

It's the ho-ho-homestretch!

Wow - hard to believe it's the last week of classes already, but what a fun week it's going to be! We have exciting seasonal events to share - including a Polar Express movie watch night (tonight!), the annual MSE holiday party and food drive for Food Gatherers. We also introduce you to and welcome the Holm group, which will be joining us in January. Again, great job, everybody, and **best of luck** on finals!:-)

The next and final issue of TeamMSE (in 2022 anyway) will be published Monday, Dec. 19. If you have anything you'd like to submit, please send it to Kristen Freshley at krisfres@umich.edu by Sunday, Dec. 18.

Upcoming Events

Subscribe

Past Issues

Four Ph.D. candidates defending this week and next

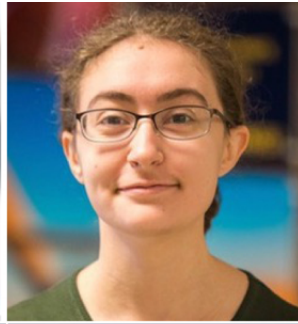


Kamruzzaman Khan

(Ahmadi/Hovden groups)

**Tues., Dec. 6
1:30 p.m.
1017 H.H. Dow**

“Growth and characterization of (In,Ga)N films by plasma-assisted molecular beam epitaxy”



Veronica Caro

(Millunchick group)

**Thurs., Dec. 8
12:00 p.m.
LEC 2210**

“Comparative III-As-Bi Surface Morphologies and Microstructure & Disciplinary Literacy in MSE”

**Zoom:
umich.zoom.us/j/99286334176**



Randy Cheng

(Taub group)

**Tues., Dec. 13
10:00 a.m.
3158 Dow**

“Investigation of acoustic softening and its application in ultrasonic assisted incremental sheet forming”

**Zoom:
umich.zoom.us/j/94194633145,
passcode 378826**



Brandon Carter

(Millunchick group)

**Thurs., Dec. 15
9:00 a.m.
3158 H.H. Dow**

“A Multi-Faceted Approach to Advancing Materials Science: Investigations in Materials Research and Education”

**Zoom:
umich.zoom.us/j/99891296900**

MMS Events This Week



Polar Express Night

Monday, Dec. 5

Time: 8-10 p.m.

Where: 3315 & 3460
Mason Hall

What: Come watch
Polar Express
and decorate
some cookies!



Free breakfast

Thursday, Dec. 8

Time: 9 a.m. until
supplies last

Where: Student
Lounge, 2nd
floor Dow

What: Free pastries
before finals!



MMS Luncheon

Friday, Dec. 9

Time: 11:30 - 12:30

Where: 1010 Dow

What: MMS Stress
Buster! Come
play board
games or just
hang out with
some free food!

MSE Holiday Party Thursday, Dec. 8

The annual MSE holiday party will take place this [Thursday, December 8 from 5:30-7:30](#) at the Michigan League (Hussey and Vandenberg Rooms), with a catered dinner, karaoke, fellowship and fun. We look forward to seeing you there!



Food drive for Food Gatherers: Donate this week!

This holiday season, Umich MSE is raising funds and hosting a food drive to help feed our community's families, children, individuals, and seniors. All donations benefit [Food Gatherers](#), the food bank and food rescue program serving Washtenaw County for more than 30 years. Here are 3 ways you can donate:

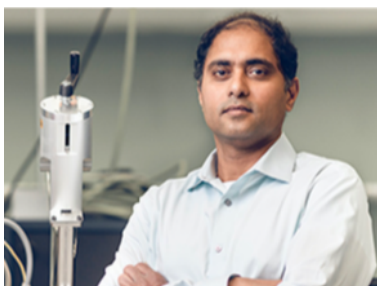
- 1. Make a monetary donation here:** <https://give.foodgatherers.org/ge/MSE>
Food Gatherers will do the shopping for you! With their bulk purchasing power, they can really make your dollar stretch. **(\$1 = 3 meals!)**
- 2. Donate non-perishable food items in the DOW collection bins** between Monday, 12/5 and Friday, 12/9. Bins will be located in the MSE Main Office Room 3074B and in the 2nd floor MSE Lounge
- 3. Bring your non-perishable items to the MSE Holiday party!** Thursday, 12/8 from 5:30-7:30 PM in the Michigan League - Hussey and Vandenberg Rooms.
([Please RSVP](#) here by 11/29)

As a thank you for your donation of any size, you will be entered in a raffle for some Blue and Gold swag at the MSE Holiday Party! Fill out this form after you donate to enter: [MSE Food and Funds Drive Raffle](#)

Last year we managed to raise \$1,583 and collect 65 lbs of food. Let's try to beat it!

