	Dominion	Scott Luchau
October 25 th	EPM Hudson	Paul Knoespel
November 21 st	Advanced Test Reactor	Todd Allen
September 22 nd	Sandia National Labs	Amy Laspe
February 7 th	International Atomic Energy Agency	Shirley Johnson
February 16 th	Clean Energy America	James Halderman
February 21st	Department of Energy	John Jelly
March 13 th	"Nuclear Power in Space"	Jerry Kulcinski

Table 2: UW-ANS hosted guest speakers, 2011 - 2012

4.3 Coordination with Student Organizations

UW-ANS has maintained successful relationships with several of the other student organizations on campus. We believe that collaboration introduces new ideas, learning experiences, and in many cases, lasting friendship our members.

4.3.1 Women in Nuclear

The ANS and WiN student groups at University of Wisconsin – Madison has maintained a strong tradition of collaboration and joint events. With membership numbers for WiN falling in recent years, UW - ANS took the relationship one step further and invited their officers to our weekly executive meetings. By having members of WiN present at all ANS meetings, we have been able to strengthen our ties and promote involvement in both organizations. In the Spring 2012 semester, they invited Marri Marchionda-Palmer from Exelon for a guest presentation. ANS co-hosted this event, assisting with the cost of food and allowing them access to our large mailing list. Additionally, ANS provided strong volunteer support at their Girl Scout events, and in return, they have volunteered at nearly all the Boy Scout days. In addition to co-hosting meetings and speakers, both organizations partake in monthly Games Nights, a tradition that was started during the 2010 - 2011 academic years.

These social events, typically hosted every 3 months, are held in a large open room where students are able to play board games, console games such as Mario Kart, and enjoy dinner and dessert. When one ANS member suggested we provide "make your own sundaes", it instantly became a hit and all Games Nights have included ice cream, hot fudge, cherries, and whipped cream. WiN has noticed more involvement from the female nuclear engineers, so we hope this collaboration will continue through future years.

4.3.2 American Institute of Aeronautics and Astronautics

The AIAA student organization, while officially part of the Engineering Physics department, are focused on Engineering Mechanics and Aerospace applications. Thus, it has traditionally been a struggle to find common events that both can partake in. However, when UW – ANS invited Professor Jerry Kulcinski to present on his nuclear power and rockets in space, we thought this would be a great opportunity to join with the AIAA student organization. We contacted their president, and organized a joint effort for advertising and food purchases. With e-mail sent out to both mailing lists, and fliers posted in both common areas, over 35 AIAA members attended the Kulcinski talk. Additionally, ANS members were able to chat with several of their members afterward, and both spoke very highly of presentation and agreed to meet during the Fall 2012 semester to find additional events that would cater to both groups.



Figure 7: UW-ANS and AIAA members enjoying pizza before a joint meeting

4.3.3 Aviation and Space Law

The 2012 spring semester marked a new student collaboration with the Aviation and Space Law student association. Based at the Law school, this group is focused on answering the questions of ownership, property, and legal concerns in outer space. As with the AIAA, UW-ANS saw the Kulcinski talk on Nuclear Power in Space as a great opportunity to invite their members. While only a few made the long journey across campus to the engineering buildings, it was a great success to bring an organization outside of engineering to one of the UW-ANS events.

4.3.4 Society of Women Engineers

The Capital Science and Engineering Fair (CSEF), an annual fair for high school students to present their area of research, is made possible by the hard work of many volunteers both on and off campus. Along with the Society of Women Engineers (SWE), UW-ANS has maintained a tradition of volunteering to organize and support the event. The CSEF requires several judges and volunteers to manage the 20 - 30 students participating. At the 2011 CSEF, five ANS and seven SWE members worked together to organize fliers, volunteer as judges, and arrange tables in the presentation room.

4.4 ANS Conferences

The ANS conferences, held nationally twice a year, and by students once a year, are one of the most anticipated events of the year for our members. Our student section will make significant efforts to promote and encourage members to attend, since they are the pinnacle of the ANS professional society. The opportunities for professional development, networking, and presentation are widely recognized by the officers and senior students, however it is the underclassmen that may not be aware of their benefits. To promote this, our section have made sure to include mention of upcoming ANS Meetings during our local general meetings, in weekly announcement e-mails, and by advertisement fliers. Before submission deadlines for abstracts, we will visit the main nuclear engineering classes and give short talks about what these conferences have to offer, and how they can learn more.

4.4.1 2011 Annual Conferences

The 2011 Annual meeting, held in Hollywood, FL from June 26th – 30th, was attended by fourteen UW-ANS members. Of those, eleven competed in the poster competition or presented papers.

4.4.2 2011 Winter Conference

The 2011 Winter conference, held in Washington, D.C. from October 30th - November 3rd, was

attended by 4 ANS students: Mahima Gupta, Matthew Gidden, Ahmad Ibrahim, and Darius Lisowski. All 4 ANS members earned enough Active Points that semester to have their lodging paid for in full by our local section, a support that all were grateful of. Additionally, each student presented either a poster or delivered a presentation in their respective research areas, including thermal hydraulics, neutronics, and materials science. Of the many social events during the meeting, the KAPL reception hosted for UW, University of Michigan, and Penn State students was hosted on November 1st in the Palladian Ballroom. This was a great opportunity to bring UW together with ANS members at Michigan and Penn State.

