

MATERIAL ADVANTAGE STUDENT CHAPTER
ANNUAL REPORT COVER SHEET



The Student Program for Materials Science and Engineering

Student Chapter Name: Missouri S+T

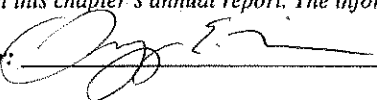
Academic Year: 2010-2011

University (if different from chapter name): _____

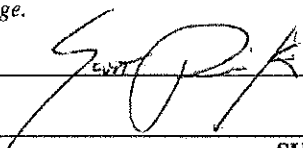
The following items must be attached:

- Annual Report
- Officer List for Upcoming Year
- Copy of Current Student Chapter Bylaws, *if updated in the past year.*

I hereby support this chapter's annual report. The information contained within this report is accurate to the best of my knowledge.

Faculty Advisor:  Date: 5/25/11

I hereby submit the attached Annual Report on behalf of my chapter. The information contained within this report is accurate to the best of my knowledge.

Submitted by:  Date: 5/23/11

SUBMIT BY JUNE 1 TO:

Material Advantage Student Chapter Program
c/o Chapter & Student Relations
ASM International®
9639 Kinsman Road
Materials Park, Ohio 44073-0002
Fax: (440) 338-4634
Email: students@asminternational.org

MATERIAL ADVANTAGE CHAPTER ANNUAL REPORT

Report should reflect activities during the past academic year (August—June).

REGULAR CHAPTER ACTIVITIES

Number of Business, Technical or Educational Chapter Meetings: 10

Number of Guest Speakers not associated with the department at a chapter meeting: 8

Number of Guest Speakers associated with the department at a chapter meeting: 2

Regular Chapter newsletter or printed communication: Yes ___ No X

Do you have a Chapter homepage? Yes X No ___

If yes, is it linked to the Material Advantage homepage? Yes X No ___

Other forms of visual or electronic communication to chapter (i.e., e-mail groups, bulletin board, etc.) Please list:

- Email List Server
- _____
- Online Chapter Calender
- _____

MEMBERSHIP DEVELOPMENT ACTIVITIES

Number of applications for ACerS, AIST, ASM or TMS Scholarship contests: 5+

Number of applications for ACerS, AIST, ASM or TMS Paper contests: 0

Number of Chapter Social Events: 6

Chapter recruitment program with at least 50% of membership involved :

- Membership Challenge Week Member Sponsor Program
 Spring Recruitment Program Chapter Program: _____

Career Resources, programs, or job fairs sponsored by chapter. Please list:

- Fall Picnic
- _____
- Grad. School Round Table
- _____

SPECIAL CHAPTER ACTIVITIES

Number of Tours Taken at companies/corporations/ laboratories: 0

Attendance at ACerS, AIST, ASM or TMS Meetings by one or more members of chapter: Yes X No ___

Outreach Projects for K-12 students (demonstrations, presentations, workshops, support of department recruitment programs, etc.) Please list:

- ASM Materials Camp
- Boy Scout Merit Badge Workshop
- Science Olympiad
- Open House Demos/High School Visits

Community Service/Campus projects/Fund Raising Events. Please list:

- 1. Animal Shelter 3. _____
- 2. Donations 4. _____

Faculty Advisor appreciation/ recognition efforts. Please list activity:

LOCAL CHAPTER/SECTION RELATIONS

Joint Activities held with Local ACerS Section, AIST Member Chapter, ASM Chapter or TMS Section : Please list:

- 1. St. Louis Section 3. _____
- 2. _____ Meeting 4. _____

Attendance at Local Chapter/Section Meeting by one or more members of chapter: Yes No _____

Student Member or Faculty Advisor sits on Executive Committee: Yes _____ No

Regular communication with nearest local chapter/section (newsletter, calls): Yes _____ No

OTHER SIGNIFICANT ACTIVITY

Please describe: See Attached Report

Additional information may be attached.

