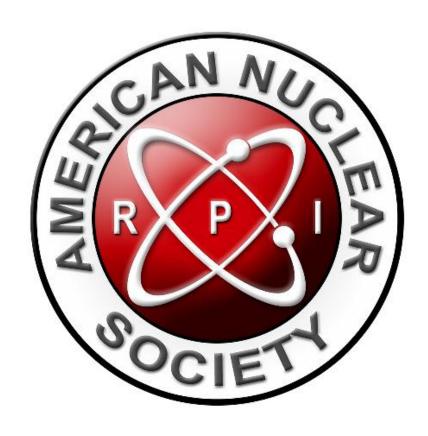
# 2012-2013 Glasstone Report



2012-2013 Board of Governors
Nicholas Thompson, President
Brian Waite, Vice President
Matthew Zimmer, Secretary
Matthew Riblett, Treasurer
Faculty Advisor: Dr. Peter Caracappa



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## Introduction

Over the past few years, the Rensselaer Polytechnic Institute (RPI) Section of the American Nuclear Society has become an integral part of the Nuclear Engineering Program at RPI, the Mechanical, Aeronautical, and Nuclear Engineering (MANE) Department, and the community as a whole. The objectives of the Section are to 1) continually support the nuclear community through increased awareness by public education, 2) to support the Section by providing opportunities of employment, research, and furthering knowledge in the nuclear field, 3) to increase communication between the Section, faculty, and department, and 4) create an atmosphere of a true community through networking and social activity. The section has worked hard over the past year to meet these goals by working with the MANE Department, the RPI community, other professional societies, the local community, and the national American Nuclear Society.

The Section has done very well in at bringing companies, speakers, and other representatives to speak in the past, and has continued that trend this year. Partnering with the North East New York (NENY) Section of ANS and the MANE Department, RPI ANS members have had the opportunity to go to a technical seminar nearly every month of the academic year (including ANS President Dr. Corradini, twice!). In addition to technical seminars, RPI ANS has also hosted various companies and student speakers. These activities give students insights into the nuclear community that they might not otherwise get during classes.

The RPI ANS section was faced a number of challenges this year, and with a small group of dedicated people, was able to overcome them. Chief among them was an age gap which arose from the current senior class being smaller than normal. However, this became an opportunity for some of the younger students to step up into leadership roles and gain more experience in managing and leading groups and activities.

The partnership between the RPI ANS and NENY ANS Sections has continued to remain strong. A large portion of the RPI ANS students who graduate end up working for local companies, namely Knolls Atomic Power Laboratory, so it's mutually beneficial for both sections to work together in hosting events and networking. RPI ANS also has a voting seat on the NENY ANS Section's Board of Directors, helping to further build a "pipeline" between students and industry professionals.

This year was marked with a large amount of outreach work. Following recent events, the importance of outreach has never been more clear, and the members of the RPI ANS have visited various venues to talk about nuclear energy, including Rotary clubs, high schools, middle schools, and even another college. RPI ANS has also worked with some of the other professional societies in educating children through the Exploring Engineering Day and Design Your Future Day held at RPI.

Members of the RPI ANS section also have a direct line of communication to the Head of the MANE Department, and the staff of the Nuclear Engineering Program. The President of the RPI ANS for the past year has been invited to sit in on the Nuclear Engineering Faculty Meetings, and gives an update on RPI ANS at each meeting. RPI ANS is also involved with the MANE Student Advisory Council (SAC), which works on department wide curriculum development, faculty hiring, and outreach. These methods

of communication have allowed the RPI ANS to have an unprecedented influence over the direction of the Nuclear Program, and the MANE Department as a whole.

The Section works on its goals through its five standing committees: Professional Relations, Institute Relations, Outreach, Social, and Conference. Additionally, over the past year, the Section has formed a sixth committee, the Graduate and Alumni Relations Committee. With these six committees, and the members that make up them, the Section has been able to do some excellent work throughout the year.

