

# Material Advantage Chapter of Excellence Application

## University of Illinois Chapter

Prepared by Alison Nunes



### *2019-2020 Executive Board*

**Top Row** (left to right): Simon Grimm (Freshman Representative), Grace Levita (Social Chair), Justin Gruber (Service Chair), Donghyun Lee (EOH Representative), Joe Boyce (EOH Representative), Luke Kelly (EOH Representative), Robbie Plank (EOH Representative), Avery Maloto (EOH Representative)

**Bottom Row** (left to right): Hannah Harris (Secretary), Clarissa Domanus (Treasurer), Alison Nunes (President), Amy Merkelz (Vice President), Gillian Niezyniecki (Professional Chair, Fall), Ian Flueck (EOH Director)

**Not Pictured:** Kacper Rebeszko (Professional Chair, Spring)

# Chapter Overview

Material Advantage (MA) is a professional society for students in Materials Science and Engineering. The University of Illinois (UIUC) Chapter is a student organization for undergraduates in Materials Science and Engineering (MatSE) at the University of Illinois Urbana – Champaign. Our goals are three-fold:

- (1) Keep the student body informed of the opportunities available within the field of Materials Science
- (2) Serve as liaisons between the student body and faculty to ensure student voices are being heard and to facilitate collaboration
- (3) Build a supportive community that promotes the growth of friendships and connections within the MatSE program, between other student organizations, and within the larger community

As the second largest undergraduate MatSE program in the country, ensuring all students remain up-to-date on recent developments in the field and coordinating between students, faculty, and alumni requires the utmost dedication from our executive board officers. Our board is comprised of 14 enthusiastic MatSE undergraduates in traditional MA roles (president, vice president, treasurer, secretary), chair roles (social, professional, service), and specialized representatives (EOH director and board) for UIUC specific events. The diversity and size of our board allows us to undertake numerous events throughout the year and create an organization that effectively promotes all of the goals of our Chapter. This document serves to summarize how the Illinois Material Advantage Chapter has satisfied and exceeded the Excellence Criteria, and deserves to be considered for the 2019-2020 Material Advantage Chapter of Excellence Award.

# Programming

## E-Night

Our first recruiting event of the year was E-Night, an event organized by the Engineering Council to showcase all of the engineering student organizations available at UIUC. As this is an event that sees a high freshman turnout, it is especially important for us to organize a booth to showcase our organization in order to increase membership. E-Night is a great opportunity to add interested students to our mailing list, encourage them to join our mentorship program, and let them know about our first General Meeting of the year. This year we had sixty students sign-up for our mailing list as a result of our efforts!

## MSE 182 Visit

Two to three weeks into the new school year, the MA executive board visits MSE 182, the introductory course required for all MatSE freshman. Visiting MSE 182 allows us to introduce our organization and board members to the incoming class and let them know about our mentorship program, which pairs new students with upperclassman in MatSE to offer guidance on course schedules, how to prepare for exams, and to offer a point of contact within the MatSE community. This visit is important for any students that were unable to attend E-Night, and also gives us an opportunity to introduce ourselves in an informal setting. Additionally, we announce the details of the Freshman Representative Elections so that all freshmen have the opportunity to ask questions about the role, and decide if they are interested in running.

## Engineering Open House (EOH)

One of the largest events of the year for the Grainger College of Engineering is the annual Engineering Open House (EOH), an event that Material Advantage heavily participates in. Each year our EOH director works with the freshman class in the spring through MSE 183, a continuation of MSE 182, where freshman get credit for developing an EOH project. Our EOH Representatives plan and coordinate five booths to go along with the freshman exhibits, and Material Advantage also hosts a Cotton Candy booth. This is one of our largest fundraisers of the year, resulting in upwards of \$1400 each year to help sponsor students to attend conferences and fund our programming. Unfortunately, EOH was cancelled this year despite it being its 100<sup>th</sup> year. However we were able to fit in three other fundraisers in conjunction with the Illinois Keramos chapter before moving to online classes.