4.4.3 2012 Student Conference

The 2012 Student Conference, held in Las Vegas, NV is considered one of the most successful events for our chapter for the 2011 – 2011 semesters. Twenty students from UW – Madison traveled across the continental United States for the conference, staying in 6 hotel rooms at the Alexis Park Resort. Since each student was able to obtain 3 Active Points before the conference, they were rewarded with full lodging during the conference week. The funding for the lodging was made possible by donations from the Engineering Physics department at UW – Madison, Dominion, and Excel Services. While recent years have allowed our section to drive students in rental vans to the student meetings, Las Vegas unfortunately proved too far to drive. Considering that students were asked to cover their own transportation costs, we were extremely impressed that still 20 students were able to attend. A group photo of the UW students is given in Figure 8.



Figure 8: Twenty-one UW-ANS students at the UNLV ANS Conference

The 2012 Student Conference, hosted by UNLV, provided ample professional opportunities for the attendees. Two UW-ANS members presented posters, and ten delivered a presentation on their research. All were able to attend the "Atomic Ages" social, and enjoy the eclectic presentation by ANS President Eric Loewen. Eight UW-ANS students visited the Nevada National Security Site, and six participated in the MCNPx Visual Editor Workshop, with Ahmad Ibrahim and Amanda Lang winning one of the competitions. Our president, Darius Lisowski, was able to help UNLV by volunteering to be a judge for the Thermal Hydraulics technical sessions.

After the technical sessions had ended and the conference activities came to a close, students were able to enjoy the Las Vegas atmosphere. Many UW students ventured onto the strip to see the street performances, snap a photo with Captain Jack Sparrow, or try their luck at one of the many casinos. While UW – ANS won a net sum of -\$58, great company and entertainment was had by all.

5 Public information and outreach events

As one of the main components of our mission, UW-ANS seized any available opportunity to extend an inviting hand to the outlying community on topics ranging from radiation sciences to nuclear energy, all the way to energy policy. This year one of the major goals involved providing accurate information to the public. Especially because nuclear topics are quickly becoming more present in the news, it was important to the ANS section to ensure not only accurate data, but in a way that was easily digestible and undeniably fun.

In one of the attempts to provide fun, hands-on activities the UW-ANS group desired a new Geiger-Mueller detector. The previous ones were old and bulky and demanded four to eight D-cell batteries. This bulkiness prevented them from being mounted on a remote control car that was to be used as a radiation mine detector—a carpet with sources underneath provided these "mines." A presentation was prepared and presented to the Polygon Engineering Council, which appoints funds from the College of Engineering. Sweeping the council with an intricate presentation on need and purpose, as well as opportunity to provide outreach activities, the money was easily provided and the new detector was purchased. It is now frequently used and even much easier to hold. In fact, a three year old at one event was able to hold it up to a "Find-the-Source" game UW-ANS designed with Beanie Babies.

5.1 Argonne National Labs

UW-ANS strives to provide its members with the opportunity to tour nuclear facility. On October 22nd of 2011, the UW-ANS section organized a visit to Argonne National Labs for thirteen of its members. Departing early on a Saturday morning, two vans arrived at the Argonne campus and registered for their passes at the gate house. After a brief introduction by our tour guide, the group drove to building 202, the Nuclear Engineering division, where we were given a tour of the nuclear museum. Artifacts from the EBR-II reactor were displayed, and the students could read an in-depth history of the nuclear program at ANL.

Students then visited the Advanced Photon Source, a national synchrotron x-ray research facility housed underground in the ANL campus, Figure 9. This linear particle accelerator injects electrons into a booster synchrotron, after which they are sent onto a large oval track where they are further accelerated to 99.999% the speed of light. They were given the chance to view the circle from a 10th story view, and then sent underground onto the actual ring. A group of researchers from the University of Chicago spoke to them about their current research, and the students were allowed to ask questions.

The visit proved very informative for many of the students, as they were given a chance to learn about the latest research efforts at ANL. Additionally, the historical aspect was eye opening for all, since it touched upon material that doesn't get covered in classes. A visit to Chicago would not be complete without some local food, so a quick dinner stop was made before finally returning to Madison.



Figure 9: UW-ANS students visiting the Advanced Photon Source at Argonne

5.2 Fermi National Labs

For the first time in UW-ANS history, a joint meeting with the ANS student sections of Purdue, University of Illinois, and University of Wisconsin - Madison was held at Fermi National Labs. Beginning in December of 2011, the presidents of each section began discussing possible venue options. Given the central location of Fermi to all three schools, it was chosen as the best option given the travel requirements for each school. Our section contacted Dr. Stuart Henderson, the Associate Laboratory Director for Accelerators, and he helped arrange a tour for our three groups.

On February 24th, 2012, six vans arrived on the Fermi campus, holding 45 ANS members from Purdue, UI, and UW, Figure 10. After meeting our docents, we began by introducing all of our members and explaining some of our backgrounds. They then took us off to the campus, and to the many research facilities that were in operation. Our members were guided by real scientists and researchers from Fermi, giving us first hand perspectives and information about the operations. We peered into concrete vats that housed many of their cryogenic magnetic devices, containing liquid nitrogen at a frigid 3.3K. Additionally, we toured their magnetic assembly plant, where we saw each stage of a 3 Telsa electromagnetic that would ultimately end up at the LHC in CERN. Finally, our tour ended at the top story of Wilson Hall, where many industry demos were displayed.

