

Boise State University	New Jersey Institute of Technology	University of Illinois Urbana Champaign
Brown University	North Carolina State University	University of Michigan
Carnegie Mellon University	Northwestern University	University of Minnesota
Case Western Reserve University	Pennsylvania State University	University of North Texas
Clemson University	Purdue University	University of Notre Dame
Colorado School of Mines	Rice University	University of Pennsylvania
Cornel	Texas A&M University	University of Southern California
Drexel University	University at Buffalo	University of Tennessee Knoxville
Duke University	University of Arizona	University of Texas at Dallas
Georgia Institute of Technology	University of California at Irvine	University of Texas El Paso
Johns Hopkins	University of California at San Diego	University of Virginia
Lehigh University	University of Connecticut	University of Wisconsin - Madison
Massachusetts Institute of Technology	University of Delaware	Worcester Polytech Institute
Michigan State University	University of Houston	



BOISE STATE UNIVERSITY

Boise State University

Micron School of Materials Science and Engineering

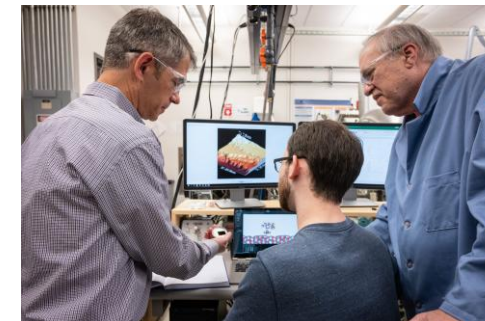
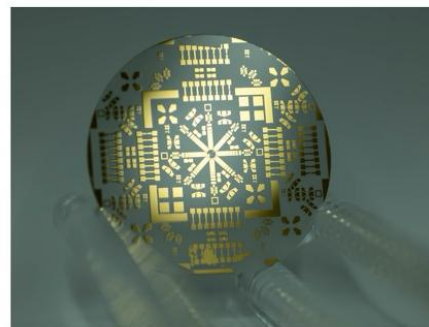
<https://www.boisestate.edu/coen-materials/>



Director: Eric Jankowski
since July 2024

2024-25 Research Expenditures

- \$9M in sponsored projects
- \$770k/faculty average



Recent Highlights

- DOE EPSCoR (\$2.4M) on Electrolyte Decomposition in Battery Interfaces
- NSF EPSCoR CREST (\$7.4M) on materials for low-cost AI, workforce
- DEPSCoR (\$1.5M) on Semiconductors for Extreme Environments



Professor
Claire Xiong

Students, Teachers, Engagement

- Fourth annual ASM Camp in 2025
- [ACS NORM](#) in Boise June 28 - July 1
- [Materials for Society](#) REU May 14 - July 17
- Send undergrads for a PhD in Boise!





Brown University
School of Engineering,
Materials Science and Engineering Program

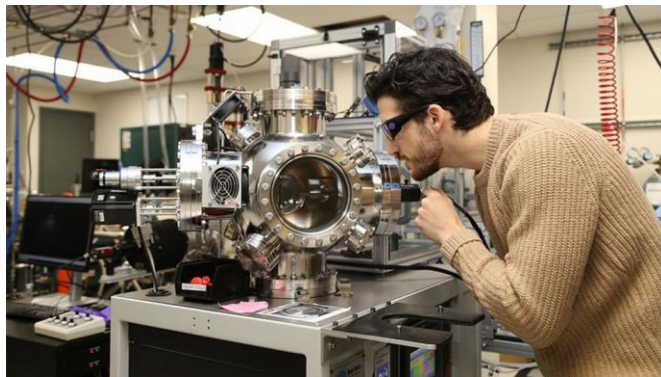
<https://engineering.brown.edu/materials-science-research>



Yue Qi

Since Sep 2024

- **Lucas Caretta** won NSF CAREER award from the DMR Electronic and Photonic program to study “CAREER: Symmetry designed spin currents: broadening the spintronics materials palette.” Caretta joined Brown in 2022.
- **Feng Lin** joined Brown in 2025, focusing on advanced batteries and their energy-efficient manufacturing. Previously: Professor of Chemistry at Virginia Tech, but trained as a materials scientist (‘12 PhD from Mines).
- **Awards:** MRS Fellow (Yue Qi, 2026), Humboldt Research Award (Nitin Padture), Ross Coffin Purdy Award from ACerS (Yue Qi)



3x undergraduate in MSE;
MatSci Connect; MRS Chapter



Beth Dickey
Head since: Jan. 2021



**40th Anniversary of Center for
Iron and Steel Making
Research**



**MSE Courses Being Taught across
Pittsburg and Kigali Campuses**



2 years of full financial support
MS or PhD



Panel Discussion @ Annual Meeting in Columbus, OH.
September 18 – 20, 2025

Next Meeting: October 8- 10, 2026 Minneapolis

Note: there are also state-level associations and meetings!