Missouri University of Science and Technology

Material Advantage Chapter

Chapter of Excellence Nomination

End of the Year Report

Submitted 26 May 2011



Missouri S&T Chapter Officers



Names listed left to right: Amanda Gober (Social Chair), Britni Snow (Outreach Chair), Jamie Fitzgerald (Secretary), Sarah Hunter (Webmaster), David Hengst (Treasurer), Scott Pisarik (Chairman - Spring), Lee Swaim (Historian), Andrea Els (Vice-Chair (Ceramic)), Prof. Greg Hilmas (Faculty Advisor)
 Not Pictured: Andrew Merritt (Vice-Chair (Met.)) and Allyson Buchelt (Chairman - Fall)

Officer Position	Current Officers (2010-2011)	New Officers (2011-2012)
Chair	Allyson Buchelt (Fall) Scott Pisarik (Spring)	Britni Snow
Vice Chair (Metallurgy)	Andrew Merritt	Allison Tengblad
Vice Chair (Ceramics)	Andrea Els	Catherine Mohrmann
Treasurer	David Hengst	Andrea Els
Secretary	Jamie Fitzgerald	Scott Pisarik
Social Chair	Amanda Gober	Jeff Josken
Historian	Lee Swaim	Jeff Britton
Webmaster	Sarah Hunter	Sarah Hunter
Outreach Chair	Britni Snow	TBD
Faculty Advisor	Prof. Greg Hilmas	Prof. Greg Hilmas

Chapter Overview

The Missouri S&T chapter of Material Advantage (MA) is a student organization which tries to give as much as possible back to its members and to the department which it serves, namely the Materials Science and Engineering Department. The chapter provides its members with opportunities to develop themselves professionally, see the scientific community, and develop relationships with current professionals within materials research fields and the materials industry. The ability for students to introduce themselves into the scientific community is extremely important for later continued involvement in the field of materials. Also, one of our main goals of the chapter is to introduce material science, and science in general, to younger students including K-12 students as well as underclassmen at the university. The increase in interest in science and technology in the younger generation is important for continued scientific advancement on the national scale as well as the future of material science. The chapter also serves to educate current students about the materials industries through showing them what industry is like, how to network with industry at professional conferences, and more. Keeping students in contact with professionals is important to our group so that members can make informed decisions about their careers. Further, the chapter provides professional development and outreach opportunities. Finally, MA is simply a group where material science students can find friends, enjoy the company of their department, and form connections which will be valuable later on in life.

2010-2011 Highlights

- Membership
 - 19 New Members
- Members attended ACerS, AIST, TMS, and AISTech
 - 35 members went to Houston for MS&T Conferences
 - Participated in Mug Drop
 - One member participated in the Material Advantage Undergraduate Student Poster Competition
 - One member was second runner up in the Material Advantage Undergraduate Speaking Competition
 - Two members presented in the Material Advantage Outreach Demonstration Exhibit
 - 5 members attended TMS in San Diego
 - 4 members placed 2nd in the Student Materials Bowl
 - 1 member attended AISTech in Indianapolis
 - 10 members attended ACers in Daytona
 - 3 members attended ACers Section Meeting
- 11 Student Chapter General Meetings Held
- Many Scholarships won by Missouri S&T students
 - Including 3 of 10 FeMET scholarships and the AIST Premier Scholarship
- Many outreach activities held
- Many social events completed

Programming

Fall Picnic

Every fall Material Advantage, in conjunction with other Material Science and Engineering (MSE) student groups and the department, put on a fall MSE picnic. This year a Metallurgical vs. Ceramic softball game involving students, professors, and employers was held in conjunction. The picnic's date is chosen to coincide with the day before the university's fall career fair. This allows invitations for the picnic to be sent to the potential employers of MSE students who will be attending the career fair. Also, it provides a chance for alumni, who are in town to attend the career fair either as an employer or job seeker, to catch up with the department faculty, staff, and students. The picnic is an informal setting for students to talk to employers before meeting them in the more formal career fair the next day.