A graphic for the MSE Food and Funds Drive. At the top, the words "MSE FOOD DRIVE" are written in large, bold, green letters. Below this, the words "FOR food gatherers" are written in a similar style, with a carrot illustration replacing the word "food". In the center, there is a green arrow pointing right with the text "Donate Online (\$1 = 3 meals!)" and a green arrow pointing left with the text "Enter the raffle as a thank you for your generous donations!". On the left side, there is a QR code with the text "SCAN ME" below it and a URL "https://forms.gle/PRMgWK6pWUHLrBy7" at the bottom. On the right side, there is a QR code with the text "SCAN TO GIVE!" below it and a URL "https://give.foodgatherers.org/ge/MSE" at the bottom. The background of the graphic shows several cardboard boxes and various food cans.

Seminar speaker this Friday: Rutger's Ramanathan



Shriram Ramanathan of Rutgers will present
"Brain-inspired computing and haptic intelligence"
Friday, December 9 at 10:15 a.m. in 1670 Beyster.

Zoom: <https://umich.zoom.us/j/98899169074>

Passcode: [mse890](#)

Special technical talk with intel this Friday, Dec. 9

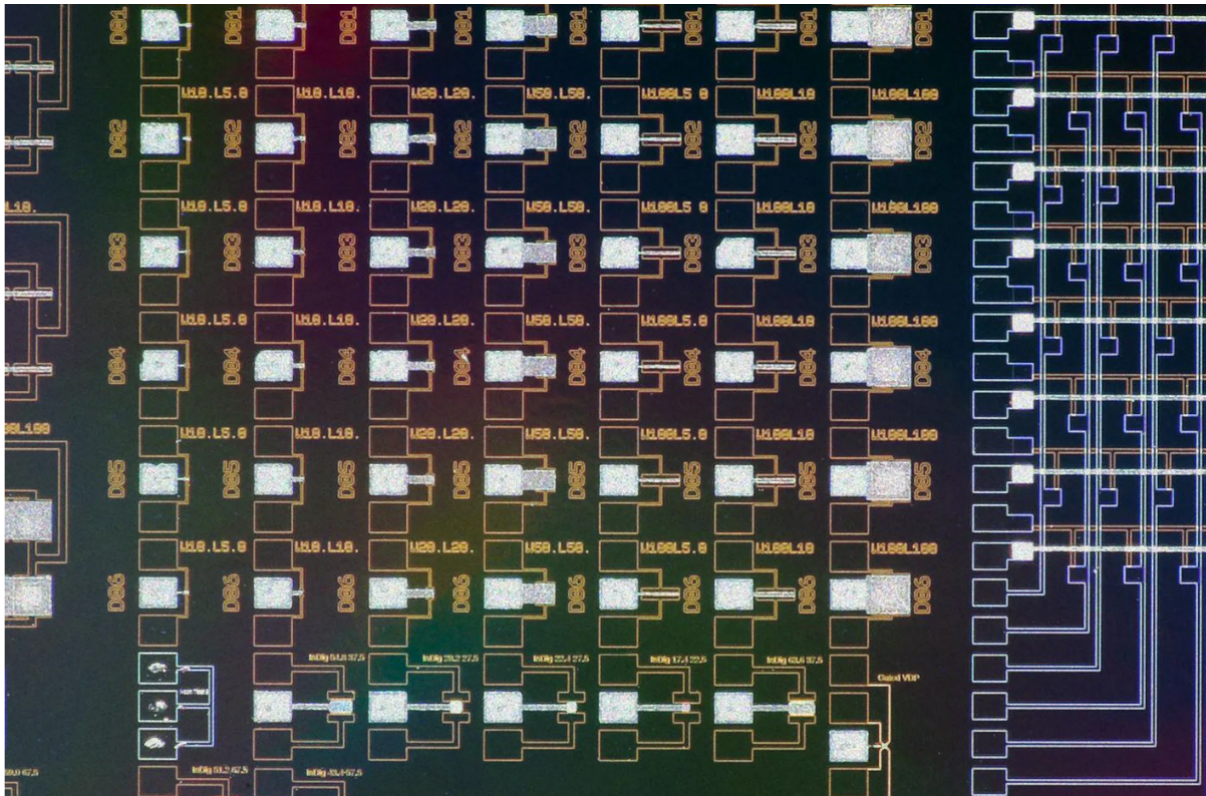
MSE alum **Riddhiman Bhattacharya**,
PTD Process Engineer at Intel Corp., is



