

# Welcome to TeamMSE Vol. 7 - November 22

If you have information you'd like to share with the community in our next issue, due out on Dec. 6, please email **Kristen Freshley** at krisfres@umich.edu by Sunday, Dec. 5.

Any and all suggestions/comments regarding TeamMSE are welcome, too!

# All circuits were busy last Friday!



Duncan Greeley, Eric Yi, Tathya Shinde, and Kyle Bushick (along with Brian lezzi, Vishwas Goel and Joshua Cooper, not pictured) live stream a demonstration for 7th graders at Washtenaw International Middle Academy on how create a battery to power an LED light during a virtual outreach event last Friday in the Van Vlack Lab.



Meanwhile, over in 1303 EECS, MSE alum Jody Hall shared her personal career journey (which included 30 years at GM) and offered sage post-

graduation advice to students during Friday's MMS Luncheon.

# The Latest Covid News

Lately it's not Covid that's menacing campus; instead, it's influenza. U-M made the national news (and not in the way we like) last week with 500+ reported cases of the flu on campus. Federal health experts even came to Ann Arbor to investigate how the flu was spreading and the effectiveness of this year's flu vaccine. So, as we head into the holiday season, it is more important than ever to remember to wear a face covering, make good decisions when interacting and stay home if you're sick!

### The flu is here. Please consider getting a flu shot!

Our campus flu vaccination rates are far lower than our COVID-19 vaccination rates, so campus officials are urging everyone to get a <u>flu shot</u>. The <u>Washtenaw County Health Department</u> has answers to questions about the flu vaccine and a non-university vaccine locator. Local pharmacies also offer the flu shot.

# Covid booster shots okayed for all adults

The Food and Drug Administration is now recommending a third vaccine dose for people 18 and older who completed their Pfizer or Moderna vaccine series at least 6 months ago. For more information, including how to schedule an appointment through Michigan Medicine, click <a href="https://example.com/here/">here</a>.



Successful first MMRI Symposium takes on 21st century challenges

The inaugural Michigan Materials Research Institute (MMRI) Symposium, which took place November 9 and 10 at NCRC, featured <u>posters and presentations</u> that addressed pressing materials challenges and opportunities for the future. **Read more**.





MSE Food Drive starts Monday, Nov. 29!



The MSE GSC is organizing a **Holiday Food Drive for Food Gatherers**, a non-profit serving Washtenaw County to combat food insecurity and hunger. GSC kindly asks that you consider donating non-perishable food items or directly donating cash this holiday season. The food drive will last from **Monday**, **November 29 through Friday, December 10**. Collection containers will tentatively be located in the 3062 HH Dow offices and the 2146 HH Dow office. Additionally, an online fundraising portal will be collecting monetary donations during the same time period. More information regarding the most needed non-perishable food items and the online fundraising portal will be sent out soon. Thank you in advance for your generous donations!

You're invited!
MSE Holiday Party Thursday, Dec. 9



Join us in the Pierpont East Room on **Thursday**, **December 9 from 5-7:30 p.m.** for a holiday celebration with a catered dinner and traditional Ugly Sweater contest! All MSE students, faculty, staff and families are invited to attend.

Please **RSVP here** by **Friday**, **December 3** so we can get an accurate headcount. We look forward to seeing you there!

# Weekly Coffee & Conversations now feature snacks!



# Seminar speaker on Dec. 3: Turan Birol of University of Minnesota



**Turan Birol**, Assistant Professor at the University of Minnesota, will present "Free-Carrier-Induced Ferroelectricity" **Friday**, **Dec. 3** at 10:30 a.m. in 1670 Beyster.

Zoom link:

umich.zoom.us/j/92606048443

Passcode: 326793

# **GSC** sponsoring Potluck get-togethers



The MSE GSC plans on sponsoring a NEW series: POTLUCKS that will be hosted by members of our graduate community. Due to limited food sharing on campus, this proposed series will be an opportunity for small gatherings among students at their homes.

We will provide a small stipend for participants to assist them in purchasing supplies for this event. This form will be used to find both hosts and participants with whom we can match. So share this with a friend and sign up! It will then be up to the these small groups to find a date and time when they can do the event. We will follow up after you fill out the form with who are interested and the reimbursement process.

Sign up <u>here</u>.



