

2011-12 Samuel Glasstone Award Application

Massachusetts Institute of Technology ANS Student Section

Submitted May 1, 2012



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1 Administrative Details

1.1 Section Format

MIT ANS considers all undergraduate and graduate students in Course 22, Nuclear Science and Engineering (NSE), to be active members of the section. Students from other disciplines may become members by submitting a request to one of the section officers. This definition of membership sometimes clouds the differentiation between ANS activities and department activities. As much as possible, this report includes only initiatives taken on by students on behalf of ANS.

MIT ANS seeks to function in a way that will benefit its membership as much as possible with a minimal time commitment to those members. As such, MIT ANS has chosen not to have frequent general body meetings; rather, it has a large end-of-the-year banquet where the majority of formal business is attended to and conducts any other business at seminars.

MIT ANS serves its membership outside of formal general body meetings in several capacities. First, it leads a robust seminar series, striving for an average of one presentation per week throughout the academic year. These are discussed in more detail in Section 2. MIT ANS is charged with welcoming new students in the Fall semester at the department's orientation and in the Spring semester during accepted students' visit weekend. Various social activities are organized for both events. During visit weekend, ANS also matches up incoming students with current student "buddies" and organizes tours of graduate student housing. Of course, social events are also held throughout the year in various formats, described in Section 5.

MIT ANS has the great opportunity to influence the direction of the MIT NSE department. The co-presidents are invited to and regularly attend monthly faculty meetings, where they are expected to contribute as the voice of the student body. Also, MIT ANS coordinates a report from the students to the Visiting Committee when it meets to discuss the direction of the department.

1.2 Officers

MIT ANS officers for 2011-2012 were elected at the 2011 ANS banquet.

- Co-Presidents: Koroush Shirvan & Brittany Guyer
- Public Information Officer: Nathan Gibson
- Treasurer: Lindsey Gilman
- Social Chairs: Rosie Sugrue & Jacob DeWitte
- Intramural Athletics Chair: Joseph Yurko
- Undergraduate Chair: Ekaterina Paramonova
- Alpha Nu Sigma President: Geoff Olynk

Professor Benoit Forget serves as the section's faculty advisor.

1.3 Section Rules Updates

In November 2011, MIT ANS submitted its updated and revised bylaws and rules to the ANS Bylaws and Rules Committee. The revised B&R reflects changes in the operating procedures of the section in accordance with requirements from MIT and ANS, and was the product of efforts by the 2011 leadership team.

1.4 New Website

A new MIT ANS website design was created during the fall term. It can be found at our new web address: <http://ans.mit.edu>. This website replaces the old HTML-based design, upgrading to a more modern platform. Drupal, an open source content management system was chosen. The main focus of the website is to advertise our graduate seminar series. Also on the main page is a Features section alerting people to important upcoming events that MIT ANS or the MIT NSE department is hosting.

The website also features information about the MIT ANS section along with ANS officer biographies. Finally, a listing of all the events that ANS holds throughout the year are listed under the events page and are linked to the home page through the feature section. This new website design allows the website to be more easily updated and alleviates leadership transition issues.



Figure 1.1: Screen shot of new ANS website

2 Seminar Series

The ANS Seminar series is one of the most important activities of our student section. The ANS co-presidents, Brittany Guyer and Koroush Shirvan, organized the seminar series. The co-presidents invited a variety of participants in the nuclear industry to give hour-long seminars each week to the students, faculty and staff of the NSE department. The seminars, listed below, feature participants from academia, U.S. national laboratories, the U.S. Nuclear Regulatory Commission, and industry.

The purpose of the seminar series is to promote awareness of the work and opportunities that exist in other nuclear science and engineering organizations. The selection of speakers is intentionally broad in order to accommodate the wide variety of interests held by the students in the section.

Each day that a seminar is held, the ANS co-presidents organize a lunch meeting for the seminar speaker and a small group of students. A variety of students are selected to attend these lunches during the course of the year in order to give equal opportunities for students to interact with the speakers in a small-group setting. These lunches commonly provide the impetus for future collaboration amongst students and speakers, as the research topics of students are often discussed during the lunch.