## Fundraisers

All of our fundraisers are in conjunction with the Illinois Keramos Chapter, which is a great opportunity to work with our sister organization. Our first joint fundraiser of the year consisted of selling holiday sweatshirts designed by one of the Keramos Heralds that said “Happy Holiclays” across the front. We were able to get undergraduates, graduate students, and professors involved in the fundraiser and make upwards of \$60. We also hosted a fundraiser at Blaze Pizza in the Student Union. Students could show a flier at the register before paying, and Blaze Pizza would donate 20% of the proceeds from the meal back to our organization. This fundraiser was not as successful, but we are looking forward to improving on it in future years! Finally we had a Candy Gram fundraiser where students could purchase candy grams of varying prices that the recipient either picked up, or volunteers would drop off at the recipient’s class. Although this fundraiser was a lot of work, it was a great way to boost morale! Traditionally we

also host an auction each spring to raise money for programming, but similar to EOH this too was cancelled.



The Illinois Chapter of Material Advantage holds monthly general meetings to update students on the upcoming events organized by the chapter and also to bring in speakers, host panels, or share advice:

#### HexNest Tech Talk, Alex Swett

We had undergraduate intern, Alex Swett, come to our October general meeting to talk about the work he has done with HexNest. HexNest is an Illinois start-up that is working to improve the standards of safety in sports through improving the quality of safety equipment such as gymnastics mats. Two Illinois undergraduates were awarded second place in the Cozad New Venture Challenge for their HexNest ideas and were awarded funding, among other prizes. This was a great opportunity for members to explore jobs available to them on campus, and also to see the kinds of achievements they could have as an engineer at Illinois!

#### Internship Panel

To round out our November General Meeting we hosted a five-student internship panel. Students shared how they got their internships, the benefits they found in having an internship, and answered questions about how they were able to apply concepts learned in undergrad to their internship projects. Our panelists had previously interned at Chevron, the US Army Corps of Engineers, SKF, Christopher B. Burke Engineering, Coilcraft, and Wieland. We had 30+ people attend and members had plenty of great questions for our panelists who shared some great insight.

#### Research Panel

Our chapter hosted a research panel after our December General Meeting comprised of three undergraduates who had conducted research on campus. Our panelists were able to discuss paid vs. unpaid research, skills learned and equipment trained on, and how to participate in research programs on campus. Our panelists not only conducted research in the MatSE department, but also Chemical and Biomolecular Engineering, Classics, and Geology.

### Director of Undergraduate Research, Natasha Mamaril

We were lucky enough to welcome the Director of Undergraduate Research at Illinois, Natasha Mamaril, to come speak to our members about opportunities to pursue undergraduate research. It was great for our member to be able to hear about the different programs in place to support undergraduates as they begin to explore their research interests. Examples of this include conducting independent research, the Promoting Undergraduate Research in Engineering (PURE) program, Illinois Scholars Undergraduate Research (ISUR) Program, as well as a number of different scholarship opportunities.

### Gripe Sessions

At the end of each semester Material Advantage and Keramos host a gripe session for undergraduate students to voice any criticism, praise, or suggestions about classes in the department. We also use an online form so students who cannot attend the gripe session still have the chance to share their thoughts. The board collects the feedback and presents it to the department. We value this connection between our organization and the MatSE department. Traditionally the gripe session and department feedback session are in person, but these events were online in the spring semester.

### MSE 201 Review Sessions

In the spring we held highly requested review sessions for MSE 201: Phase and Phase Relations. Our first review session was in person shortly before spring break and we had twenty students attend, which is a large turn out. Over the course of an hour and a half we were able to run through the material students were struggling with, and walk through practice problems to help solidify their understanding. We also held a review session through Zoom to prepare students for their second midterm. We had twenty-three people attend and it lasted for just over two hours. Students had lots of questions, and we went through the slides that were being covered for the exam as well as the questions from the practice exam. Finally, we hosted a final exam review session in May, which was attended by 25 people. After the thorough review throughout the semester, we only had to go through the practice exam and answer a few questions, all of which lasted a little over an hour. With such great feedback for these review session, we are excited to continue hosting events like these next year for MSE 201 and other classes our members would like help with!