Spring Banquet

The Annual Spring Banquet for the Material Science and Engineering Department was held Tuesday, April 19th this year at Matt's Steak House. The turnout this last year was outstanding with a combination of the Ceramists and Metallurgists. There were just over 100 attendees which included students, faculty, alumni, and family. Per tradition, the annual award ceremony followed the banquet. Some of the award winners include Becca Mullen for Outstanding Ceramic Undergraduate, Scott Pisarik for Outstanding Metallurgical Undergraduate, and Lucas Demoah for Outstanding MSE Graduate Student. Outstanding faculty were also recognized as Dr. Wayne Huebner and Dr. Dave Van Aken were awarded the Ceramic and Metallurgical Professor of the Year award, respectively. Natalie Vanderspiegel (CerE BS '02, MS '04) and Kevin M. Ijames (MetE '83) received the Distinguished Alumni Award.



Socializing with employers at the fall picnic



The 2011 Annual Spring Banquet

WYSE Academic Challenge

The Worldwide Youth in Science and Engineering (WYSE) finals for Missouri were held at Missouri S&T. Dr. Bill Fahrenholtz, a professor of ceramic engineering at Missouri S&T, organizes the WYSE program for the state of Missouri. High school students are tested over

subjects ranging from Chemistry and Physics to Computer Science and Engineering Graphics. Prizes were awarded to individuals with high scores in the different subjects and schools with the highest overall scores. Over 175 students made it to the finals and attended the finals at Missouri S&T. Material Advantage members worked at the event by proctoring exams, entering test results into the scoring system, taking pictures for the university and the high schools, directing teams to destinations, distributing WYSE t-shirts to the students and their teachers, and handing out awards. Students were enthusiastic about the competition and expressed gratitude to MA Officers and Dr. Fahrenheit for putting on the competition.



Andrea Els handing out T-shirts during the WYSE academic challenge

Trivia Night

The programming committee put together a trivia night to raise money for our organization. A \$25 gift card to slice of pie was donated as a reward. Entrants were charged \$5 per person and were allowed to be in groups of up to 4 people. Beverages were also donated and provided to the entrants. The program was advertised with flyers and the student eConnection. Due to poor timing (a week prior to the end of school) not as many people showed up as anticipated. We had two entrants and earned a total of \$10 for our MA chapter. This idea is still believed to have merit and will be attempted once more next year with increased advertising and proper scheduling.

Career Development

MS&T'10

The Materials Science and Technology conference has been a major activity for our chapter the past few years. This year, 35 students from Missouri S&T traveled to Houston, TX for the MS&T'10 conference. Though many more students wished to go, we had a respectable showing at the conference. To facilitate the attendance of as many students as possible, attendees only had to pay for their food, conference registration, and a \$30 travel fee. Vans were commissioned and the group drove to Houston. Once there, our student chapter paid for housing and transportation to and from the conference. We booked with the Drury Inn, giving our students free breakfast, dinner, internet, and adult beverages for everyone who was of age.

At the conference, our students participated in a variety of events. Allyson Buchelt and William Wilmot presented in the Material Advantage Outreach Demonstration Exhibition, giving tips on how to successfully present materials science concepts to K-12 students. Catherine Mohrmann competed in the Material Advantage Student Speaking Contest semi-finals and was a second runner-up with her presentation entitled, "*Crystallization Studies of Alumina Doped Tellurite Glass: For Use in Fiber Optics.*" David Shahin took third in the Material Advantage Undergraduate Student Poster Competition with his poster entitled, "Glass Cracking Near Edges and Interfaces." Our students also participated in the MA Ceramic Mug Drop Contest and the MS&T Professional Recruitment & Career Pavilion. Other awards received at the conference were the following:

- The 2010 Chapter of Excellence Award
- Ferrous Metallurgy Education Today (FeMET) Scholarships, awarded to: Brandon Ensor, and Kyle Bevans
- Premier Scholarship, awarded to Scott Pisarik

Students also had many options on presentations to attend, including technical talks about research in their field, or learning about graduate school from the MA Graduate Student Forum. All students attended the MA Student Mixer on the Sunday night of the conference. This was a great event for students to mingle with industry leaders, graduate professors, and other students in a casual atmosphere. Students also had the option to attend various steel events and also a tour of NASA's Johnson Space Center. Over half of our attendees attended either of these events.

