

# Happy summer!

After a two-week hiatus, we are back with our eighth and final issue! We thank everyone for their enthusiastic participation and readership over the past 10 (wow!) weeks. We wish you all a relaxing summer and look forward to seeing you (hopefully in person) in the fall. In the meantime, we leave you with lots to read and watch, including two stories on how MSE classes have adapted in the face of Covid, an introduction of new faculty members and members of the 2020 PhD cohort, exciting research news out of the Sun group, and, of course, our next installment of must-see MSE virtual events. There's lots to learn about, so let's dig in!



**Who is that masked statue?** Masks are now mandatory on campus - which apparently goes for this statue, located outside the entrance of the EECS Building!

## Chair's Message: Failure as Path to Success

After a relaxing Memorial Day weekend, I hope you are looking forward to enjoying the summer sunshine in Michigan. In academia, this is also the time to reflect upon the past year through tools such as annual evaluation reports, analyze our successes, and failures and make plans for next year.

Daniel Kahneman and Amos Tversky, Nobel Prize-winning psychologists, first articulated the concept of loss aversion, postulating why humans are so averse to failure and would go at lengths to avoid a loss or a failure. Humans tend to prefer an approach of avoiding losses to acquiring equivalent gains. On the other hand, as we shop online from Amazon during quarantine, we should be aware that Amazon is built on the culture of tolerance to failure. What makes Amazon so successful? Jeff Bezos once stated: "Failure comes part and parcel with invention. It's not optional. We understand that and believe in failing early and iterating until we get it right."

Although we may be averse to failure, it also can lead us to discover great potential. I encourage you to change your mindset on failure. Instead of seeing failure as something detrimental to success, we have to see it as a tool for success that teaches us what works and what does not. In such a way, we can see failure as a normal part of the path to success, not as something detrimental to progress. I wish you continued success by embracing failures and using failure as a learning tool!

Wishing you all a safe and successful summer!

Amit

# Welcome, New Faculty!

MSE is pleased to introduce two new assistant professors: **Yiyang Li** will join us in Fall 2020 and **Abdon Pena-Francesch** will come on board in January 2021. A warm MSE welcome to both!



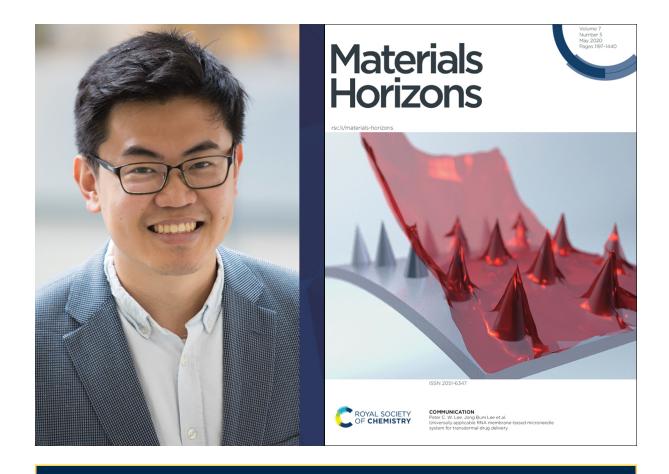
Prof. Yiyang Li 's research focuses on electrochemical materials for neuromorphic computing and energy storage. He received his Ph.D. (MSE) in 2016 from Stanford University and is currently a Harry S. Truman Fellow at Sandia National Laboratories in Livermore, Calif. Read more.



Prof. Abdon Pena-Francesch works in the area of soft materials for robotic applications. He received his Ph.D. (Engineering Science and Mechanics) in 2017 from Penn State and is currently a Humboldt Postdoctoral Fellow at Max Planck Institute for Intelligent Systems in Stuttgart, Germany. Read more.

## **Research News**

Assistant Professor Wenhao Sun was featured as this month's "Emerging Investigator" from the journal *Materials Horizons* for his work on developing new quantitative and predictive theories of inorganic materials synthesis. Read his interview and abstract. Also, in February one of his papers in *Communications Physics* was an Editor's Highlight. Congratulations, Wenhao!



# Coping with COVID

Obviously, when the COVID-19 pandemic hit campus in March it majorly disrupted academic life as we knew it. Now that the crisis after-shocks have subsided, we take a look at how MSE 480 design projects adapted, as well as what it's been like for Professor Rachel S. Goldman to teach MSE 250 remotely for the first time this spring.