# Career Development

## MS&T 2019

Twelve students from our chapter traveled to Portland, Oregon to attend MS&T 2019 where we were able to network with fellow students, members of academia, and industry representatives as well as attend lectures on a variety of topics. One of our members and the Vice President of our Keramos Chapter, Jose Mancias, participated in the Undergraduate Speaking contest and placed fourth. We also had three students submit mugs for the Mug Drop competition. Chapter President Ali Nunes and Treasurer Clarissa Domanus attended the Chapter officer workshop, which was a great opportunity to meet leaders of other chapters and discuss best practices and look for ways to improve the Illinois Chapter. The Illinois Chapter was also a runner-up for the Chapter of Excellence for the 2018-2019 school year, and received a Certificate of Achievement.



## TMS 2020

Five students from our chapter traveled to San Diego this past spring to attend TMS 2020, which provided members with an opportunity to attend lectures, network, and compete in the Materials Bowl. The materials bowl team came in second, which was an amazing accomplishment for our members as this is only the second year our chapter has attended TMS and participated in the competition. The conference was a great success, and we hope to send more students to TMS 2021.

## Resume Review and Career Fair Preparation Event

To help members prepare for the career fair we hosted a resume review session, during which upperclassmen helped younger students edit their resumes to be structured, professional, and to showcase their achievements. Resume reviews are a great chance for freshman to see the professional development benefits of joining MA. It is also really helpful for new students, as sometimes scheduling an appointment to have your resume reviewed at the Career Center can seem daunting. Additionally students could ask for help on their elevator pitch or practice giving their elevator pitches to senior MA members who acted as recruiters. We hope to expand this event to help freshmen and sophomores enter the career fairs with confidence, especially knowing that this fall's career fair will likely be online.

### MatLab Tutorial

After the popularity and positive feedback of last year's session, we held another MATLAB tutorial after the February General Meeting. Underclassmen are expected to have a basic knowledge of MATLAB in their early courses such as MSE 201 and MSE 206, where they expand upon this knowledge to use MATLAB to solve materials science and mechanics problems. Computational modules that use MATLAB are present in a majority of core materials science courses. Our MATLAB tutorial is designed to be a refresher for students with MATLAB experience while walking through the basics at a pace that students with no prior knowledge can follow. We covered a breadth of topics in MATLAB including remote access, basic syntax, vector math, how to plot data, and other basic functions. We had a huge turn out for this event with nearly fifty students in attendance.



### Etiquette Dinner (cancelled)

The Etiquette Dinner hosted in the spring is the perfect opportunity to combine professional development and networking. In past years we worked with the UIUC chapter of the Society of Hispanic Professional Engineers (SHPE) to plan the event, which was sponsored by Chevron. Students from each organization, along with representatives from the recruiting team at Chevron, would attend the 2-hour dinner in order to learn the rules of propriety at business meals. Unfortunately, although we had secured funding and were finalizing event details, this event had to be canceled for safety reasons. We are looking forward to hosting this event next year!

### Air Force Research Lab Informational Session (Virtual)

This event was hosted in conjunction with the Materials Research Society (MRS), the student organization for graduate students in MatSE. Dr. Eric Payton from the Air Force Research Laboratory gave a guest lecture titled "Metals Processing – A "Real World" Perspective. The lecture and slides were available through Box, and a live Q&A was hosted through Zoom. Dr. Payton was able to discuss internships and other opportunities at AFRL as well.



### Mentorship Program

Our freshman mentorship program grows every year, with this year setting a record of 50 freshmen signing up. These incoming students were placed in pods of two upperclassman and six freshmen, to give them contacts in MatSE and to provide a resource to help them navigate the transition into life at the UIUC. Each month, the mentorship group who spent the most time together would get free baked goods. This program is one of our most effective methods to get freshmen interested and involved in our organization. It provides many different activities to appeal to all kinds of students' interests and allows younger students to meet and get to know upperclassmen, which helps grow the community within MatSE here at Illinois.

### Chevron Informational Session

The week of the career fair we organized a hour long MA specific event with Chevron followed by a hour long general information session open to all students. This was a great opportunity for members to learn about what kind of internship and full-time job opportunities are available at Chevron. MA member Talen Sehgal gave a presentation on his internship project from the previous summer. Chevron also graciously bought pizza for all those in attendance, and there was an opportunity to speak with the recruiters individually towards the end of the event. We had around twenty students attend across the two sessions, and we look forward to continuing to partner with Chevron moving forwards!