After departing from the Fermi campus, our three sections agreed to maintain this new tradition. We will be organizing a visit to Argonne National Labs during the 2012 - 2013 year, and hope to bring over 60 students, 20 from each section, for the tours.



Figure 10: Joint ANS Student meeting at Fermi, UW-ANS, Purdue, Univ. Illinios

5.3 Point Beach Nuclear Reactor

During the course of an nuclear engineering study, students take courses in radiation shielding, neutron diffusion in reactor cores, and thermal hydraulic power system. However, these concepts are taught only from a textbook example, and rarely do students have the chance to experience these first hand. UW-ANS strongly believes in the importance of seeing real world applications of the many concepts learned in the classroom, and so we organized a tour of Point Beach Nuclear Reactor during March of 2012.

Teaming with Brian Miller, 1st reactor engineer at the plant, we organized a tour for 10 of our UW-ANS members. He took us inside the reactor at Point Beach, and began with a climb up 10 flights of stairs to the top of containment. Staring down, our UW-ANS members stood in awe at the sheer size of the containment walls. Standing 120' feet in height, and 100' in diameter, it was a breathtaking experience that gave us an intuition for the scale of a nuclear power plant, an intuition that was never learned in the classroom. We then continued onto to the spent fuel pool, where after "taping up", we were able to peer into the water and see the spent fuel bundles sitting in storage. Finally, we toured the turbine hall, where we could see the enormous 2' diameter steam pipes that fed the turbines and generators. It was truly an amazing experience for all that attended, an experience that we will encourage next year's officers to repeat.

5.4 Boy Scouts Workshop

At UW-Madison, there exists a strong partnership between the ANS section and the Boy Scouts organization. It has existed for year and was further embraced during the 2011-2012 school year. It hosted four different Nuclear Science Merit Badge Workshops at the UW-Madison campus. This allowed ANS to lay the groundwork for the next generation of not only nuclear, but all scientists and engineers.

At each of these workshops, the UW-ANS recorded attendance ranging from 50 to 70 scouts with about 12 to 15 leaders! Although the section doesn't like turning away additional scouts, the cap was set at 70 due to limitations on supplies and room space. These workshops are on Saturdays and take up a full day, but earn a Scout his merit badge in that one day (a feat which is not easily accomplished for many other merit badges). Prior to the workshop, each Scout is required to complete basic homework questions to better prepare them for the nuclear science rabbit hole they are about to tunnel into. These questions are as simple as "What are gamma rays?" and "Describe someone important to nuclear science."

With such a large turnout, extensive organization and planning was necessary; moreover, the requirements for the merit badge were changed this year. As a result, the Boy Scout Chair had to revamp some sections of the workshop to comply with the new requirements.

Volunteers arrive early to help set up all the stations and register the troops as they arrive. Once everyone is present, the workshop begins with a large group discussion on nuclear and atomic structures. To visually represent this, the Scouts use pipe cleaners and colored cotton balls to design their very own, not to scale, atoms. From here, they learn about radiation and contamination as well as draw the radiation hazard symbol and explain aspects of it. After this approximate hour, the Scouts become restless and are then separated into five groups for the following five stations: Cloud Chambers, Radiation Counters, Shielding, and M&M's half-life game, Inertial Electrostatic Confinement (IEC) tour, UW-Nuclear Reactor tour, and Nuclear Careers .

To break up the station to station repetition, there is a lunchtime show called "Wonders of Physics." A gentleman from the Physics department comes in and creates explosions, launches, and other physics "magic" for a fun interlude.

After completing all five stations, the Scouts and Leaders reassemble as a large group. Their homework is returned and they discover if they earned a passing grade. If so, they have obtained their Nuclear Science Merit Badges. Those with failing grades are provided the opportunity to repeat the homework or stay after and show that they now have knowledge of the correct answers.

One to two UW-ANS volunteers are required to staff each station. Despite the fact that it's a whole day on Saturday, there always seems to be enough volunteers for each Workshop. It provides the volunteers with speaking experience and it's an excellent opportunity to pass on learned knowledge. In addition, the whole day exudes fun and it's great to see the younger generation with a similar passion for science.

5.5 Girl Scouts Workshop with WiN

The University of Wisconsin Women in Nuclear (WiN) chapter attempted to host two Girl Scouts Nuclear Science Workshops this year, however only one had enough girls signed up to take place. ANS members volunteered to run some of the modules which were similar in nature to those offered at the Boy Scouts Workshop. However, as the Girl Scouts were generally younger than the Boy Scouts attending the Nuclear Science Merit Badge Workshop, activities were changed to incorporate learning and attention span differences. Instead of a tour of a fission facility, we created a fission game that uses balloons as neutrons and the Girl Scouts as atoms of U-235. Volunteers act as control rods or reflectors, and enrichment can be shown by making the Girl Scouts stand closer together or farther apart. Additionally, to spice up the careers session, we played dress up with the Girl Scouts, providing them with backpacks (academia/students), hard hats (utilities), and lab coats (national labs). There were about twenty-five Girl Scouts and Girl Scout leaders that attended the workshop this year.

