



RENSELAER  
POLYTECHNIC  
INSTITUTE

## 2009-2010 GLASSTONE REPORT

### **2009-2010 Board of Governors**

Selena M. Willoughby '11, President

Theodore S. Worosz '10, Vice President

Lindsay B. O'Brien '11, Secretary

Jessica L. Hunter '11, Treasurer

### **Faculty Advisor:**

Dr. Peter F. Caracappa

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## **1 Introduction**

The Rensselaer Polytechnic Institute Student Section of the American Nuclear Society has continued to serve as an integral part of the RPI community this past year. The Section has continued to work very closely with the Mechanical, Aerospace, and Nuclear Engineering (MANE) Department, both the local and RPI student communities, industry, and the national American Nuclear Society. Our section's success can be attributed not only to the hard work and dedication of this year's Board of Governors, but more importantly the continued support of our general body.

## **2 Administrative Updates**

### **2.1 Membership**

RPI's Nuclear Engineering program continues to grow leaps and bounds as the United States is renewing its interests in nuclear technologies. The program's growth has also allowed for a growth in the Section's yearly membership. This year, the Section had 49 active members – roughly a 4.3% increase from the year prior. However, it is important to note that 80 unique individuals attended our Section's general body meetings, a 16% increase from the 2008-2009 academic year. The demographics of the Section continued to be mainly dominated by undergraduate students, but there was a stronger graduate student presence at meetings. The section also saw some faculty attendance meetings, and visits from RPI alumni.

Attendance to general body meetings continued to be strong this year. Out of 16 general body meetings, only one saw attendance below 20 students, and on average meetings had a steady attendance of 27 students. Our Section's growth can be attributed to the Board of Governors and Section Committee's continual attempts at spreading the word about ANS to students both in and outside the Nuclear Engineering curriculum.

### **2.2 Section Bylaws and Rules Update**

On April 29<sup>th</sup> 2010 the section formally voted on the proposed wording of a rule change to send to the Society's Bylaws and Rules Committee. The change, if approved by nationals, would create a permanent Conference Committee tasked with the creation and upkeep of the Section's student conference proposal. This committee would also oversee the student conference if it were awarded to RPI.

Additionally, at the April 29<sup>th</sup> meeting, another proposed rule change was presented to the Section. The intent of this change was to clarify the Section's definition of "Active" membership status. The Section will vote on sending the proposed rule change to the Society's Bylaws and Rules Committee for approval on May 5<sup>th</sup>, 2010.

### **2.3 Board of Governors**

The 2009-2010 Board of Governors met weekly in the George M. Low Center for Industrial Innovation to discuss and plan activities for the Section. To continue an initiative started by the prior Board of Governors, each officer was asked to join a Section Committee in order to encourage the Section to become involved with the committees and to ensure that there was communication between the committees and the Board of Governors.

The 2009-2010 Board of Governors included of President Selena Willoughby ('11), Vice President Theodore Worosz ('10), Secretary Lindsay O'Brien ('11), and Treasurer Jessica Hunter ('11).

The recently elected Board of Governors for the 2010-2011 academic year will include President Jessica Hunter ('11), Vice President Lindsay O'Brien ('11), Secretary Matthew Riblett ('12), and Treasurer Michelle Okoniewski ('11).

An interesting point to note is that this will be the second year in which female student's posses 3 out of 4 offices for the Board of Governors.

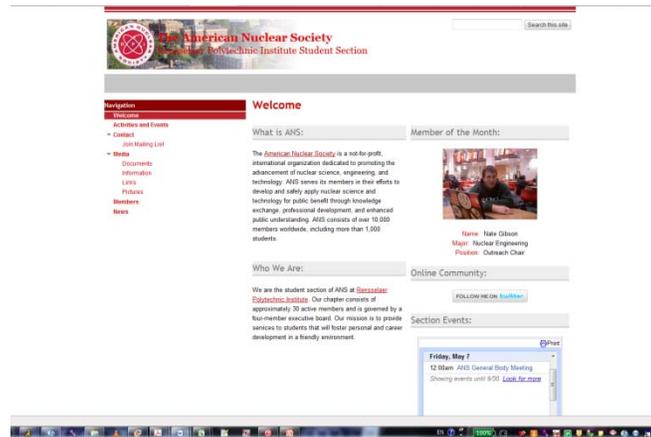
## 2.4 Initiatives

The Board of Governors continued the tradition of selecting the Section's Member of the Month. At the end of each month, the Board of Governors selected one active member who stood out amongst the Section to be Member of the Month. The decision was announced during the general body meetings, and the member was presented with a \$10 gift certificate to a local store or restaurant and a trophy that circulates to every member of the month. This year's Members of the Month included: Ryan Norval ('13), Michelle Okoniewski ('11), Kevin Higgins ('11), and Nathan Gibson ('10).