# Service

## Grainger Grove (September)

To celebrate the renaming of the University of Illinois engineering college to Grainger College of Engineering, the school ran a science fair on campus with various engineering related booths run by students. Material Advantage hosted our highly successful and interactive 'Polymer Magic' booth. This consisted of various demonstrations of the properties of polymers with Orbeez, a bead chain, and self-siphoning liquid. Families and students were able to stop by and learn about the world of polymers while enjoying the hands on demonstrations.

The MA members that volunteered to run the booth were able to positively interact with the community and bring more awareness to the major and our department at Illinois through brochures, buttons, stickers, and other fun tools.



## Illini Mentorship Program (October)

Material Advantage participated in the Illini Mentorship Program here at the University of Illinois. This program is an opportunity to educate elementary and middle school students about the world of STEM and inspire them to embrace science and pursue engineering as their passion. Student volunteers from MA ran a materials science based demonstration that consisted of a short presentation about different types of materials, and then various interactive stations that demonstrated interesting aspects of different materials. The stations consisted of a shape memory alloy to demonstrate unique properties of metals, an Orbeez and self-siphoning liquid demonstration to show special properties of polymers, and finally a demonstration of the thermodynamics of ceramics vs. metals by melting a Hershey Kiss on top of each material type.



### Destination Technology (October-November)

Material Advantage has a strong relationship with a program called Destination Technology. This is an after school and weekend program for elementary and middle school students where they learn about different aspects of the world and participate in educational and problem-solving activities. Once a month for three months, a handful of Material Advantage members drove to a middle school in Peoria to teach the kids about this year's theme, Going Green. Throughout the three visits we taught the

kids about pollution, recycling, and energy, and ran experiments to demonstrate these ideas through a filtration demonstration, biodegradability test, and batteries made with household items such as lemons and potatoes.

### IlliniThon (March, Cancelled)

Material Advantage built a relationship with another student organization, IlliniThon, and raised money for St. John's Children's Hospital through a school wide dance event hosted by IlliniThon. The IlliniThon event is a 12-hour dance marathon every March in which participating teams are challenged to raise \$125 and participate in the main event in the spring. Although this year's event was cancelled due to the COVID-19 pandemic, Material Advantage was still able to raise over \$160 amongst its members for the hospital.

### Engineering Open House Student Tours (March, Cancelled)

In the spring, the students that participated in Destination Technology in the fall will come to the UIUC campus for Engineering Open House. Volunteers from our MA chapter will spend the day showing the kids around campus to see booths such as the concrete crusher, dry ice ice cream, and a robo-brawl. MA treats all the kids and chaperones to a pizza lunch as well. Unfortunately Engineering Open House was cancelled this year for safety reasons.

### Blood Drive (April, Cancelled)

We were scheduled to host our own blood drive on campus this April 2020 through the American Red Cross. The event was fully scheduled, and we had upwards of 40 willing donors on top of students volunteering to run the blood drive. However, due to the COVID-19 pandemic, the event had to be cancelled to ensure the safety of the students and nurses. However, we are looking forward to officially hosting a drive next school year.

### Wesley Food Pantry (March – May, Cancelled)

One of the ways we looked to connect with our community this year was by volunteering at the Wesley Food Pantry on campus. Volunteers help community members navigate the food pantry, bring groceries to their vehicles, and assist in any other programming Wesley is running at the time. This would be the first time our chapter volunteered at Wesley, but we are looking forward to making this a regular occurrence once it is safe to do so.

## Social Activities



### Weekly Happy Hours

Every Friday at 5:00pm, MA hosts an event at Murphy's Pub during happy hour and buys half-priced Irish Nachos for all attendees! We make sure that as many board members as possible attend so that we are easily accessible to our chapter members and the MatSE students in general. It's a great opportunity for students to relax at the end of the week and meet other friends in the major. We usually have 20+ students attend, and we are looking into reserving the back section of Murphy's moving forwards. We continued hosting virtual happy hours on Zoom each week once online classes began.

