

# Virginia Tech

## Material Advantage Chapter of Excellence Report

# FALL 2015/SPRING 2016

## CHAPTER OVERVIEW

Unlike many Materials Advantage Chapters, the Virginia Tech Materials Engineering Professional Societies (MEPS) is an umbrella organization including Materials Advantage, the American Foundry Society, the Journal of Undergraduate Materials Research, the Materials Research Society, and the International Microelectronics Assembly and Packaging Society. This diverse organization has given members the opportunity to learn about all professional backgrounds. This year the number of active members in the Virginia Tech chapter as significantly increased from an average of 50 students per meeting attendance to approximately 75 students per meeting. In addition to the organizations growth, we were able to provide our members with easy access to scholarships, jobs and networking opportunities. These opportunities lead to our teams winning first and second place in the Geodesic Dome Competition at MS&T, second and third place at the AIST Real Steel Video Contest, and being awarded over 34,000 in scholarships. This report summarizes the chapters growth and improvements throughout the year.



# PROGRAMMING

As a professional engineering society, professional development is a key priority of all members of the Materials Engineering Professional Societies. Professional development was achieved through resume building, internal and external networking, and bonding events for the chapter. Some of our major accomplishments within programming is the Journal of Undergraduate Materials Research, General Body Meetings, Company Visits, and our new scholarship awareness program.

## Journal Undergraduate Materials Research (JUMR)

The next volume of JUMR, Volume 5, was restarted in the spring of 2015 after a 5 year hiatus and has been completed after a year of consistent work. Current efforts for JUMR are directed at making it a sustainable organization, with the goal to have a yearly publication filled with features and technical articles. Elections for leadership positions within JUMR took place in April, and improvements to the process are being implemented for the next volume, including an online submission platform with reviewer support, called the Online Journal System (OJS). OJS is a free service provided by the library. The board hopes that Volume 6 will be finished by the end of this year or early next year, and it will include a wider variety of international submissions.

## General Body Meetings

We continued our tradition of monthly general body meetings throughout the semester. Many of these meetings featured guest speakers, including departmental professors advertising opportunities for undergraduates, and companies interested in full-time and internship hires. Attendance at these meetings increased approx. 150% following the implementation of many organizational changes described in the chapter management section.

# PROGRAMMING

## Engineering Expo Visits

This year became the first year in which MEPS created a week-long event correlating to the Engineering Career Fair at Virginia Tech. We planned events for every night of the career fair where students had the opportunity to interact with hiring managers in a relaxed setting. These events included a small dinner with Howell Metals , a pizza night with Corning Inc., and tacos with Precision Castparts.

## American Foundry Society (AFS)

In previous years, MEPS introduced the American Foundry Society (AFS) to Virginia Tech. Under the leadership of AFS Chair, Mattie Laprade. AFS implemented multiple Open Houses introducing local students to casting, networking events for all AFS members, and worked to send many students interested in attending CastEXPO and MetalCasting Congress last spring.

## International Microelectronics Assembly and Packing Society (iMAPS)

This year, MEPS introduced yet another professional society to Virginia Tech. As one of our most popular tracks is Electronic Materials we felt it was necessary to expand our horizons to include iMAPS. This addition was lead by iMAPS Chair, Elizabeth Nerdig.

## Opportunity Awareness

A continuing focus on opportunity awareness throughout the semester was a key concern to this leadership board. The board agreed on the lack of awareness of opportunities for students. This year we worked extremely hard to provide our members with information regarding every Material Advantage competition and scholarship deadline. We completed this by implementing an opportunity awareness role within the newly implemented, Sophomore Council.

## CAREER DEVELOPMENT



### Resume Book

This year we introduced a resume book which we planned to send to companies looking to fill internships and full time positions. The resume book generated a large amount of interest to join Materials Advantage throughout the department. This created a large throughout the department. We were able to collect contact information for over 25 companies interested in the resume book.

### Professional Workshops

At every General Body Meeting, we provide our members with professional workshops in which they can sign up for professional headshots and learn more about how our social media accounts can impact our job hunting. We also provided week long workshops for our members during the week of the large career fairs on campus.

### Study Sessions & Private Tutoring

Every year, we provide all students within our department with large group and small group study opportunities for all of our classes. At these sessions, we provide students with food, coffee, and access to tutors who are passionate about MSE. In addition to the large study sessions, any student can request private tutoring.