MS&T '10 was a great opportunity for students to network professionally and socially, test their skills in various contests, and also gain insight into the professional realm of material sciences and technology.

TMS

On February 27, five Material Advantage members traveled to San Diego, CA for the annual TMS conference. Four of these students competed in the Materials Bowl and brought home a second place finish and a \$500 prize for the Missouri S&T chapter. The students also had the opportunity to attend technical presentations to gain knowledge about research in the world of materials. Jack Murray, a Ceramic Engineering graduate student presented his research on Magnetron Sputtering of Thin Film MIM Capacitors with Al and Pt Electrodes.

Collaboration with students from other schools took place throughout the conference to learn more about educational experiences that others encounter, career opportunities were explored with various companies, and information was exchanged with both professionals and other students in the materials field.



MA members Andrew Merritt, Scott Pisarik, Chris Ferguson, and Andrea Els after advancing to the finals in the Materials Bowl competition this year at TMS.

St. Louis Section Meeting

The fall meeting of the St. Louis Section of the American Ceramic Society was held in November 2010 in Rolla, Missouri at Matt's Steakhouse. This event provided an excellent opportunity for students to network with alumni in industry. In return, the alumni gained information about the activities held by their alma mater. Student group members see this meeting as an invaluable occasion to meet new people and renew old acquaintances. Before dinner, the social hour provided time for students to meet alumni. After dinner, Dennis Hageman from MORCO Refractories gave a presentation about employment opportunities in the refractories industry. Overall, the dinner was attended by more than 50 people.

Graduate School Round Table

The graduate school round table is an open forum in a relaxed environment where undergraduates, graduate students, and faculty discuss various aspects of graduate school. This year, Dr. Hilmas hosted a potluck dinner at his house. Attendees had time to socialize before and during dinner. Then after dinner, Dr. Hilmas led a discussion of the typical features of graduate student life followed by time for discussion among the other faculty, current graduate students, and undergraduates. The environment was designed to allow undergraduates to feel comfortable to ask questions about topics such as the process of applying to graduate school, why to continue their education, and how to choose a graduate school.

PCSA

The latest students from Missouri S&T continue to commit to improving the ceramics community on a national level. Students from our chapter have worked on the President's Council of Student Advisers for the American Ceramic Society (ACerS). The delegates for this year, who traveled to the ACerS technical meeting in Daytona Beach, FL, included Jaime George, Britni Snow and David Shahin. As part of the PCSA meeting, students were elected to various officer positions within PCSA. Britni Snow was elected as the chair of the Recruitment Committee for PCSA in the coming year.

Weekly Seminar Speakers

An event that sets Ceramic and Metallurgical Engineering students apart from their peers in other departments at Missouri S&T is the weekly opportunity to hear seminars. These presentations are given by invited guests, instructors, alumni, and fellow students on topic related to their field of study. Once a week the students and faculty meet for one hour to listen to these speakers and ask questions. For many freshmen, this is their first opportunity to learn more about the field they are going into as well as the opportunities that await them as an engineer. The seminars are not limited to only those in the department, so they can be a great recruiting tool; additionally, prospective students can meet with Materials Advantage members before or after the seminars to talk about materials science and the department.