### Welcome Barbecue (September)

The MA Welcome BBQ was a great success! We had 35 students attend, many of them first year students, and we grilled burgers, hotdogs, veggie burgers, and veggie dogs at a local park. This was a great opportunity for new students to meet current chapter members, eat delicious food, and relax after the first couple weeks of classes.



### Women in MatSE Coffee Meet-up (September & March)

Many engineering majors at UIUC have a branch of Women in Engineering (WIE) for their specific major. However as a relatively small major, we decided that if we didn't have a specific student organization for Women in Matse, we would make sure to provide plenty of opportunities for Women in MatSE to network with each other. The Coffee Meet-up took place at Espresso Royale in Urbana and it was a great way to meet other women in Materials Science and Engineering while also getting away from work and studying for a bit. The event was a big hit, drawing out first year students as well as returning students who had not previously been involved in MA.



### MA Intramural Kickball Team (September – October)

Our chapter organized an intramural kickball team for the second year, and everyone that participated had a blast! Our co-ed team consisted of approximately 20 students who took turns participating in the game each week. The season lasted for a total of 5 weeks and we even qualified for the playoffs!

### Women in MatSE Movie Night (October)

For our second Women in MatSE event, one of our female board members hosted a movie night at her apartment. We had 10+ women show up for the event and watched *Insidious* while equipped with popcorn. Half of the attendees were freshman, which was great to see.

### Curtis Apple Orchard Trip (October)

The Curtis trip is an annual classic eagerly anticipated by all, and this year was no different! Approximately 15 people attended, with chapter members volunteering to chauffeur students to the orchard. At the apple orchard we picked apples, went to the gift shop where students could buy donuts or cider, and took some fun pictures as well. Despite our original date being rained out, our social chair was able to make this event a success!



### Friendsgiving (November)

Each year before Thanksgiving break, a member of the MA board will host a friendsgiving potluck at their apartment to give thanks for the great community that is our Material Advantage chapter and the MatSE students in general. As is tradition, we all cutout and decorated colorful hand turkey's and taped them to the wall of the apartment. We had around 30 students attend the event, completely filling the small apartment. It was one of the most successful social events we hosted this year.

### White Elephant (December)

This year we had around 15 people attend our white elephant event, where students spent a maximum of \$15 on a gift for the white elephant gift exchange. The dress code "required" students to wear an ugly sweater, which led to many creative looks. After everyone had a gift, we ate sugar cookies and played games on Jackbox to round out the night of bonding.

### E-week

E-week is a weeklong competition between teams of engineering students at Illinois to celebrate National Engineers Week. This year the theme of the week was the Wild West, and our team of ten was called Big Iron, a pun on 'pig iron'. We had a joint MA/Keramos team lead by one of the Keramos Heralds, Talen Sehgal. Events consisted of Wild West trivia, a running competition, and an event where competitors had to eat lettuce hanging off a string without using their hands. It was a great opportunity for our MA and Keramos chapters to interact, and for us to work with other engineering student organizations on campus as well.

### MatSE Netflix Party (April)

Once we switched to online classes, we tried our best to find fun online events we could organize to make sure members continued to feel connected to their MatSE community. The first event we hosted was a movie event hosted using the Chrome Netflix Party Extension. Students got to watch *The Matrix* in real time together despite being in their own homes. We had approximately 15 people participate in this event!

#### Jackbox Game Night (April)

One of the board members owned some Jackbox games so he was able to share his screen on Zoom, and the other members could use their phones to play the various games and just spend time with their friends. There were around 10 people that participated in this event, and it was a great way to interact with other MA members from the safety of our own homes.

#### Mini Golf Outing (April, Cancelled)

We were looking forward to our second annual mini golf outing this spring, but unfortunately it was cancelled due to the pandemic.

#### Barn Dance (March, Cancelled)

Our social chair worked extremely hard to coordinate with other student organizations such as Engineering Council, Engineers Without Borders, Theta Tau, and the American Society of Civil Engineers, to organize a barn dance. This would be our first year hosting, and our members were extremely excited. Although this event was canceled, we are hopeful that we will be able to organize another barn dance next year.