## **Administrative Updates**

## **Recruitment and Membership**

With a fluctuating incoming freshmen class size in the nuclear program at RPI over the past few years, the RPI ANS Section has looked for ways to grow and keep active members through social activities, community involvement, and peer tutoring. For the 2012-2013 academic year, the Section had a total of 22 active members at election time, with 82 unique individuals attending meetings and events, a drop from last year's peak of 97, but more than the two previous years before that. Over the course of the year, the RPI ANS Section has worked to add members. These efforts have helped enormously by adding 59 new people to our email list at outreach events, of which 29 came to another meeting or event throughout the year.

Due to the structure of the nuclear coursework at RPI, students usually don't start taking nuclear related classes until their second semester sophomore year. Also, as students take more nuclear related classes and become more interested in the field, they start looking for ways to become more involved and network. Because of this, historically the RPI ANS Section has been comprised of mostly upperclassmen and graduate students. However, as stated before, due the age gap from a smaller than average senior class, membership dropped slightly this year. However, some of this was offset with gains made by encouraging more graduate students to attend meetings. Ten of the active members are graduate students, more than doubling the graduate student involvement from last year. The number of unique graduate students who attended meetings also doubled, from eight last year to 16.

There is a great sense of community within the members of the RPI ANS Section. For many students, the bi-weekly meetings and weekly peer tutoring sessions are not only chances to network and look for employment, meet new people, and get help with work, but also as a time to relax with friends and take a break from the stresses of classes, jobs, and research. Many great friendships and bonds are made at these meetings, which last well after graduation. Quite often students who become active in the Section later on in their academic careers regret having not joined earlier, as they realize the great times, friends, and connections they have missed.

## **Section Bylaws and Rules Update**

The Section Bylaws and Rules have not been updated in the last year. The last update occurred in Spring of 2011 in which the Section voted to adopt the most recent edition of the standard bylaws of

the Society and amend the Section rules to include the Conference Committee as a formally recognized special committee.

## **Board of Governors**

The 2012-2013 Board of Governors met every other Thursday at 8:00 pm to handle the activities and management of the Section. Officers and Committee heads attend these meetings, as this creates additional communication between the leaders of the Section. This created the ability for more ideas and plans to be brought to the table, as well as the people who would be directly implementing those ideas into action.

The 2012-2013 Board of Governors consisted of President Nicholas Thompson (Ph.D. Student), Vice President Brian Waite (Class of 2013 and Accepted Graduate Student), Secretary Matthew Zimmer (Class of 2015), and Treasurer Matthew Riblett (Ph.D. Student). Elections for next year's Board of Governors will be held on Tuesday, May 7<sup>th</sup>.

## **General Body Meetings and Technical Seminars**

This year one of the goals of the Board of Governors was to increase our outreach to the general community. As such, during the twice monthly General Body meetings, some time was spent planning and discussing future events. Another goal was to increase the membership's knowledge of the nuclear field, and so a series of technical seminars was delivered by people in industry, people of academia, and current graduate students. The RPI ANS Section is very fortunate to have close ties to the NENY ANS Section, which over the past year hosted many talks in which the RPI ANS section was invited, as well as co-hosting multiple talks with the RPI ANS Section. Below is an overview of most of the General Body meetings, jointly hosted events, and technical seminars which were offered to the RPI ANS Section members over the past year.

## **NENY Technical Seminar: Dr. Clint Ballinger**

On August 23<sup>rd</sup>, 2012, Dr. Clint Ballinger, CEO of Evident Technologies, gave a talk entitled, "Parallels Between the Boltzmann Transport Equation and Thermoelectronics" in which Dr. Ballinger outlined his transition from a nuclear engineer to working on nanoscale thermoelectrics. He also talked about the history of his company, and gave some life lessons that he learned along the way.

## RPI ANS, RPI NE Program, and NENY ANS Joint Meeting: ANS President Dr. Michael Corradini

On September 18<sup>th</sup>, 2012, RPI ANS had the honor of co-hosting Dr. Michael Corradini as part of the *Dr. Richard T. Lahey Jr. Distinguished Lecture Series in Nuclear Engineering at RPI*. Dr. Corradini gave a talk entitled "Nuclear Energy Education and Outreach after Fukushima", which highlighted the importance of outreach and communication to the general public. Additionally, Dr. Corradini talked about the new Center for Nuclear Science and Technology and its role in helping to communicate the basic facts of nuclear energy.