The speakers cover a wide variety of topics; most have made a significant contribution to their field. These speakers provide great examples of the professionalism that should be shown in a presentation. The speakers for the past year were as follows:

- Dr. Wayne Huebner — Missouri S&T
- Prof. Michael Detamore — University of Kansas
- Dr. Rajiv Mishra — Missouri S&T
- Prof Brian G. Thomas — University of Illinois at Urbana-Champaign
- Ken Gielow — Imrie-Gielow, Inc
- Dr. Ed Fuller — NIST & Past-President of ACerS
- Dr. Julian R. Jones — Imperial College, London
- Mr. Chris Huskamp — Boeing Research & Technology
- Dr. Steve Jung — MO-SCI Corporation
- Prof. Tien-Min Gabriel Chu — Indiana University/Purdue University
- Prof. Erica Corral — University of Arizona
- Bill Lane — The Doe Run Company
- Dr. Kai Song — Missouri S&T
- Dr. Sudhakar Mahajanam — ConocoPhillips Company
- Dr. Cuneyt Tas — University of Oklahoma
- Prof. Wayne Jones — University of Michigan
- Dr. Marina Pascucci — CeraNova Corporation & President of ACerS
- Dr. Diran Apelian — Worcester Polytechnic Institute

Service

Freshman Engineering Demonstrations

One of the introduction to engineering courses required of all freshmen on the Missouri S&T campus allows the incoming freshmen the chance to visit each department. The MA group lends a hand in visits to the Ceramic and Metallurgical Engineering Department by running hands-on demonstrations of ceramic materials and tours of the foundry. This process is different from other departments on campus who generally use PowerPoint presentations that the incoming freshmen can only watch and not participate in.

Boy Scout Merit Badge Workshop

The Boy Scouts start the day with a presentation on composite materials along with a quick introduction to materials safety data sheets (MSDS) presented by our department chairman, Dr. Wayne Huebner. Armed with the new information the boy scouts and student volunteers head to one of the undergraduate labs in order to assemble composite airplanes. These composite airplanes are made from Styrofoam strengthened with tissue paper and glue. While the planes dry, the boy scouts are given a tour of the foundry and several other labs on campus. The planes are then flown to show their improved strength.

High School Visits

This year the MA members were able to branch out to more high schools. While hometown schools were commonly visited this year, there were several schools that members visited that were not local or hometown high schools. Some of the schools visited include: Mascoutah, IL, Freeburg, MO and Triad, IL. Many of these visits took place over the members' breaks and the MA members spent the holidays with the high school students. In the case of Freeburg and Mascoutah, the MA members returned for several days in order to visit more classes and therefore, reach out to more students. During these visits, MA members communicate the importance of material science in order to spread knowledge of the field and to get more students interested in engineering.

ASM Material Camps

Missouri S&T was home to one of the ASM Materials Camps during the summer of 2010. Material Advantage members, both undergraduates and graduate students, participated in the week long summer camp focused on materials science and engineering. ASM campers were given firsthand experience with materials and materials engineering. Professors at Missouri S&T gave presentations on important areas of interest within the current world of materials engineering and campers also were able to watch many laboratory demonstrations. More importantly, the campers were given hands-on projects to accomplish over the duration of the camp. The students were allowed to select an area of materials engineering and given a small project run by students, including many Material Advantage members, and professors. Projects included glass making and glassblowing, ceramic and metal armor testing, thin-film electronic

coatings, metals casting, space shuttle tile production, and piezoelectric marshmallow cannons. The groups were allowed to spend the week learning about one of the specific areas, and then had to deliver a presentation on their work.

SWE Lock-in

The Missouri S&T chapter of the Society of Women Engineers hosts an overnight lock-in each semester for female high school students. The students are taken to demonstrations all over campus to educate them about engineering and science options. Materials Advantage Outreach, under the coordination of Dr. Mary Reidmeyer, professor and outreach coordinator for Missouri S&T's MSE department, demonstrated various material properties and applications as part of the event. Glass properties were exhibited by casting molten glass, pulling fibers, and breaking thermally tempered glass. Other demonstrations showcase advanced ceramic piezoelectrics, electronic ceramics, semiconductor applications, and shape-memory alloys. These demonstrations allowed the SWE lock-in students to have hands-on experiences while learning about materials science. In addition to the laboratory, groups were also shown the more artistic side of ceramics by student glassblowers in the Hot Glass Shop, as well as a trip to the foundry to experience metals casting. These tours allow for a variety of students to learn about materials when they might not have otherwise been able to receive this knowledge.