# Chapter Management

## *Executive Board Positions*

<b>Position</b>	<b>Role(s)</b>
President	Oversee all MA events; liaison between department, student body, and alumni; lead all meetings; work with Treasurer to organize all conference travel; support executive board in performing their responsibilities
Vice President	Assistant to the President; organize and lead mentorship program during fall semester; run semesterly course feedback session
Treasurer	Handle all chapter funds and purchases; collect dues; works with President in organizing all conference travel; help write and pursue grant proposals
Professional Chair	Leads career development events; point of contact for recruiters
Social Chair	Leads all social events; organize intramural teams; organize Women in MatSE events
Service Chair	Leads all service events; pursue new opportunities to work more closely with surrounding community
Secretary/ Webmaster	Sends out monthly newsletter; maintains websites and social media accounts; reserves university rooms for chapter events
EOH Director	Plans, organizes, and leads Engineering Open House; assists MSE 183 teaching assistant
EOH Representatives (5)	Available to answer questions about MatSE course curriculum at UIUC; plan and lead EOH demos
Freshman Representative	Interface with freshman; assist in planning recruiting events; assist board members as needed

## *Elections*

Our chapter elections took place at the April General Meeting. Candidates are allowed to run for up to three positions and submit a bio slide for each. Candidates speak for two minutes and answer any questions before leaving the room, at which point another candidate will be brought in or voting will proceed. Voting begins once the members have discussed the pros and cons of each candidate, at which point an anonymous vote is taken. In previous years, the voting system consisted of the MA and Keramos Presidents counting raised hands for each candidate – other members of the board would step in during elections for MA President and Keramos President to maintain a two member counting process. This year, in the hopes of creating a more streamlined and truly anonymous process, a Google Form was created for each board position

containing all candidates running for the position. This worked out well as we were forced to move our elections onto Zoom due to the pandemic. The forms were restricted to one vote for MA members only, to ensure the security of the voting process. Once a candidate won a position they were no longer allowed to receive votes for the other positions they had previously been running for. This process continued until all board member roles were filled.

In May, the current board members met with the future members to discuss transitions. Each current board member prepared a transition document detailing their duties, event ideas, and suggestions for the following year, which they shared with their incoming replacement. These meetings were one-on-one, and were supplemented with a Zoom meeting of the new board to allow introductions and to go over general board functions.

### *Finances*

The Treasurer holds responsibility for all chapter finances. Our chapter holds a non-profit bank account, which is used to buy food, apparel, and other necessities, and a registered student organization account, which is used to store university-provided finances. Our largest expenses are the MS&T and TMS conferences in the fall and spring semesters respectively. This year we started tracking our expenses in order to better understand where we were spending money and receiving funds. Additionally, this document is shared with our faculty advisor to allow for more transparency between the chapter and department.

### *Chapter Record Keeping and Reporting*

Chapter records have been stored in a shared Google Drive folder for the past five years. Subfolders containing meeting minutes, event ideas, photos from events, and contact info for board members allow for executive board members to access any necessary information. Financial records are kept in a separate Google Drive, available only to the Treasurer and the President. At the end of each year, the past board's folders are archived for easy access in the coming years.

### *Recruitment*

After our initial wave of recruiting (as detailed in the programming section), all food at events and meetings becomes available only to paid members. Membership is also incentivized through discount t-shirts throughout the year and a chance to vote at the MA elections in April. An Excel document is used to keep track of paid members and is updated when a new member pays and emails his/her confirmation to our Treasurer.

### *Publicity*

The Secretary is responsible for sending out monthly email updates to all members. Our organization also informs members of upcoming events through our Facebook page, MatSE Support Group, and by sending emails through our department's server, since they can reach MatSE students who might not be on our email list, including graduate students. Additionally, this year we started an Instagram account for our chapter, which has not only allowed for us to publicize our events more efficiently, but has also allowed us to interface with the department through Instagram "Take Overs", where members of our organization will be featured on the departments social media. Additionally, we are in the process of creating a new website that we hope will bring new life to our online presence!