This past fall semester, a special series was held in order to highlight the achievements of MIT nuclear science and engineering graduates, as this past year was the 60th anniversary of the teaching of the first nuclear engineering course at MIT. All of the speakers that participated were alumni of the nuclear science and engineering department. This special fall seminar series provided for the students both an illustration of the achievements of the department's alumni and an appreciation for the historical progression of research of the department.

List of 2011-2012 ANS seminars:

- Cesare Frepoli, Westinghouse. "Westinghouse Experience in Licensing and Applying Best-Estimate LOCA Methodologies within the Industry: Past, Present, and Future." May 9, 2012.
- Vesna Dimitrijevic, AREVA. "10CFR50.69 Risk-Informed Categorization and Treatment of Structures, Systems, and Components Inspection." May 7, 2012.
- Michael Labarge, Founder of General Fusion. April 30, 2012.
- Sumit Ray, Director of Methods, Westinghouse. "Design of the Gray Control Rod for the AP1000 Reactor." April 23, 2012
- Jeff Halfinger, VP of mPower Development, Babcock and Wilcox. April 12, 2012.
- Michael Golay, Professor of Nuclear Science and Engineering, MIT. "Safety Implications of the Fukushima Accident." April 9, 2012
- Isao Kato, Deputy General Manager, Nuclear Power Department, Tohoku Electric Power Company. "Impact of 2011 Tsunami on Japan's Onagawa Reactor Site." March 26, 2012.

- Gary Was, Professor of Nuclear Engineering and Radiation Health Science, University of Michigan. “Strategies for Studying High Dose Irradiation Effects in Materials.” March 5, 2012.
- Akira Omoto, Atomic Energy Commissioner of Japan. “Aftermath of Fukushima.” March 1, 2012.
- Charles Forsberg, Professor of Nuclear Science and Engineering, MIT. “Salt-Cooled High-Temperature Reactors.” February 29, 2012.
- David Hill, Deputy Director for Science & Technology, Idaho National Laboratory. February 15, 2012.
- Emilio Baglietto, Professor of Nuclear Science and Engineering, MIT. “Better Reactors Grow from Better Simulations.” February 13, 2012.
- Thomas Fanning, Argonne National Laboratory. “Fast Reactor Coolant Options.” January 9, 2012.
- Katherine Gil, Palo Verde Nuclear Generating Station. “Career Paths in the Nuclear Power Industry After Graduation.” December 12, 2011.
- Neil Todreas, Professor of Nuclear Science and Engineering, MIT. “History of Nuclear Science and Engineering at MIT.” December 5, 2011.
- Ju Li, Professor of Nuclear Science and Engineering, MIT. “Nanoscale Electrochemical Tests: In Situ TEM Experiments and Modeling.” November 21, 2011.
- Mirela Gavrilas, Chief of Corrosion and Metallurgy Branch, Office of Nuclear Regulatory Research, Nuclear Regulatory Commission. “NRC’s Office of Nuclear Regulatory Research.” November 14, 2011.
- Jack Tuohy, Executive Director of Hitachi Nuclear and former ANS Executive Director. “Nuclear Industry: Our Most Daunting Challenge.” November 7, 2011.
- Massimo Zucchetti, Professor of Nuclear Engineering, Polytechnical University of Engineering in Torino. “Tritium Transport in Advanced Liquid Metal Fission and Fusion.” October 26, 2011.
- Kevin Clarno, Oak Ridge National Laboratory. “Development of the AMP Nuclear Fuel Performance Code for Fuel Assembly Analysis.” October 20, 2011.
- Mohammad Modarres, Professor of Nuclear Engineering, University of Maryland. “A Probabilistic Physics-of-Failure Approach to Assessment of Frequency of In-Vessel Steam Generator Tube Rupture Accident in SMRs.” October 17, 2011.
- Carol Kessler, Chair of Nonproliferation and National Security Department, Brookhaven National Laboratory. “Why Nonproliferation Instead of Nuclear Energy as a Career?” October 6, 2011.
- Kord Smith, Professor of Nuclear Science and Engineering, MIT. “Challenges in LWR Core Physics Analyses.” September 26, 2011.

