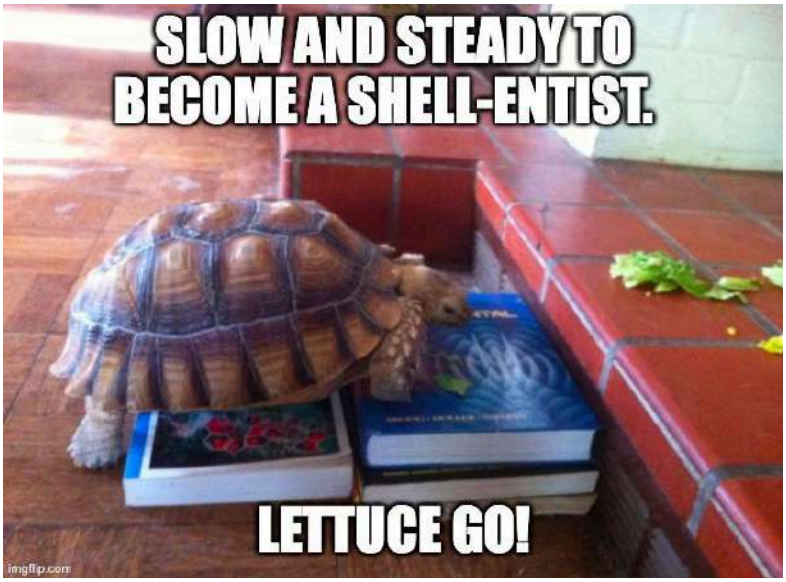
IN THIS ISSUE

Meme of the Month!



Fun Fact: Mr. Tortoise is the pet of our Center Director, Laura Bruckman. Here he is as a baby.

SPRING MEETING NEWS

MDS RELY SPRING MEETING REPORT

April 17-18, 2023 - University of Pittsburgh Campus

Thank you to all of our speakers, organizers, and participants for a successful Fall meeting!

We had a great and vibrant meeting on the University of Pittsburgh's campus with 55 attendees representing 24 organizations.

Feel free to check out our guest slide deck about Center updates about education and workforce training, research projects, and partnership opportunities.

Please check out our photo album for more pics.

Best Poster Award Winners

Congratulations to our MDS-Rely Spring Meeting poster winners.

Maya Bhat won best poster for project, “High Throughput Discovery of Cu-Fe-Ru Catalysts for Photo Driven H_2 Production.” You can read more about her work with Prof. John Kitchin at CMU in their paper published in Reaction Chemistry and Engineering.

Pierangeli Rodriguez was our runner-up for her poster, “Voronoi Tessellation to Analyze Large Microstructural Data from Sintered Porous Metal Structures.” You can read more about her work Prof. Markus Chmielus in additive manufacturing in their conference abstract, “Additive Manufacturing: Opportunities and Challenges for Functional Magnetic Materials.”

Survey Link for Spring Meeting Attendees

Did you attend our Spring 2023 Meeting? Below is a post-meeting survey to fill out. We would love to hear your feedback!

Survey here!

OTHER NEWS

Congratulations to ElectronInks for their DOE grant!

ElectronInks won a $750k DOE grant for “Metal Complex Inks for Low-Cost Photovoltaic Material Metallization.” The project explores the use of new metal inks for adding metal contacts to solar cells. Their DOE grant was announced with several other 2022 Photovoltaic and Research and Development project awards.

ElectronInks ink solutions were featured in our August newsletter last year.

Dr. Xiayun Zhao wins the NSF CAREER Award!

Congratulations to Dr. Xiayun Zhao for receiving the prestigious National Science Foundation Early Career Development Award for her research in photopolymer additive manufacturing (PAM). Xiayun will be developing new methods to fabricate components with higher resolution and greater precision and integrate machine learning methods for real-time control. She will also be working with the Carnegie Science Center to host summer camps. Read more about her project and research here.

Xiayun leads our “Achieving Reliable Laser Powder Bed Fusion Based Additive Manufacturing via Machine Learning of In-Situ Optical Profilometry Monitoring Data” project.

Congratulations to our Recent Graduates!

Congratulations to Ylan Phan (left) and Jenna Ross (right) who are graduating in Industrial Engineering and Chemical Engineering, respectively. Jenna will be working for Eaton. Ylan and Jenna were our Marketing Coordinators and have been putting together our Center website and monthly newsletters.


UPCOMING EVENTS

Monthly Technical Seminar

"Optimization, machine learning and material science"
Oliver Hinder* | *Assistant Professor, Industrial Engineering* | *University of Pittsburgh

Date: Thursday, May 18 4-5 PM
Location: *virtual (zoom)
Zoom Meeting Link Here

Abstract: This talk will discuss how optimization is used both to train machine learning models (i.e., stochastic gradient descent) and also design physical objects through simulation optimization. The first half of the talk will be a tutorial on fundamental techniques; the second half will focus on cutting edge research including efforts to make training machine learning model easier and exploit multi-fidelity in simulation optimization.

