

# Iowa State University

*Chapter of Excellence Submission, 2021-2022*



***Submission Date: June 1, 2022***  
***Faculty Advisor: Dr. Sid Pathak***  
***Prepared By: 2021-2022 Executive Team***

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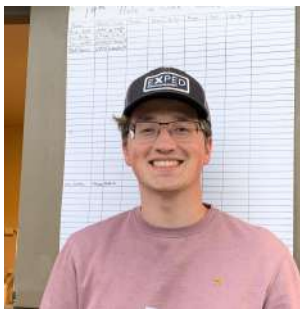
# 2021-2022 EXECUTIVE BOARD



**Andrew Ruba, Chair**



**Luke Weston, Vice-Chair**



**Matt Burris, Treasurer**



**Emily Huntley, Co-Outreach Chair**



**Charles Bruchal, Co-Outreach Chair**



**Rebecca Patush, Co-Outreach Chair**



**Jack Kaman, Senior Outreach Chair**



**Adam Eichhorn, Junior Outreach Chair**



**Abby Stanlick, Sophomore Outreach Chair**



**Erik DeMeyere, Freshman Outreach Chair**



**Elizabeth Griffin, Secretary**



**Grant Kelly, Risk Management Chair**



**Skyler Burke, Social Chair**



**Michael Frye, PR Chair**



**Jeffrey Chumbley, Fundraising Chair**

# CHAPTER OVERVIEW

## Iowa State University Material Advantage (ISU-MA)

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&T2021 and TMS2022, 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.



# 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 (9 meetings total)
2. Officer Meetings: a subsequent Thursday of each month or as needed (12 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 - 2:00 pm every Wednesday (27 events total)

Event No.	Date	Event & Description
1	Sept. 8	ClubFest Outreach Event on ISU Campus
2	Sept. 23	Outreach to First-Year ISU Honors Students
3	Oct. 5	Outreach at Engineering-Specific ClubFest
4	Oct. 7	Outreach at Marshalltown Junior High School
5	Oct. 14	Outreach to Future ISU Engineering Students
6	Oct. 22	Outreach at ENGR101 Class
7	Nov. 17	Outreach at Undecided ENGR ISU Class
8	Dec. 2	Ugly Sweater Game Night
9	Dec. 6	Outreach to Honors Freshmen
10	Jan. 26	ClubFest Outreach Event on ISU Campus
11	Jan. 27	Silly Trivia & PowerPoint Karaoke
12	Feb. 24	Game Night
13	April 7	Volleyball
14	April 7	Outreach at Admitted Students Day
15	April 14	Easter Egg Drop Competition
16	April 14	Outreach at Urbandale High School
17	April 28	ISU-MA Annual Elections
18	April 29	Outreach at ISU 4U Promise Program AND at Meeker Elementary
19	May 4	Outreach at Des Moines High School
20	May 27	Outreach at Odyssey of the Mind: Creativity Festival Stage

# CHAPTER MANAGEMENT

## Elections

Elections for ISU-MA were held on April 28th. 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 off from ISU, a transfer of responsibility can be made to a new officer for a shorter-than-normal term. This enables continuity of the organization while enabling members to follow their unique professional journey. For example, one of our Outreach Co-Chairs, Rebecca Patush, took a co-op position one semester into her officer position, and her co-chair responsibilities were transferred to Emily Huntley for the remainder of the year.

## Constitution & Bylaw Changes

This year, there was a substantial re-structure in ISU-MA's officer hierarchy. Several new positions were created. Additionally, the constitution was updated to allow two Vice-President positions to lessen the load on ISU-MA upper leadership. The previously defined Webmaster and Historian roles were combined into one role, the PR Chair, which now handles all things advertising and record-keeping. Additionally, a designated Social Chair was established, which focuses on creating fun, interactive, and inclusive social events. Finally, the Risk Management Chair was established, with the goal of aiding in the conformation of the University guidelines. As our chapter expands into more fields and endeavors, more guidelines must be followed, which places value in having a Risk Management Chair.

## Finances

ISU-MA had a total budget nearing \$10,000 for the year, split into two semesters.

This came from various sponsorships and internal fundraising, such as selling Jeff's Pizza, partnerships with Tropical Smoothie, and selling ISU-MA merchandise.

Much of this budget went towards sponsoring student attendance at professional conferences, including MS&T2021 and TMS2022. 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.

## Executive Board Responsibilities

**President:** Shall be the chief executive officer of Material Advantage; Shall handle all non-delegated tasks; Preside over all officer (minimum 1/mo) and general (minimum 1/mo)

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: Jeff's Pizza Sales every Wednesday at lunch, staffing University exams as proctors, Tropical Smoothie collaborations.