Materials Data Science for Stockpile Stewardship DOE-NNSA Center of Excellence (MDS³-COE)

- 14.3M/5yr, 19 Faculty, 47 Grad. Students
 - Roger H. French, Laura S. Bruckman, Yinghui Wu
- > 100 Collaborators: LLNL, LANL, Sandia, Y12, KCNSC, PanTex

Develop Materials Data Science Tools, Frameworks

•Advanced Manufacturing

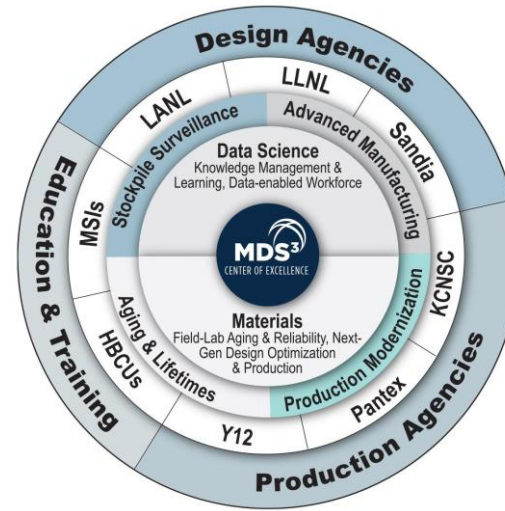
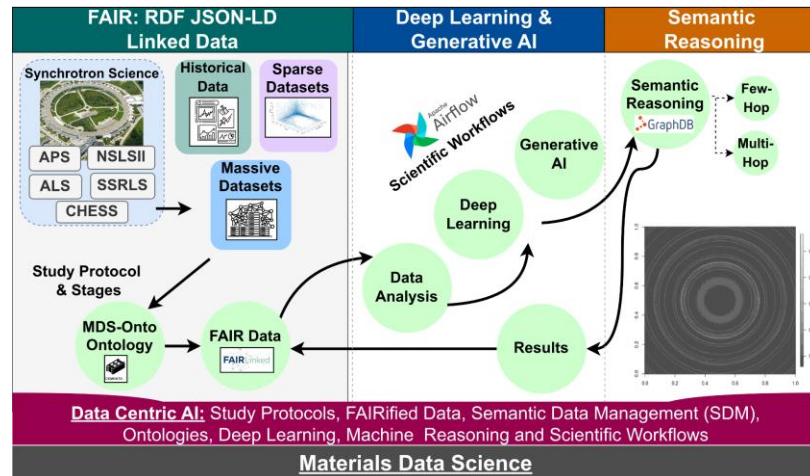
- Laser Powder Bed Fusion, Direct Ink Write, ...

•Aging & Lifetime

- Material Discovery, Formulation, Degradation, ...

•Digital Transformation: Semantic Data Management

MDS-Ontology for Deep Learning & Reasoning



New Faculty
Hyeji Im



New Chair
Neamul Khansur



New Chair
Alp Sehirlioglu

Case Western Reserve University-led regional economic development consortium advances as finalist for National Science Foundation's transformative 'Engines' initiative

NEO-SMART aims to transform Northeast Ohio into national epicenter of advanced manufacturing innovation

Co-PI NSF-ERC-Hybrid Autonomous Manufacturing, Moving from Evolution to Revolution (NSF-ERC-HAMMER)

- 26M/5yr, OSU-PI, CWRU, NCAT, NU, UTK
 - John Lewandowski, Jennifer Carter, Hyeji Im + EMAE/ECSE
- > 75 Collaborators: Lincoln Electric, Rockwell Automation, ASTM, ORNL

Develop Hybrid Autonomous Manufacturing Approaches

•Wire Arc Additive Manufacturing (WAAM)

- Develop a Low-Cost Open Source WAAM Machine, Education/Research, Sensor Integration (AI/ML/Controls)

•Explore Hybrid Manufacturing Approaches (WAAM/PBF)

- Develop a Hybrid WAAM Machine, Research; Explore Novel Post-processing Approaches; Collaborate w/(MDS³-COE) MDS-Ontology

•Structural Materials Focus (Initial Materials Systems)

- WAAM (Steels, 316L, CP-Ti, CuNi), LPBF (AlSi10Mg)



Kyle Brinkman,
Chair since: March, 2019



Olga Kuksenok (*Presenting*)

- ❖ ***AMIC Materials Building Completed, moving in progress, building open for classes Jan 2026***
- ❖ ***Building includes “Lab Based X-ray Synchrotron Screening Facilities” 3D Tomography***
- ❖ **Hired Dr. Aniruddha Dive as lecturer, dedicated to MSE Undergraduate Laboratories and core classes**
- ❖ **Completed GAPS 8 year Graduate Program review in 2025**
- ❖ **New \$600K MSE Endowed Scholarships aimed at increasing UG enrollment**
- ❖ **Clemson “expense management” limiting near term hiring**