5.6 Science Pub

This year UW-ANS organized a panel of three graduate students from the department to hold a discussion on nuclear energy at Brocach's, a popular local eatery. Brocach's holds a monthly event called Science Pub where they bring in people from various scientific disciplines to have informal discussions with the audience. The panel, which consisted of Matthew Gidden, Kathreen Thome, and Eric Howell, spoke with members of the public in an informal setting on topics ranging from the impacts of Fukishima on nuclear energy in the United States to the future of fusion energy to the low numbers of women in nuclear engineering and sciences in general. Feedback from the discussion was overwhelmingly positive with people continuing to approach the speakers with additional questions long after the discussion had officially ended.

5.7 Camp Badger

Camp Badger is a program held every summer for the past many years that allows gifted Wisconsin middle school students to visit UW-Madison for a week and attend a plethora of science and

technology stations. Through a large grant, Camp Badger can include many different aspects and desired a nuclear science division. To do this, they went through UW-ANS. John Murphy of the Nuclear Engineering Department agreed to do this and set up an overview presentation followed by three different activities to provide the students knowledge and entertainment. There were six different sessions that occur once a week throughout the summer.



Figure 11: Thomas Eiden showing Camp Badger students the principles of radiation shielding

There isn't a whole lot of time to teach too much, but the usual counters, radiation games, and other Boy Scouts activities are used to provide an insight into nuclear science. These activities' significance are then explained in order for the students to understand how they apply to the real world engineer.

5.8 Science Olympiad

For the past nine years, UW-ANS has been willfully working with the Wisconsin Young Scientists of America (YSA) Science Olympiad (SO) program. This year there were three main pillars of this relationship. The UW-ANS mentorship at a local Middle School, assisting at the Regional Competition, and holding a booth at the national SO conference held in Madison.

5.8.1 Mentoring

This year, UW-ANS members served as mentors at Mt. Horeb Middle School. They helped with Mission Possible, Optics, Towers, Mousetrap Car, Storm the Castle, and numerous other events. Most of these are the construction events or topics that the coaches weren't as knowledgeable in. These required a lot of time to actually build and construct the various projects. The students at the middle school were able to bounce ideas off of the UW-ANS students and provide guidance in the assembly.

The mentorship took place from late October to April. Every week, two to three students departed UW-Madison and headed for Mt. Horeb for two hours of design and construction. At the end of the semester, a transition was made to new volunteers due to class conflicts. In addition, the day was changed from Wednesdays to Tuesdays.

During the regional tournament in March, the Mt. Horeb team was allowed to test their progress. They literally found the weak spots in their construction and they and the UW students went back to the drawing board with a renewed vigor. Redesigning, reconstructing, and recalibrating for the next few weeks, the team made another strong push to compete at the state competition. All in all, it was a relatively successful year, but there were no amazing victories by the Mt. Horeb team.

In addition to providing volunteer and outreach opportunities, SO does also provide a lot of the funding ANS receives. The College of Engineering pays ANS per hour of work as well as pays for the transportation vehicles. This year was an exceptionally successful year and ANS received some good funding.

5.8.2 Regional Competition

During the regional competition, it is expected that each school provide a certain amount of adult assistants to lead the various competitions. Lacking the support of parents in the community, Mt. Horeb Middle School was unable to fulfill this number. Already in the helpful attitude, the UW-ANS section went above and beyond and one of the regular volunteers departed for the regional competition in Waunakee.

Once arrived, it was his responsibility to prepare the room for a bacteria and microbes test that was to be taken by the many schools' teams. The pre-test information was read and the test was administered and monitored by the UW-ANS student. A few questions were asked and answered. Following the test, the papers were collected. At this point the UW-ANS plopped down and proceeded to grade each of the exams. The scores for each school were summed up and the results were presented at the awards ceremony later that day.

5.8.3 National Science Olympiad 2011

The National Science Olympiad Tournament was hosted May 20th-21st in 2011. This brought high schools and middle schools from all over the nation to Madison's doorstep. For this event, UW-ANS set up and prepared a booth for the science fair that was held. There were companies and other organizations in the brand new Wisconsin Institutes for Discovery building spanning the entire atrium. Students from all over came to learn more about radiation detection and nuclear energy generation. It was just a small booth, but at times there were lines waiting to get to the table to discuss nuclear science.

In addition to this booth, many of UW-ANS members volunteered to assist in grading, guiding, and general volunteering for the numerous aspects of taking on such a large-scale tournament. It was very successful and the entire city received much praise for the continuity of the event.

5.9 Pizza Sales

In order to supplement the usual sources of income from company donations and certain outreach events, this year UW-ANS held a pizza sale for the first time in recent memory. The sale was actually the first sale held on Engineering Campus in several years because the college administration had moved to end food-selling fundraisers for fear of providing to much competition to the food stand operated by the university union in one of the engineering buildings. Getting the administration to allow food sales again (reluctantly) took many weeks of work getting approvals from various people, but eventually it paid off. The pizza sale was a moderate success, and there are plans for similar sales to be held in the future.