- Hussein Khalil, Director of Nuclear Engineering Division, Argonne National Laboratory. “Assessment of Breed and Burn Reactor Concepts.” September 19, 2011.
- Roger Rydin. “Contributions to the Reactor Physics of Accelerator-Driven Systems.” September 12, 2011.

3 MIT NSE Nuclear Information Hub

Following the 2011 tsunami and the Fukushima nuclear crisis in Japan, MIT ANS launched the MIT Nuclear Science and Engineering (NSE) Nuclear Information Hub. This was a student-run and faculty-advised blog to provide accurate information about the events unfolding during the crisis in Japan as well as about nuclear technology in general.

During the events of the Fukushima crisis, the world wanted simple, accurate explanations of what was taking place, yet struggled to find reliable information. Two days after the incident, MIT ANS harnessed the energy and enthusiasm of its members who were yearning to set the record straight about the events transpiring half of a world away by launching a collaborative blog, www.mitnse.com, to provide general information to the globe regarding the Fukushima accident. The blog went “viral” and received millions of hits during its first week, more hits than the national ANS website during that period.

The MIT blog was a resource to people worldwide, and offered a reliable and accurate source of information to the Japanese people directly affected by the events, helping them take appropriate actions. The blog received countless letters of gratitude, including some from the Japanese people saying the site helped save lives. Many media outlets referenced the blog, including The Economist, The Atlantic, and the New Scientist, among others. The blog also provided information following the August 23 Mineral, VA, earthquake and is well-positioned to continue to provide information to the public on nuclear science and technology.

Although the majority of the work on the MIT NSE Nuclear Information Hub occurred during the previous academic year, the blog is still ongoing with the occasional article being published and email communications continuing with interested parties.

4 Community Outreach

4.1 Community Service – CASPAR

CASPAR stands for the *Cambridge and Somerville Programs for Alcoholism and Drug Rehabilitation*. CASPAR provides services to homeless, substance abusing individuals, to men and women in recovery, and to youth at-risk of drug and alcohol abuse. Our ANS section and the department help the cause by providing meals for these individuals seeking help. The tradition was started in the early 1990s by graduate student Tony Hechanova, when ANS began collecting canned goods for the homeless staying at CASPAR. The food provided by CASPAR to the homeless that come

seeking shelter and food is mostly from donations, and this is a way our ANS section is able to help those that are less fortunate by aiding in this task.

Undergraduate students, graduate students, faculty, and staff from the NSE department have all volunteered to help prepare and serve these meals directly to those individuals that are looking for a healthy and hot meal. Twice each month MIT ANS sponsors (through our section funds and individual donations) and organizes the meal, including picking the menu, shopping for supplies, cooking the meal, and serving it to the people at CASPAR. The organization and shopping is done by the current leadership of CASPAR, and the cooking and serving is completed with an additional 3-4 volunteers each time.

This academic year, Tyler Sordelet organized meals until his December graduation, when current CASPAR leaders Lindsey Gilman, Bren Phillips, and Alex Mieloszyk took over the reins. Recent student volunteers have included Caleb Waugh, Mareena Robinson, Mark Reed, Will Boyd, Jen Jarvis, and Nathan Gibson. Recent staff volunteers have included Valerie Censabella, Lisa Magnano-Bleehen, and Linda Arduino and Dr. Tom McKrell.

Many different meals have been served, and a favorite is the “Fenway Frank” meal which is an Italian sausage topped with peppers and onions served with french fries, fruit cocktail, and brownies. The appreciation shown by both the people we serve and the leaders of the shelter makes this part of our ANS section a very worthwhile cause that has been a tradition for many years.

