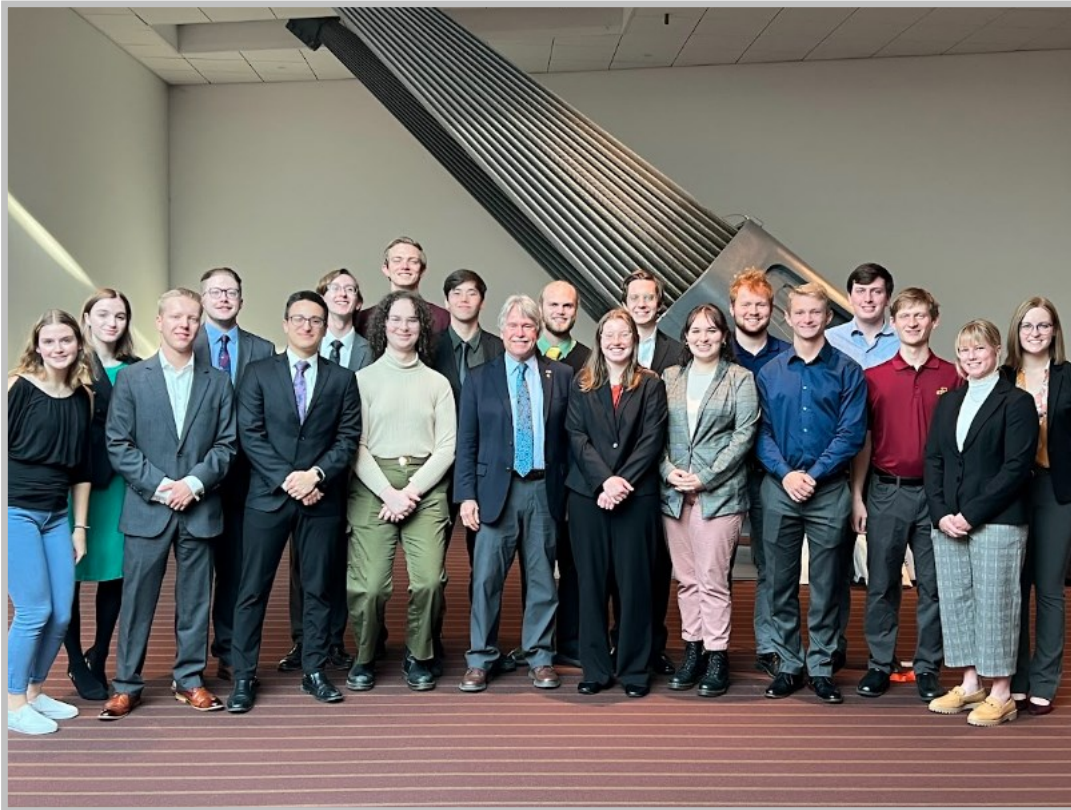


Iowa State University

Chapter of Excellence Submission 2022-2023



Submission Date: June 1, 2023

Faculty Advisor: Dr. Sid Pathak

Prepared By: 2022-2023 Executive Team

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ADVANTAGE



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2022-2023 EXECUTIVE BOARD



Rebecca Patush, Chair



Elizabeth Griffin, Vice Chair



Nick Oldham, Treasurer



Adam Eichhorn, Co-Outreach Chair



Tyler Rodriguez, Co-Outreach Chair



Matt Burris, Senior Outreach Chair

2022-2023 EXECUTIVE BOARD



Erik DeMeyere, Sophomore Outreach



Jarrett Loseke, Fundraising Chair



Charlotte Bruchal, Secretary



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Kody Crawford, Social Chair Abby Stanlick, PR Chair Sid Pathak, Faculty Advisor

CHAPTER OVERVIEW

Iowa State University Material Advantage

ISU-MA is an undergraduate-led student organization focused on providing value in various forms to students at Iowa State, most commonly Engineering students, with a particular focus on Materials Science & Engineering (MSE). ISU-MA is open to all students and strives to promote MSE through extensive professional development, technical programs, and outreach.



Mission

ISU-MA strives to spread awareness and excellency in MSE primarily to K-12 students, but also to college-level students as well. This is achieved through our three primary objectives.