**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.



**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.

**Risk Management Chair:** Ensure conformity with the standards set forth by Iowa State University and its various departments; Ensure safety at all events, including proper safety measures taken during outreach events and proper food or merchandise handling during fundraising events; Ensure proper travel arrangements are made in conformity with standards set by ISU's Office of Risk Management (ORM).

## 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
- Many class 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.

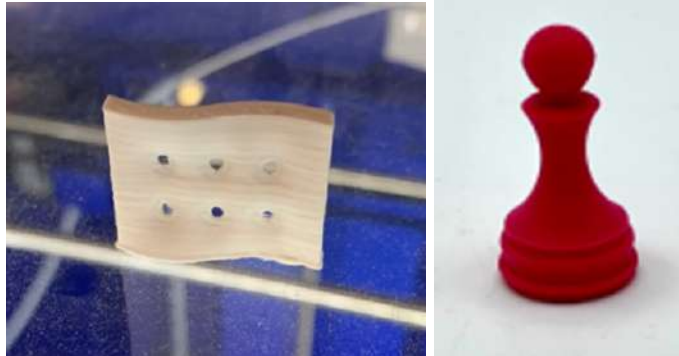
### 2. Ensure Key Information is Accessible & Written Down

To minimize information loss between newly elected officers, there has been a major emphasis on writing key information down in an accessible place for new officers. Additionally, the new officers have the contact information of the old officers, who are willing to answer questions.

# 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.

## 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*

# CAREER DEVELOPMENT

## Fake Career Fair Day

Officers created fake, silly resumes before Iowa State's huge and intimidating Engineering Career Fair. At this event, students were given resumes of fake job-seekers or fake employers, and mock interviews were held, with the goal of breaking down the mysterious aspect of career fairs and enabling members to secure employment.

## 2021 MS&T Conference

25 graduate and undergraduate students had travel and housing expenses sponsored by the ISU-MA chapter to attend MS&T2021 in Columbus, Ohio in October. The chapter achieved this through extensive fundraising, as well as sponsorship from the ISU College of Engineering. Several members presented posters and competed in student competitions at the conference.

### STUDENT TESTIMONIAL

"ISU MA was crucial in enabling me to attend to MS&T. There, I was exposed to various new insights into the field from the informative talks and the ability to network with professionals. I was even able to meet a recruiter from Nucor at one of the student events, who asked for my resume. I got several interviews with the company and ended up with a job at Nucor Gallatin in Ghent, KY, as a direct result of my attendance at MS&T."

- Alfred Gambill, ISU MA member



*Images of ISU-MA members at MS&T2021*

## 2022 TMS Conference

6 undergraduate students had travel and housing expenses sponsored by the ISU-MA chapter to attend TMS 2022 in Anaheim, California. Four members competed in the TMS Materials Bowl for the first time in ISU-MA's recent memory. Two ISU-MA members, Jarrett Loseke and Andrew Ruba, received the Light Metals Division (LMD) Scholarship and the Acta Materialia Scholarship, respectively.





*Andrew (left) and Jarrett (right) receiving their TMS scholarships*

## General Meetings

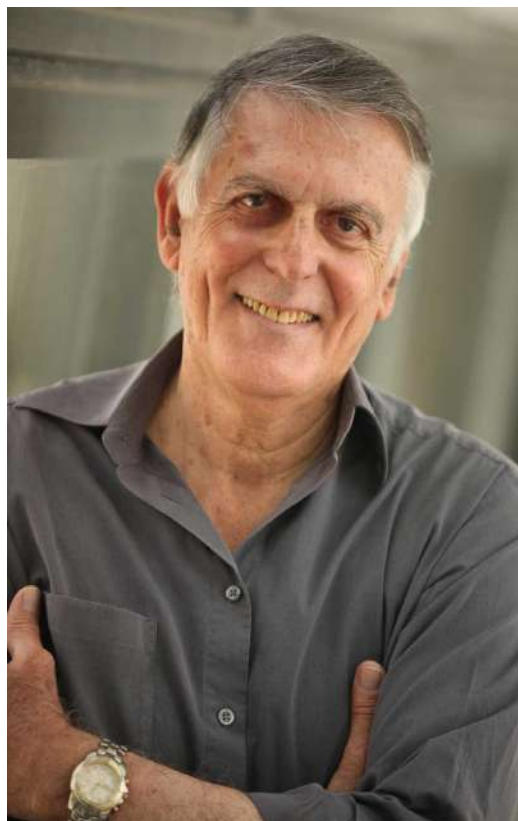
The ISU-MA chapter holds monthly general meetings, aimed at providing value to members through gaining insight from industry professionals and elucidating information about future career paths and how to get there, and more. Our meetings were recognized by the ISU College of Engineering for their quality and succinctness, and ISU-MA was awarded an award for the Best Collaborative Event of 2021.