Science Olympiad

Volunteers from the Missouri S&T MA chapter hosted an event in the middle school state Science Olympiad this year. Over 40 young students from all over the state participated in the competition. The event developed was titled "Can't Judge a Powder". In this event students would have to empirically test and determine an unknown powder that was given to them. Properties such as density, shape, color, electrical conductivity, and solubility were measured and used to determine what the powder was from a list of possibilities. It was a great success with the young students and was an introduction to materials science in the form of a competition.

Charity Drive

Throughout February the Social Committee held a charity drive for the Rolla Animal Shelter. The winter months are especially difficult for the animals at the shelter, as their kennels are outdoors. Officers at the shelter were overjoyed to receive an abundance of blankets, dog food, cat food, cat litter, and dog treats collected by the students. Members of Materials Advantage also collected bleach, latex gloves, and paper towels, which are among the items volunteers use to clean the animals' cages. Despite the fact that students had no tangible incentive to participate in the charity event, Materials Advantage managed to collect enough donations to fill a small SUV.

It was felt by members and officers that hosting a charity event was an important endeavor for the organization. Not only is it important to make Materials Advantage known to students on campus, but it is also important for the members of MA to provide a positive example of Missouri S&T students willing to help out in their community.

Social

It is important for students to get to know each other and also grow a stronger bond with faculty. In the attempt of facilitating these relationships, socials were set up throughout the year that encouraged friendships throughout the department and also enabled the students to relax and have fun. These activities were diverse to encourage multiple groups of people to become more involved in Material Advantage.

Nitro Social

The 2010 fall semester began with a Nitro Social. The event was organized with the intent of encouraging new department freshman to join MA and meet the current members. Students and professors were invited to attend an ice cream social, complete with syrups and sprinkles. However, rather than purchase ice cream, Materials Advantage made our own from liquid nitrogen and whipping cream. Students gathered to watch the foggy display and enjoyed their treats together, discussing the benefits of joining MA beyond the social events. Upwards of 40 people attended, including new freshman, current MA members, and professors. Overall the Nitro Social was a successful event and achieved the intended goal of encouraging new memberships.

Pre-MS&T'10 BBQ

Prior to the Annual MS&T Meeting in Houston, Texas, officers held a barbecue for all students in the department. Those who were registered to travel to Houston with MA were asked to attend and meet the rest of the group, and those who weren't attending were encouraged to come learn the benefits of participating in MS&T. Food was supplied by professors as well as from the MA account. Upwards of sixty students were in attendance to enjoy grilled hamburgers and hot-dogs while sharing conversation with MA officers and professors about why MS&T is an important conference for the materials industry. Many underclassmen expressed their reasons for choosing to stay in Rolla this semester rather than travel with the chapter. Their comments were heard, and professors were often able to answer their questions and convince those students to consider attending MS&T the following year.

Trivia Night

To wrap up the school year, the Social Committee held a Trivia Night during Finals Week of the spring semester. Students were invited to join the Materials Advantage officers at a local restaurant for a Wednesday Trivia Night, with \$5 worth of appetizers provided per person. Roughly sixteen students were in attendance, as well as the MA advisor. The group won second place in the trivia contest, but more importantly the students were able to meet one last time before the semester's end and officers used the time to discuss the year's progress for the Missouri S&T MA chapter.

Chapter Management

Officer Corp

The Missouri S&T chapter's officer corp is made of 8 officers: Chair, Vice Chair (Ceramic), Vice Chair (Metallurgical), Treasurer, Secretary, Social Chair, Historian, and Webmaster. The typical set of responsibilities befall each position; however, all officers collaborate on the planning of large activities such as trips to conferences. Regular meetings are held every other week with all of the executive officers and the MA faculty advisor to discuss upcoming events, new ideas, and what could have been done better at earlier events. Constant contact is also kept through email.