## NENY HPS Technical Seminar: HPS President-Elect Dr. Darrell Fisher

On September 25<sup>th</sup>, 2012, NENY HPS hosted a dinner and technical seminar at RPI at which Dr. Darrell Fisher, President-Elect of the Health Physics Society gave a talk entitled, "Update from the National President-Elect". He spoke about the relevancy of the HPS, priorities and legislative agenda, ways to grow and improve, and opportunities for participation and service.

## RPI ANS Technical Seminar: Dr. Jonathan K. Witter: Introduction to the B&W mPower<sup>TM</sup> Technology

On October 4<sup>th</sup>, 2012, the RPI ANS Section hosted Dr. Witter of B&W, who gave an excellent overview of the mPower reactor and the benefits of scalable, modular, advanced light water reactors. This was followed by a discussion of potential fuel cycles, and the future of the nuclear industry. The talk was attended not only by RPI ANS members, but also faculty and some NENY ANS members. A special thanks to former RPI ANS Secretary Melissa Urquhart (Class of 2013) for helping set up this event.

## **NENY ANS Technical Seminar: Dr. James Smiley**

On October 18<sup>th</sup>, 2012, NENY ANS hosted Dr. James Smiley, who gave a talk entitled, "Energy Sustainability", which gave an overview of Dr. Smiley's assessment of the current energy situation and nuclear's role in it. The talk was followed by a lively discussion about the role of nuclear, coal, and natural gas in providing baseload power, while also trying to cut emissions.

## **RPI ANS and NENY ANS Joint Meeting: Morgan Hennessey**

On November 28<sup>th</sup>, 2012, Morgan Hennessey, Former Assistant Program director for the National Center for Food Protection and Defense, gave a talk entitled, "Food and Agriculture Sector Impacts of the 2011 Incident in Fukushima". This talk gave an interesting summary of how various food supply chains were interrupted by concerns about radiation safety in the Fukushima Prefecture during and after the 2011 Tohoku earthquake and subsequent tsunami.

### **RPI ANS Technical Seminar: Ezekiel Blain**

On November 29<sup>th</sup>, 2012, RPI graduate student Ezekiel Blain presented some of his research on measurements of fission neutron spectrum and multiplicity using a double time-of-flight method. He used this talk as practice for an invited talk at the Nuclear Data 2013 Conference, where he was an invited speaker.

## RPI ANS, MANE SAC, NENY ANS, and Excelsior ANS Joint Meeting: Dr. Kord Smith

On December 5<sup>th</sup>, 2012, RPI ANS had the distinct pleasure of co-hosting Dr. Kord Smith of MIT. An internationally renowned expert in computational modeling of reactors, Dr. Kord Smith gave two talks throughout the day, one hosted by the MANE Student Advisory Council for the MANE Department entitled, "Challenges in the Development of High-Fidelity Reactor Core Modeling Tools" and another similar talk to the RPI ANS and NENY ANS sections. The RPI ANS Section also reached out to the Excelsior ANS Section and was able to stream the event as a webinar for the members of the Excelsion

ANS Section. After the talks, the RPI ANS and NENY ANS Sections held a Networking and Social Hour at Jose Malone's Mexican Irish Pub in Downtown Troy. Students were able to network and meet local professionals while also enjoying the company of their peers.

## NENY ANS Technical Seminar: Dr. Wei Ji

On January 17<sup>th</sup>, Dr. Wei Ji of RPI gave a talk about using hybrid CPU-GPU architectures for Monte Carlo acceleration and on the development of radiation transport methods in stochastic media, such as Very High Temperature Reactors. The talk was given in the Stedmann Room of the William K. Sanford Town Library in Colonie.