Objectives

1. Professional Development

Enabling student attendance to professional conferences, such as MS&T2022 and TMS2023, in small-group meetings with industry professionals, and providing resources for scholarship applications.

2. Technical Development

Provide skills sought by industry professionals that are not generally included in an undergraduate education such as soft skills, leadership opportunities, and presentation capabilities.

3. Social

Increasing interactions across grade levels, enabling underclassmen to meet and form bonds with upperclassmen. Increasing ability to form meaningful relationships, and both formal and informal mentoring through relaxed social events and educational community outreach.

ISU-MA emphasizes strong and friendly relationships between students that nourish the sense of community felt by members. Students share experiences and advice with each other that help others to make informed decisions and be less daunted by new experiences. These bonds are maintained partly through social events and professional development event, but mainly through service and outreach outside of the MSE department.

CALENDAR OF EVENTS

The calendar of ISU-MA events is below. For the sake of brevity, the following recurring events are **NOT** included in the below calendar:

1. General Meetings: 6:00 pm - 7:30 pm the first Thursday of each month (10 meetings total)
2. Officer Meetings: a subsequent Thursday of each month or as needed (10 meetings total)
3. Friday After Class (FAC): 5:30 pm - 7:30 pm every other Friday (17 events total)
4. Pizza fundraising: 11:00 am - 1:00 pm every Tuesday (27 events total)

Count	Date	Event	Description
1	Aug-18	DIS Center of exCYtment	Professional Development
2,3	Aug-31, Sep-6	ClubFest Events	Outreach to new ISU Students
4	Sep-1	Honeywell Sponsored visit	Professional Development
5,6	Sep-1, Oct-18	Majors Fairs	Outreach to new ISU Students
7	Sep-8	Club Showcase with Dr. Dan Shechtman	Event with Nobel Prize Laureate Guest Speaker
8	Sep-13	Info Session with Nucor Steel	Outreach to ISU Engineering Students
9	Sep-15	PowerPoint Karaoke	Chapter Social Event
10	Sep-19	Info Session with Caterpillar	Professional Development
11	Oct-6	Collins Aerospace Visit	Professional Development
12	Oct-8 - 12	MS&T	Professional Development
13,14	Oct-10, Oct-31	Honors Classes	Outreach to Honors Students
15	Oct-21	Fall Rally	Chapter Social Event
16	Oct-22	Experience Iowa State	Outreach to Prospective Students
17,18,19	Nov-1, Mar-28, Apr-5	Go Further Events	Outreach to Women in Middle and High School
20	Nov-3	Conagra visit- Emily Huntley	Professional Development
21	Dec-1	Holiday Game Night with Peer Mentor Groups	Chapter Social Event
22	Jan-28	FIRST LEGO League	Volunteer Event
23	Feb-2	ATI Visit	Professional Development
24	Feb-18	Scholar's Day	Outreach
25	Feb-24	Fellows Elementary	Outreach to Elementary Students
26	Mar-2	MSE Department Town Hall	Town Hall with Department Chair
27	Mar-18 - 23	TMS	Professional Development
28	Mar-25	Spring Cleaning	Maintenance of Department Space
29	Mar-30	ISU 4U Promise College Night	Outreach
30	Apr-1	Boone DMACC STEM Festival	Outreach
31	Apr-3	Annual Elections	Routine Club Maintenance
32	Apr-6	Checkerspot Virtual Visit	Professional Development
33	Apr-7	Admitted Student Day	Outreach to Admitted Students
34	Apr-17 - 20	Congressional Visit Day	Professional Development
35	Apr-21	Spring Rally	Chapter Social Event
36	Apr-27	Meeker Elementary	Outreach to Elementary Students
37	Apr-27	ISU 4U Promise Elementary Trip	Outreach to Elementary Students
38	May-5	Bar Crawl	Chapter Social Event

CHAPTER MANAGEMENT

Elections

Elections for ISU-MA were held on April 24th. Transition documents were sent from the outgoing board to the incoming board. Additionally, required one-on-one meeting times between outgoing and incoming officers (of the same executive position) were set. In these meetings, it was discussed how to be successful in the incoming board's new roles.