2011-2012 CASPAR dates:

- April 25, 2012 – Fenway Franks
- April 11, 2012 – Sloppy Joes
- March 21, 2012 – Chicken
- March 14, 2012 – Fenway Franks
- March 7, 2012 – Spaghetti and Meat Sauce
- February 29, 2012 – Sloppy Joes
- February 22, 2012 – Hot Dogs with Mac&Cheese
- December 5, 2011 – Tacos
- November 28, 2011
- November 22, 2011 – Chicken Tenders with Mac&Cheese
- November 15, 2011 – Fenway Franks
- October 3, 2011
- September 28, 2011
- September 6, 2011



Figure 4.1: NSE Research Scientist Tom McKrell making brownies at CASPAR



Figure 4.2: MIT ANS student Giancarlo Lenci preparing vegetables



Figure 4.3: MIT ANS student and CASPAR organizer Lindsey Gilman cutting watermelon



Figure 4.4: MIT ANS student and CASPAR organizer Bren Phillips preparing Fenway Franks

- August 23, 2011
- August 2, 2011 – Cookout
- July 26, 2011
- July 5, 2011
- June 30, 2011 – Pizza
- June 6, 2011
- May 30, 2011 – BBQ Chicken

4.2 Educational Outreach

K-12 Classroom Presentations

On November 22, MIT ANS members Nathan Gibson and Joshua Richard gave presentations regarding the nuclear fuel cycle to the five chemistry classes taught by Nick Fornaro at the John D. O'Bryant School of Math and Science in Roxbury, MA. Mr. Fornaro has brought in MIT ANS students for several years to serve as a capstone on his nuclear chemistry segment.

MIT NSE staffer Peter Brenton sought the aid of MIT ANS students in presenting to his children's elementary school, the Brooks Elementary School in Medford, MA. On March 14, students Nathan Gibson and Clarice Aiello traveled to the school to lead demonstrations for five classes of third grade students; on April 27, student Lulu Li lead the same demonstrations for five classes of fifth grade students. These demonstrations taught the students about electricity and magnetism, and a discussion about power generation and safety preceded them. Demonstrations included using a large rare earth magnet to see magnetic field lines, building an electric circuit, investigating conductivity of several materials, and constructing an electromagnet.

MIT ANS student Samuel Brinton led two middle school presentations titled Nuclear 101 to students in Revere, MA, after writing as pen pals to three or four of the students on what it means to be a nuclear engineering student and an MIT student.

Each year at the end of May, Bryan Herman gives a presentation about nuclear science and engineering to Shaker High School in Latham, NY. The goal is to give Junior and Senior students an overview of different engineering disciplines while concentrating on the field of nuclear engineering. The presentation is given to all AP Physics classes that are taught under Mr. Culp.

During the Thanksgiving holiday break, Joseph Fricano gave a presentation about nuclear science and engineering to the physics classes his alma mater, Canisius High School in Buffalo, NY, as he has for the past four years.

On February 16, MIT ANS member Leslie Dewan gave a talk about nuclear engineering at the Windsor School, a girls' school in Boston, MA.

Matthew Everson gave an after-school talk at Edison Computech Middle School in Fresno, CA in late March 2011 about how nuclear power plants work.

Electronic Interviews

The faculty at MIT often receive requests for interviews about nuclear energy from high school students working on school projects. These requests are fulfilled by the MIT ANS Public Information Officer, a position held by Nathan Gibson this academic year. Although the 2011-2012 academic year proved to be a much quieter year than the previous in this regard, at least a half a dozen email interviews were conducted with students hailing from everywhere from Massachusetts to Texas to Singapore.

Educational Events

On April 30, 2011, MIT ANS and the NSE department participated in the MIT campus-wide open house (first in over 30 years) as part of the 150th anniversary celebration. Student groups and departments from all over campus put on demonstrations and informational programs to engage the public and promote excitement for science, technology, engineering, and mathematics (STEM). MIT ANS hosted several events: a cloud chamber display, a radiation shielding and detection display, and a remote real-time neutron time of flight lab held via camera and laptop at the MIT reactor. Approximately 20,000 visited the campus, of which about 1,500 passed through the MIT ANS displays.