5.10 Cleaning Engineering Hall

In attempt to beautify the UW-Madison Engineering Campus, UW-ANS took up the task of cleaning chalk off of the exterior of one of the engineering buildings on campus, Engineering Hall. The chalk was from other student organizations' advertising and was written underneath an overhang that prevented rain from washing it away. The result was that there were advertisements for events that had happened months ago, and some members of UW-ANS felt this made campus feel rather unkempt and messy. Half a dozen members armed themselves with sponges and buckets of water to clean the chalk off.

5.11 Science Night

One of many of ANS's outreach events are to attend local events that support the younger generation's knowledge of any kinds of science and technology. These opportunities are great because they provide ANS the chance to pass on their knowledge as well as steer interested students in the direction of nuclear science. Sometimes kids are encountered who already seem to know more than anyone in ANS!

As has been done for many years past, ANS was asked to participate in Glenn Stephens Elementary School's Science Night. From past experience, it is known that elementary age kids have

no desire to hear a long presentation about the atom and building up to nuclear energy. As a result, the group took the "beanie-baby" radiation game (where sources are enclosed in the furry animals and detectors are used to find the radioactive ones). In addition, there were suckers with information on an equivalent amount of uranium-235, bookmarks, and fiesta-ware. Some of the kids were even interested in actually hearing the long presentations after being brought in by the activities. It went very well.



Figure 12: Jon teaching a young student about nuclear science

Almost 200 children along with parents and their younger or older kids and teachers showed up to the science night. The teachers and parents stopped by and were just as interested as the kids, except most of them were willing to hear the long presentation. With the recent occurrence of Fukushima, there were many questions directed towards the volunteers about that event.

6 <u>Community service</u>

6.1 Adopt-a-Highway

ANS participated in Adopt-A-Highway for the seventh consecutive year. Members cleaned a two mile stretch of University Avenue between county highway Q and Old Middleton Road. Per the requirements of the program, participants are required to clean the highway a minimum of three times between March and December of every year. Following clean up, participants are typically rewarded with food; on one occasion this past academic year, a games night social was hosted directly after Adopt-A-Highway.

6.2 Engineers-Week

During Engineers Week, or E-week for short, the various engineering student organizations compete in a heated competition of over 25 events. Events range from the silly and fun, such as "Fluffy Bunny" and Mario Kart 64 racing, to organized team events like "Tug-o-War". This year, UW-ANS hosted two events: Mickeys Scrambler Challenge and the Energy Game. The Scrambler was a week long event where student organizations competed to see who could eat the most Scramblers in a week. If anyone has gone to Mickies, they will know it is quite the challenge given the enormous dish sizes! UW-ANS was able to eat 59 Scramblers throughout the week, while among all the student organizations, 196 were consumed. Based on these results, both UW-ANS and the owner of the restaurant donated \$0.50 for each Scrambler, totaling \$196 to the American Heart Society, \$98 from UW-ANS and \$98 from Mickies.

The Energy Game, hosted by UW-ANS, comprised of several trivia questions related to energy sources, including fossil fuels, renewable, and nuclear. Students teamed up in groups of four, and battled to answer the many trivia questions presented. With each correct answer, the team won "money" to build power plants and generate profits. The team with the largest profits after 6 rounds won the game.

Overall, fourteen student groups competed in the 25 events, and while UW-ANS came in third place, we put up a good fight and made the other teams work hard for their win.

6.3 St. Vincent de Paul Food Pantry

UW-ANS maintains a strong belief in giving back to the community, even outside of our nuclear engineering scope. During the 2011 - 2012 semesters, UW-ANS visited the St Vincent de Paul Food Pantry four times. Each visit brought 8 - 15 UW-ANS members to the pantry, where they spent a morning stocking shelves or hosting visitors through the food isles, Figure 13. We often taken such simple things have a full fridge and dinner on the table for granted, so we believe it is important to help those in need.



Figure 13: Jon and Angela stock shelves

6.4 Industrial Liaison Committee

Every year, the Department of Engineering Physics hosts a group of high-ranking alumni from around the world who come to the Department and give advice on how things could be improved. The group, known as the Industrial Liaison Committee (ILC) has heard students' views directly over food and drinks for the past several years. In order to get concise, general views of the student population, UW-ANS and the AIAA met before to discuss some of the topics, and decide on which should be raised in front of the ILC. A formal report was drafted, and submitted to the ILC. Then, a meeting is held again where a discussion based on the report is presented, and students are able to add their input and personal experiences. Yearly ILC meetings with the students have had major impacts, with recent year meetings allowing for an extended hour on Qualifying exams, and additional sections to the quickly filled NE428 Reactor Lab class.

7 <u>Socials</u>

UW-ANS traditionally organizes and coordinates many social events for its members throughout the year. These events give students the ability to relax in a social setting and network and helps build camaraderie between all of UW-ANS, including students, faculty, alumni and friends.

7.1 Games Night / Social with WiN

Throughout the year, UW-ANS partnered with UW-WIN twice to host a highly anticipated games night. Each event was a great success. Dozens of students came together to spend the evening

making ice cream sundaes and socializing. Games such as Mario Kart, Super Smash Brothers, Banana Grams, Apples to Apples, Euchre, and other card games are a staple at these events.