**Students Nathan Gibson (left) and Michelle Okoniewski (right) showing off the Member of the Month trophy.**

Additionally, in the spring semester, the Board of Governors began to discuss possibly re-designing the section website. The discussion primarily stemmed from the lack of website updates due to the Board's busy schedules and lack of web-coding knowledge. After attending the 2010 Student Conference and receiving advice from other sections, Matthew Riblett ('12) created a new website with input from Selena Willoughby ('11). The new design was unveiled at the general body meeting which occurred the week following the student conference. The new website has created an easy system for any member of the Board of Governors to update, a central email account for contacting the Board, and a Google calendar to inform the section of upcoming events. The website design will continue to be refined over the summer for the start of next year.



Above is an example of the welcome page from the new website.

Furthermore, Ted Worosz oversaw and managed the Section's peer mentoring program. Eleven freshmen and sophomores were paired with upperclassmen (juniors, seniors and Graduate students) at the beginning of the fall semester. Mentors were encouraged to meet with their mentee outside of ANS during the year.

From the mentoring program spawned the peer tutoring program, which occurred on a weekly basis at 7pm (usually right before general body meetings). During peer tutoring, upperclassmen were available to help answer questions on homework brought by undergraduate members. The tutoring program allowed for underclassmen to meet and interact with upperclassmen in a relaxed environment, while also providing a dedicated time for members to complete some of their work.

### **3 General Body Meetings**

Our section continued to place a great emphasis on getting student members active at meetings. The Board of Governors strongly believed that our Section is meant to serve as a means for which students can network with their peers in the department. With this purpose in mind, the Board of Governors tried to structure general body meetings so that there would always be some way for members to socialize and network. The following is an example of some of the events that we tried to tie into the Section's general body Meetings.

#### **3.1 General Body Feedback**

At various meetings throughout the semester members were asked to give feedback to the Board of Governors regarding what activities they wanted to see after meetings. This also transformed into a time when members could make announcements regarding other events on campus. Additionally, during the meetings directly before or after break, the general body was encouraged to talk about what they did or planned to do.

#### **3.2 Nuke Q&A**

Similar to general body feedback, time was set aside during some meetings for members to ask questions about anything related to nuclear – be it the nuclear engineering curriculum at RPI, or the latest policy regarding nuclear safe guards. Also during these times students were able to ask for help on selecting their class schedules for the following year.

#### **3.3 ANS Movie Night**

After the October 7<sup>th</sup> general body Meeting, the Section showed Disney's *Our Friend the Atom*. The film, from 1957, provided introspective the early beginnings of nuclear technology. This prompted valuable discussions on how far technology has come in the past fifty years from the 10 students who stayed to view the film.

#### **3.4 Mentor-Mentee Board Game Night**

Prior to one of the meetings in March, the Section hosted a board game night during our usual tutoring time slot. While students were working on homework, they also were involved in playing games such as mancala, trouble, and twister. Mentors and mentees were also encouraged to meet up during this event and catch up.

#### **3.5 Elections**

On April 29<sup>th</sup>, at the 16<sup>th</sup> general body Meeting of the semester, the Section formally held elections for the 2010-2011 Board of Governors.

Similar to the year prior, nominations were prepared by a nominations committee comprised of graduating senior and was chaired by Ted Worosz ('10). This allowed for members to be recognized by their peers while ensuring that enough candidates were running for each office. Nominations were also accepted from the general body prior to the election meeting.

This year, we saw the largest ballot in our Section's history. No office was left uncontested, and every position with the exception of President had at least 4 nominees. Due to the number of candidates running, this meeting was the longest of the semester. A silent ballot was conducted for each office, and afterwards the winner of each race was announced. At the end of the meeting, the new officers officially took office.

## **4 Section Committees**

As per the Section's Rules and Bylaws, there were four formal committees that students could join: Institute Relations, Professional Relations, Outreach, and Social. As stated earlier, each member of the Board of Governors was encouraged to participate on one of the committees. The Board also highly encouraged each committee to have regular meetings outside of the general body Meetings.

### **4.1 Institute Relations**

This year our Institute Relations committee was headed by Elise Pusiteri ('11), and had a very successful year. The committee was tasked with revising the Program and Review Document (PIRD), recruiting students to join ANS, representing the Section at various open houses and similar events, and also a Nuclear Awareness Day on campus.

#### **4.1.1 Program in Review Document**

After the success of last year's effort to create a Program in Review Document for our Nuclear Engineering program, the committee spent much of the year updating the document. This sort of document has been made in several other nuclear engineering departments around the country, and RPI's document was made to follow the same format. This year's efforts included adding sections to the document.

