

Annual Report: 2009-2010

American Nuclear Society

Student Section of University of Michigan, Ann Arbor

Attention: Glasstone Awards Committee



Submitted by:

American Nuclear Society Student Section at the University of Michigan

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Executive Board:

President: Mahima gupta

Vice President: Ross Barnowski

Secretary: Robyn Spink

Treasurer: HeeHo Park

Outreach Chair: Sarah Williams

Social Chair: He who must not be named

MI-ANS Representative: Hiruy Hadgu

IM Sports Chair: Geordie Fegert

UMEC Representative: William Walsh

Pop and Candy Chair: Yvan Boucher

Website Director: Nick Touran

# I. Overview

With the beginning of the 2009-2010 School year it was the priority of the American Nuclear Society student chapter at the University of Michigan to reach out to more students not predominantly in the nuclear engineering field and establish a stronghold on the engineering organizations forum. Both these goals were accomplished by having an executive committee that was well aware of their responsibilities from the start of the school year.

By participating in numerous organization information sessions and getting involved in a variety of outreach events, ANS was able to get its name out there and establish connections with other societies on campus while helping to improve the public perception of nuclear power and nuclear engineering. One of the lessons learned during the school year was that it was possible to entice almost any individual using marshmallow models of atoms and therefore, these are to be used at every booth in the following term.

The highlight of the student chapter this year was undoubtedly the ANS Student Conference held on April 8<sup>th</sup> through 11<sup>th</sup> at the University of Michigan. The conference had a record attendance of 665, which made it the largest American Nuclear Society student conference ever hosted. Some of the note worthy events during the conference included public forum: town hall style discussion on nuclear energy, awards banquet on the Detroit Princess Riverboat and a golf tournament that was the “kick-off” event of the conference.

Apart from that this years student chapter focused on more outreach events and reaching out to students in freshman and sophomore years. An example of this is pumpkin carving to raise money for breast cancer research and organizing a resume workshop, which had much higher participation than expected. To address the clichés seen predominantly in the engineering and nuclear fields, this year UM-ANS organized a social justice workshop. Apart from the “new stuff” we continued our tradition of end of the year banquet, nuke-party, happy hours and our chapter this year also successfully re-instated the nuclear picnic and reflecting pool races (that the previous president took responsibility for, but totally this was our doing).

In the following report, I have shown an attempt at discussing our major accomplishments and mistakes made during this school year.

## II. Executive Board

### i. Elections

The elections for the 2009-2010 school year were done before the end of the 2009 term to have a functioning board in place before the year ended. The election process ran smoothly and most of the executive board maintained their duties for the entire school year with the exception of treasurer and social chair. All the chair positions as listed were year-long positions and had the freedom to select their own sub committees to achieve the required task. The tasks of the members of the executive committee are detailed further.

### ii. Officers

President: Mahima Gupta

Do everything possible (in all seriousness). This position entailed dealing with speakers for information sessions, being a connection between the department and the student section, organize and plan all the events and meetings, assign tasks to the executive board, do what the executive board should have done, outline budget, come up with new ideas and hope they actually work.

Vice-President: Ross Barnowski

Help the president with all/ most of the events, perform duties of the president in the absence of the president, attend meetings and information sessions, responsible for high school outreach event on campus and energy-fest.

Secretary: Robyn Spink

Record minutes at the various meetings, order pizza and food for the meetings; maintain a list of active members and dues, manage logistics of the meetings and the executive board.

Treasurer: HeeHo Park

The duties of the treasurer required them to maintain all the finances and bank accounts used by the student section, apply for required funding (then reply for funding since its never enough), manage department books along with the student section, administer reimbursements for any purchases made by the student chapter. Initially, the treasurer elect realized that the job was too much for him to handle, therefore we chose Mr. Park to take up the responsibility. Mr. Park also happens to be the future president of the student chapter.

#### Outreach Chair: Sarah Williams

Our outreach chair was very active and creative and was involved in organizing the events to boost membership in the organization and also add the flavor of community outreach (harder than you'd think in an engineering organization). Her duties were to reach out to high school and middle school students and engage them in nuclear related activities to raise awareness.

#### Social Chair: He who must not be named

Our Social chair was responsible for organizing the nuclear picnic, the twice a month happy hours, bar crawl, end of the year banquet, nuclear party. Unfortunately the social chair quit half-way through the school year and therefore his responsibility had to be taken up by the President and the Outreach chair.