Colorado School of Mines Metallurgical & Materials Engineering (MME) metallurgy.mines.edu

18 T/TT, faculty, 2 teaching faculty
~160 UGs, ~100 grad students, ~\$13M/yr, 3 I/UCRCs
~3% of Mines undergrads and ~12% of Mines research

Deep expertise in metals and ceramics

- 2 BS degrees: MME (metallurgy) and CerEng (ceramics)
- MS/PhD degrees in MME and Materials Science (8 depts)

Key partner in campus priorities: Quantum Engineering,
Critical Minerals, and Space Resources

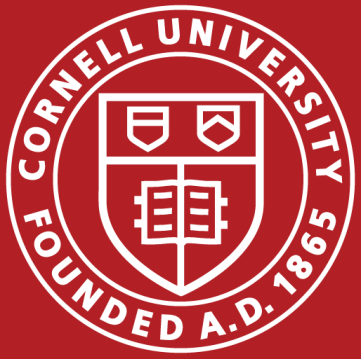


Geoff Brenneka,
Chair since July, 2025



Suveen Mathaudhu
Fall 2025 UMC Proxy





CornellEngineering

Materials Science and Engineering

Celebrating 60 years at the
forefront of Materials Science

3 New Faculty Join Department



- **Assoc. Prof. James Weaver** – Joint hire with new Dept of Design Technology
- **Asst Prof. Hari Nair** – UWBG semiconductors; MOCVD
- **Asst Prof. Matt Ferguson** (starting July 1, 2026) – quantum materials

<https://www.mse.cornell.edu>



Andrej Singer
DGS
(Presenting)



Lara Estroff
Chair since:
August 2020

Faculty Awards and Recognition

New Fellows



Uli
Wiesner



Krystyn
van Vliet



Lara
Estroff

Huili (Grace) Xing
2025 SRC-SIA
University Research Award



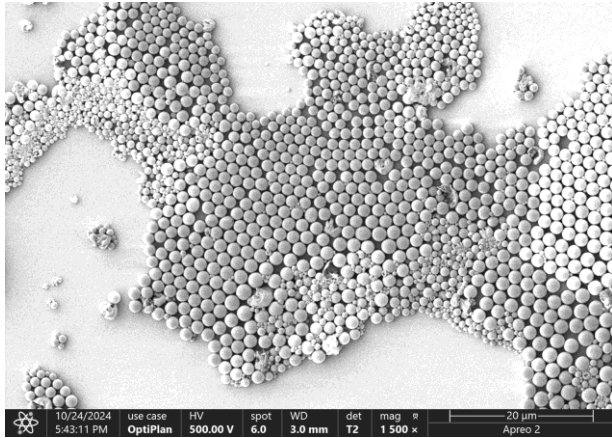
Drexel University

Department of Materials Science and Engineering

<https://drexel.edu/materials>



Caroline Schauer,
Chair since 07, 2025



Departmental stats:

86% recent graduates employed (14% in graduate school)

100% over all job satisfaction

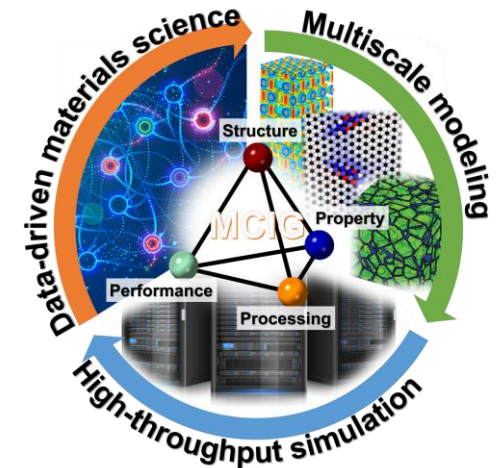
Outstanding Alumni's recent awards:

Kelsey Hatzell PECASE

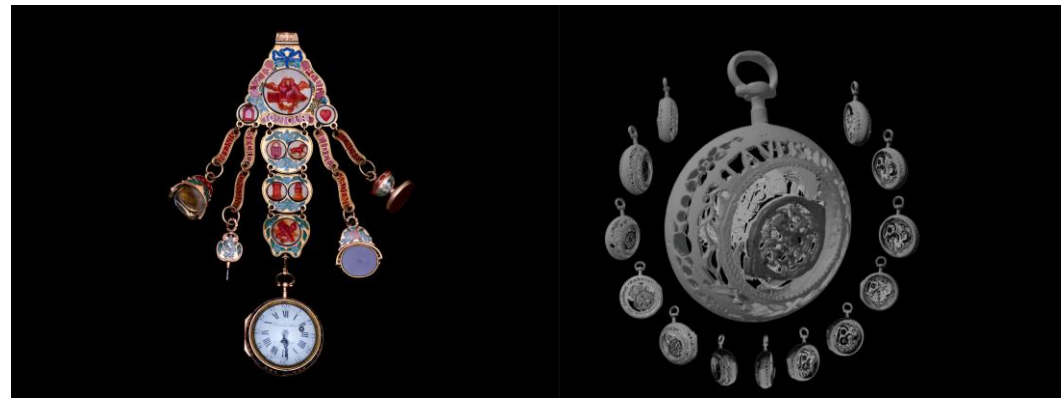
Rob Devlin Design Innovator Award from Optica

