



THE UNIVERSITY OF
ALABAMA IN HUNTSVILLE

COLLEGE OF ENGINEERING

Department of **CHEMICAL & MATERIALS ENGINEERING**



CME PIPELINE // FALL 2022



WEEK OF WELCOME

The last three classes of incoming chemical engineering students have averaged

28.9 on the ACT

1317 on the SAT

4.08 GPA in High School

As always, do stay in touch with the department and reach out when you plan to be on campus.



CHAIR'S MESSAGE

Dear UAH ChemE Community,

I am glad to write this letter as the Interim Chair of the Department of Chemical and Materials Engineering at The University of Alabama in Huntsville (UAH). I am very grateful for the remarkable leadership from our department's former chair, Dr. Anu Subramanian, and for her diligent service to our department during the past four years. During this period, the Department of Chemical and Materials Engineering has thrived despite the unprecedented challenges that we all have faced. We are poised for great achievements in education and research in the coming years, and I am truly grateful for the opportunity to represent this terrific department as its new interim chair.

By way of introduction, I have spent the past 9 years as a faculty member at UAH, having begun my independent career as an Assistant Professor of Chemical Engineering in 2013. UAH has been instrumental in nurturing my growth as a researcher and educator, and I particularly benefited from interactions with the remarkable students, faculty, and staff that makes UAH such an amazing place. My research group has benefited from extensive collaboration with research groups throughout UAH, and we recognize the enormous influence that this interdisciplinary environment has had on our research and the benefit of broad engagement throughout the UAH community.

The 2022-2023 academic year represents an exciting time for the ChemE Department. Dr. Mike Banish retired after a distinguished 35-year service to UAH. In the meantime, we welcome to the department Dr. Agnieszka Truszkowska, who joins us as an Assistant Professor. Dr. Truszkowska's research expertise is in scientific computing and numerical methods. Our department will be committed to supporting our junior faculty to ensure their programs build momentum in the coming years. In this semester, Immunology expert Dr. Kyung-Ho Roh is promoted to an Associate Professor. The diversity of research programs in our department enables us to tackle some of the most critical societal problems in Energy, Sustainability, and Human Health.

Our students have overcome the challenges of the pandemic and have emerged with new strength in education and activities at UAH. More than 80% of the ChemE senior students have had internship, co-op and research experience. The AIChE student chapters are actively planning the ChemE Car Competition, the ChemE Jeopardy Competition, plant tours, seminars and outreach activities. Several students have received awards and recognitions from federal, state and university level.

I am delighted to serve as interim chair and to assist in future community development and growth of our department. I hope the highlights from our department will encourage you to stay connected with us. Again, thank you for being supporters and advocates of UAH Chemical Engineering.

Yu Lei
Interim Chair, Department of Chemical and Materials Engineering
Associate Professor of Chemical Engineering

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COMMENCEMENT: Gra



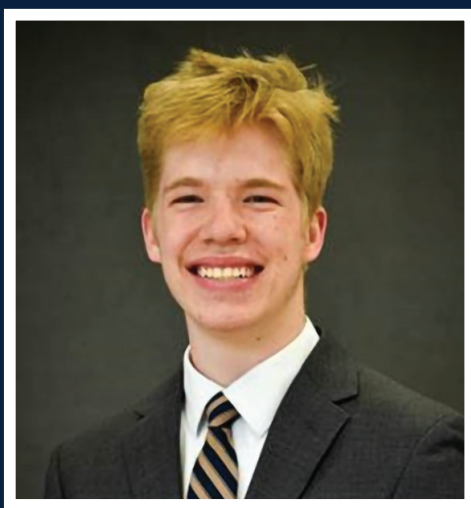
GRADUATION CLASS OF 2022



Besides internship and co-op, UAH Chemical Engineering students were selected for the top NSF REU programs in the country.