Officer transition can be one of the most influential activities for ensuring continued chapter success in the upcoming year. Officer elections are held far enough in advance in the spring semester to allow time for the newly elected officers to communicate with previous officers and to build a full understanding of not only what the position entails but also the current state of that position. For the more involved officer positions binders were prepared for transfer of information and ideas. The last officer meeting of the year was dedicated to brainstorming for next year, remarks for what could have been done better this year, and tips for the upcoming year.

Record Keeping

Record keeping is an important part of Material Advantage due to the volatility of the officer corps partially made up of graduating students. The secretary is in charge of taking meeting minutes which are later emailed to each officer and the faculty advisor and stored by the Chair on the official MA hard disk drive. All files, including documents such as shirt designs, promotional flyers for events, contact information for high schools, and more, are maintained on the hard drive. The MA hard drive is passed from outgoing Chair to incoming Chair. The treasurer position has its own binder to be passed between years containing financial information including treasurer's reports and receipts.

Communication

The officer corp usually communicates with email and through one on one conversation in the MSE building commons. The faculty advisor is carbon copied on all important emails. The Chair and both Vice Chairs this year were given listserv privileges for the department. This allowed quicker communication between Material Advantage and the department. Utilization of the separate listserv for freshmen engineers interested in material science was utilized to help the freshman become aware of Material Advantage and the opportunities they can find within the group. Other than emails new information is given to officers during officer meetings and to general members during general meetings.

Committees

Committees were formed at the start of first semester which included Outreach, Public Relations, Social, and Programming. Each committee was headed by an officer who delegated tasks appropriately and reported on the committee's activities and achievements during the biweekly officer meetings.

General Meetings

General member meetings were held whenever enough information had collected within the officer corp that the members needed to be updated. This was typically every third week to every month. The general meetings are routes for getting information about upcoming events to students through a route other than email, interaction opportunities for members and officers, and a place for members to become more active and submit ideas to the officer corp. They are essential to growth in the group, whereby good communication between the officer corps and the MA members at large leads to increased participation at upcoming events.

Recruitment

As has been previously mentioned, our chapter capitalizes on the fun atmosphere of MA socials and uses these events as recruiting tools. All are invited to such socials, member and non-members alike, so that those not in MA can see what sort of fun and activities our chapter provides. Such socials account for a large majority of new recruits.

Material Advantage biannually visits two classes traditionally taken by freshmen and sophomores – Materials Chemistry (Met 125) and Ceramics in the Modern World (Cer 104). Lead officers of student groups (Material Advantage, Keramos, and the American Foundry Society) take a part of a class period to talk to students about the importance of being active in the department for the career, training their communication and soft skills (group work, leadership, etc.), networking, scholarships, etc. Visiting the classes seems to be the most effective recruitment tool for membership activities as students get a concise explanation of what the student groups do and why it is important to be involved.

A very active student body in the department with close student-student and student-professor relationships makes recruitment easy.

Elections

Material Advantage elections were held this year in mid-April, slightly later than the typical late March elections of the past. This was due in large part to an altered university calendar for the spring semester that presented consistent scheduling conflicts for the month of March. This was not of major concern for the chapter as the officer corp consisted of only two graduating seniors and many officers were re-elected to different positions. As such, there was not a need to acclimate a completely new officer corp in limited time.

At a general member Material Advantage meeting explanations of the officer position duties were given and then nominations were held for officer positions. Nominations were left open by email to the Chairman until the next week when elections were held. After a last call for

nominations was conducted nominations were closed and voting commenced from higher position to lower. For every officer position the candidates were asked to give a short speech about their qualifications and then asked to leave the room for the vote. Those who did not secure a higher level officer position were allowed to run for another position.