### Visit from Nobel Laureate Dr. Dan Shechtman

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.

### Specialization Night

Four ISU professors, Dr. Peter Collins, Dr. Xiaoli Tan, Dr. Shan Jiang, and Dr. Alan Constant spoke about the fields of metals, ceramics, polymers, and electronics, respectively, as well as their professional journey to becoming professors. They each recommended different classes that they believe students should take to pursue these fields, with a particular focus on elucidating exactly what each field entails.



*2011 Nobel Prize winner Dr. Dan Shechtman*



*Dr. Peter Collins addressing the present ISU-MA members*

### **Student Internship & Summer Research Panel**

Four students shared their experiences with Research Experiences for Undergraduates (REUs), and three students shared their industry work experience from internships and co-ops. This served to elucidate exactly what can be expected from student work experiences, such as work responsibilities or pay & benefits.



*Jack Kaman speaking about his REU experience at the University of Utah*

### **Magnetic Materials for High-Power Electronics: Seminar by Dr. Alex Leary**

Dr. Leary, a Research Scientist at NASA, detailed some specific applications of magnetic materials in aerospace vehicles, one of the major areas of interest in ISU's MSE undergraduate degree. He also briefly discussed his career path and shared some details about internship and full-time positions available at NASA.

### **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.





# SERVICE

## Volunteer Opportunities

### First Lego League (FLL)

FLL is an international program, geared towards involving kids ages 6-14 in science, technology, and engineering through annually changing engineering challenges. ISU-MA members were able to volunteer for annual events for the First Lego League, serving as Judges, Judging Queuers, and Traffic Control volunteers for various FLL events throughout the year and throughout the state of Iowa. Notably, ISU-MA had many member volunteers at the State Championships, which took place on ISU campus.



*A student team participating in an FLL event at ISU*

## Outreach

ISU MA's commitment to the community continues to grow and develop. The chapter has been revamping its outreach efforts after the hiatus resulting from the COVID-19 pandemic. These efforts have included reaching out to past contacts, as well as seeking new contacts. To fulfill presentation requests, the chapter's outreach team has hosted additional outreach training sessions for members, increasing the number of trained outreach presenters to 21. By hosting 16 outreach events in the Ames and Greater Des Moines communities this year, the service aspect of ISU-MA has grown from the 2020-2021 school year. The outreach program generally 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 of a penny on a ceramic tile
2. **Glass Manufacturing and Fiber Optics:** Pulling a glass fiber after heat exposure
3. **Metallurgy & Processing:** Heat treatment 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
8. **Glass Transition Temperature:** Shattering a racquetball frozen in liquid nitrogen

9. **Tempered Glass Properties:** Breaking a sheet of tempered glass after standing on it to demonstrate how thermal processing creates a strong outer layer but a weak inner layer
10. **Coefficients of Thermal Expansion:** Two different melts welded together (bimetallic strip) heated and quenched
11. **Superconduction:** Immersing a superconducting magnet in liquid nitrogen, vastly lowering the resistivity of the material and enabling magnetic levitation
12. **Composites:** Displaying and discussing the strength, benefits, and complementary nature of composites, specifically a small sheet of CFRP
13. **Piezoelectric effect:** Utilizing dismantled children's shoes to display the piezoelectric effect caused by movement



*Demonstration of tempered glass properties presented to a middle school class*

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 Laboratory.

ISU MA participated in 16 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 was invited to multiple events. 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.



*The ISU-MA outreach booth at Urbandale High School (left) and ISU Clubfest (right)*

# SOCIAL ACTIVITIES

An important aspect of any college organization is socialization. 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 started and strengthened here help students navigate the difficult challenges that come with being a college student.

## Friday After Class (FAC)

Our chapter's largest social activity is an event called Friday After Class (FAC). Every other Friday, both student members and non-members meet at a local pizza parlor to have bottomless pizza. A small fee is required upfront for members, and the rest of the event is funded by the chapter. To incentivize new members and participation in this recurring event, first-time attendance is free!



*Students at Pizza Pit participating in FAC*

## Painting of an ISU-MA Logo for Homecoming Week

At the start of the academic year, club officers gathered at Jack Trice Stadium to paint an ISU-MA logo as a part of Homecoming Week. This helped spread awareness of ISU-MA and was a creative outlet, from which some ISU-MA merchandise originated.