Bio: Oliver is an Assistant Professor in the Industrial Engineering Department at the University of Pittsburgh. He was previously a visiting researcher at Google in the Optimization and Algorithms group in New York. In 2019, he received his PhD from the Department of Management Science and Engineering at Stanford University with advisor Professor Yinyu Ye.

Biweekly Project Meetings Available To All Members

If you are interested in attending any biweekly project meeting, please visit our Members portal, which can be accessed via the link at the top right of our Center website. You can also go to a specific project and raise a request to get access

to the Zoom links to attend any of these meetings. You can also access prior recordings and presentations of any biweekly meetings.

1. netSEM Modeling for Service Life Prediction of Polymers
Prof. Laura Bruckman
May 16, 30... Tuesdays 1 - 1:30 PM

2. Achieving Reliable Laser Powder Bed Fusion based Additive Manufacturing via Machine Learning of in-situ Optical Profilometry Monitoring Data
Prof. Xiayun Zhao
May 19, June 2... Fridays 4:15 - 4:45 PM

3. Image Machine Learning of Printed Metal Films for EMI Shielding
Profs. Leu, French, Iyengar
May 24, June 7...Wednesdays 1:30 - 2 PM

4. Comparative analysis of Machine Learning techniques in predicting structure property relationships for composite dielectric materials
Profs. Sehirlioglu, Martin
May 22, June 5 ...Mondays 10:30 - 11 AM

5. Effects of Aerosol Jet Printing Parameters on the Lifetime Performance of Additively-Manufactured Flexible Circuits
Prof. Janut Gbur
May 26, June 9…Fridays 1:00-1:30 PM

JOB OPENINGS AND OPPORTUNITIES

Fall 2023 Senior Capstone Project Opportunities

Are you a member interested in getting matched to highly talented undergraduate students to deliver early-stage prototypes that help solve your issues. We are creating senior design projects for this Fall now. Feel free to contact Dr. Paul Leu (pleu@pitt.edu) or Dr. Laura Bruckman (lsh41@case.edu) if you are interested.

NNL Fellowship Opportunities

The Admiral Hyman Rickover Graduate Fellowship Program

Description: This program in Nuclear Engineering prepares graduate students for roles in the Naval Nuclear Propulsion Program as it supports the broader

objective of advancing fission energy development through the research efforts of Fellows.

Department of Energy Computational Science Graduate Fellowship Program

Description: Computational Science Graduate Fellows are given opportunities to develop improved algorithms for parallel computer architectures, advanced visualization, advanced data management, etc, etc. You could be involved in new developments within several broad categories, including but not limited to reactor physics, materials science (including semiconductor applications), two-phase flow, and radiation shielding.

Learn more about both opportunities here. Feel free to contact the Fellowship Coordinator Dr. Jake Ballard (jake.ballard@unnpp.gov) with any questions.

NNL Internship and Co-op Opportunities

NNL has begun posting their available internships and co-ops for 2024.
*__Co-op__ positions include: Electric/Computer Engineering, Mechanical Engineering, Software Engineering, and Thermal Hydraulic Modeling Engineering.
*__Internship__ positions include: Business (IT), Chemistry/Chemical Engineering, Compliance Engineering, Cybersecurity, and Data Science.

Click here for more information on each position.

NNL Research Funding Opportunities

The Naval Nuclear Lab (NNL) FY24 External Open Call for funding is Live on Sam.gov to Solicit Industry, Academia, and Supplier Proposals. The FY24 External Open Call, an approach to publicly solicit novel solutions to problem statements, focuses on three key challenges:

- Condition Based Maintenance (Notice ID: NNL-FMP-0026)
- Accelerated Ship Construction (Notice ID: NNL-FMP-0027)
- Remote Operated Vehicle Inspections (Notice ID: NNL-FMP-0028)

The Sam.gov solicitations will be open until 6/15/2023.

*Proposals should be sent to ATIP@unnpp.gov

*Questions or concerns should also be sent to ATIP@unnpp.gov.

Submit News

Fill out a news form here!

Submit Job Openings

*For MDS-Rely members only

Fill out a job opening form here!

Interested in partnering with Case Western or Pitt Professors?

Please contact Dr. Roger French or Dr. Paul Leu for more information!

CONNECT WITH US!

Our mailing address is:
Case Western Reserve University
White Building, Room 538
10900 Euclid Avenue
Cleveland, OH 44106

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