Generally, each officer's role is assumed to be a year-long responsibility. However, to cater to students that accept co-ops or otherwise take semesters away from ISU, a transfer of responsibility can be made to a new officer, or they can continue leadership remotely (depending on the role). This encourages the continuity of the organization while enabling members to follow their unique professional journey. For example, our Secretary, Charlotte Bruchal, took a co-op position for one semester of their officer position, and they completed their responsibilities remotely.

Constitution & Bylaw Changes

This year, there was some re-structure in ISU-MA's officer hierarchy. A new position, Departmental Relations Chair, was added. This position is responsible for sustaining the relationship ISU-MA has created with the ISU MSE Department. Responsibilities include maintaining the spaces utilized by ISU-MA and MSE students, promoting engagement with the MSE peer mentors as well as their mentees, facilitating an ongoing conversation between the department and chapter leaders, and intermingling department and ISU-MA events.

Finances

ISU-MA had a total budget nearing \$10,000 for the year, split into two semesters. This funding came from various sponsorships and internal fundraising.

For the first time, ISU-MA sought sponsorships from companies that value materials engineering. Our chapter has built relationships with several companies, including Honeywell FM&T, ATI, and Conagra that results in sharing information and opportunities with our members in exchange for sponsorships that pay for meeting meals and travel.

Fundraising was put on by MA students in conjunction with a deal through Papa John's Pizza. Papa John's was contacted early in the Fall of 2022 concerning club fundraising. Papa John's offered a significant discount on pizzas for club fundraisers. Using this discount, MA club members set up the Hoover Hall atrium every Tuesday of the semester to sell pizza in benefit of ISU-MA. This effort provided enough money to fully support social events and outreach supplies.

Much of the budget went towards sponsoring student attendance at professional conferences, including MS&T2022, TMS2023, and CVD2023. Additional purchases were made, such as sponsoring Friday After Class (FAC) bi-weekly, maintaining outreach supplies, purchasing ISU-MA merchandise, and sponsoring Recyclables For Music (REFORM) with items needed for 3D printing.

CHAPTER MANAGEMENT

Executive Board Responsibilities

President: Shall be the chief executive officer of Material Advantage; Shall handle all non-delegated tasks; Preside over all officer and general meetings & ensure proper meeting preparation; Shall sign any documents which may be lawfully executed on behalf of Material Advantage that are not delegated to the Faculty Advisor; Shall appoint chairpersons of special activities as the need arises, adjusting properly to the needs of the organization; Represent Material Advantage on campus; Assist with member engagement, recruitment, and retention.

Vice President: In the absence or disability of the President, shall assume and perform the duties of the President and exercise the powers of that office; Schedule meetings and events with appropriate University offices, coordinating with the Risk Management Chair as needed; Coordinate organization promotion and publicity of events; Generally support the President with all duties; Assist with member engagement, recruitment, and retention.

Treasurer: Shall have charge, custody, and be responsible for all funds of Material Advantage; Track orders, funds, and expenses, conforming to University standards and p-card standards; Log funds into and out of the Organization cash box; Organize paperwork for purchases, ensuring the club's tax-exempt status is applied; Solicit funding in conjunction with the President; Secure additional funding as needed, working with Fundraising Chair(s).

Secretary: Shall keep an accurate record of all meetings, especially the monthly officer meetings; Maintain membership directory; Manage University email list, Communicating event details to the Organization's membership; Correspond when necessary with University administration and other recognized organizations.

Outreach Chair (2x): Primary contact and organizer for K-12 and University outreach events; Update and maintain the outreach kit, adding outreach demonstrations as needed; Manage the four outreach committee chairs, ensuring proper staffing and training for outreach members; Schedule and manage all outreach events; Communicate needs to President and Treasurer to ensure continued outreach success.

Freshman, Sophomore, Junior, and Senior Outreach Committee Chairs: Secondary organizers and contacts for K-12 or University outreach events; Update and maintain the outreach kit, adding outreach demonstrations as needed; Communicate outreach opportunities to the Chair's respective class, encouraging and recruiting new outreach members as anticipated or needed.

Fundraising Chairs (2x): Reliably and consistently ensure ISU-MA operates successful fundraising events; Manage logistics and staffing for fundraising events; Ensure fundraising events are successful, gauging the feasibility of current or future fundraising events. Consistently successful fundraising events of note: Papa John's Pizza Sales every Tuesday at lunch, staffing University exams as proctors, pop can redemption.