## RPI ANS President Nicholas Thompson: Myths and Truths of Nuclear Power

On January 24<sup>th</sup>, 2013, RPI ANS Section President Nicholas Thompson gave a talk and discussion on some of the myths and truths of nuclear power. This talk was based on common arguments made and myths perpetuated by anti-nuclear groups about nuclear power. After each myth or argument, a discussion followed assessing the factual accuracy of each statement.

## RPI ANS Presentation: Dr. Sastry Sreepada: SRO License Presentation and Novel Reactor Designs

On February 7<sup>th</sup>, 2013, Dr. Sastry Sreepada of RPI first presented two students, Kelly Rowland and Melissa Urquhart their Senior Reactor Operator licenses. Dr. Sreepada then gave a presentation on various concepts for new reactor designs and proposed a joint effort between him and some of the students to work on designing new reactor concepts.

## MANE SAC Technical Seminar: Dr. Peter Zavodzsky

On February 13<sup>th</sup>, 2013, the MANE Student Advisory Council hosted Dr. Peter Zavodzsky of the High Energy Physics Laboratory at GE Global Research in Niskayuna, NY. His talk was entitled "Edison's Great-Grandchildren" and covered the advances that GE has made over the past 120 years, and in particular, Dr. Zavodzsky's own work on designing the next generation of high power CT scanners and PET cyclotrons.

## RPI NE Program Seminar: Dr. Douglas B. Kothe

On February 20<sup>th</sup>, 2013, as part of the *Dr. Richard T. Lahey Jr. Distinguished Lecture Series in Nuclear Engineering at RPI*, Dr. Douglas B. Kothe presented a talk entitled, "CASL: The Consortium for Advanced Simulation of Light Water Reactors – A DoE Energy Innovation Hub". His talk gave a general overview of the various aspects of the CASL project, as well as some of the advanced models and techniques being developed as part of it.

## **NENY ANS Technical Seminar: Dr. John P. Martin**

On February 21<sup>st</sup>, 2013, NENY ANS hosted Dr. John P. Martin, founder of JPMartin Energy Strategy LLC, who gave a talk entitled, "Shale Resources: Science, Environment and Politics". This talk gave an overview of "fracking", the current natural gas resources, and the political climate surrounding

shale gas. The talk was followed by an interesting discussion about the similarities and differences between natural gas and nuclear energy, and the future of both.

#### **Excelsior ANS Webinar: Dr. Ronald Knief**

On February 27<sup>th</sup>, 2013, the Excelsior ANS Section hosted a Webinar with Dr. Ronald Knief, which was open to the members of the NENY HPS, NENY ANS, and RPI ANS. In Dr. Knief's webinar, he discussed the impacts of disasters such as Fukushima and Three Mile Island on the nuclear industry.

## NYS Department of Health Wadsworth Seminar: Dr. David Brenner

On February 28<sup>th</sup>, 2013, Professor David Brenner, Director of the Center for Radiological Research at Columbia University, gave a talk entitled, "Low Doses of Ionizing Radiation: Estimating the Risks, Understanding their Significance" in which Dr. Brenner talked about his research into how exposure to low levels of ionizing radiation effects the human body. He also discussed the possible consequences of the Fukushima accident, and the effects of CT scans and airport backscatter scanners.

## NENY ANS Technical Seminar: ANS President Dr. Michael Corradini

On March 13<sup>th</sup>, 2013, NENY ANS hosted ANS President Dr. Michael Corradini. Dr. Corradini's talk was entitled, "Nuclear Power after Fukushima", and gave an in depth look into the technical evaluation that the ANS special committee on the Fukushima Daiichi accident performed. The talk also covered the accident's effects, health physics, and accident cleanup as well as safety related issues that emerged. Dr. Corradini wrapped up the talk by evaluating the actions that the ANS should consider to better communicate with the public during a nuclear event. The talk was followed by a social hour at Katie O'Byrne's Restaurant & Bar in Schenectady.

## MANE Department and RPI NE Program Colloquium: Dr. Ronald Gilgenbach

On March 20<sup>th</sup>, 2013, the MANE Department hosted Dr. Ronald Gilgenbach, Chair of the Nuclear Engineering and Radiological Sciences Department at the University of Michigan, as part of the Leaders in Engineering Lecture Series. Dr. Gilgenbach gave a talk entitled, "Challenges in Nuclear Engineering Education and Research", in which he talked about the groundbreaking research that is being done at the University of Michigan.