#### **4.1.2 Activities Fairs and Open Houses**

Every year, the Rensselaer Union holds an activities fair at which clubs and organizations can display booths to interest prospective members. Almost every member of the freshman class attends the Activities Fair each year. This year, our ANS Section had a large poster display, informational pamphlets, candy, and several students to answer questions. Students had the opportunity to join the RPI ANS mailing list if they were not on it already.

Additionally, throughout the year, the MANE Student Services Office asks ANS to host a table at open houses for prospective students and their parents. Typically a few student members, such as Laura Goulet ('11), Ryan Norval ('13), and Michelle Okoniweski ('11) take the materials from the Activities Fair and speak about both our Section and the nuclear engineering curriculum at RPI.

#### **4.1.3 In Class Advertisement**

Each semester, a one-credit introduction to nuclear engineering class is open to students. This class features weekly presentations from different professors in the Nuclear Engineering program. The course coordinator is our ANS Section advisor, Dr. Peter Caracappa. Also, each semester ANS students, such as Selena Willoughby '11, Jessica Hunter ('11), and Dillon Shaver (Grad) were given opportunities to talk about internships, research, and ANS membership.

Institute Relations further extended this by having members promote the Section in their own nuclear engineering courses, with permission of the instructor. Jessica Hunter ('11) and Lindsay O'Brien ('11) spoke about ANS prior to the start of the Physics of Nuclear Reactor course, which provided a great segue for Professor Yaron Danon who encouraged students to attend and present at the 2010 Student Conference. Similar promotions occurred in the Nuclear Phenomena and Fundamentals of Nuclear Engineering courses.

#### 4.1.4 ANS Bake Sale

On March 19<sup>th</sup>, the Institute Relations committee hosted a bake sale on campus to raise funds to help pay for food at general body meetings. The night before, students baked a variety of sweets, such as isotope sugar cookies, ANS brownies, and MCNP cupcakes. The event was very successful, and paid for the pizza for the following general body meeting.



**Michelle Okoniewski ('11), Elise Pusiteri ('11), and Brian Jennings ('11) overseeing the bake sale.**

#### 4.1.5 Nuclear Awareness Day

Every year, our section holds an event called 'Nuclear Awareness Day' to raise awareness on campus regarding the myths and facts surrounding nuclear energy and radiation. On April 20<sup>th</sup>, the Section set up a display in the Darrin Communication Center with information posters regarding nuclear technology and ANS. Additionally, the section also had various counters and detectors on display, along with informational material that was kindly provided by ANS Nationals.

## **4.2 Professional Relations**

This year, our Professional Relations committee, chaired by Kenny Grover ('10), worked to provide information on companies to students and to bring companies to hold recruiting sessions on campus. The committee also served to organize attendance at various nuclear related seminars and events on campus and in the Albany area.

### **4.2.1 NENY Membership Drive**

On October 6<sup>th</sup>, the Section attended Northeast New York's annual ANS Membership drive at Valente's Restaurant in Watervliet, NY (a suburb of Albany). Nine students attended and were able to meet various professionals who worked for nuclear engineering companies in the area (most of those who were in attendance worked for Knolls Atomic Power Laboratory).

### **4.2.2 Company Binder**

This year, the Professional Relations committee set out to create a binder that profiled many of the different companies that look to hire nuclear engineers. They found that many of the students who are looking for jobs simply do not know who to apply to – besides the major name companies that often recruit at RPI during career fairs. Students who attended either the ANS Winter Meeting or Student Conference were asked to pick up extra promotional material from companies and graduate schools that they spoke with. Originally the information was going to be compiled into a binder and located in the MANE Students Services office; however, the office instead provided the committee with a filing drawer to store the materials in.

### **4.2.3 Company Outreach**

Throughout the course of the year, the Professional Relations committee continuously relayed information regarding information sessions and recruiting opportunities for companies that were looking to hire Nuclear Engineers.

On January 21<sup>st</sup>, the committee had Constellation Energy come present on their company at the first general body meeting of the semester. The following day, Constellation held on campus interviews with members who were searching for a job.

### **4.2.4 Professional Presentations and Seminars**

Throughout the year, the Section has had many opportunities to attend a variety of on campus seminars. In October, the Health Physics Society invited the Section to attend a presentation from Knolls Atomic Power Laboratory (KAPL) on the Chart of Nuclides. Later on in the spring semester, NENY invited the section to attend a presentation on the storage containers designed for high level radioactive waste and Yucca Mountain. They have also invited the Section to attend a seminar at Union College in May on accelerator research.

Additionally, with the help of Rian Bahran (Grad), the section was invited to an assortment of MANE Graduate Colloquium. Throughout the year, students went to presentations by Terra Power, Idaho National Labs, Dr. Mujid Kazimi (MIT), and Dr. Wei Ji (RPI).

### 4.3 Outreach

This year the outreach committee was led by Nathan Gibson ('10). The main focus this year was expanding the nuclear science merit badge, while continuing to present to local high school students.