Social Chair: Responsible for organizing ISU-MA social events; Work with Treasurer to ensure necessary items are provided; Collaborate with Secretary for advertising social events; Ensure inclusivity at all events; Collect feedback from members to improve future social events.

CHAPTER MANAGEMENT

PR Chair: Responsible for updating and maintaining social media accounts, creating them as necessary; Taking images at all Organization events; Coordinating with Secretary to disseminate information about general events; Ensure engagement in the Organization; Manage the ISU-MA websites; Managing the sharable Google Calendar of all MA events; Ensure networking capabilities for members.

Member Recruitment

Officer & Member recruitment is accomplished through:

- Mass Emails to ALL undergrads at ISU through MSE Department email lists
- General networking within the university and the MSE Department
- One-on-one meetings with interested individuals
- Social media accounts
- Outreach events internal to Iowa State
- Several classroom visits
- Word of mouth

Officer recruitment differs due to the elucidation of the benefits of holding an officer role. Emphasis is made on leadership development, management positions, and other soft skills. The fact that these skills are generally lacking in MSE education is noted, and the fact that ISU-MA is an excellent place to hone these skills while being involved with the community.

Ensuring Continuity and Continuous Improvement

In past years, ISU-MA has had very strong executive teams and leaders. Several transitions, however, left the organization scrambled and confused, unsure of how to succeed in these new roles. Therefore, this year's team has taken steps to ensure continuity and improvement between elections.

1. Start New Officers Early

Since elections, newly elected officers have immediately taken on their role responsibilities. They have shadowed the current officers, had one-on-one meetings, and frequently ask questions. They have attended officer meetings, and have a general understanding of how to perform their respective duties.

2. Ensure Key Information is Accessible & Written Down

To minimize information loss among newly elected officers, there is a major emphasis on writing key information down in an accessible place for new officers. A new Google Drive folder is created each year with a link to the archive of past folders. These folders allow chairs to organize new information and reference past information. Additionally, the new officers have the contact information of the old officers, who are willing to answer questions.

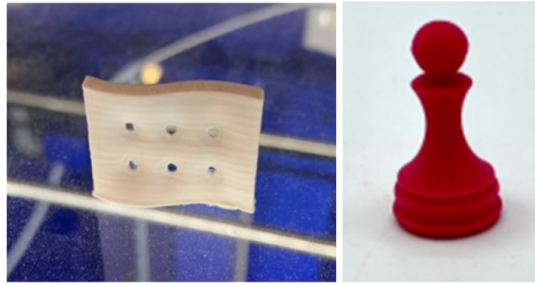
3. Prolonged Mentorship in Demanding Roles

While it is not required of any position, it has become a tradition that officers in the more demanding roles do not run for reelection during the term they graduate. This allows them to serve as a mentor for the new officers in their past position for at least one semester. This has proved very helpful for positions that have large learning curves, such as the Chair and Treasurer positions.

TECHNICAL PROGRAMMING

Recyclables For Music (REFORM)

ISU-MA provided various resources to REFORM, a new start-up innovation-based student organization centered around thermoplastic sustainability. The goal of the organization is to remove waste plastic from campus, then clean, grind, and extrude it. After this lengthy process, the plastic is finally 3D printed into musical instruments. Within its first year of operation, REFORM was able to 3D print with entirely recycled PLA.



Wafer of 50% virgin/50% recycled material (left) and a chess piece of 100% recycled PLA (right)

The leadership of ISU-MA secured \$1,000 of funding from the ISU College of Engineering to help REFORM hit the ground running and get the baseline machinery it needed to work towards its mission. REFORM is currently in the process of becoming its own, independent student organization at ISU due to the dedication of its members.



3D printers, an extruder, and REFORM lab space

Finally, ISU-MA aided in the advertisement and recruitment of technically skilled members across many disciplines, including members from the following departments:

Materials Science & Engineering (MSE): Focus on material selection and recyclability; designing processing conditions and parameters; determination of the relationship between recycling iterations and the degradation of mechanical & acoustic properties.

Music (MU): Focus on instrument acoustics, including design and material choice (collab. with MSE); conceptual instrument design (collab. with ME).