For the past two years, the positions of Vice Chair (Ceramic) and Vice Chair (Met) have been held by the president of Keramos and the American Foundry Society, respectively. This was not meant to combine the groups but was a move to make the groups more cohesive in events such as socials, outreach, etc. This makes sure no overlap in events is planned and so the groups combined resources can be used to plan larger events. The chapter has continued to see benefits from this reorganization and will continue to operate under this tense.

Website

The Material Advantage chapter at Missouri University of Science and Technology has a website dedicated to the professional society, and the direct link is <http://web.mst.edu/~matadvan/index.html>. The home page briefly states what the society is about and its goals. There are several links on a side bar that lead to the calendar, officers list, production list, photographs, professional societies, and scholarships. Every year the officer list, calendar, and photographs are updated by the webmaster to keep it as up to date as possible. The goal of the website is to quickly inform current students about activities being hosted by Material Advantage, give links to their professional societies, provide information about scholarships and inform them of who they can contact to find more information.

Finances

Thomas O'Keefe Professional Development Fund

This year the Missouri S&T material science student groups were lucky enough to receive a donation of \$10,000 from a successful alumnus, William E. Horst, who created the O'Keefe Professional Development Fund in name of the late Professor Thomas O'Keefe. These funds were used for student events including travel to the MS&T conference in Houston and the TMS conference in San Diego. The funds were split up amongst the student groups including Alpha Sigma Mu, Keramos, the American Foundrymen's Society, and Material Advantage.

Phone-a-thon

This past fall Material Advantage members participated in the department's annual phone-a-thon, volunteering their evenings to make it even more successful than last year. The phone-a-thon is used to raise funds for undergraduate scholarships, laboratory equipment, and other undergraduate program needs. All of the money raised is used for the students within the ceramic and metallurgical engineering programs. This event generates a great response from alumni both financially and socially, providing an excellent opportunity for current students to network with alumni while keeping them informed about the department. This year the students and faculty were able to raise \$62,225, which is nearly \$10,000 more money raised than last year.



May 25, 2011

To Whom It May Concern:

I am writing this letter in strong support of the Missouri University of Science and Technology (Missouri S&T) Material Advantage Student Chapter in their pursuit of being recognized as a Chapter of Excellence of Material Advantage.

Thanks to an excellent group of student leaders, the Missouri S&T chapter not only recruited new members into MA, but also recruited new students to the Materials Science & Engineering Department by handling a significant portion of the department's recruitment activities. This typically consisted of setting up display booths for university events and spending hours of their time talking to perspective students and their families. In addition, the Missouri S&T chapter was involved in spreading excitement and interest in materials through outreach activities such as the ASM Materials Camp, and the numerous Preview Registration and Orientation (PRO) days at Missouri S&T. Further, the MA chapter assisted with the Worldwide Youth in Science and Engineering (WYSE) state finals, with the local Science Olympiad, and the local Boy Scouts in obtaining a 'materials-based' merit badge. The chapter also had a large impact on the different areas of material technology that our students are exposed to by bringing in speakers to the department's seminar series from a wide variety of interests.

New activities for this year for the chapter included materials demos at three high schools across two states (Missouri and Illinois), a charity drive to raise funds for the local animal shelter, and a Graduate Student Round Table to discuss the pros and cons of transitioning from undergraduate to graduate school. Finally, more than 45 members also attended the MS&T and TMS annual meetings around the country as well as local meetings of ACerS (St. Louis Section).

In summary, I believe that the Missouri S&T Material Advantage Student Chapter has done an outstanding job of enhancing the professional development and education of the students pursuing degrees in the MSE department at Missouri S&T. They have performed well above my expectations in all of their 2010-11 activities and stand out as an example of what excellence in materials engineering has come to stand for.

Sincerely,

A handwritten signature in black ink, appearing to read "Greg Hilmas".

Greg Hilmas
Professor of Ceramic Engineering
Missouri S&T Material Advantage Chapter Advisor