When the Covid crisis caused labs to close and students to evacuate, MSE 480 instructors Alan Taub and



A Q&A with Professor Rachel S. Goldman, who's teaching MSE 250 remotely this spring, reveals the

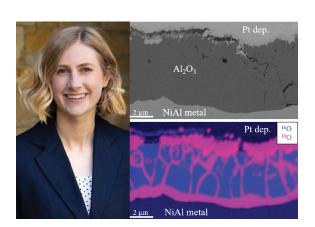
Max Shtein quickly revamped the Capstone Design course to give student teams the option to switch to a Covid-related product. Read more.

importance of building a robust remote learning community, including mailing hands-on activities to students' homes. Read more.

## Virtual Events

# Streaming now! Lecture by Prof. Ashwin Shahani

Prof. Shahani shares recent research out of his group in "Tales of the abnormal: Grain growth in the presence of particles." Grains, he notes, make up almost all engineering materials, from plastic bags to airplane wings. Watch now.



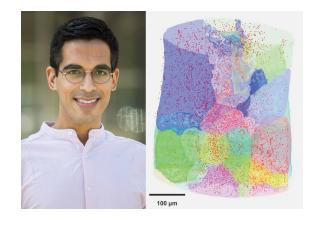
### **Nerd Nite Presentations**

Watch past Nerd Nite presentations:

Aaron Gladstein ("Ball pythons, the perfect pets,") and Rebecca Perrault

("Diamonds are Forever"), and Jennie

Paik (digital art) and Kyle Bushick ("The Art of Fencing"). Don't miss the next Nerd Nite, Friday, June 5, featuring Erin Evke and Shamalee Goonetilleke!



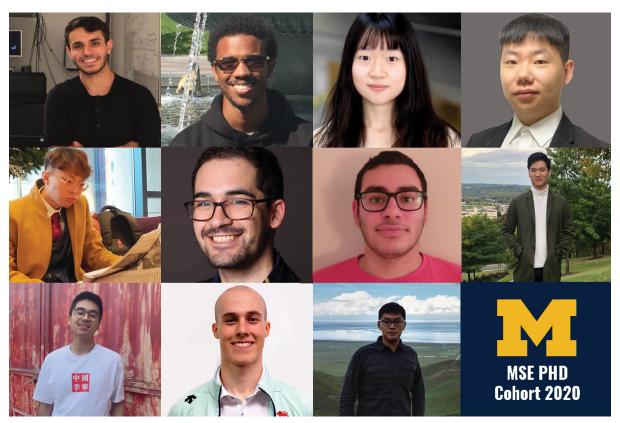
#### Talia Barth PhD defense

A member of the Marquis group, Talia
Barth will present "Effects of dopant
additions on the high temperature
oxidation behavior of nickel-based
alumina-forming alloys" on Tues., June 2,
at 10 a.m. Meeting details and abstract.



## Meet our new PhD students!

They hail from across the globe: from England to Taiwan to Puerto Rico - to our own backyard. Some are familiar faces and some are coming to the U.S. for the first time. We invite you to get to know some of the PhD 2020 cohort a little before we welcome them (one way or another) to campus this fall. Read more.



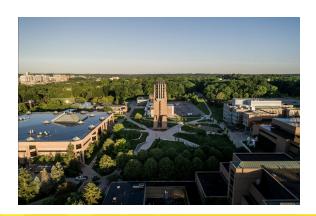
## Bladesmithing Club

In February, MSE sent 10 undergraduates to the TMS Conference in San Diego, including five members of the Bladesmithing Club, who presented a project at a special bladesmithing symposium. **Read more**. The club is looking ahead to the 2021 Conference in Orlando and encourages anyone who is interested to contact club advisor <u>Tim Chambers</u>.



Undergraduates who attended TMS in February: Jackson Eilers,\* Cameron Cafmeyer, Donovan McPherson,\* Arianna Wu, Grant Saxman,\* Deesha Shah, Harrison Teutschbein, Ella Leininger, Karen Ni,\* and Evan Raeker.\*

## What will the fall semester look like?



That is the question on everyone's mind right now. Big decisions in that regard are expected from U-M's leadership in the next few weeks. Be sure to stay up to date on the latest developments from <u>U-M</u> and <u>CoE</u>.

<sup>\*</sup>Bladesmithing team member

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