## RPI ANS, RPI NE Program, and NENY ANS Joint Meeting: Dr. Yousry Azmy

On March 28<sup>th</sup>, 2013, as part of the *Dr. Richard T. Lahey Jr. Distinguished Lecture Series in Nuclear Engineering at RPI*, the RPI ANS Section was pleased to co-host Dr. Yousry Azmy, Professor and Head of the Department of Nuclear Engineering and N.C. State University. His talk was entitled, "Multidimensional Discrete Ordinates Transport on Massively Parallel Architectures" which covered an overview of the Nuclear Computational Science Group at N.C. State as well as various new algorithms for solving multidimensional Discrete Ordinates approximations, as well as some results from running these codes on ORNL's Jaguar.

## NENY ANS Technical Seminar: Past ANS President Ted L. Quinn

On April 11<sup>th</sup>, 2013, Ted L. Quinn, Past ANS President, gave a talk for NENY ANS and RPI ANS members entitled "Increased Use of Nuclear Power – Advantages and Challenges Worldwide". This talk addressed the reasons for the expansion of nuclear power worldwide, the status of expansion in the U.S., and how nuclear energy can compete with other forms of electricity generation. Mr. Quinn also talked about both the advantages and disadvantages of Large LWR's compared to SMR's and the potential applications of both designs.

## RPI ANS President Nicholas Thompson: ANL Fast Reactor Workshop

During the ANS Student Conference at MIT, representatives from Argonne National Laboratory held a Workshop on Fast Reactors. These presentations were later sent out to the people who attended that meeting, and on April 25<sup>th</sup>, 2013, RPI ANS Section President Nicholas Thompson gave a condensed version of that workshop to the RPI ANS Section. This included information on the basic underlying physics differences between thermal and fast reactors, the differences in techniques used to model them, and the differences in safety features between fast and thermal reactors. This also included a discussion of coefficients of reactivity and how axial, radial, and control rod drive line expansion in fast reactors can make them inherently safe, even in double fault accidents such as loss of flow without SCRAM, loss of heat sink without SCRAM and transient overpower without SCRAM.

## **Professional Relations Committee**

The role of the Professional Relations Committee is to provide the Section with opportunities for internships, employment, and participation in other nuclear programs. This year the committee, headed by Casey Burns (Class of 2015), accomplished those goals by emailing out various employment, internship, fellowship, and scholarship opportunities to the Section. Along with the various nuclear companies who attending the career fair, representatives from Westinghouse and B&W both visited RPI, and representatives from Constellation will be visiting on May 7<sup>th</sup>, 2013. The Professional Relations Committee also held a resume review session before the career fair to help the members write and edit their resumes.

## **Institute Relations Committee**

The role of the Institute Relations committee is to handle all events on campus, working with the MANE Department, the School of Engineering, and other student groups on campus. This year the committee, headed by Gavin Noritsky (Class of 2016), worked with other groups to co-host events and increase the visibility of RPI ANS on campus.

#### **RPI Activities Fair**

On August 30<sup>th</sup>, 2012, RPI hosted its annual "Activities Fair" in which student run clubs can come and try to recruit new members, usually Freshmen and Sophomores that are new on campus. This year, RPI ANS signed up 59 students at the activities fair, of which 29 ended up attending an RPI ANS meeting or event.

## **RPI Medalist Open House**

On September 9<sup>th</sup>, 2012, RPI held an "Open House" for prospective students who won the RPI Medal. RPI ANS had two members go to answer questions about the nuclear program at RPI and any other questions the students may have.

## **RPI General Open House**

On October 13<sup>th</sup>, 2012, RPI had its annual "Open House" for prospective students. RPI ANS had four members go to answer questions about the nuclear program at RPI and any other questions the students may have. The event was approximately four hours long, during which the RPI ANS representatives talked nearly non-stop.