## Letter of Support

It is my pleasure to write a letter of support on behalf of the University of Illinois Material Advantage Chapter. The Chapter plays a central role in the culture of our undergraduate program at the University of Illinois, Urbana-Champaign—providing opportunities for personal and professional growth of our students and our department. In my sixth year as the faculty advisor for this chapter, our chapter, campus and entire country have experienced some very unique circumstances due to the ongoing COVID-19 pandemic. Despite these challenges, I continue to be impressed by the organization and degree of involvement that these undergraduates have taken upon themselves to improve their own undergraduate experiences, to prepare themselves and their peers for professional roles and to improve the department for those who follow them. I believe that the pages that follow document this level of creativity, dedication, diversity and success without need of additional accolades, but I am happy to elaborate.

The activities and contributions of the University of Illinois Materials Advantage Chapter can be divided into several categories, including: programming, service, career development, social and chapter management. I will address each individually.

*Programming:* This chapter runs a highly diverse and active program capable of engaging students throughout the program from freshman to seniors, domestic to international students and those interested in industrial and academic careers. This high level of programming not only takes a tremendous amount of work, but also great leadership and strong organizational infrastructure—both of which are key attributes of this chapter. The programming is stable, but ever adapting to the needs of the undergraduates—especially this year! For example, the long-standing tradition of significant participating at the Engineering Open House wasn't possible this year because of the transition to online only instruction in March, instead our students adapted to find ways to bring their now scattered peers together via movie nights and virtual professional information sessions. They continued their successful mentorship program both in person and via virtual formats, while also coordinating very popular intramural sports teams and participating in the Materials Bowl at TMS for the second time (and getting second place!).

*Service:* Service is an important component of any student organization, necessary to engage undergraduates in efforts beyond their own immediate benefit and vital to the development of well rounded team members for the professional world. This was an area that the MA leadership had identified for potential growth this year and I believe that they met those goals despite several cancelled events towards the end of the academic year. The existing service activities of the chapter are well documented, but I would also like to highlight their service to the department. Materials Advantage is the primary liaison between the undergraduate population and the Materials Science and Engineering Department at the University of Illinois. This is a role that they take very seriously, providing constructive feedback about specific classes and professors as well as broader curriculum changes. For example, they hold dedicated feedback sessions at the end of each semester and faculty are expected to directly address this feedback in annual reviews internal to the department! They continued to do this in the spring semester, even going to so far to help collect early feedback after the transition to online learning so faculty to adapt in response to their students' needs/requests. I personally greatly appreciated this feedback and I know many other faculty who benefited from both



constructive suggestions and positive comments. MA students also serve an important role as the face of the department during outreach and recruiting events. This year they added the Grainger Grove event to their service calendar and representatives from MA help with onsite “Illini Day” visits, answering questions from prospective students and their families while conducting tours of student laboratories. Mentorship of underclassmen, through individualized relationships as well as targeted workshops around computational tools, technical writing and local research opportunities is also a concerted effort that I consider a very valuable service to the department as well—and in my opinion, somewhat unique relative to our peer departments. Personally, I have been able to work directly with MA leadership to identify needs of my current students and solutions to challenges that they often know about before I do!

*Career development:* The students have done a wonderful job maintaining a diverse program of career development activities for the undergraduate population and are always striving to improve this. This year, they continued resume critiques, organized numerous technical talks and the associated access to recruiters, and organized a new panel to help prepare underclassmen interested in doing research in our labs across campus and through national programs like REUs. They have also established more a more active relationship with the departmental alumni board, which in the future is expected to lead to even more of these events.

*Social:* This is arguably one of the most fun aspects of the chapter that truly brings the student body together in a way that few other opportunities can. Often, the social activities are what attract new students and then get them involved in other aspects of the organization. I have been particularly impressed by the consistent level of freshman participation in social activities and otherwise—they are clearly doing something right! This year the students dedicated themselves to establishing social events for women in the department as a special way to enhance and encourage this important part of our student population. The success of these dedicated social events have inspired them to develop ideas for the coming year that aim to both increase the collegiality of the department while also recognizing and supporting the unique challenges that some of our underrepresented students face.

*Chapter management:* I believe that this speaks for itself in the context of the other categories. It would not be possible to have such a high achieving chapter without excellent organization and management as I’ve already addressed.

I am very proud to be associated with our Materials Advantage chapter as I believe they make a tremendous impact on our department and will only continue to do so with unwavering support from our department.

Sincerely,  
Jessica A. Krogstad  
Assistant Professor & Materials Advantage Faculty Advisor