### MS&T 2015

This year we provided 18 materials advantage members with the opportunity to attend MS&T at Columbus Ohio. It is important to note that members are determined to go based off of their involvement in the chapter throughout the year. Our team submitted 3 ceramic mugs, 2 ceramic disks and 2 geodesic domes. These teams had a total of 33 students involved. In addition to the competition teams we had 3 students awarded AIST scholarships, 2 students presenting their work at the conference and a presenter at the Student Speaking Competition. Although we did not place in the ceramic teams, we left the competition with a great deal of knowledge. We did have the opportunity to place first and second place in the geodesic dome competition with our first place team maxing out the machine supporting a total of 55,000 N.

### ITAR

The two most active MEPS students with a background in ceramics were selected to attend the 40th Annual Conference on Composites, Materials and Structures – ITAR Sessions held yearly in Cocoa Beach, FL. Members given these opportunity to attend this classified conference were able to sit in on sessions and network with companies around the United States.

## CAREER DEVELOPMENT CONT.

### TMS 2016

Three members attended TMS in Nashville, TN this year. They participated in the Materials Bowl competition and did not place. This is Virginia Tech's second consecutive year attending the materials bowl. Peter Loomis and Cameron presented for 15 minutes on aspects of what a blade made out of meteorite would be like. 15 people from different places around the world attended dinner at the Palm restaurant for a diversity dinner.

### Congressional Visits Day

We provided members with the opportunity to attend the Materials Advantage Congressional Visits Day in Washington, DC. These members had the opportunity to network with fellow engineers and policymakers.

### iMAPS Poster Contest

Our electronic materials professional society held an on campus poster contest for undergraduate and graduate students. This opportunity provided members with the opportunity to present their work to leaders in the industry while competing for cash prizes.



## PERSONAL DEVELOPMENT

"Joining MEPS has truly been an enjoyable and beneficial experience for me. I decided to join after I had become more established in MSE, and I wanted to become more involved along with some other friends with the same sort of mindset. I immediately felt very welcomed into the MEPS community. It gave me a group of other smart and motivated students who all want to help and build the materials community. In a short time with the organization, I gathered valuable information building a career in the materials world. I was able to attend the MS&T conference which allowed me to network with companies and ultimately land a co-op with SSAB Iowa Inc. Not only was I able to gain important world experience, but I got to make some great friends as well. I am very excited to see what the future holds for MEPS, and I hope to see a growth of enthusiasm for materials along with the organization."

Materials Advantage Member, J.P. Krammer

# UT PROSIM THAT I MAY SERVE



At Virginia Tech we live by the motto Ut Prosim meaning "That I May Serve". Our Materials Advantage chapter took this motto to heart with our commitment to cancer research, our environment and, community outreach.

The Big Event at Virginia Tech is one of the largest student-run volunteering events in the nation, with the purpose being to say "thank you" to the residents of the New River Valley community. MEPS decided to begin a team to join in on the cause. A total of 10 people, including the team captain, signed up to volunteer about a week before the event. The team captain attended a mandatory information session and sent relevant information to the team via email the night before the Big Event. The day of the Big Event, the weather took a turn for the worst, dropping to below freezing with gusting winds. Still, the team was able to meet in the blistering cold, ready for the assigned project. However, upon calling the resident the team had been assigned to, the resident decided to cancel their volunteer opportunity due to the weather. It was a disappointment to not participate because of the inclement weather, but the event was well organized and the team was enthusiastic and ready to serve, even in the cold.

Relay for Life 2016 was probably the most successful outreach event through this chapter of MEPS during 2015–2016. MEPS participates annually in Virginia Tech's Relay for Life, the largest collegiate Relay for Life in the nation. MEPS gathered donations through the use of email, word of mouth, and social media for about two and a half months prior to the event. Through these methods, and with the help of a supportive network of considerate individuals, MEPS was able to raise over \$320.00 for the event and cancer research. Without the support of the MEPS chapter and its cabinet members, this would not have been possible.

"What we're made of" was an event created with the intention of providing underprivileged kids the chance to see what they are capable of doing in the Materials Science & Engineering – or any engineering – discipline at Virginia Tech. This event was planned during the late fall of 2015 with the assistance of the department undergraduate academic advisor. The school district was chosen very carefully, and after consideration to which events would be done – such as lab tours, free takeaway items, and lab demos – the plans started to become solidified. However, during early March, it was decided by the assistant department head that the event had to be pushed back to Fall 2016; this was due to various precautionary measures that needed to be taken, without sufficient time in the remaining semester to do so. This was an unfortunate turn of events, but helped the outreach coordinator understand how much planning and liability considerations need to be made for a safe, successful event, especially when children are involved.