# MMRI Symposium poster presentation winners



With more than 50 poster entries at the first annual MMRI Symposium on Nov. 9, it was a tight competition, but judges ultimately selected the following winners:

#### 1st Place

**Catherine Haslam (Sakamoto)** - "The effect of aspect ratio on the mechanical behavior of Li metal in solid-state cells"

**Aditya Sundar (Qi/Chandran, ME)** - "Screening the mechanical properties of multicomponent BCC refractories"

**Megan Trombley (Allison)** - "Size Effect on the Ultrasonic Fatigue Behavior of Laser Powder Bed Fusion 316L"

#### 2nd Place

Rajani Bhat (Kuroda Lab, School of Dentistry) - "Role of Peptide-Mimetic Anionic groups in Amphiphilic Copolymers"

**Ming-Hsun Lee (Peterson)** - "*Ex situ* Doping on AlxGa2-xO3 with Si-ion Implantation and the Demonstration of Ohmic Contacts Formation"

**Geordie Lindemann (Shahani)** - "Microstructural stability of a three-phase eutectic examined via 4D X-ray nano-tomography"

**Anshul Singhal (Taub)** - "Improved extraction of natural fibers for polymer composite applications"

CONGRATULATIONS to all the winners!

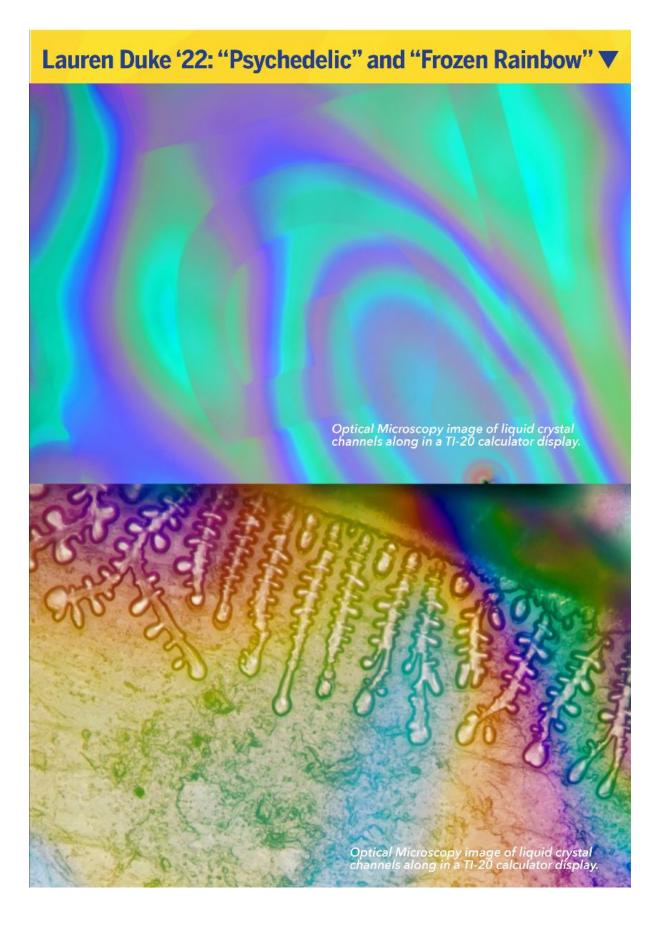
# lezzi part of team building computational materials community with East Africa - DFT volunteers needed!



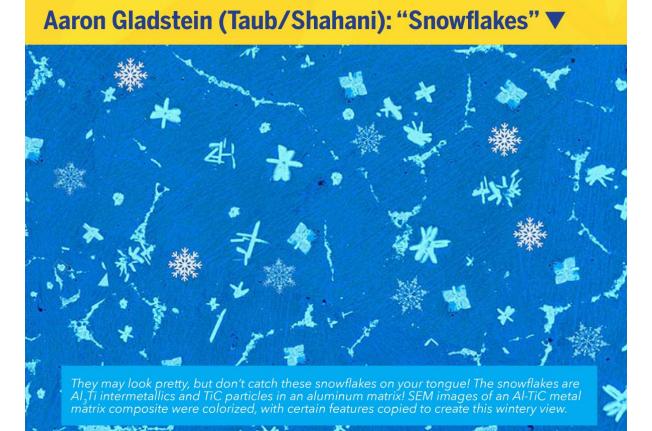
Ph.D. candidate **Brian lezzi** (Shtein) is part of an international team that just received a \$60,000 grant for its project to build community around computational materials science and sustainability research between students in East Africa and the U.S. The project is currently looking for volunteers with a background in density functional theory (DFT). If you have experience with DFT and are interested in helping out, please email Brian at <a href="mailto:bciezzi@umich.edu">bciezzi@umich.edu</a>. Read more about the project <a href="mailto:here">here</a>.