## **Accepted Students Day**

On April 13<sup>th</sup>, 2013, RPI held its annual "Accepted Student's Day", a four hour event in which prospective students and invited to come and tour campus. RPI ANS sent a number of representatives to help talk about the nuclear program at RPI and to answer any questions the prospective students had.

## **Outreach Committee**

The role of the Outreach Committee is to provide opportunities to the Section to educate the general public about the nuclear field. This year, the committee was headed by Walter Pfuntner (Class of 2015). Below are some of the highlights from this year's outreach activities.

## **Exploring Engineering Day**

On February 16<sup>th</sup> the RPI School of Engineering hosted Exploring Engineering Day (EED). EED is an event that brings about 300 4-8th graders to campus to engage them in engineering activities. Section members Nicholas Thompson (Graduate Student), Matthew Zimmer (Class of 2015), Walter Pfuntner (Class of 2015), staffed the event. During the day three groups of about 25 students each, spent 45 minutes in the workshop. Students were shown a presentation on nuclear energy and science after which they circulated through a set of stations looking at topics including chain reactions, the random nature of radioactive decay, health considerations, and radiation detection. There were also separate presentations for the parents would be shown the same presentation so that if the students had any questions after their parents would be able to answer them. Section volunteers answered questions from the students as they passed through the stations. The students seemed most interested in the chain reaction videos. This was the third time RPI ANS has participated in EED and the Section plans to participate in the exciting day again in the future.

## **Nuclear Science Boy Scout Merit Badge**

For the seventh consecutive year at Rensselaer Polytechnic Institute, the ANS Outreach Committee hosted the Boy Scout Nuclear Science Merit Badge. The event took place on March 3<sup>rd</sup> at the Gaerttner LINAC Center, a 100 MeV Linear Accelerator at RPI. Two of the current RPI ANS members, Walter Pfuntner (Class of 2015) and Matthew Zimmer (Class of 2015) are registered as merit badge

counselors. RPI ANS President Nicholas Thompson (Graduate Student), Brian McDermott (Graduate Student) and Adam Weltz (Graduate Student) also helped out with running the activities and giving presentations.

Over 20 Boy Scouts and nine adults attended the program. Throughout the day, which lasted from 10am to 3:30pm, the scouts were lectured on important nuclear definitions ranging from the components of an atom to the actual fission and fusion processes. They also learned about possible careers that a degree in the field could lead to and how to protect themselves in case of radiation exposure. The lectures were interrupted with activities including construction of model atoms, drawing of chain reactions, and a demonstration on how to use a Geiger counter to detect alpha and gamma radiation sources. The most popular part of the day however, was the tour of the Linear Accelerator guided by graduate student and researcher at the LINAC, Brian McDermott. By the end of the event all of the scouts had earned the merit badge and many of the adults that attended said they were already looking forward to attending next year with more scouts.



Figure 1: Walter Pfuntner teaching Scouts about Radiation

## **Other Outreach Events**

On October 12<sup>th</sup>, 2012, RPI ANS President Nicholas Thompson spoke to a Sustainability Class at the University of Hartford on energy sources and the role of nuclear power. On December 14<sup>th</sup>, 2012, Adam Daskalakis (Graduate Student) spoke to a physics class at Albany High School about nuclear science and engineering. On January 18<sup>th</sup>, 2013, RPI ANS Vice President Brain Waite (Class of 2013) presented to at his local Rotary club to answer any questions they had about nuclear power. On February 28<sup>th</sup>, Nicholas Thompson talked to two biology classes at Columbia High School in East Greenbush about radiation and nuclear energy.

## **Social Committee**

The role of the Social Committee is to increase the interactions between students in the Section as well as encourage the development of faculty-student partnerships. This year, the Social Committee was chaired by Joseph Mazzuca (Class of 2014). Below is some of the work the Social Committee has done this year.

## Wings with Dr. Clint Ballinger

On October 3<sup>rd</sup>, 2012, Dr. Clint Ballinger, CEO of Evident Technologies and always a friend of the MANE students, invited the RPI ANS members out for a small networking event at a local pub. A good time was had by all.