MIT ANS student Clarice Aiello organized the CUA kids day for the Center of Ultracold Atoms, in the framework of the Cambridge Science Festival.

4.3 Political Activism, Media Outreach, and Panel Discussions

Save Alcator C-Mod

When President Obama released his FY2013 budget, he requested that MIT's tokamak Alcator C-Mod be shut down. This inspired an enormous campaign led by many MIT ANS students to prevent this from happening. Students formed an organization called Students for Fusion Energy.

Students created the website fusionfuture.org, which provides basic fusion information, updates on the budget situation, and forms for sending letters to Congress and other political officials. A sister Facebook page was created entitled *Save Alcator C-Mod*. Over 5,500 letters were sent to Congressmen due to this effort, leading to the House of Representative Appropriations Committee to suggest that C-Mod remain operating. The final budget has yet to be approved, and so this effort is still ongoing.

As part of this initiative, MIT ANS students made a large effort to reach out to the public to answer questions and gain support. Efforts included enormously successful posts on Reddit and Slashdot and an overhaul of the Alcator C-Mod Wikipedia article.

- Reddit: http://www.reddit.com/r/askscience/comments/qdbxg/askscience_ama_series_we_are_nuclear_fusion/

- Slashdot: <http://hardware.slashdot.org/story/12/04/11/0435231/mit-fusion-researchers-answer-your-questions>
- Wikipedia: http://en.wikipedia.org/wiki/Alcator_C-Mod

Students had a great deal of contact with the media, and hosted many political officials at C-Mod, including Senator John Kerry, Congressman Ed Markey, Governor Deval Patrick, and several others.

Nuclear Engineering Student Delegation

MIT ANS is proud to have a rich legacy of Nuclear Engineering Student Delegation involvement including recent NESD alumni: Jacob DeWitte (past chair), Joshua Richard, Bryan Herman, Paul Romano (past chair), Lara Pierpoint (alumna), Caroline Cochran (alumna), Isaac Matthews (alumnus), Tyler Ellis (alumnus, past chair), Jacob Dobisesky (alumnus).

Three current MIT ANS students (Mark Reed, Chris Copeland, and Samuel Brinton) were delegates on the 2011 NESD. They played an important role in restoring funding to the NEUP fellowships for FY2012, which had been cut in FY2011.

Media Outreach

Mark Reed authored a series of six articles (published by Fortnight Journal) on the history of nuclear technology and why it is relevant to the millennial generation (total of over 13,000 words and very well-received). This project also included some video footage of an MIT Reactor tour.

Leslie Dewan, Mark Massie, and Richard Lester gave a talk at TEDx New England called “The Future of Nuclear Power: Getting Rid of Nuclear Waste” (<http://www.youtube.com/watch?v=AAFWeIp8JT0>) on November 1st, 2011.

Lara Pierpoint wrote an article inspired by the MIT NSE Nuclear Information Hub for the Electricity Journal. It is the 6th most downloaded article for the journal over the last 90 days.

Panel Discussions

MIT ANS members Alex Rehn, Mark Reed, Katia Paramanova, Alex Mieloszyk, Becky Romatoski, Koroush Shirvan, and Jacob DeWitte attended a panel discussion hosted by the Union of Concerned Scientists on the safety and future of New England nuclear power plants. The students rebutted several statements made by the panelists during the event. Afterwards, discussions with the panelists ensued to refute many of their claims and promote informed discussions on nuclear science and technology.

Samuel Brinton, with Global Zero, is organizing a panel discussion entitled “Nuclear Reactors and Nuclear Weapons” to be held on May 2.

MIT ANS member Stefano Passerini helped organize a keynote panel at the 2012 MIT Energy Conference titled “Large Scale Energy Decisions under Great Uncertainty.” Stefano was responsible for inviting alumnus John Kelly to represent the DOE perspective on nuclear energy technology deployment. In 2011, MIT ANS members Jacob DeWitte, Koroush Shirvan, Matthew Denman, Anna Nikifrova, and Lara Pierpoint organized a panel on small modular reactors.