Michael Naguib Humboldt Research Award

Steven Spurgeon Burton Medal



Yong-Jie Hu **CAREER** award:
Understanding Energy
Statistics and Glide
Mechanisms of Dislocations
in Concentrated Solid-
Solution Alloys



New NanoCT instrument antique watch scan (news story
<https://exelmagazine.org/article/inner-workings-scrutinized/>)

The MSE department at Drexel is undergoing many changes all at once: 1) quarters to semesters, 2) curricular revision, 3) College of Engineering to School of Engineering within the College of Engineering and Computing and 4) of course **searching for an inaugural Dean** to lead us through all these many changes.



Duke University

Thomas Lord Department of Mechanical Engineering and
Materials Science (MEMS)

<https://mems.duke.edu/>



Christine Payne,
Chair since January, 2025

MEMS Welcomed 5 Assistant Professors

Xianyi Cheng - robotic manipulation

Kip Coonley - lab-oriented studies

Joanna Deaton - medical robotics

Chris Douglas - thermofluid systems

Krithika Swaminathan - wearable robotics



New MRS Fellows

Miaofang Chi (2025) and Cate Brinson (2026)

New MEng program in AI + Materials

Director: Cate Brinson

Applications due January 20 & March 18

Students	#	Women (%)	BIPOC (%)
BSE (ME)	285	34%	~22%
MS/MEng	65	25%	~23%
PhD	95	39%	15%



Georgia Institute of Technology School of Materials Science and Engineering

<https://www.mse.gatech.edu/>



Natalie Stingelin
Chair since: 08/2022

US NEWS & WORLD REPORT

RANKINGS

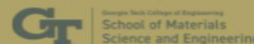
#3

**Best Undergraduate
Materials Engineering Program**



#7

**Best Graduate
Materials Engineering Program**



**MSE Chair Natalie
Stingelin named
Associate Editor for
the Journal of
American Chemical
Society (JACS)**

**NSF Awards \$2
Million to Georgia
Tech and Stanford
Researchers to
Accelerate
Development of
Breakthrough
Membrane
Technologies**

**MSE's Facchetti
Elected to the
National Academy of
Engineering**



**Juan-Pablo Correa-
Baena named
PECASE Recipient by
President Biden**

Correa-Baena is honored for his work with solar cells and receives the U.S. government's highest award for early-career engineers.



**Georgia Tech
Researchers Named
Finalists for
Prestigious Blavatnik
Science Awards**



**Rampi Ramprasad
Awarded \$2 Million
Grant to Pioneer AI-
Driven Recyclable
Packaging Materials
Design**





Michael Kessler

Large 5-Year Initiative as part of *Data Science and AI Institute*

- **110 NEW TENURE-TRACK ENGINEERING FACULTY** over 5 years the largest cluster hire in the history of the Whiting School of Engineering, **30 AI-FOCUSED RESEARCH SCIENTISTS AND ENGINEERS** to support projects,
- **500,000 Sq. Ft. New Engineering Facility**, state-of-the-art two-building facility organized into DSAI "neighborhoods," purposely collocating disciplines including bioengineering, materials, energy and environment, opening summer 2029.

Two New Faculty:



Kamal Choudharay, Assistant Professor, started Aug. 2025, from NIST, working in AI-driven computational materials discovery



Younan Xia, Bloomberg Distinguished Professor, starting Jan. 2026, from GaTech, working in engineered nanoparticles



Lehigh University

Materials Science and Engineering

<http://materials.lehigh.edu>

Dr. Sean Mills is our newest rising star,
Assistant Professor - *Microscopy*.



Chair: **Ricardo Castro**
since: April/2023

OPEN POSITION: Tenure Track Professor Computational Materials Science
OPEN POSITION: Tenure Track Professor Soft Matter



Lehigh Materials' Martin Harmer – Top 10 global science breakthroughs.

The [Falling Walls Foundation](#), one of the world's most respected platforms for scientific innovation, has named Lehigh University's [Martin Harmer](#) among the Top 10 Breakthroughs of the Year 2025 in Physical Sciences for his [pioneering work on copper-based superalloys](#).