7.2 Pic-Nuke

Pic-Nuke is a large picnic hosted by UW-ANS at the beginning and end of every school year for the faculty, members, and friends of the UW Nuclear Engineering and Engineering Physics Department. A gratuitous amount of food is prepared ranging from brats and veggie burgers, to fruit and cookies. The fall Pic-Nuke is an excellent opportunity for new and prospective members of the department to chat with current UW-ANS members or professors of the department in a casual social setting in order to get to know the section and department better. This year's fall Pic-Nuke included for the first time a tower building contest where teams of two had 15 minutes to build the tallest tower they could using only toothpicks and mini-marshmallows. The spring Pic-Nuke is a relaxing evening for students to kick back and have some fun before final exams. Through the many years that Pic-Nuke has been a regular event, it has become very widely attended both within the department and outside the department. Typically 100-150 people attend every semester, and a group photo of the Fall 2011 semester Pic-Nuke is shown below in Figure 14.



Figure 14: Group photo of all UW-ANS members during the Fall 2011 Pic-Nuke

7.3 Devils Lake Camping

To end summer with a bang, UW-ANS organized an overnight camping trip on the last weekend of summer to the sublimely beautiful Devil's Lake State Park. The park consists of a 1.3 mile long lake surrounded by 500 foot high bluffs on either side. The people on the trip (including 6 of the 7 officers)

spent a day hiking, swimming, playing frisbee, and rock climbing before retiring to their campground to roast brats and marshmallows. A group photo was taken during lunch, 15. As night fell, they talked, played games, and shared stories, and in the process became an extremely close knit group that provided a strong foundation of leadership for UW-ANS in the past year.



Figure 15: UW-ANS members enjoying lunch at Devils Lake

7.4 Bowling

To try and show potential new members what the returning members already knew, that UW-ANS is a lot of fun besides just business, UW-ANS hosted free bowling at the brand-new Union South immediately following both the fall and spring kick-off meetings. Everyone who attended the kick-off meetings was invited for free bowling courtesy of UW-ANS, and both times a couple dozen people took advantage of that invite, many of whom were not returning members. Though the bowling skills on display were often less than spectacular, the competition was fierce with Michael Gionet and Jacob Sager walking away with the high scores in the fall and spring semesters, respectively. There is hope that the bowling outing will become a regular event to increase membership in UW-ANS by showing the fun, laid back side of the organization to potential members.

7.5 Paint Ball

The spring semester's big social event was an April paintball outing to Action Packed Paintball. A total of 20 people went paint balling for an afternoon, Figure 16, a majority of whom had never been paint balling before. The group carpooled 40 minutes from the engineering campus to the site and played against each other in two teams for several hours. Though there were many scrapes and bruises, and even a bit of bloodshed courtesy of the president Darius (just a bit), everybody had a wonderful time and were very disappointed when the afternoon was over.



Figure 16: UW-ANS members posing in between paintball games

7.6 Breakfast at Mickies

For the students that have the willpower to wake up early enough, UW-ANS hosts a weekly event on Friday mornings at 7am at Mickies Dairy Bar. This is a social and fun event that brings together students, faculty, and alumni. Those that attend always encourage others to join the next week. This UW-ANS tradition dates back more than a decade and will continue.

7.7 Culvers

While not directly a formal and organized social event, UW-ANS has developed a history and tradition of stopping at Culvers. Be lunch or dinner, the 2011 - 2012 members have shown an uncanny affinity towards the local Wisconsin fast food chain, Culvers. A group of UW-ANS enjoying lunch at a local spot outside Madison is shown in Figure 17.



Figure 17: UW-ANS enjoying Culvers for lunch

7.8 Coffee & Donuts

Every Wednesday morning during the school year, a UW-ANS member makes coffee and provides donuts from nearby Greenbush Bakery. This event brings together students and faculty members on the second floor lobby of the Engineering Research Building (ERB). Ahmed Ibrahim has again volunteered his time to run this event every week. This event has been a UW-ANS tradition since 2005 and UW-ANS would like to thank Dominion for helping us continue this event this past year.

7.9 Posted Fliers

To help spread the word of all these events, UW-ANS will make extensive use of the atomicbadger.org website, the e-mail list, our Google Calender, and of course fliers. An example of one of our Semester Fliers is shown below in Figure 18, and several additional fliers are given in the Appendix.