MIT ANS members Jacob DeWitte and Caleb Waugh (also the MIT Energy Club President) are establishing a Nuclear Community group in the MIT Energy Club to provide a venue for all MIT students interested in energy to learn about and engage in the production of nuclear power. The MIT EC was founded in 2004, and has “communities” (or divisions) for all other major energy technologies, except for nuclear.

5 Social Activities

5.1 Intramural Sports

ANS has been an active member in the MIT Intramural (IM) sport community for many years. Traditionally, ANS fielded hockey teams that were competitive at multiple skill levels during the winter IM season. However, over the last five years, ANS has become a major IM presence, fielding multiple teams in each season. The flag football team won A league and finished as runner-up in back-to-back seasons, and the volleyball team won a B league championship.

The level of participation by students in ANS and the Nuclear Science and Engineering (NSE) department (or Course 22 by MIT numbering) is very high compared to other departments here at MIT. As many as 25% of the students in Course 22 participate in at least one IM sport with many of those being involved in two to three over the course of the academic year. As mentioned previously, ANS has had the most success over the last few years in flag football and volleyball. Led by Jacob DeWitte, the flag football team has a consistent level of dedication which includes organized team practices multiple times a week. Due to this, ANS has become an IM flag football powerhouse here at MIT. Captained by Bryan Herman, volleyball participation has grown so large that two teams are fielded. One for the middle competition level (B league) and the other in the highest level of competition in A league. The A league team, like the flag football team, practices multiple times a week. ANS also maintains active basketball and softball teams, both of which have improved over the last few seasons by advancing further into the playoffs each year. Last, but not least are the ANS soccer teams, captained by Eugeny Sosnovsky, which participate in both the fall and spring seasons. The soccer leagues are the largest of the IM sports here at MIT with as many as 60 teams in the leagues. ANS has maintained a competitive advantage to consistently advance through the playoffs each of the last few years.

5.2 Coffee Hours

Our ANS section holds two coffee hour socials each semester in order to encourage interaction between undergraduate and graduate students and faculty members. These coffee hours have been



Figure 5.1: MIT ANS intramural football team



Figure 5.2: MIT ANS intramural soccer team

particularly successful in providing an opportunity for students to interact with faculty members beyond their research groups. Because our department is divided into three different broad research areas: fission, fusion and nuclear science and technology, having these informal gatherings has helped promote awareness, on the part of both students and faculty, of the research and curriculum interests of everyone in attendance.

Approximately 25% of the students and 50% of the faculty typically attend the coffee hours. They are organized by the ANS officers and scheduled during different days of the week each time they are held, in order to avoid repetitive scheduling conflicts. The tradition of this has been well received by both students and faculty and will certainly be continued in future years.

5.3 Miscellaneous Social Activities

One of MIT ANS' core functions is hosting socials for the membership. This year, MIT ANS' social chairs, Jacob DeWitte and Rosie Sugrue organized and hosted many social activities:

On August 31, MIT ANS hosted its inaugural cookout at members Stefano Passerini's and Dustin Langewisch's house to welcome new students and kick off the fall semester. About 40 guests attended and enjoyed bratwursts, hot dogs, and hamburgers, along with a variety of side items and beverages.

On September 2, MIT ANS hosted a pub crawl to introduce new students to the Boston pub scene. Starting in the Faneuil Hall district, about 25 students visited pubs lining the historical streets, including Bell in Hand Tavern which was established in 1795.



Figure 5.3: MIT ANS fall pub crawl

On September 23, MIT ANS hosted its cornerstone fall social, the ANS Steak Fry. Almost 100 students, staff, faculty, and friends gathered in the courtyard of the Edgerton dormitory to enjoy fresh grilled steaks, vegetables, and a plethora of beverages.