# SOCIAL ACTIVITIES

Many of our professional activities turn into social activities as well. As we continuously build our network, we work to provide fun ways to grow our relationships with our classmates.

Many of our late night bake sales and service events turned into unforgettable nights. These social activities continue to grow. The two main social events of the year are the end of the semester parties.

In continuation to previous years, we held a faculty auction at the winter end of semester party. During the auction, faculty and staff volunteered to host activities that students could bid on to win. Activities included laser tag, arts and crafts, baking, and a day at the gun range .

The sophomore council organized additional social events such as an ice cream study session and a holiday crafting event. These events proved to have a great turnout with a large majority of the class attending.

A new social program implemented in Spring 2016 was the MSE Social Media Scavenger Hunt. This scavenger hunt was a social media challenge between the graduation classes. This event helped develop bonds within each class with fun rivalries.



---

## SENIOR INVOLVEMENT



This year we committed to expand our MEPS Network by building our relationship with our Seniors. We worked hard to provide each senior with free MA memberships the first year following graduation. We also provided each paid MA senior with a free graduation chord displaying their commitment to MEPS. We also provided the seniors with free pizza and superlatives in downtown Blacksburg, VA at our last MEPS social at Senior Night.

# CHAPTER MANAGEMENT

The Materials Science and Engineering Department at Virginia Tech is quickly expanding. As our organization grows with the department the role of all of the officers of Materials Engineering Professional Societies required a change from previous years. Implementation of Chairs for each society represented within MEPS provided additional opportunities for leadership throughout the department and gave the President the opportunity to focus on Chapter Management throughout the year. At the beginning of each semester individual meetings were held between the officers and the President and Vice-President. These meetings are where we went over the implementation of S.M.A.R.T. goals for the role and the fact that the President and the Vice-President are always on call for implementations of a project. Previous boards ran into many difficulties with the implementation of projects due to lack of commitment and communication. This year we worked to prevent this with the "always on call" mentality of the President and Vice-President. The end of each semester ended with personal reviews with the President and Vice President where we agreed on strong points and areas of improvement for the respective officer, the organization, and the President and the Vice-President. This idea of continuous improvement provided the upcoming boards with additional opportunities to grow in the upcoming year.

This year was the first year in which we requested a budget to the department for the entire year. This provided MEPS with the flexibility's of determining the allocation of funds if necessary for large events while providing the department with information regarding needs for the upcoming year. This was also the first year in which we have requested funds from the Student Budget Board providing the chapter with over \$10,000 for conference travel. Each officer was required to create an individual budget in which was then combined and approved by the President and Vice-President. The President and Vice-President then presented the budget to the VT MSE Department Head. This budget along with the implementation of the use of the Student Budget Board provided us with the opportunity to expand our programs and conference travel.



# CHAPTER MANAGEMENT

The board began in Spring 2016 to collect feedback from students regarding the Materials Engineering Professional Societies. One of the main feedback received was that the students didn't know about our events until it was too late and that they continued to have conflicts with the meetings due to the reoccurring times of the meetings. To respond to the feedback, the board released dates for all of our events at the first meeting of the semester and varied the dates and times in which our monthly meetings were held. To encourage additional students to attend the meetings, we also implemented random raffles at each meeting ranging from five to twenty dollars. These improvements lead to an 150% increase in attendance from previous years.

Along with the expansion of the board through additional Organization Chairs, we also implemented the first ever Sophomore Council. where we encouraged our new students within the Materials Science and Engineering Department to get involved. This council of sophomores mimicked the executive board and consisted of a President, Vice-President, Secretary, and Treasure. This council proved to increase the involvement of the sophomore class as their classmates feel more connected to the organization. It also provided the sophomores the opportunity to gain leadership experience while shadowing the executive board. One hundred percent of the sophomore council applied to be on the 2016/2017 MEPS executive board.

# 2015/2016 LEADERSHIP TEAM

## 2015-2016 OFFICERS



Jasmine Brown , President

Joseph Oega, Vice President

Nora Browning, Secretary

Matt Crowley, Treasure

## 2015-2016 CHAIRS



## SOPHOMORE COUNCIL