Daniel Duke worked with Dr. Volker Blum at Duke University on a project titled "Structural Band Level Alignment Investigations of CsPbBr₃ / Graphene / CsPbI₃ Heterostructures Via First Principles Calculations".

Taelyn Culberson, who is going to earn her dual degree in Chemistry and Chemical Engineering, carried out computational engineering research with Dr. Srinivas Rangarajan at Lehigh University.



DANIEL DUKE



TAELYN CULBERSON



FAUSAT ISU

Most Outstanding Chemical Engineering
Undergraduate Student Award



Undergraduate student Fausat Isu (BS in ChE 2022) was the recipient of the Most Outstanding Chemical Engineering Undergraduate Student award on the 2022 Honor's Day.

Besides outstanding performance in the classroom, she is also actively involved in research with Dr. Isaac Torres-Diaz and Dr. Yu Lei, respectively. For the research with Dr. Lei, she won second place in the Von Braun student poster contest. She also actively served the university, the department, and the community by serving as the Vice President of the Math Club, and the Special Project Chair and Student Ambassador for the Office of Diversity, Equity and Inclusion.

Senior student Anders Kinney (BS in ChE, expected 2023) received the prestigious Wargo Scholarship from the American Legion. The Wargo Scholarship is awarded to descendants of veterans attending colleges and universities. The scholarship committee selects the awardees based on their scholastic performance, the basis of need, character, and volunteer work.



ANDERS KINNEY



SAVANNAH PADGETT



KRISTEN GUESS

Junior student Savannah Padgett – 2022 Summer Internship with Savannah River Nuclear Solutions

Senior student Kristen Guess – Internship with NASA

Senior student Olivia Stafford takes on an internship with the Browns Ferry Nuclear Power plant/ Tennessee Valley Authority during the semester.



OLIVIA STAFFORD

Junior students Wesley Hong and Elizabeth Sverdlov are taking an internship with Daikin at Decatur.



WESLEY HONG



ELIZABETH SVERDLOV

WOODY SHARP

SENIOR STUDENT



Senior student Woody Sharp joins the Navy Nuclear Propulsion Officer Candidate Program (NUPOC). Woody enlisted in April of 2020. He will commission as an officer and will study nuclear reactor workings and maintenance at the Naval Nuclear Power School. Then he will teach future enlisted sailors and other commissioned officers how to maintain a live nuclear reactor with the opportunity to transition into nuclear reactor design. The department is very proud of Woody.

Thank you for your service!

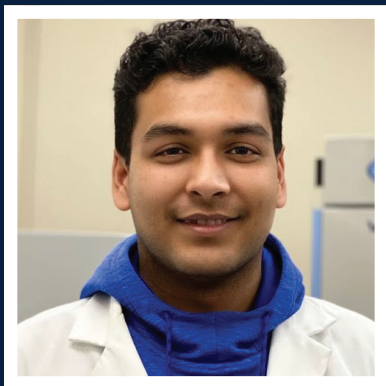
AICHE student chapter attended the UAH Discovery Day outreach event and organized the Trunk or Treat.





LARISSA LAGRIA

Larissa Lagria (BS in ChE 2020, MS in ChE 2022) successfully defended her MS thesis, titled "Performance of Platinum-Zinc Intermetallic Alloys in the Preferential Oxidation of Carbon Monoxide".



SHAHID KHAN

The "3MT" (3-Minutes Thesis) is an international competition in which graduate students are challenged to summarize and highlight the significance of their work for a non-specialist audience in three minutes or less. Shahid Khan (PhD in Biotechnology) won 3rd place in the 2022 3-Minute Thesis competition at UAH. His presentation is titled "Alleviating Post-Traumatic Osteoarthritis through Ultrasound". His advisor is Dr. Anu Subramanian.



MUNTASEER BUNIAN

Muntaseer Bunian received the 2022-2023 Alabama EPSCoR Graduate Research Scholar Program Fellowship.