hosting a virtual technical talk this **Friday, Dec. 9 at 3:00 p.m.**, titled "*Yield Analysis Overview at Intel*." Dr. Bhattacharya completed his PhD research with Prof. John Halloran in 2016 on structural metals, and started at Intel in 2017. One goal of this talk is to show what roles materials scientists and engineers can play in the semiconductor industry, including for those not trained in electronic materials. To join the talk, click [here](#) or go to microsoft.com/en-us/microsoft-teams/join-a-meeting and enter mtg. ID 279 595 960 701, passcode rqp6DG

Research highlights

Yiyang Li's research highlighted in IEEE Spectrum



The IEEE Spectrum, a widely read magazine for electronic engineering, recently reported an article about a new type of memory technology called electrochemical memory that can make AI much faster and more energy efficient. The article interviewed and highlighted some recent work by **Professor Yiyang Li**. Prof. Li's group has been one of the pioneers of electrochemical memory; in their [most recently published open-access paper](#), they found a novel way to utilize phase separation that should enable memory retention times for over 10 years. [Read more](#).

Faculty News

Tim Chambers to lead teaching workshop at TMS



During TMS2023, March 19-23, **Tim Chambers** will be leading an interactive, half-day workshop that will provide an introduction to fundamental teaching skills and practical tips for new teachers. Topics include how to actively engage students in class, how to create assessments, and how to plan a syllabus.

The workshop is primarily aimed at people who are applying to or about to begin academic positions where they will be the primary course instructor for the first time. Senior graduate students, postdocs, and new faculty hires are all welcome to attend. If you'll be attending TMS in San Diego in March, consider signing up! Click [here](#) for more information.

Student News

Meet the new MSE Holm Lab!

When Liz Holm relocates from Carnegie Mellon to U-M to begin her tenure as MSE chair on January 1, she will be bringing two advisees with her. In anticipation of their arrival to Ann Arbor, we wanted to introduce you to the new Holm group, Ph.D. precandidates **Kyle Farmer** and **Meizhong Lyu**, via a quick Q&A.

Kyle Farmer



Q: What is your hometown?

A: I was raised in Lafayette, Louisiana

Q: What is your research area?

A: My area of research is automatic materials characterization with machine learning and computer vision methods. My previous project was instance segmentation of powder particles (such as from laser powder bed feedstock) with occluded region prediction using Mask R-CNN.

Q: What do you like to do outside the lab?

A: I enjoy watching international and European soccer. The World Cup is going on right now, so I am super excited for the next few weeks. Apart from watching I also enjoy playing soccer, as well as cooking and playing video games.

Q: Why are you excited to come to U-M?

A: I am excited to come to Michigan to further my studies in such a large and diverse engineering community. I hope I can take advantage of the numerous resources and opportunities the department offers to contribute to the materials field. My grandparents went to school here so I am happy I can continue the legacy.

Meizhong Lyu

Q: What is your hometown?

A: Beijing, China

Q: What is your research area?

A: I am studying the uncertainties in the molecular dynamic simulation of polycrystalline nickel, and the quantification of uncertainty will be used to predict the microstructural evolution in experiments.

Q: What do you like to do outside the lab?

A: Photography, painting, reading and stargazing.

Q: Why are you excited to come to U-M?