Mechanical Engineering (ME): Focus on computer-aided design (CAD) of musical instruments; assembly of machinery.

Industrial Engineering (IE): Focus on streamlining the manufacture process of musical instruments, including lean manufacturing and reducing required labor; securing efficient equipment.

Industrial Design (ID): Focus on the conceptual design of musical instruments at various degrees of property degradation; design of logos and marketing materials.

TECHNICAL PROGRAMMING

Bladesmithing and Forge Creation

An interest in participating in the TMS Bladesmithing competition, as well as a distinct lack of access to bladesmithing equipment on the ISU campus, led students to design and construct an air-fed, charcoal-fueled forge for use in metalworking. This forge was constructed primarily of readily available ceramic construction materials, with engineered fire bricks lining the center of the forge. An anvil and metalworking tools were provided by MSE faculty member Dr. Scott Chumbley. Retired farm implements and raw tube steel were used for practice in metalworking. 7 undergraduate students were involved in the creation of this forge, as well as basic metalworking accomplished through the use of this forge.

REFORM utilizes the forge to make basic casting attempts, with the goal of making a hopper for use in a plastic grinder.



Forge in operation during initial ventilation tests



ISU-MA member presenting on Metallurgica

CAREER DEVELOPMENT

2022 MS&T Conference

20 undergraduate students had travel and housing expenses sponsored by the ISU-MA chapter to attend MS&T2022 in Pittsburgh, Pennsylvania in October. The chapter achieved this through extensive fundraising, as well as sponsorship from Honeywell. Several members presented posters and competed in student competitions at the conference.



Image of ISU-MA members with Dr. Iver Anderson at MS&T 2022

2023 TMS Conference

Four undergraduate students traveled, sponsored by the ISU-MA chapter and MSE department, to attend TMS 2023 in San Diego, California. The students competed in the TMS Materials Bowl, placing 12th.



Charlotte, Will, Erik and Adam after the TMS Materials Bowl

2023 Congressional Visit Day

Five undergraduate students traveled, sponsored by the ISU-MA chapter, MSE department, and ISU faculty to travel to Washington D.C. The students met with various congresspeople to discuss the importance of funding STEM programs in education.



5 ISU-MA members in D.C. with Iver Anderson and U.S. Senator Joni Ernst

CAREER DEVELOPMENT

General Meetings

The ISU-MA chapter holds monthly general meetings, aimed at providing value to members through gaining insight from industry professionals and elucidating information about future career paths and how to get there, and more.

Club Showcase with Nobel Laureate

Dr. Dan Shechtman was awarded the 2011 Nobel Prize in Chemistry and is a former ISU professor. The ISU-MA chapter had an hour-long small-group discussion about Dr. Shechtman's scientific journey and the challenges he faced in proving the quasicrystal's existence. This unique experience provided students with a new perspective of a professional journey with a respected and decorated MSE. Each of the three ISU materials engineering clubs then gave a demonstration to the attendees.



Dr. Danny Shechtman addressing students

Town Hall with Department Chair

ISU-MA students organized a Town Hall with MSE Department Chair Chris Cornelius. All MSE students and faculty were invited to attend. Dr. Cornelius shared his journey that brought him to ISU, and then spent the remaining time answering questions and addressing concerns from students within the department.



Dr. Chris Cornelius addressing students

CAREER DEVELOPMENT

Meetings with Materials Engineers in Industry

At various meetings, representatives from ATI, Checkerspot, Conagra, Collins Aerospace, Nucor Steel, Honeywell FM&T, and Caterpillar have shared details about their professional journeys, company culture, opportunities in materials engineering, and more. Each meeting has food for all attendees— either paid for by ISU-MA or by the company represented. While most of these meetings have shifted back to in-person, ISU-MA's past experience with virtual connections has enabled easy access to meetings with companies such as Checkerspot— where our virtual meeting included three different time zones!



Emily Huntley from Conagra sharing her professional journey and experiences at Conagra

MSE GOLD Mentorship Program

Many MA students participated in the MSE department's Graduates of the Last Decade (GOLD) mentorship program, which connects students with industry mentors in many fields and places in their careers. This enabled professional and academic development, as well as long-lasting relationships and networking opportunities.