SPRING 2012 ANS EVENTS

					a (Grackall	
February	Feb. 7 th	5 – 7pm	EHall 1610	Speaker: IAEA Shirley Johnson, with WiN	Guest Speaker	
	Feb. 16 th	5 – 7pm	Tong	Special Visit: Clean Energy America	Special Event	
	Feb. 18 th	9 – 11am	St. Vincent	Help those in need. St. Vincent food pantry	Community Service ∓	l
	Feb. 18th	11a – 3pm	Olin Park	Take a polar plunge, and throw Prof. Allen in! E-mail <u>mahima@wisc.edu</u> for more info		
	Feb. 21 st	12 – 1pm	ERB 106	Brown bag lunch with DOE	Q&A Lunch	
	Feb. 24 th	7am - 8pm	Fermi Lab	Special meeting with Purdue, and Univ. of Illionis ANS students at Fermi Labs	🛟 Fermilab 📮	
	Mar. 1 st	5:30 - 7pm	EHall 1610	Guest Speaker: Exelon, hosted by WiN	Guest Speaker	
	Mar. 5 – 9	All week	Engineering	Support ANS during E-Week!	E-WEEK 👹 🗧	
-	Mar. 13 th	5:30 - 7pm	EHall 1610	Guest Speaker: Kulcinski - "Nuclear in Space", joint with AIAA	Guest Speaker	
Marc	Mar. 17 th	9 – 5pm	ECB Tong	Boy Scouts Event	Boy/Girl Scouts 💠 ∓	
	Mar. 24 th	9 – 5pm	ECB Tong	Girl Scouts, WiN	Boy/Girl Scouts 🎪 두	
	Mar. 22 nd	7a – 8pm	Point Beach	Power plant tour of Point Beach.	Travel Event 픚 ∓	l
	Mar. 27 th	5 – 8pm	ECB Tong	Games Night, joint with WiN	++ Games Night ++	
	April 12th	7 – 9pm	Holtz	Special Fukushima discussion forum	special Event	
lin	Apr. 12-15	All day	Las Vegas	ANS Student Conference!!! E-mail president@atomicbadger.org for info	ANS Student Conference	
Ap	April 21st	9 – 5pm	ECB Tong	Girl Scouts, WiN	Boy/Girl Scouts 🔹 ∓	
	April 28th	9 – 5pm	ECB Tong	Boy Scouts Event	Boy/Girl Scouts 🔹 ∓	
May	May 3 rd	5:30 – 7pm	ME 1106	Final general meeting, plus elections	General Meeting	
	May 4 th	4:30 - 8pm	Vilas Park	ANS Pic-Nuke. Free BBQ, BEvERages	Pic-Nuke ዿ 🍳	
	May 8 th	4 – 7pm	ECB Tong	Games Night, join with WiN	++ Games ++ Night	

atomicbadger.org

Check website often for any updates to event times or locations

 $+1 \rightarrow Denotes + 1$ Active Points

Figure 18: Spring 2012 events flier

8 <u>Conclusion</u>

The tradition of excellence at UW-ANS that has been set forth by many years of strong officer leadership and highly active membership has been continued once again this past year. The multitude of social events held throughout the year led to a very cohesive membership who took advantage of numerous professional development events to make themselves more valuable as professional engineers. In addition, the combined membership of UW-ANS has dedicated hundreds of hours of time to community service and public outreach in a variety of forms. While the few key members of UW-ANS that will be graduating and moving on will surely be missed, there is no doubt that other members are ready to step into leadership roles and continue to lead UW-ANS forward in its time-honored traditions of service, outreach, and development of its members.

9 Appendix



ANS Active Point System

Fall 2011 - Spring 2012



Earning Points: Three Categories

1. Public Outreach

- Boy Scouts, Girl Scouts
- Science Olympiad, Science Night
- Summer Outreach (Camp Badger, Grandparents University, etc)

2. ANS Service

- Help plan or setup an event (games night, Pic-Nuke, etc.)
- 2013 ANS Student Conference Committee
- Pizza sale

3. Community Service / Professional Development

- Food Pantry, Highway Cleanup, E-hall cleanup

-WPUI conference, ANL Tour, ANS National meetings, Hacker Within

Benefits of Points: Two Tier System

Tier 1:

1 point per semester

- Be counted as active member
- Reduced t-shirt prices

Tier 2:

4 points per semester (1 from each category)

- Invitation to end of year banquet

- ANS conference travel funding (3 pts. by April 2012)

Submission of Points

Be sure you get credit for your events!

Submit points online after event atomicbadger.org-> Events and Outreach -> Active Membership Point Submission

Questions?

E-mail us at communications@atomicbadger.org



ANS Caption Neutron

Kalin Kiesling



Thanks Kalin for helping at Boy Scouts and the cleaning of E-Hall!!







ANS Fall 2011 Kick Off Meeting

Wednesday, September 7th 6:00 – 7:00pm Mechanical Engineering, Rm. 1106

•Free pizza / drinks

•Preview of upcoming semester activities

•Free t-shirts to be raffled off!



After the meeting, everyone is invited for **free bowling** at the new Union South!







Come enjoy *brats*, *burgers*, *chicken*, and **BEvER**ages at the Vilas Park shelter alongside lots of other students and staff from the Nuke department.





Pacific Northwest National Lab

Come hear Dr. Samuel Zenobia talk about his experience with the Nonproliferation Graduate Fellowship Program for the NNSA by **Pacific Northwest National Laboratory**.

Great chance to meet one on one with a recruiting officer from PNNL before the chaos of the Career Fair starts next week.

Bring questions, your resume, and a big appetite! lan's Pizza and drinks will be provided.

When: Tuesday September 13th, 5:30pm Where: Engineering Hall, Rm. 1610





Recruiting Sessions

for students in

Nuclear Engineering & Engineering Physics

Beat the chaotic, impersonal atmosphere of the Engineering Career Fair and attend a recruiting session! Representatives from several top companies and laboratories have asked to meet with UW engineering students on campus. **Free** dinner / lunch!