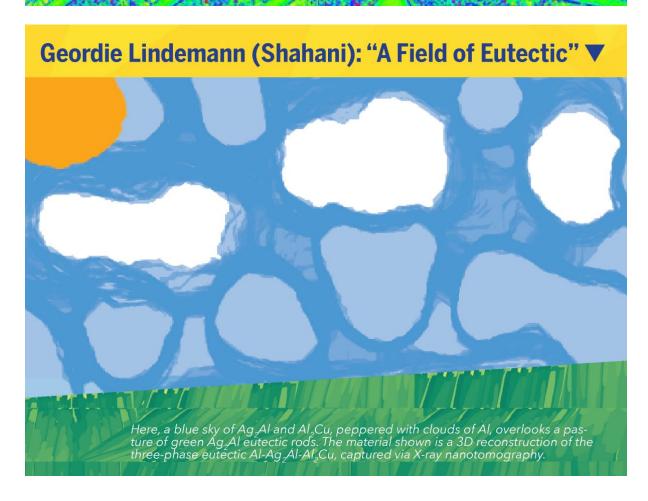
Congratulations to our 2022 calendar winners!

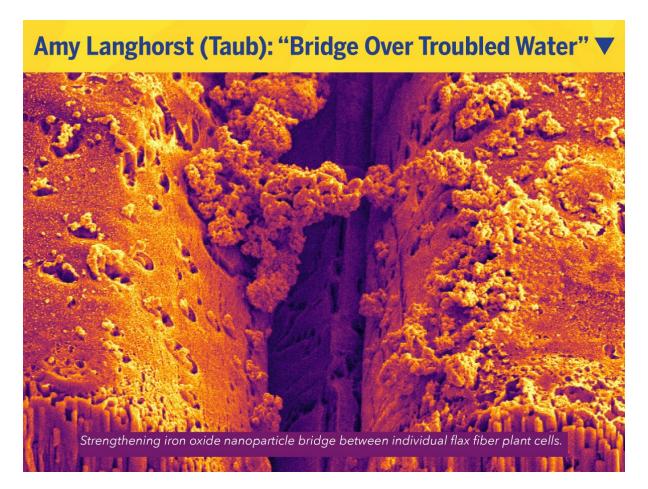


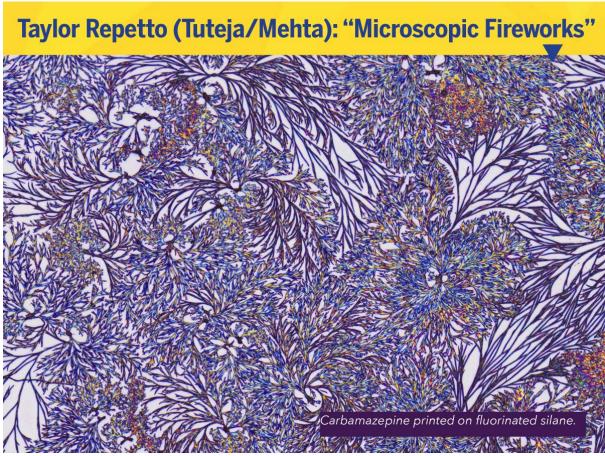




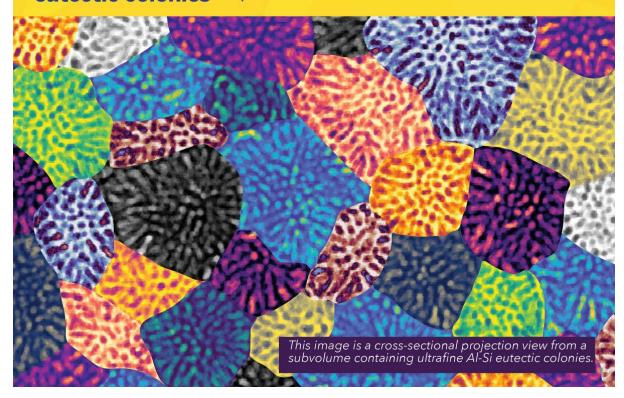
# Bibhu Sahu, postdoc (Misra): "Silicon rib cage" ▼ Silicon flakes with patterned ribs.