#### 4.3.1 Nuclear Science Merit Badge

For the fourth year, the nuclear science merit badge program has continued to surpass expectations. Scouts arrived from surrounding states to participate in the program. Nathan Gibson ('10), a founding member of the science merit badge, passed on the torch and made a point to train the entire outreach committee in conducting the program. At least four outreach committee members have become nuclear science merit badge counselors. This has ensured that the program will continue to thrive in the coming years.

Last year the program reached 22 scouts. This year the program was expanded from one to two days, and over 50 scouts received their nuclear science merit badges. The remaining outreach members have plans to expand the program even further in the coming year, with days both semesters. There are also plans to expand and alter the program to reach out to girl scouts. Contacts were made by several members to begin the process.



**Rian Bahran (Grad) giving a tour of RPI's Linear Accelerator to a group of Boy Scouts.**

#### 4.3.2 High School Outreach

A large part of the outreach committee in the past has been high school outreach, in which members travel to either their own alma maters or local high schools to present. Several Section members have presented over winter break, and members such as Zachary Hoagland ('11) and Matthew Riblett ('12) have scheduled lectures at the end of the semester.

A new idea for local high schools has been to participate in classes. Committee member Jessica Hunter has set up an interactive laboratory for physics classes, in which outreach committee members can supervise a laboratory, teaching a class for a day. The laboratory is focused on nuclear physics, with activities such as electron cloud chambers or electroscopes. The aim is to personally teach students and present on nuclear engineering at the same time. It is the hopes of the committee that a less formal atmosphere will generate more interest in the science, especially seeing the applications of such science in a presentation following the lab. They hope to conduct the laboratory at several local high schools, beginning with Schenectady High School.

## 4.4 Social

This year's Social committee was overseen by Jenny Martos ('10). The Social committee sponsored various intramural teams, while also encouraging the Section to participate in community service events, creating section T-shirts, and hosting numerous social outings throughout the course of the year.

### 4.4.1 Intramural Sports

The Section continued to extend the number of sports it played throughout the course of the year. In the fall, both graduate and undergraduate students participated on intramural Volleyball and Basketball teams. During the winter, the section fielded a Walleyball (volleyball played in racquetball court) team. Additionally, select members joined up with one of RPI's freshman dorms and fielded gym hockey team for the season. For the spring season, the Section fielded its first ever Softball team.

### 4.4.2 Section T-Shirt

This year, the Social committee called upon the help the general body to help design this year's t-shirt. After a general body in February, members stayed late to try and come up with a design. Originally credited to Nathan Gibson ('10), the group of students took his idea and designed a shirt based around it. The t-shirt, as seen in the image below, was approved by the Section and sold for \$15. In the initial order, 35 shirts were sold. A second order is being made at the request of the Section after some parents asked that their son or daughter buy them a shirt.



Allyce Bolger ('11) and Lindsay O'Brien ('11) showing off the RPI ANS "Fast Breeders" shirts.

### 4.4.3 Relay for Life

On April 23rd, 2010, the Section sponsored a team for Relay For Life, an event geared towards raising money for cancer research and honoring those who have died because of cancer. Members walked around our school's '86 field from 6PM until 6AM the next morning. The Section's team grew significantly this year, and raised over to \$500 for the event. Section member Laura Goulet ('11) was the highest fundraiser on the ANS team, and came in 32<sup>nd</sup> for most funds raised at RPI.

#### **4.4.4 Social Events**

Throughout the course of the year, the Social committee planned various trips and outings. Amongst these were trips to the local bowling alley for \$1 Bowling Night. The committee also planned a trip to play laser tag before winter finals, along with a social night a Browns – a local brew pub in Troy, NY.

Browns will also be hosting the Section's Senior Appreciation Dinner on May 12<sup>th</sup>.

## 5 Conferences

### 5.1 2010 Winter Meeting-Washington, D.C.

This year, the Section sent eight students to the ANS Winter meeting at the Omni Shoreham Hotel in Washington, D.C. Two of our members attended the Student Section committee meeting and actively participated in the committee's business. All students attended the technology expo, networking with many of the individuals they sought internships with. Students had the opportunity to reconnect with RPI alumni. All of the students attended the President's Reception.



**Dr. Wei Ji with students Selena Willoughby ('11), Michelle Okoniewski ('11), and Lindsay O'Brien ('11) at the National Mall in Washington D.C.**

### 5.2 2010 Student Conference-University of Michigan

This year the Section sent 16 members to the student conference held at the University of Michigan. There were eight presentations from RPI students, seven of them from both graduate and undergraduate student members. Students attended the career fair and networked with many professionals. Students also attended the public forum, mediated by Dr. Tom Sanders, current president of ANS nationals. Students also took the opportunity to mingle and socialize with students from other universities, learning about how different sections operate.