#### MI-ANS Representative: Hiruy Hadgu

It was the duty of the MI-ANS representative to act as a liaison to the Michigan ANS chapter for the student section. He was required to attend most of the MI-ANS meetings and report the to student section about new developments in the local chapter. Other than that, each year a few students present their research at the local ANS meetings and this was also the job of the MI-ANS representative to finalize the logistics and presentations for that event.

#### IM Sports Chair: Geordie Fegert

The IM chair organized all the Intra Mural sports teams that UM-ANS participants decided they wanted to play. The IM sports events are different each semester based entirely upon the amazing weather we have at Michigan.

#### UMEC Representative: William Walsh

Liaison to the UMEC, it was their job to attend every University of Michigan Engineering Council meeting and eat their free food. The UMEC rep also informed the executive board about the funding and other participation deadlines for the engineering council.

#### Pop and Candy Chair: Yvan Boucher

UM-ANS has a pop and candy closet where food needs to be stocked as soon as it is used up. It is the responsibility of the pop and candy chair to ensure smooth function of the food closet at our department lounge. This is a way to raise funds by the ANS chapter.

#### Website Director: Nick Touran

Website Director manages the chapter website. Unfortunately, this year the director had a job in Seattle and the UM student organization website system changed its settings to make it extremely hard for students not on the network server to work

with the website and therefore we couldn't make much changes to it. Most of the manpower was used up in the conference and therefore, the local chapter website didn't get a lot of attention.

The executive board ran the student section in an organized fashion this year with a few hitches, which were of course overcome. The highlight would be that this year the executive board was ready to experiment and try new activities with the chapter, which actually ended up being pretty successful. Financing these endeavors was an interesting task, however we managed to take care of it by being persistent with our funding sources. This is outlined below:

### III. Financial Outline and Budget planning

#### i. Dues

Most of the UM-ANS money comes from dues from the students. Our annual dues are only \$10, which covers all meetings and food. T-Shirts and Polos however are to be paid for by the students themselves. The T-shirts are simple and say “Michigan Nuclear” in the front and are navy blue. The polos were ordered for the first time last year for the 50<sup>th</sup> anniversary of Michigan NERS program but it was decided to reorder them for the student conference. We ended up selling way more than expected (my records show 67 polos were sold at \$20 a piece but I know our adviser handed out more at the conference).

#### ii. Pop and Candy

Our Pop and Candy facility is essentially an honor system for buying snacks in the student lounge. We offer soda drinks, fruit juices, candy and snacks for 50 c each and the students are expected to drop of change in the money drop box as they pick up snacks. In the past years, it was noticed that some non-nuclear students were taking money out of the drop box and so ANS was essentially losing money. To keep this “stealing” in check, we purchased a lockbox from which money could not just be picked up (previously we just used an open tin can with change lying loose inside. In retrospect, I am surprised it ever worked). Therefore, we were able to use Pop and Candy as a successful fund raising scheme (since the snacks are purchased from Costco, we still make profit. I love bulk purchases!).

#### iii. UMEC Funding

Every semester, University of Michigan Engineering Council funds student organizations if they have sufficient activities planned out. This year, we realized that funding was given more to organizations that planned events with other societies on campus. Therefore, we had numerous events with the Health Physics Society (HPS) and in the process, both organizations got funding for the event. Some of the events that were organized with HPS were the nuclear picnic, LaTeX workshop and bar crawl. These events were entirely funded by UMEC and therefore we did not have to spend our saved funds on them.

#### iv. CoE Funding

College of Engineering (CoE) at the University of Michigan graciously helps out the student organizations with conference travel and other expenses. This year, the CoE gave us \$1000 for the National Conference in Washington DC in November. They also helped out with the student conference and offered to let us use the copyrighted Michigan logo.



v. MSA Funding

The Michigan Student Assembly also helps out with conference travels and other student section endeavors. They also helped out with the National Student conference and are always willing to negotiate a greater allocation of funds than initially provided.

vi. Department Funding

The Nuclear Engineering and Radiological Sciences (NERS) department graciously helps out the student section in absolutely all our events. For national conference travel, the department always sets aside a certain amount of money depending on how many students are traveling. The NERS department also helped out for the student conference and made it free of charge for all the students presenting research and all the department professors to participate.

## IV. Activities

The UM-ANS activities can be divided into three major categories:

- i. Professional Events
- ii. Outreach Events
- iii. Social and Sports Events
- iv. Sports Events

During the past year, ANS has increased the number of activities that we have participated in. Along with the addition of events, there have also been attempts at restarting old traditions that for some reason were discontinued in the past few years.