## **Intramural Sports Teams**

During the Fall semester, RPI ANS sported an intramural Volleyball team, which only had two losses going into the playoffs. Sadly, the team lost in the first round. During the Spring semester, RPI ANS had both an intramural indoor soccer team and a basketball team. Both teams fought their hardest and had a lot of fun.

## **Relay for Life**

RPI ANS also had a team in this year's Relay for Life at RPI. The team was able to raise over \$900 for the charity, mostly thanks to the hard work of Angela Chan (Class of 2014).

## **Study Day Potluck/Movie Night**

Combining a few different events into one, on May 9<sup>th</sup>, 2013, RPI ANS will be hosting a potluck even throughout the day where students can come study, get some help on questions, or just eat some food. At night, we'll be showing a nuclear related movie.

## **Conference Committee**

The Conference Committee is in charge of putting together a proposal for hosting the ANS Student Conference. The original Conference Committee Chair, Michael Auld, stepped down, and Spencer Scott (Class of 2013) took his place. This year, a modest amount of work was done on the proposal, and it was not submitted. As of this point, more work will be done over the coming year to

prepare the proposal for submission for the 2015 or 2016 conference. The conference would be a considerable amount of work, and as such a large group of dedicated students would have to work for over a year to make it a success. Hopefully in the upcoming year that group of students will coalesce and a great proposal will be submitted.

## **Graduate and Alumni Relations Committee**

The Graduate and Alumni Relations Committee has the responsibility of keep in touch with Alumni and boosting graduate participation in the Section. This committee, led by graduate student Dillon Shaver, has only been in existence for the past year, but in that time the graduate participation in RPI ANS has doubled. As this committee grows, it will slowly be given more tasks and responsibility.

## **Section Accomplishments**

In the past two years, RPI ANS has greatly expanded its online presence. We have a better website (<a href="http://www.rpians.org">http://www.rpians.org</a>), a Facebook page, and a Twitter account, all of which allow students, alumni, and nuclear professionals follow the section's activities. The section also has the ability to stream events live.

Probably the most important accomplishment this year has been working with the NENY ANS Section to host joint events and technical seminars. The NENY ANS has become a very strong and solid section, this past year winning the "Best Small Section" award. Their efforts in bringing in speakers have benefitted the RPI ANS Section greatly, as many of our members attend their events. The RPI ANS Section looks forward to continuing this mutually beneficial relationship.

Every week, RPI ANS members come together to help younger students with concepts, homework, or just to give advice and guidance. These weekly Peer Tutoring sessions have become even more popular over the last year, as the number of graduate students who attend and can help younger students has increased substantially over the last year. Some of the TA's in nuclear classes also use this time as additional office hours, on top of their regular office hours, which helps students greatly. This year has also seen even some professors showing up to the Peer Tutoring sessions, especially if there is a quite difficult assignment that week. Most beneficial though is when students from the same class come together and work with each other on an assignment or project, as these students learn best by helping each other out.

## Conferences

The more students that attend conferences and get a better understanding for the nuclear industry outside of the classroom, the better. With that philosophy in mind, RPI ANS has encouraged all its members to attend conferences. This year was particularly good, with over 20 students going to both the ANS Winter Conference in San Diego and the ANS Student Conference in Boston. More impressive, there were over 10 presentations made by RPI ANS members, two posters, and Ph.D. Candidate Rian Bahran hosted a panel discussion. At the ANS student conference, there were nine presentations by RPI ANS members.



Figure 2: Some of the RPI ANS Attendees (and one Alumni)

#### Conclusion

The Board of Directors for the year of 2012-2013 was very successful in hosting outreach events and working with outside groups to be able to offer numerous technical seminars for RPI ANS members. This can be attributed to collaboration with the NENY ANS, the Nuclear Engineering Program and MANE Department at RPI, and other groups. That said, the dedication of the officers, committee heads, and section members can not go unmentioned. It has been a great year and those people are truly to thank for it. In the upcoming year, RPI ANS will continue these efforts and strive grow in size, influence, and visibility. After all, there is nothing that a small, dedicated group can not accomplish.