ISU-MA Past Awards

ISU-MA has an impressive history of being a strong and involved chapter. Below is a list of ISU-MA's award history through Material Advantage.

- Most Outstanding Chapter: 2005—2013
- Chapter of Excellence: 2014, 2016—2017, 2022
- Goldwater Scholar: Nicholas Oldham, 2023
- MSE Outstanding Senior: Adam Eichhorn, 2023

SERVICE

Volunteer Opportunities

First Lego League (FLL)

FLL is an international program, geared towards sparking kids ages 6-14 interest in science, technology, and engineering through unique problems that they must create a way to solve using a Lego robot. ISU-MA members were able to volunteer for the for the First Lego League, serving as Queuers, and field resetters for the 2023 state competition, held on the ISU campus.



Resetting of the competition field at the state championship

Outreach

ISU MA's commitment to the community continues to grow and develop. The chapter has been continuously revamping its outreach efforts after the hiatus resulting from the COVID-19 pandemic. More school districts have begun welcoming outside resources including us as well as large community events have seen a huge rise lately. To fulfill the high density of these events, the chapter's outreach team has hosted additional outreach training sessions for members, increasing the number of trained outreach presenters to 27. By hosting 14 outreach events in the Ames and Greater Des Moines communities this year, the service aspect of ISU-MA has grown from the 2022 -23 school year. The outreach program focuses on students in the K-12 range and involves scientific demonstrations performed both in-person and streamed online.

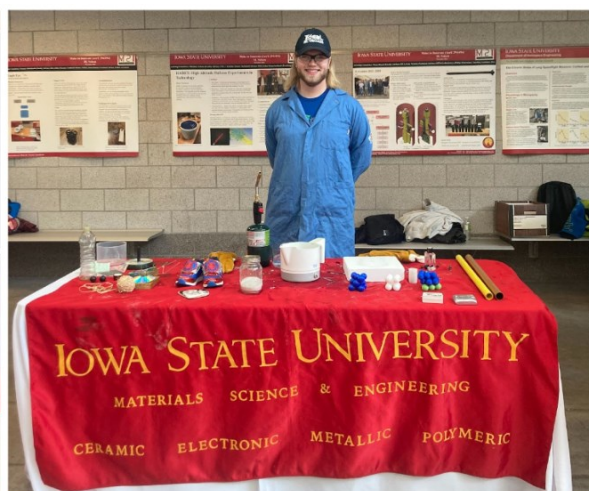
The outreach demonstrations presented this year include, but are not limited to:

1. **Thermal Insulation & Melting Points:** Melting the zinc core of a penny on a ceramic tile
2. **Glass Manufacturing and Fiber Optics:** Pulling a glass fiber after heating
3. **Metallurgy & Processing:** Heat treatment of a tool steel rod to produce martensite and tempered martensite (excellent hands-on demo for viewers)
4. **Magnetic Properties:** Applying magnetic fields to ferrofluid
5. **Eddy Currents:** Dropping a magnet down PVC and copper pipe
6. **Polymer Crosslinking:** Comparing a crosslinked and non-crosslinked rubber ball to show the effects of polymers processing
7. **Shape Memory Effect:** Shaping a nitinol wire, and then exposing it to heat

SERVICE

These demonstrations continue to be both educational and entertaining for students of all ages. Plans are in place to further develop the kit through a partnership with the Ames National Laboratory. There are also plans to develop lesson plans to go and teach at local school districts to develop a better understanding of materials science and engineering.

ISU MA participated in 14 demonstration events this year. These events included presenting in front of various classrooms, small groups, and showcase booth presentations. Because of the continued tradition of excellence with Iowa State University and local communities, ISU-MA personally reached out to and told stories of how students are always the most excited to see our group present. Due to the excellent reputation and maintenance of ISU-MA's outreach program, the chapter is able to reach students across the state of Iowa and beyond.



Demonstration of penny zinc for Go Further WISE event (left) and booth at Admitted Students' Day



The ISU-MA outreach booth at DMACC family STEM festival (left) and ISU-MA Outreach training (right)

SOCIAL ACTIVITIES

An important aspect of any college organization is social interaction. On top of developing students for their future careers as materials scientists and engineers, ISU-MA also organizes social activities to bring the student body closer together. The bonds created and strengthened here help students navigate the difficult challenges that come with being a college student, as well as find a sense of community within the major.