- i. Professional Events
  1. Company information sessions

To provide the students adequate professional guidance and to help them network, professional events are set up by the student chapter. It is an attempt made at increasing the knowledge of student members about various companies and career development opportunities. At these events, either a company from the nuclear industry or research lab speaks about what their company is about and how the students could get involved with them. Most students bring their resumes to such events (given that the speaker is willing to accept these) and get a good direction from the speakers.

A good opportunity for the companies to come to Michigan is during the department career fair. During this time, a few informal information sessions were hosted that also helped students connect with professionals in a more relaxed environment. Following is the list of all the professional speaker sessions:

- Idaho National Lab: information session on opportunities at the Idaho National Lab with a talk on risk analysis
- Nuclear Regulatory Commission: Information session regarding opportunities to work full time and intern at the NRC.
- GE-Hitachi: Informal session outline career opportunities
- Conversation with NRC Commissioner, Kristine Svinicki who happens to be a Michigan graduate
- Westinghouse: Happy Hour with Westinghouse about job opportunities
- Bechtel: Happy Hour with Bechtel with emphasis on career venues and possibilities after graduation.
- Tennessee Valley Authority: Informal dinner at the local awesome pizza restaurant. Resumes accepted.

## 2. LaTeX workshop

LaTeX is a document mark-up language and is increasing in use by the day. To have students cope up with the changing trends, a LaTeX workshop was organized to give preliminary instructions to the student group to get started with this software.

## 3. Resume Critiquing session

Also this year, we started a resume critique workshop which had a higher participation than was anticipated. It was held before the internship workshop and was primarily attended by sophomores and juniors. Students who have had opportunities of interning over the years and are used to writing a strong resume did the critiquing. It was decided that this workshop be made a tradition for the coming year since this also indirectly helped the students in getting a direction regarding internship application process.

## 4. Resume book

Along with our lovely advisor Pam Derry, we collect resumes from all the students and compile a database that is mailed out to all the employers that have chosen to receive the database from us over the years. This is a helpful tool for many students since many times, they have actually received calls from various employers.

### ii. Outreach Events

UM-ANS chapter made it a priority to get actively involved in public outreach this year.

#### 1. Information Booths

We set up numerous booths at various student organization events and other college events to boost membership and engage more non-nuclear engineering students in the chapter. Along with that, to gauge interest of “passing by” students, our awesome outreach chair designed a life-size Jenga game, where each of the wooden pieces had a question related to nuclear on it. When students pulled out one of these pieces, they had to answer these questions and in the process learn real facts about nuclear energy.

We set up booths at the following events:

- Festifall: Booths of student organizations set up the first week of school for incoming freshman and new students to get to choose how they would like to get involved on campus.
- Spring Fest: Student organization outreach event like Festifall but organized in the spring.
- North Fest: Event to introduce various student organizations on north campus of the University of Michigan.

- Energy Fest: an event marking options for alternative energy showcasing efforts made during the school year by various societies to raise awareness about clean energy and how other students could get involved.
- Tech Day: High school students visit campus to get a tour of engineering labs and facilities.
- Welcome Day: Incoming students declaring engineering tour campus and attend classes with their parents on being accepted get an idea of what the student societies are and how they would be involved once they were actually in Michigan.
- Major's Fair: For undeclared freshman, majors fair is hosted to inform them about nuclear engineering being a great option.
- Engineering Week: Organized by Theta Tau, Engineering Fraternity on campus. This week has a day devoted to student clubs interested in sharing their experiences and work with fellow students to canvass for nuclear energy as being an amazing substitute to coal.



Energy Fest and interaction with curious students and other interested passers by

At each of these events, many students stopped by to get involved in ANS and they very much enjoyed the marshmallow models of atoms. In order to have a more variety of people participate in ANS this year, we had a sign-up sheet for students and created an email group for these students so that they could be told about various ANS events. This was actually extremely helpful and we were able to have 14 students not in NERS join ANS out of which some decided to pursue nuclear engineering after having joined ANS.

## 2. Tech Day

Participating in Tech Day and DAPCEP respectively did High School and middle school outreach. During Tech Day, high school students from around the Ann Arbor-

Detroit area came to be toured around various labs in nuclear engineering. These students were taken to the plasma lab where they were showed how the plasma was created and what it looked like. They were also taken to the detection lab where they were showed how radiation was counted and what it was all about.