Xuanhong Cheng: Chronic Fatigue Syndrome and Long COVID: Quest for Clues in Muscle Tissue. Highlighted by EurekAlert, DiagnosticsWorld, as seen in *PNAS*

NSF Awards \$2M to unlock energy-efficient AI: Study how lab-grown brain samples, called brain organoids, can process information to design smarter and more energy-efficient artificial intelligence. (Berdichevsky, Chow)



FYRE: First Year Rossin Experience: Interdisciplinary educational hands-on modules for freshmen – showcasing materials engineering solutions: **Energy Storage; Carbon Fiber; Electrochromic Window, Blacksmithing, and more.**

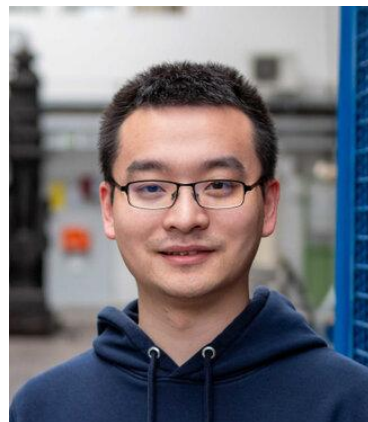


Polina Anikeeva
Head, since 2024

- 31 + 5 (joint) faculty, 18 lecturers and instructors, 200 grad-students, 120 postdocs and scientists
- >12,000 sq.ft. of teaching & learning labs: Forge, Foundry, Glass Lab, Breakerspace, etc.
- “Corridors of excellence” infrastructure renewal project: metallurgy, biomaterials underway

New faculty hires:

Tania Lopez-Silva: Peptide materials
Thomas Rose '26: Archeometallurgy
Shaolou Wei '26: Sustainable metals



Faculty highlights (selected)

Yoel Fink



National Academy
of Engineering '25

Angela Belcher



National Medal
of Science '25

Iwnetim Abate



Technology Review
TR 35 '25

DMSE leads in innovation: 2.8% of faculty responsible for 8-9% of MIT's patents (~25/year)

Faculty search: dmse-search@mit.edu

Computational materials science,
joint with Schwartzman College of Computing:



MICHIGAN STATE
UNIVERSITY

Chemical Engineering and Materials Science

<https://engineering.msu.edu/about/departments/chems>

New faculty



Dylan Anstine

Bridging quantum chemistry and artificial Intelligence; Deep reaction networks for synthesis planning



Jonathan Turnley

Developing new inorganic materials for next generation energy production, energy storage, and electronic devices



Dmitri Cordova

Studying growth of single crystals and thin films of low-dimensional quantum materials for microelectronics



Yilin Zhang

Developing polymer/biopolymer-based nanocarriers; precision agrochemicals delivery in plants.



Angela Chen

Controlling microbial communication for developing new sustainable strategies for reducing agricultural chemical dependence

**Fellow of
Electrochemical
Society**



Scott Barton



Kris Chan
Chair



Philip Eisenlohr
Associate Chair
since Feb 2024

**Engineering Design
Innovation (EDI) center**



Synergy between: MSE, ECE
Facility for Rare Isotope Beam, and (FRIB)

- Space electronics
- Semiconductors
- EV and battery
- AI



Lisa Axe,
Chair since 2016



Murat Guvendiren,
Mat. Eng. Program Director
since July 2022



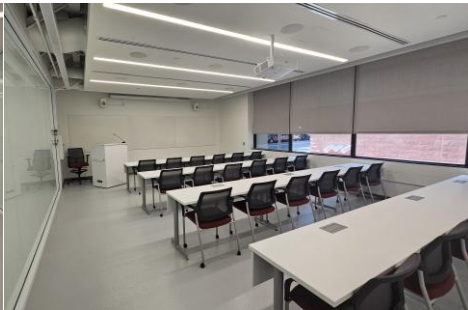
New Assistant Professor, Nutth Tuchinda (PhD, MIT): smart metallurgy – modeling and simulation to study defects in polycrystalline materials and design novel engineering materials.

New Materials Engineering Teaching Labs – \$4.2M investment (\$1.5M equipment)

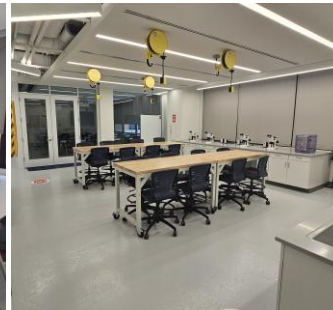
3D Printing Lab



Lecture Room



Opt. Microscopes
Student Work Area



Sample Prep.
Student Work Area



Ther. Elec. Opt. Prop. Lab



X-ray Lab
(XRD, SEM, EDX, FTIR, XRF)



Recruitment/Outreach:

1. STEMX Summer Materials Engineering Program: 1-week, full day, hands-on workshops: 5 faculty (3D Printing, Nanomaterials, Polymers, Machine Learning/AI, Metal Alloys)
2. CME HS Teachers Workshop – Machine Learning and Nanomaterials (~50 teachers per year)



Don Brenner, Head since 2018

- **Advanced Microscopy/AI Center:** We are replacing the Titan with a Thermo Fisher Spectra UltraSTEM and building an adjacent classroom for education in interactive AI-guided microscopy.
- **Starting a new master's degree in *Wide Bandgap Semiconductors*** joint with electrical/computer engineering. Part of CLAWS, one of eight Microelectronics Commons regional innovation hubs.
- **Martin Thuo** was inducted as a fellow of the National Academy of Inventors and the African Academy of Sciences. He was also winner of the Viness Pillay Award for Applied Polymer Science and Technology
- **Searching for a senior Goodnight Chair in Energy Storage** as part of a regional academic-industry effort being established in battery technology.



CLAWS
Commercial Leap Ahead for
Wide Bandgap Semiconductors





Northwestern University (NU)

Department of Materials Science and Engineering



Recent Senior Faculty Honors:

The Royal Society

- Elected Foreign Member of the Royal Society (Rogers)
- Bakerian Medal (Rogers)

Materials Research Society

- MRS Fellow (Rondinelli, Schuh)
- MRS Theory Award (Wolverton)
- MRS President Elect (Haile)

The Minerals/Metals/Materials Society

- TMS Leadership Award (Voorhees)
- TMS Bardeen Award (Hersam)
- TMS Hume-Rothery Award (Wolverton)

Mark C. Hersam

Chair since 9/2023

- Joined NU MSE faculty in 2000
- MRSEC Director since 2013

Emerging Research Directions from New Junior Faculty:



Jennifer Fowlie, Asst. Prof.
(Arrived Fall 2024)

- Electronic material synthesis
- Quantum information science



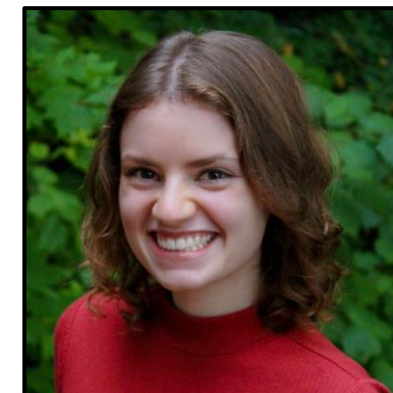
Christine Wang, Asst. Prof.
(Arrived Winter 2025)

- Soft functional materials
- Medical biomaterials



Fadi Abdeljawad, Assoc. Prof.
(Arriving Winter 2026)

- Mesoscale modeling
- Additive manufacturing



Ella King, Asst. Prof.
(Arriving Fall 2026)

- Computational soft matter
- Self-healing materials design



PennState
College of Earth
and Mineral Sciences

matse.psu.edu

**Department of Materials
Science and Engineering**



Ivy Asuo

**New tenure-
line faculty
member.
(Perovskites,
solar cell
devices.)**



Clive Randall
Euro. Acad. of Sciences



Long-Qing Chen
NAE Inductee



Rob Hickey
Dillon Medal (APS)