Friday After Class (FAC)

Our chapter's largest social activity is an event called Friday After Class (FAC). Every other Friday during the semester, both student members and non-members are welcomed to meet at a local pizza parlor for a pizza buffet. A small fee is required upfront for members, and the rest of the event is funded by the chapter. To incentivize new members to come enjoy the festivities first-time attendance is free!



Students and Professors at Pizza Pit participating in FAC

SOCIAL ACTIVITIES

Holiday Party and Game Night

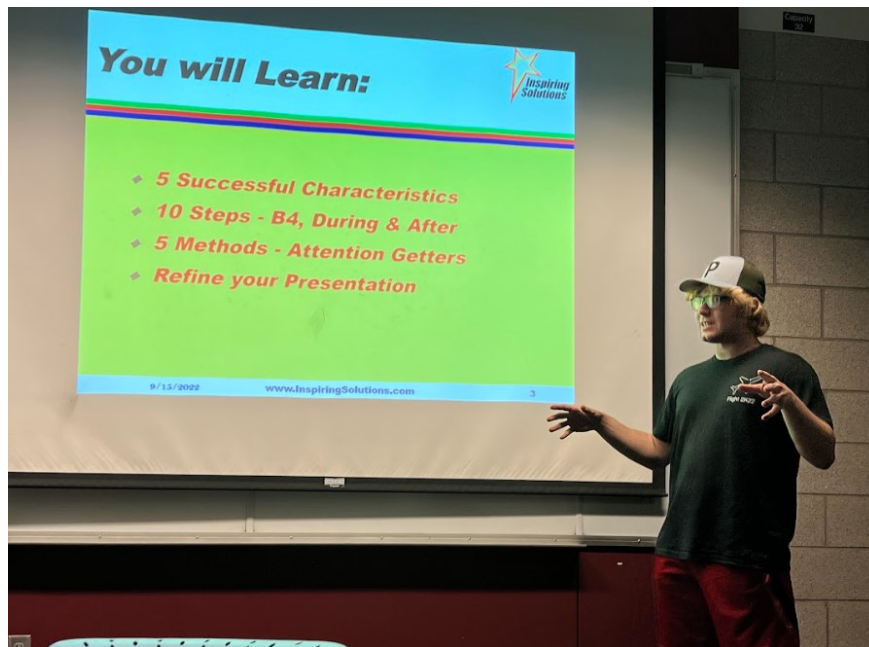
Before Prep week and Finals week, a holiday party and game night was held to help students relax before a tough two weeks of studying and exams. MA members gathered together wearing their most outrageous sweaters with a variety of board games to play throughout the night. Treats and apple cider were provided.



Students playing board games and enjoying holiday treats

PowerPoint Karaoke

For a fun way to practice public speaking, members uploaded a variety of PowerPoint presentations to a shared drive. These included silly presentations, random topics, and even some lectures from actual ISU MSE classes. Members then took turns presenting various slides for some great entertainment and relaxed public speaking.



PowerPoint karaoke night

SOCIAL ACTIVITIES

MSE Fall and Spring Rallys

Each semester, ISU's MSE department puts on a "Rally" for all MSE students and faculty. ISU-MA helps plan, facilitate, and advertise these events. This Fall, ISU-MA members organized a competitive team trivia event for attendees. This Spring, the rally took place in Iowa State's bowling alley. These events serve as great methods for building community amongst ISU-MA members and MSE faculty.



ISU-MA trivia hosts and professor participant at the MSE Fall Rally

MSE Bar Crawl

ISU-MA was able to bring back an old tradition this year: the MSE bar crawl. The bar crawl took place on a Friday, so it was held after the regular FAC pizza night. Faculty and students over the age of 21 went to many of the bars, playing pool and socializing with one another, growing the connections between the upperclassmen and the MSE staff. Although younger students are not able to participate, the FAC still gives them the opportunity to socialize, while also making the event something to look forward to in the future.