<u>Company</u>	<u>Representative</u>	Date	Room	<u>Time</u>
Knolls Atomic	Eric Edwards	Tues., Sept. 20^{th}	EHall 1610	5:30 - 6:30pm
Idaho National Lab	Thomas Steele	Thurs., Sept. 22 nd	ERB 106	12:30 - 1:30pm
Sandia National Lab	Amy Laspe	Thurs., Sept. 22 nd	EHall 1610	5:30 – 7:00pm
Dominion	Scott Luchau	Tues., Oct. 4 th	EHall 1610	5:30 - 6:30pm
Naval Nuclear Propulsion	Admiral Donald	Wed., Oct. 5 th	ECB 1025	10:15 – 11:15am



Knolls Atomic Power Laboratory



hosted by American Nuclear Society UW – Madison, Student Chapter







<u>ANS & WiN</u> <u>Game Night Social</u>

Where? When?

Thursday, October 13th 6:00 – 8:00pm Tong Auditorium





Why?

Free Food (Noodles & Co.) Ice Cream Sundaes Card / Board Games Settlers of Catan Mario Kart plus... great company!





Wisconsin Public Utility Institute

Renaissance or Reconsideration? Nuclear Power Post-Fukushima

November 16th -17th - Fluno Center

Overview:

This program will explore several high level issues as they relate to the future of nuclear power, including safety, cost, spent fuel storage, and proliferation.

It features top experts in nuclear energy from the federal government, private industry, research laboratories, and non-profit and professional organizations.

Special for ANS Members

Free registration fee!!!

A separate meeting with just ANS students and.. ANS President, Eric Loewen NRC Commissioner, Kristine Svinicki



E-mail Darius Lisowski for more information or to sign up

president@atomicbadger.org



of Wisconsin

THE ADVANCED TEST REACTOR AT THE INL



with special guest Professor Todd Allen

Monday, November 21st 5:30 – 6:30pm Engineering Hall, Rm 1610

> Free INL mugs for all attendees!

Professor Todd Allen, Scientific Director <u>"Advanced Test Reactor National</u> <u>Scientific User Facility"</u>

•ANS General Meeting with an introduction by WiN





•Free Dinner!





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ANS General Meeting Spring '12 Elections

Join us for the last meeting of Fall semester!!!

- Semester recap
- Preview of events for next semester
- Elections for Communication and Governor
- Free snacks and drinks

5:00 - 6:00pm December 8th Tong Auditorium

E-mail president@atomicbadger.org if you want to nominate yourself or someone else for a position





<u>ANS & WiN</u> Game Night Social

Date: **Tuesday, Dec. 13th** Time: **5:30 – 8:00pm** Room: **Tong Auditorium** Why?

Free Food & Drinks Card / Board Games Settlers of Catan Mario Kart plus... great company!

Feel free to bring your own games to play!







NUCLEAR ENERGY'S FUTURE

Clean Energy America invites you to learn about the future of nuclear energy. Meet with the experts working for a variety of energy companies to discuss today's critical energy issues and the nuclear industry.



Clean Energy America is sponsored by the Nuclear Energy Institute.

Thursday, February 16th 2012 5:30 PM 1106 Mechanical Engineering





2012 E-Week Event Schedule



March $5^{th} - 9^{th}$

Monday	Tallest Tower	11am	ECB Lobby
	Tug of War	1pm	E Hall Lobby
	Stuck on You	2pm	E Hall Lobby
	Bean Bag Toss	3pm	E Hall Lobby
	Mario Kart	4pm	Tong
	Don't Forget the Lyrics	5pm	Tong
	Rock Paper Scissors	6pm	ECB Lobby
Tuesday	Rock Band	11am	Tong
	Spoons	1pm	Tong
	Don't Eat the Worm	2:30pm	Tong
	Root Beer Pond	4pm	Tong
Wednesday	Twister	11am	ECB Lobby
	Texas Hold 'em Poker	1pm	Tong
	Sheepshead	2pm	Tong
	Energy Game	4pm	Tong
	Euchre	5pm	Tong
Thursday	Spelling Bee	1pm	ECB Lobby
	Chubby Bunny	2pm	ECB Lobby
	Apple Juice Flip Cup	4pm	ECB Lobby
Friday	E-Weekopoly	11am	ECB Lobby
	Best Dance Time	3pm	EHALL Lobby
	Mr. and Mrs. Engineer	4pm	Tong

All Week Events

Box Top SurvivorECB LobbyPenny DriveECB LobbyMickey's ScramblersMickey's Dairy BarFood DriveECB Lobby

Support <u>ANS</u> and earn Active Points!!!



America's Nuclear Rocket Program & Nuclear Power in Space

Prof. Gerald L. Kulcinski

Tuesday, March 13th 5:15 – 6:30pm Engineering Hall, Rm. 1610



Free dinner / drinks!!!

Hear about the NERVA/KIWI program, a US project from the 1960's that aimed to build a flying nuclear rocket with hydrogen propellant

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Joint hosted by ANS, AIAA, and Aviation & Space Law



Aviation & Space Law Student Association





ANS Elections

Fall '12 - Spring '13

President

•Vice-President

•Public Outreach

CommunicationsTreasurerGovernor

Thursday, May 3rd 5:30 - 6:30pm 1106 Mechanical Engineering

All positions are up for vote!

Submit nominations (for yourself or someone else) to president@atomicbadger.org

Free t-shirt to be raffled!!!

Voted)