Figure 5.4: MIT ANS member Thomas Roomy picking out some beverages before the Steak Fry

On December 3, MIT ANS hosted its end-of-semester, pre-finals winter social at the Muddy Charles Pub. Approximately 50 people attended to de-stress prior to finals week and enjoy pizza, drinks, and beer.

On December 8, MIT ANS joined with the Department of Nuclear Science and Engineering to celebrate the upcoming holidays at a department-sponsored holiday party.

On February 8, approximately 40 students gathered in the Thirsty Ear Pub to celebrate the end of the qualifying exams for 2nd and 3rd year graduate students. Students enjoyed pizza, salad, and beer before learning their exam results and celebrating the end of their months of studying.

On March 16, students embarked on an annual bar crawl in Harvard Square as part of the recruiting festivities for prospective students. Approximately 40 current and prospective students attended, starting at John Harvard's tavern and ending at the Hong Kong club. The following evening, about 50 current and prospective students traveled to nearby Essex to taste some of the best fried seafood around at Woodman's. Research Scientist and alumnus Mike Short hosted the students.

On April 17, Harpoon Brewery hosted MIT ANS on the south shore of Boston to enjoy a private tasting in the brewery. Approximately 20 students attended the event, where they learned about the art of brewing, the various beers offered by Harpoon, while enjoying pizza and the gratuitous tap collection.

On May 3, MIT ANS will host its second annual barbeque and yellowcake social. Last year, approximately 40 students braved a cool and blustery day to enjoy barbeque from a local favorite, Redbones, and yellowcake with chocolate icing in honor of our profession. It was a testament to the alluring power of southern delicacies.

On May 17, MIT ANS will host its end-of-year banquet to celebrate the year's end, and honor contributions by students, faculty, and staff to MIT ANS and the department. MIT ANS also holds elections at this banquet. Since last year's banquet falls within the 12 month calendar between Glasstone Applications, it will be discussed in more detail in Section 6 .

6 Awards Banquet

Each May, MIT ANS hosts an end-of-year banquet at the MIT Faculty Club overlooking the Charles River and the Boston skyline. Approximately 100 students, faculty, staff, and friends join to celebrate the year's end and honor their contributions. In 2011, the banquet was hosted on May 6. The 2011 banquet carried some distinction since it coincided with the 150 day long celebration of MIT's 150th anniversary, and it occurred 8 weeks after the earthquake and tsunami in Japan. The banquet started with a beer and wine reception, followed by a three course meal featuring a peppercorn New York strip steak. Following the main course, MIT ANS held elections by secret ballot. During dessert, the MIT ANS Co-Presidents recognized the outstanding contributions from the department staff, faculty, and student body to the department and MIT ANS. MIT ANS also awarded the winners of the fantasy sports competitions. The awards and their winners follow:

Outstanding Grader Stefano Passerini

Outstanding Staff Member Peter Brenton

Outstanding Faculty Member Professor Neil Todreas

Fantasy Football Champion Joshua Richard

NCAA College Football Bowl Pick 'Em Champion John Hanson

NCAA College Basketball Tournament Pick 'Em Champion Professor Ben Forget and his wife Erin Forget split the title

Following the announcement of the new ANS leadership, NSE Department Head Professor Richard Lester assumed the podium and presented awards recognizing outstanding contributions by the students in service and performance. Professor Lester also announced a special award bestowed by the College of Engineering recognizing significant contributions to the advancement of energy conversion to the students who led the mitnse.com blog outreach initiative. The awards and recipients follow:

Matthew Reinke G Manson Benedict Award presented to a graduate student for excellence in academic performance and professional promise in Nuclear Science & Engineering.

Vladimir Sobes G Roy Axford Award for academic achievement by a senior in Nuclear Science & Engineering.

Lauren Ayers '12 & Derek Sutherland '12 Irving Kaplan Award for academic achievement by a junior in Nuclear Science & Engineering.

Rosemary Sugrue '11 & Ethan Peterson '13 Outstanding UROP Award for exceptional contributions to research in Nuclear Science & Engineering.