### 3. DAPCEP

DAPCEP program is a five week long program for middle school students during which inner city Detroit students come to campus and learn about nuclear energy starting from basic Physics and leading up to relativity and simplified version nuclear energy. During my DAPCEP teaching day, I took my students to the Neutron Sciences Lab where they got to see Neutron Activation, then counting radioactivity on the GM counter/ detector.



Zach and Hamdi teaching kids about elements of nuclear physics

### 4. Pumpkin Carving Breast Cancer Research + UMDM

For community service this year, we had pumpkin carving for breast cancer awareness and also moraling for dance marathon. By pumpkin carving, we were able to raise \$360, which was donated. University of Michigan Dance Marathon (UMDM) moraling involved cheering on all the dancers participating in dance marathon and attempting to raise money for physically impaired children. We had a good participation in each case and it helped to raise more awareness about nuclear power.



Sarah Carving pumpkins! ☺

## 5. Social Justice Workshop

Recently a survey was done showing that student in the nuclear engineering field tend to form clicks and disregard diversity in the field. Therefore, we organized a social justice workshop to address these issues, which run deep in the students. The workshop involved a game with that the students played but it was used to show how diversity affects people actually living with it.



Social Justice Workshop



### iii. Social Events

They say, “ All work and no play makes Jack a dull boy” and we didn’t want too many dull Jacks. ANS Student Section has a number of social events that surprisingly work best when it comes to raising participation and improving connections between undergraduate and graduate students. In this last year, social events have demonstrated high attendance and higher demand for a repeat. As mentioned before, we also managed to restart nuclear picnic and reflecting pool races both talked about further.

#### 1. Nuclear Picnic

The nuclear picnic was a tradition but was unfortunately discontinued the last couple years. This year we organized it and quite a few faculty and a good mixture of undergraduates and graduate students attended it. We grilled some burgers and brought variety of foods and all the participants appreciated this event.

#### 2. Twice a month happy hours

The NERS department has a weekly colloquium Fridays from 3-4:30 PM and this happy hour routine was restarted at the end of each of these colloquiums every other Friday. It was however realized that half way during the school year, these but happy hours had a much greater turnout when they are hosted later in the evening and therefore were moved to that time frame.

#### 3. Nuclear Bar Crawl

This was the first year that we managed to have an organized bar crawl with T-shirts and a set route. It was definitely a good time walking from bar-to-bar with shirts that said, “I am positive I lost an electron or two along the way”. Again, this event had an extremely high participation and about 60 shirts were sold for the bar crawl and eight bars were covered. I would say this event was a huge success.



Nuclear Bar Crawl!!!

#### 4. Band Performance: World without Strangers

ANS also decided to showcase talent in its members to the world and therefore organized an event for the band, “World without Strangers”. Some members of this band were members of ANS and happen to be graduate students. This event also drew together students from both undergraduate and graduate classes and I definitely had a great time rocking on to it.



World Without Strangers Band Performance



## 5. NERS Banquet

Final NERS banquet was held on April 19, Friday. It was ANS's priority to help our adviser set up and arrange students to actually attend this event. The event was a huge success and attendance was on the order of 200 people. This event also marked the end of term for our department chair and a small skit was done in his honor to show his dedication to nuclear education at University of Michigan.



Sarah, Mahima, Pam and Rachel at the banquet (there is a reason we are all so happy)

## 6. Reflecting Pool race

Each year at the end of NERS: 315 (a detection lab) it is a tradition that students from all classes and years in nuclear attend the race through the reflecting pool fountain. For this race, they have to run to the fountain in the water, touch it and come back. The first team to do so wins. It was restarted end of 2009 academic year and now it was improved during this school year. This year around, some faculties chose to participate as well.



Reflecting Pool Races (Notice the dog LOL)

#### iv. Sports Events

I am proud to say that this year we had a spectacular turn out at the IM sports events and we faired decently well. To name a few, we had soccer, flag football, volleyball, broomball, inner-tube water polo. Our performance in Soccer was noteworthy. Our team, "Less than average" lost in the semi finals because of a lot of reasons that I am not happy about till date. However, other sports team had a good turnout and the participants were spirited (I'd like to attribute it to the "bromance" seen in the senior/ junior classes, but hey! As long as it works...).