*Officers posing with the completed Homecoming Week painting*

### Ugly Sweater Competition and Game Night

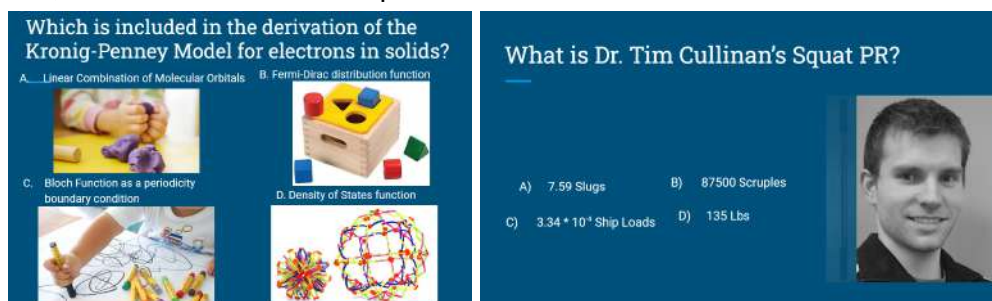
Before Prep week and Finals week, an ugly sweater competition and Game Night was held to help students relax before a tough two weeks of studying and exams. MA members gathered together wearing their most outrageous sweaters and played board games. The night culminated with a Super Smash Bros tournament played between all attendants that wanted to participate. Treats and apple cider were provided.



*Students playing board games and participating in the Super Smash Bros tournament*

### Trivia and PowerPoint Karaoke

PowerPoint karaoke is an event in which students create presentations about any topic of their choice, oftentimes something completely outrageous and humorous. The next student in line would then present, without any prior knowledge of their topic. Once the karaoke was completed, trivia was held. Questions ranged from general knowledge, to specific materials science facts, to various facets of ISU professors.



*Example questions from trivia night*

### Game Night

After the success and turnout of our first game night, the chapter decided to hold a second one after winter break. As before, students got together to socialize and play board games. To end the night, another Super Smash Brothers tournament was held.





*Students playing board games and practicing Super Smash Bros before the tournament*

### **Egg Hunt and Egg Drop Competition**

Students were tasked with finding eggs around Howe Hall. Inside each egg was a piece of paper with fake money, ranging from \$1 to \$5. This money could be exchanged for a variety of materials to make a contraption to protect the egg when dropped from a high place. The available materials ranged from simple pieces of paper, to balloons, to wire hangers. Once constructed, egg drop devices were dropped from 5 feet, 1 story, and 2 stories. Teams also customized their egg for good luck.



*The supplies and the location of the egg drop*

### **Five Guys Dinner**

ISU-MA was generously sponsored by the MSE department in exchange for members proctoring exams for MAT E 273, an engineering course required for non-materials engineering majors. At the end of the year, our chapter held a social dinner at Five Guys to celebrate the help provided to Dr. Cullinan throughout the academic year.



*Students enjoying their time at Five Guys*

Subject: Faculty Advisor Letter of Support for Iowa State University's application to the 2021-2022 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 2021-2022 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 2021-2022 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 nearly 20 ISU MA-sponsored events on campus each semester, which were attended and led by many of their nearly 80 active members. Many of these events had unique themes. For example, in October 2021 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 March 2022 the MA chapter set up a specialization night, where four of our MSE professors held a discussion session about the different career paths that can be pursued with polymer, ceramic, or metal specializations. The chapter also invited several interesting industry speakers, such as NASA's Dr. Alex Leary who talked about magnetic materials for high-powered systems, and several ISU alumni from Allegheny Technologies Incorporated (ATI) who discussed powder metallurgy technologies and applications. Another meeting of note was the Student Internship & Research Panel, where seven students shared their experiences with summer REU's and industry internships or co-ops.

The chapter has been highly active in student career development. Two of our MA students received prestigious scholarships at the TMS 2022 conference: Andrew Ruba and Jarrett Loseke received the Acta Materialia Undergraduate Scholarship and the Light Metals Division (LMD) Scholarship respectively. 25 graduate and UG students were able to travel and attend the 2021 MS&T conference, and six students attended the annual TMS 2022 meeting, 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 this year the ISU-MA chapter was integrated in to the MSE department's outreach efforts, enabling them to reach more students and access to many more resources. As a results our chapter members conducted an impressive 16 outreach events for K-12 and college underclassmen in 2021-22.

In 2021 we were still in midst of the pandemic, and as such the dedication shown by the ISU-MA chapter to host these many technical, 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 in my career, 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,

*Siddhartha Pathak*

May 26, 2022

Siddhartha (Sid) Pathak  
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