ELIZABETH ANDREW

Elizabeth Andrew gave an oral presentation at the 2022 AIChE Annual Meeting in Phoenix, AZ, based on her work with Dr. Isaac Torres-Díaz. Her presentation title is "Topological Interactions of Spiky Particles with a Planar Wall".

DR. MIKE BANISH RETIREMENT



Dr. Mike Banish is retired after distinguished service to UAH. Dr. Banish received his BS in Chemistry and Biology from Westminster College and a PhD in Materials Science and Engineering from the University of Utah. Over the years, he served as Program Coordinator in the Department of Chemical and Materials Engineering and Program Coordinator for the Material Science Tri-campus PhD Program, respectively. He was also elected twice to be the President of the Faculty Senate of UAH. His strong bonding with the students will be truly missed by the department.

MIKE BANISH, PHD

Dr. Mike Banish is the Principal Investigator for the Transport Properties of Fluids for Exploration experiment that flew on the Blue Origin New Shepard spacecraft in 2022.



FACULTY TENURED

DR. KYUNG-HO ROH

has been promoted to
the rank of Associate
Professor with tenure
in the Fall of 2022.





NEW FACULTY

DR. AGNIESZKA TRUSZKOWSKA

Dr. Agnieszka Truszkowska joined our department as a tenure-track Assistant Professor.

Academic Preparation

BS in Biotechnology, University of Belgrade

PhD in Chemical Engineering, Oregon State University

Postdoctoral Associate, Rensselaer Polytechnic Institute

Postdoctoral Associate, New York University

Research Interests

Scientific computing

Numerical methods

Multiphysics and multiscale simulations

Micro- and nanotechnology

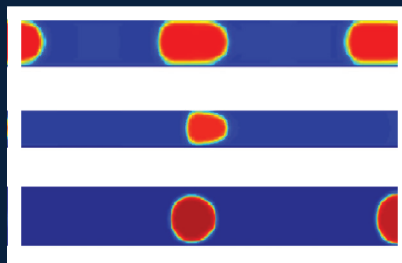
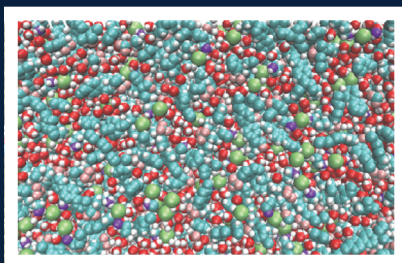
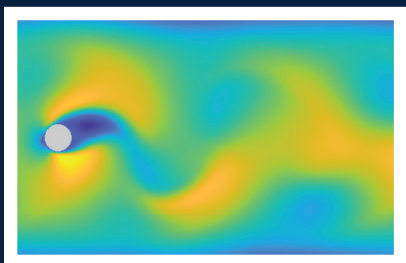
Multiphase flow

Porous media flows

Teaching

ChE 460 Bioprocess Engineering, Fall 2022

ChE 445 Chemical Process Control, Spring 2023



Scientific computing for understanding and improving:

- Multiphase reactors
- Microtechnology-based systems
- Devices with microfeatures
- Porous materials and media

with applications in chemical, petroleum, and biomedical engineering, as well as biotechnology.

DR. ANU SUBRAMANIAN

received NIH Research Project Grant (R01) for "Optimizing Ultrasound Regimens for Achieving Cartilage Repair".



DR. ISAAC TORRES-DÍAZ

leads a discussion panel at UAH celebrating "Hispanic Heritage Month" with the Society of Hispanics Engineers (SHE) and Serving, Organizing, Advocating, & Reflecting (SOAR).