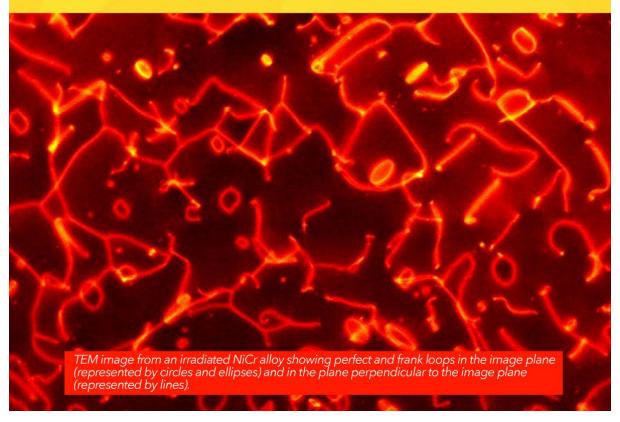




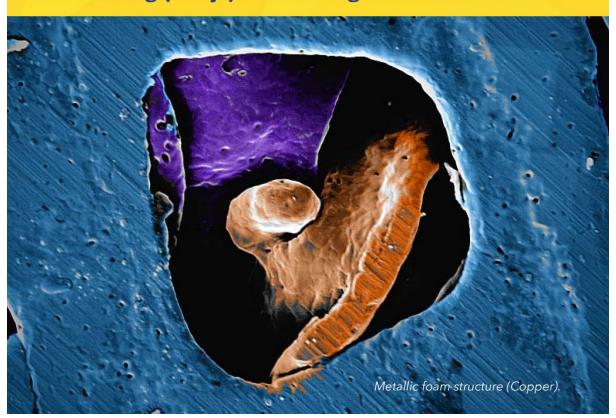
# Paul Chao (Shahani) & Xinyl Zhou: "Patchwork quilt of eutectic colonies" ▼

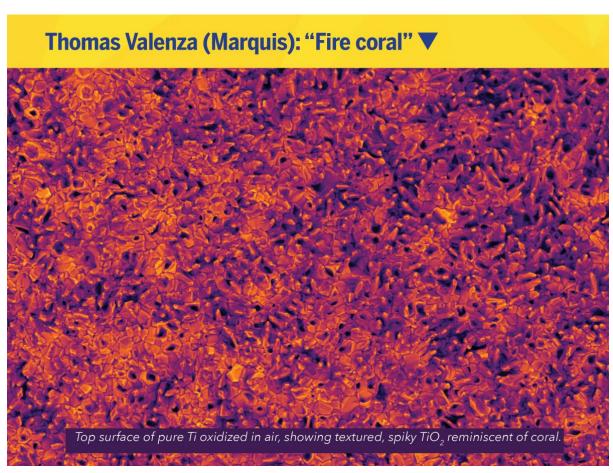


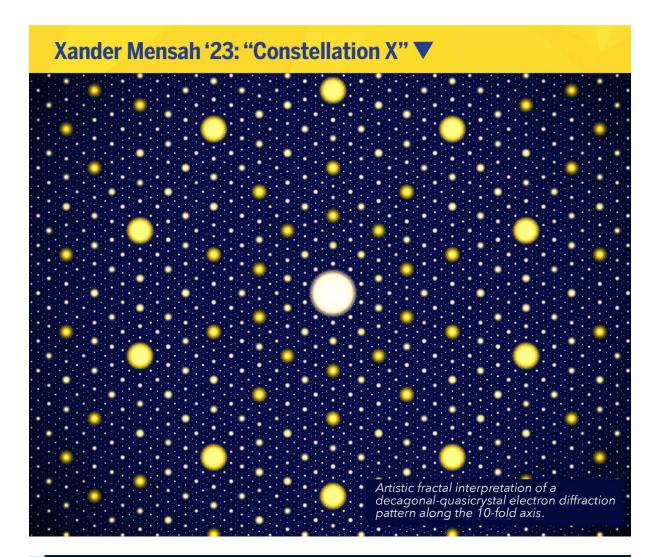
# Anshul Kamboj (Marquis): "Rings of Fire" ▼



# Fan-Wei Wang (Tuteja): "Something is out there" ▼









NanoScience Instruments hiring Application Scientists



**Nanoscience Instruments** is hiring multiple application scientists for their demonstration and analytical laboratories in Phoenix, Az. and Alexandria, Va. They are hiring PhD- level scientists to support QCM-D, optical and force tensiometers, and nanoparticle generation instrumentation.