## V. ANS Student Conference 2010

### *Conference Co-Chairs:*

Michaela Eddy, General Chair: Logistics

Travis Trahan, General Chair: External Relations

### *Honorary Chair:*

Pamela Derry:

The University of Michigan Chapter of the American Nuclear Society hosted the national student conference from April 8<sup>th</sup> through 11<sup>th</sup>. The conference was predominantly at the Ypsilanti conference center in order to provide students a more professional experience by modeling the national conferences. 37 supporters and 20 ANS divisions sponsored the conference. The conference was attended by 665 participants making it the largest yet student conference.

The meeting was kicked off by a golf tournament for which students were paired with mentors followed by campus tours and welcome reception. The Awards banquet for the conference was hosted on the Detroit Princess Riverboat, which was a dinner cruise on the Detroit River between Detroit, USA and Windsor, Canada. The conference also had tours to the DC Cook power plant and National Superconducting Cyclotron Laboratory. Mentoring lunch was another highlight of the conference for which students were paired with mentors from their fields of interests.

On the more technical note, the conference had 157 submissions with a breakdown of 34 poster presentations and 123 technical podium presentations. Each of the podium presentations track had a session chair presentation related to the track discussing what their research entailed. 17 awards for the technical tracks were handed out followed by 3 in the poster session (2 tied for second place). University of Michigan had the most submissions for poster session and for the technical podium presentations followed by Oregon State University.

The conference offered workshops on SCALE, MCNP-PoLiMi, Irradiation Testing and planning, Nonproliferation & Nuclear Safeguards, Public Communications and PARCS: Nuclear Reactor Simulation. The workshops had a high attendance. A media relation's workshop was also offered in case there were any interested in dealing with the media.

Public forum: A Town Hall discussion on Nuclear Energy was an event open to the public. It was highly attended by participants from the conference and other public as well. The invited speakers represented all avenues of the nuclear industry and were therefore able to address all the concerns of the public. The Speakers were:

- Tom Sanders, President, American Nuclear Society

- Cynthia D. Pederson, Deputy Regional Administrator
- Jack M. Davis, Senior Vice President, Nuclear Operations
- Harold F. McFarlane, Deputy Associate Laboratory Director for Nuclear Programs
- Steve Mladineo, Senior Adviser, Defense Nuclear Nonproliferation Programs Sector, PNNL

The dinner speakers from the Tritium level (\$25k and more) sponsors were spectacular. Christopher Schwarz, Site VP Palisades power plant, Entergy Nuclear and Jim Fici, Senior VP of Customer Relations and Sales, Westinghouse Electric addressed the attendees at the welcome reception on April 8<sup>th</sup>. Andrew G. Cook, Senior VP of Sales and Marketing, Areva NP and Brian Johnson, Domestic Markets Leader, GE-Hitachi Nuclear inspired the conference participants the night of the Awards banquet. Aside from the dinner speakers, our lunch speakers, Russell “Rusty” West of Tennessee Valley Authority, Ed Bradley of IAEA and Mark Fecteau of Westinghouse Electric were very absorbing and thought provoking. In all, the variety of topics that were touched upon by the speakers was truly remarkable and captivating for the conference attendees.

The entire planning committee was glad that everything went smoothly and as planned. Registration was a little chaotic but not enough to interfere with the schedule and events of the conference. Apparently everyone had a good time and so it made us all happy.

## VI. Conclusion

Very much like all reports submitted so far, I felt a little uneasy submitting this without a conclusion. So, here it is. This past year for ANS student section at University of Michigan was special in a lot of ways. We realized that experimenting with the section is not always a bad thing and therefore all new attempts made at establishing better connections between undergraduates and graduates seemed successful and will be carried on in the future. One lesson learned was that unless everyone is constantly reminded of his or her tasks, it is hard to get everything done. As an example, it was planned to have an outreach event at a local elementary school and start a mentoring program but due to conference involvement, the President was occupied and did not have time to pursue the outreach chair to establish this event. More planned executive board meetings would have made up for this lack of “push”. The dropping off of the social chair was hard on the committee as the President and outreach chair now had to take up that responsibility as well. Establishing a conference committee separate from the ANS student section executive board resulted in much better functioning of the event due to the committee being mostly graduate students and not having trivial “senior design like” stuff to do. Having a more involved faculty adviser is something that UM-ANS section is looking at. This would definitely be a step in a positive direction. In all, this was a fun year with the exception of Michigan Football. Hopefully we can beat that team from OH\*O next year and then the year would be perfect.

I'd like to end this with the famous lines,

***For today, goodbye  
For tomorrow, good luck,  
And forever, GO BLUE!!!***