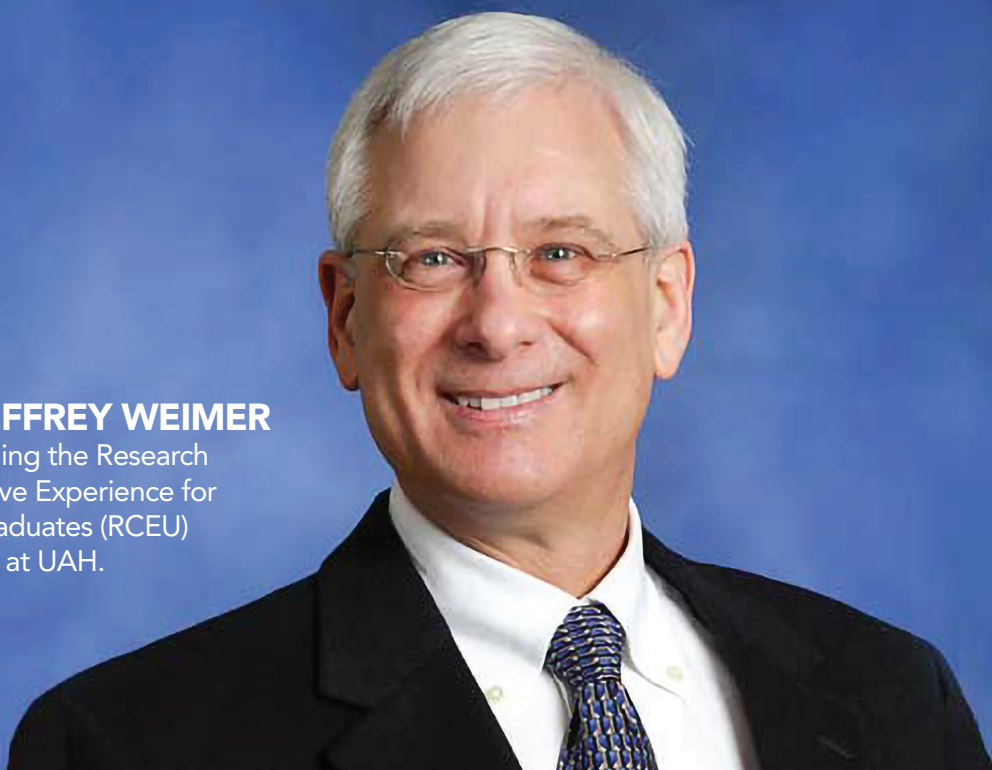
DR. YU LEI

and collaborators have invented a simple mechanical device to generate electricity, featured in UAH News.

www.uah.edu/news/news/lab-discovery-leads-uah-researchers-to-a-simple-cost-effective-electricity-generator

DR. JEFFREY WEIMER

is managing the Research or Creative Experience for Undergraduates (RCEU) program at UAH.





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301 Sparkman Drive
Engineering Building, Room 102
Huntsville, Alabama 35899

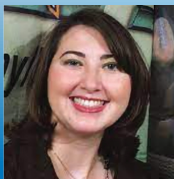
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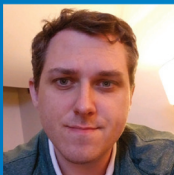
MONICA



TRAVIS



JUSTIN



PATRICK



LUCAS



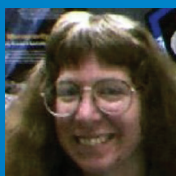
ERIK



LENSEY



STEVEN



JAN



MAURO

The CME Industrial Advisory Board was formed to provide guidance and advice to the CME Department concerning, policies, programs, and future directions of the department. We appreciate the important inputs from the following Board members in the 2022-2023 Academic Year.

Mr. Alex Aultman – Boeing
Ms. Cristina Bezenhafer – Boeing
Ms. Monica Boatwright – Phillips
Mr. Travis Dallas – Sun Chemical Corporation
Mr. Justin Gransky – 3M
Mr. Dennis Wallace – 3M
Mr. Patrick Himebrook – Advanced Composites
Mr. Lucas Mould – Hexcel
Mr. Erik Nielsen – Northrop Grumman
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