Because

- Experience with QCM-D, AFM or other similar analytical surface science technique
- Chemistry, physics, or engineering PhD with a focus on surface scienc
- Willingness to travel domestically and internationally
- Because this position requires access to government, military, and other high security labs, U.S. citizenship is required

For more information, click here.

# **Applied Materials opportunity**

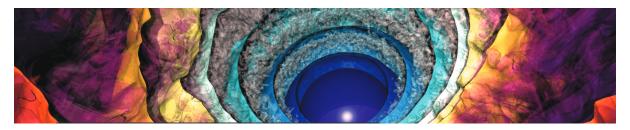
Applied Materials is looking for MSE graduates with a background in mechanical hardware implementation and process. Preferred skills include:

- Knowledge of semiconductor chambers and process/experiment design (hardware, chemistries)
- Hands-on mechanical aptitude is a must (working with jigs, fixtures for processing substrates)

- Working with metrology, films, and sensors a plus
- Data management, image analysis and scripting experience in python or MATLAB

For more information, please contact Ashwin Chockalingam.

# Dept. of Energy (DOE) Graduate Fellowships



DOE Computational Science Graduate Fellowship for PhD Students
Application deadline January 12, 2022

DOE NNSA Stewardship Science Graduate Fellowship
Application deadline January 5, 2022

DOE NNSA Laboratory Residency Graduate Fellowship
Application deadline March 16, 2022



The DOE Scholars Program introduces students and recent college graduates to the Department of Energy (DOE) mission and operations.

The DOE Scholars Program aims to create a pipeline of highly qualified talent in disciplinary fields that support mission-critical areas of the U.S. Department of Energy (DOE) in the following areas:

- Energy Security
- Nuclear Security
- Scientific Discovery and Innovation
- Environmental Responsibility
- Operations and Management
- Cyber Security
- Safeguards and Security
- Technological Advancements

## Being selected as a DOE Scholar offers the following benefits:

- Stipends starting at \$600/week for undergraduates and \$650/week for graduate students and post graduates during the internship period
- Limited travel reimbursement to/from assigned location
- Direct exposure to and participation in projects and activities in DOE mission-relevant research areas
- Identification of career goals and opportunities

 Development of professional networks with leading scientists and subject matter experts

# **Eligibility**

- Be a U.S. citizen
- Be an undergraduate, graduate student of recent graduate of an accredited institution of higher education.
- Must be pursuing a degree or have received a degree within 5 years of starting date in a STEM discipline or in a field that supports the DOE operations mission.

Apply at www.zintellect.com/Opportunity/Details/DOE-Scholars-2022-Gen

Application deadline: January 7, 2022, 8:00 a.m. Eastern Time Zone

For more information: <a href="https://orise.orau.gov/doescholars">https://orise.orau.gov/doescholars</a>

Download program flyer: https://orise.orau.gov/doescholars/files/doe-

scholars-flier.pdf

Questions? doescholars@orise.orau.gov



# Caltech is now accepting applications for our WAVE Fellows undergraduate research program.

#### Please share with students and colleagues. Thank you!

The WAVE Fellows program provides support for undergraduate students, who are underrepresented in STEM and intend on pursuing a Ph.D., to conduct a 10-week summer research project under the mentorship of Caltech faculty.

Research opportunities in biology, neuroscience, chemistry, chemical engineering, engineering and applied science, geology, environmental science, sustainability, astronomy, physics, nanotechnology, quantum sciences, humanities, social science, and more!

Research-specific information sessions are scheduled starting on November 3. This is a chance to learn more about the program, application process, and meet Caltech faculty in different disciplines.

Applications due Jan 7, 2022. Program dates: June 13 - August 19, 2022.

#### **ELIGIBILITY**

Applicants must be current sophomores, juniors, or non-graduating seniors; have a cumulative GPA of at least 3.2; be a US citizen, permanent resident, or have DACA status. Strong applicants are encouraged to have prior research experience.

#### PROGRAM HIGHLIGHTS

Graduate school prep workshops
Faculty seminars
Networking events
Writing workshops
Social activities

Click here for more information.

Questions about the WAVE Fellows program can be directed to Carol Casey.

**APPLY NOW!** 

# **Tenure-track and Postdoc Positions**

If you are interested in academic positions in MSE, please review the postings listed on the <u>University Materials Council website</u>.