A: UMich was (and now) my dream school when I applied for the master's degree. I never studied at a university that has so many majors and has strength in sports. Both my undergraduate universities and CMU have their strength in science and technology but lack the cultivation of arts and humanities.

Meizhong in Switzerland last summer



Avinava Roy and Yu-Chen Yang receive Rackham International Student Fellowships



MSE is pleased to announce that **Avinava Roy** (Loebel group) and **Yu-Chen Yang** (Goldman group) are recipients of a Rackham International Student Fellowship/Chia Lun-Lo Fellowship. [Read more](#).

Alumni News

Jill Wenderott takes new position at Drexel



Jill Wenderott (PHD '18) has been hired as an assistant professor at Drexel University in Philadelphia.

A member of the Green group, Wenderott's Ph.D. focused on understanding the connection between conjugated polymer thin film morphology and electronic properties using advanced atomic force microscopy techniques. After graduating from U-M, Wenderott worked as a postdoctoral researcher first at Northwestern University and then at Argonne National Laboratory, located outside Chicago.

Job opportunities

Applications open for NRC research programs

NRC RESEARCH ASSOCIATESHIP PROGRAMS

APPLICATION OPENS: **DECEMBER 1, 2022**
APPLICATION DEADLINE: **FEBRUARY 1, 2023 AT 5PM ET**

NATIONAL ACADEMIES Sciences
Engineering
Medicine



The National Academies of Sciences, Engineering, and Medicine administers postdoctoral and senior research awards at [participating federal laboratories and affiliated institutions](#) at locations throughout the U.S. and abroad.

We are seeking highly qualified candidates who hold, or anticipate earning, a doctorate in a variety of fields of science or engineering. Degrees from foreign universities should be equivalent in training and research experience to a doctoral degree from a U.S. institution. Citizenship eligibility varies among the sponsoring laboratories.

Application deadline dates (four annual review cycles):

- February 1
- May 1
- August 1
- November 1

Awardees have the opportunity to:

- Conduct independent research in an area compatible with the interests of the sponsoring laboratory
- Devote full-time effort to research and publication
- Access the excellent and often unique facilities of the federal research enterprise
- Collaborate with leading scientists and engineers at the sponsoring laboratories

Awardee benefits include:

- Stipends ranging from \$45,000 to \$97,490; may be higher based on experience
- Health insurance (including dental and vision), relocation benefits, and a professional travel allowance

For detailed program information, to search Research Opportunities, and to contact prospective Research Adviser(s) visit www.nas.edu/rap.

Apple hiring Research Center Manager - Alloys/Metals



As a member of the Alloy Engineering team at Apple, you will help create the next generation of the world's finest consumer electronic devices. You will drive the rapid advancement of alloys, coatings, and processes that are the building blocks of our products. This position will interface within Alloy Engineering and directly with other Product Design, Operations, and Industrial Design teams to advance and shape Apple's advanced materials.

Key qualifications

- Experience leading experimentally focused materials science synthesis, testing and characterization projects
- Experience with advanced characterization techniques such as scanning electron microscopy, EBSD, optical microscopy, and x-ray diffraction, to name a few
- Experience managing materials science lab-based teams
- Experience in the physical metallurgy and processing of aluminum alloys, stainless steels, and their surface finishing is highly desirable
- Flexibility and comfort working in a fast-paced environment
- Minimum 5 years of work experience, post graduation

Description

This position within the Alloy Engineering team will lead a materials science and engineering laboratory group focused on materials and coatings development and failure analysis targeted for a range of Apple products. Responsibilities will include managing a team of materials scientists and characterization experts, both helping execute on existing projects while shaping the laboratory's roadmap for next generation materials synthesis, characterization, and testing, including use of automation and materials informatics. The candidate will have experience as an individual contributor and manager in a materials science laboratory environment, applying physical metallurgy principles to materials testing, characterization and

failure analysis. An understanding of materials processing and manufacturing is also important for this position. Experience with a variety of ferrous, non-ferrous, and reactive metal alloys to assist materials engineers with laboratory investigations is essential. The successful candidate must possess the ability to manage multiple projects simultaneously with competing priorities.

Education: A minimum of an M.S. in Materials Science, Metallurgy or a related field is required. Ph.D. is preferred.

[Apply here.](#)



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