MSE Student Room

One of the unique assets of the materials engineering department at ISU is the student room, a computer lab located on the same floor as many of the labs where classes are held. Not only does the student room offer access to software and literature we may need, but it also provides a place to study and socialize with a wide variety of the MSE student body. This location has played a major role in fostering community within the department, encouraging collaboration across years and classes, and furthering involvement in ISU-MA. ISU-MA maintains this space by reminding peers to keep it clean, as well as holding group cleanings each semester. This year's 'Spring Cleaning' took place on a Saturday morning with shared donuts!

Subject: Faculty Advisor Letter of Support for Iowa State University's application to the 2022-23 Material Advantage Chapter of Excellence award

To whom it may concern,

I am writing to strongly recommend the Iowa State University Material Advantage (ISU MA) chapter for the 2022-23 Chapter of Excellence award. I have been the faculty advisor for the ISU-MA chapter since Fall 2020, and before that I was the faculty advisor for University of Nevada, Reno's (my former university) MA chapter. As such, my experience with MA chapters in two university systems gives me a unique perspective to judge ISU-MA's application for the 2022-23 Chapter of Excellence award. I have also been involved in ASM and TMS related activities since 2004. More notably, I am a recipient of the 2017 TMS MPMD (Materials Processing & Manufacturing Division) Young Leaders Professional Development Award, and under my mentorship our 2018-19 senior design team was awarded the Second Prize in the 2019 ASM Foundation Design Competition.

A major strength of ISU's MA chapter was the sheer degree of involvement and due-diligence of the chapter members. ISU MA conducted regular monthly general meetings, geared towards career development and service, as well as monthly officer-only meetings to address chapter management and technical programming. As a result, there were over 38 ISU MA-sponsored events on campus in 2022-23, which were attended and led by many of their nearly 80 active members. Many of these events had unique themes. For example, in Sep 2022 the chapter set up a small-group discussion session with former ISU professor and Nobel Laureate, Dr. Dan Shechtman. Dr. Shechtman talked about his professional journey and the many obstacles he overcame in his journey towards the discovery of the quasicrystal, and his eventual 2011 Nobel prize in Chemistry. In Sep 2022 the MA chapter organized a club showcase event, where three materials science-based clubs on campus gave demonstrations to the audience and shared the motivations behind their student organizations. The chapter also invited several interesting industry speakers, such as Collins Aerospace's Tim Pearson who talked about his journey from pathway to career and his best tips for getting the most out of college, ISU alumni from Allegheny Technologies Incorporated (ATI) who discussed powder metallurgy technologies and applications. Another event of note was the Student Internship & Research Panel, where several students shared their experiences with summer REU's and industry internships or co-ops with the underclassmen in materials engineering.

The chapter has been highly active in student career development. Two of our MA students received prestigious awards during this term: Nicholas Oldham was named a Goldwater Scholar, the premier undergraduate scholarship in STEM. Adam Eichhorn was named Iowa State's MSE Outstanding Senior. 20 graduate and UG students were able to travel and attend the 2022 MS&T conference, and four students competed in the 2023 TMS Materials Bowl competition, thanks to sponsorship for travel and housing from ISU MA. The ISU MA was involved in the formation of Recyclables For Music (REFORM), an innovation-based group that focuses on recycling waste plastic on campus into 3D printed musical instruments. ISU MA helped REFORM access resources, including membership and funding, and they are soon to become their own independent organization. Also the ISU-MA chapter is integrated into the MSE department's outreach efforts, enabling them to reach more students and access to many more resources. As a result, our chapter members conducted an impressive 17 outreach events for K-12 and college underclassmen last year.

In 2022 we were still recovering from the effects of the pandemic, and as such the dedication shown by the ISU-MA chapter to host these many professional, and social events throughout the year is truly commendable. I am extremely proud of the strong, driven, and independent executive team that led the ISU-MA chapter through this year of continuous adjustment. I have been involved in multiple MA chapters as faculty advisor, and this chapter has gone above and beyond in its organization and execution over the last academic year. The ISU MA chapter has my strongest possible recommendation for the Chapter of Excellence award.

Sincerely,

 06/01/2023

Siddhartha (Sid) Pathak

Assistant Professor and Faculty Advisor for Iowa State University's Material Advantage chapter
Department of Materials Science and Engineering

IOWA STATE UNIVERSITY

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