Vitro[®]
Architectural Glass



BORMIOLI LUIGI
GLASSMAKER

**We have
announced three
major LionGlass™
licensees.**



**We have started a new Center for Glass Research together
with Alfred University and Missouri S&T.**

**We are in the process of hiring a new tenure-line
faculty member in ceramic processing science.**



John Mauro,
Department Head
since: July 2025

Purdue University

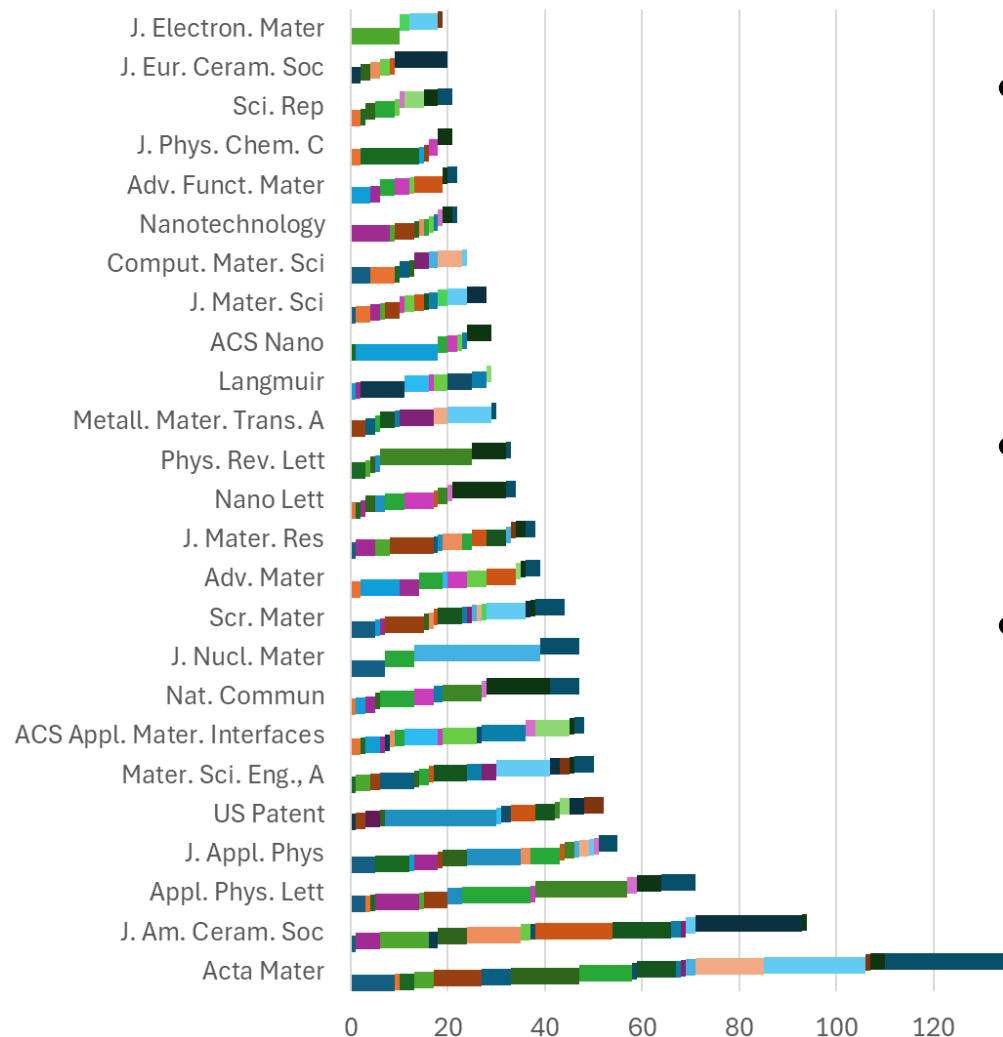
School of Materials Engineering

<https://engineering.purdue.edu/MSE>

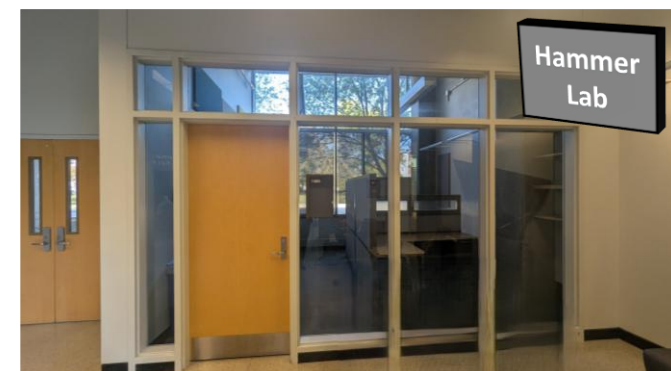


Bryan Huey
Chair since: Aug 2025

Purdue MSE: Top 25 journals by publication count



- Purdue MSE is 40 faculty strong, 250 UG and 150 GR students. 2025 incoming class:
 - 30 new PhD and full-time masters,
 - 89 new UG students
- International Conference on Shot Peening: 150 non-Purdue attendees, 75 international
- Hammer Lab: New UG-focused teaching, club, and outreach space.
 - Charpy (the hammer), μ Hardness, UTM, SEM +EDS, Interferometer





Rice University

Materials Science and NanoEngineering

<https://msne@rice.edu>



Karen Lozano
Chair since: 01/25



Momentum: Transformative growth, 10 new hires, restructured the UG curriculum, moved into a 250,000 sq. ft. complex, and UG enrollment growing by at least 100%