Matthew Davidson G Outstanding TA Award for exceptional contributions as a teaching assistant in Nuclear Science & Engineering.

Jacob Dobisesky G, Jacob DeWitte G, Bryan Herman G Outstanding Student Service Award in recognition of exceptional services to the students, the department and the entire MIT community.

Students of the MIT NSE Nuclear Information Hub The Reinhold Rudenberg Memorial Prize, awarded by the School of Engineering for significant contributions to the advancement of energy conversion. This year the Rudenberg Memorial Prize was awarded to the group of graduate students in the Department of Nuclear Science and Engineering who created a widely-read technical blog on the accident at the Fukushima nuclear power plant.

The citation from the office of the Dean of Engineering for the Reinhold Rudenberg Memorial Prize reads in part:

“The students of the MIT NSE Nuclear Information Hub ... met an urgent worldwide need for accurate, reliable scientific and engineering information about the situation at the Fukushima nuclear power plant in the weeks following the great Sendai earthquake and tsunami of March 2011.

“At a time of great public confusion and anxiety, these students used their engineering knowledge to communicate important technical information clearly, objectively, and in a form understandable to the general public to more than one and a half million visitors to their website from around the world.

“The work of these students demonstrates the importance of excellence in societal communication for the advancement of energy conversion, and they themselves have demonstrated technical leadership in the best tradition of MIT engineers.”

The MIT NSE Nuclear Information Hub student team:

- Matthew Denman
- Jacob DeWitte
- Bo Feng
- Nathan Gibson
- Bryan Herman
- Stephanie Kempf
- Stefano Passerini
- Bren Phillips
- Mark Reed
- Thomas Roomy
- Koroush Shirvan
- Eugeny Sosnovsky
- Bao Truong
- Joseph P Yurko
- Professor Ben Forget — faculty advisor

Claire Martin-Doyle (*MIT lightweight women’s crew coach*) Certificate of Appreciation.

Prof. Jacopo Buongiorno Ruth and Joel Spira Award for Distinguished Teaching. This award is made possible by a gift from Ruth and Joel S. Spira to acknowledge the tradition of high quality engineering education at MIT.



Figure 6.1: Members of the MIT NSE Nuclear Information Hub team



Figure 6.2: Various pictures from the Awards Banquet

Afterwards, students convened at the Mead Hall Pub near campus to continue the celebration into the night.

7 Society Involvement

7.1 Committee Membership

MIT ANS strives to engage students with the national society. One way this has been achieved is by membership and participation in national ANS committees and professional divisions. The

students and their roles follow:

- Samuel Brinton – Public Information Committee
- Jacob DeWitte – Former ANS Student Director (completed his two-year term in July 2011), Student Sections Committee, Special Committee on Integration Oversight, and Government Relations Committee.
- Mark Reed – Local Sections
- Koroush Shirvan – Special Committee on Small Modular Reactors

7.2 ANS Conference Attendance

MIT ANS was strongly represented at several ANS conferences this year. Eight students attended the Winter Meeting in Washington, D.C.

Thirteen students attended the Student Conference at the University of Nevada, Las Vegas, with ten podium presentations and two posters. MIT had the second highest number of presentations among all university programs. MIT ANS student Mark Reed won two best presentation awards, one in Outreach and Student Sections and one in Fusion. MIT ANS student Elliot Fray won an award in the area of Materials with the help of fellow student Brad Black.

In addition, topical meetings were also well attended, including 8 students and 6 papers at PHYSOR in Knoxville, TN.



Figure 7.1: MIT ANS delegation at the UNLV Student Conference.

7.3 2013 ANS Student Conference

On Saturday, April 14, 2012, at the final banquet of the 2012 ANS Student Conference at the University of Nevada, Las Vegas, it was announced that MIT will host the 2013 conference. Co-chair designees include Samuel Brinton, Nathan Gibson, and Ekaterina Paramonova. The successful effort to draft a proposal for the conference was led by Mark Reed.