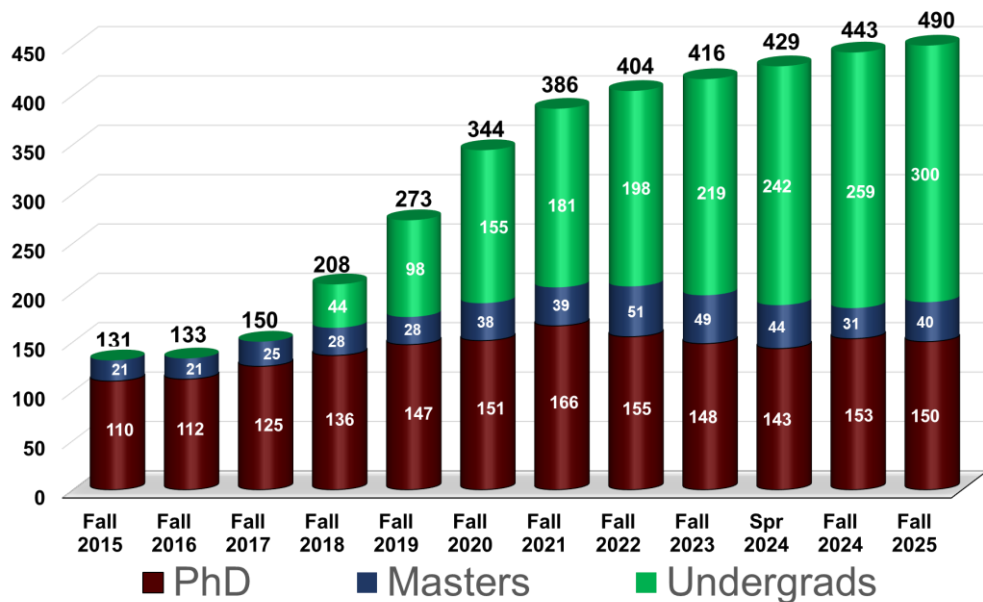
Research excellence: Strong federal/private funding, high-impact publications, major awards, and a growing pipeline of translational projects and startups.

Unified materials vision: Launched the Rice Advanced Materials Institute (RAMI) to connect materials efforts across campus.





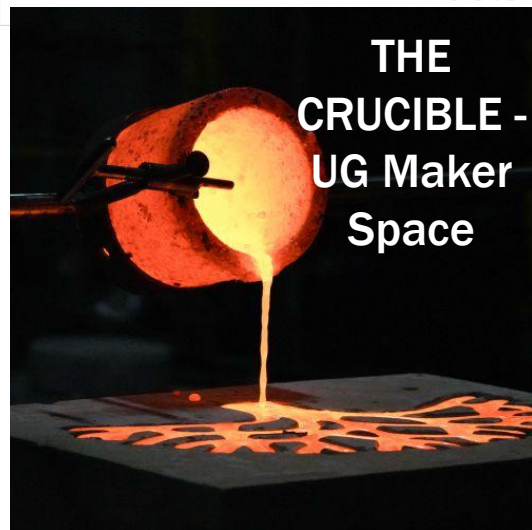
Ibrahim Karaman
Head since: July 2013



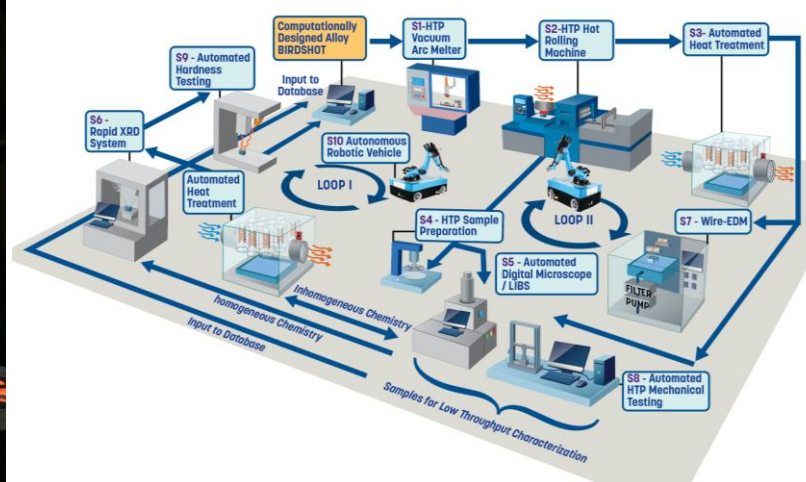
15.8% increase in undergraduate and 3.3% in graduate student enrollment (with the lowest student/faculty ratio in the college)

**With Freshmen:
~620 students**

- **1 new NAE member in 2025 (6 total out of 25 faculty)**
- **2 New Hagler Fellows: Dr. Tresa Pollock (UCSB) and Dr. Vikram Deshpande (Cambridge)**
- **2 new associate professors, 1 current faculty search.**
- **4 Ph.D. students became tenure-track faculty in 2025**
- **AI for Materials Innovation Master Specialization**
- **\$100M GPUs for AI, including AI for Materials.**
- **All Capstone Design Projects are industry-funded – Raised \$180K this year**



**THE CRUCIBLE -
UG Maker Space**



Raised ~\$1M from non-profits

Raised \$2.4 M to establish Aggie AI Foundry (autonomous self-driving lab for bulk metal alloys) from a private foundation



Krishna Rajan
Erich Bloch Chair
2015 thru 2025

- **2025-26: 10th year anniversary : a fully dedicated MSE program built around Materials Informatics with ~40 PhD and ~80 MS graduates in the first 10 years**
- **ABET accreditation successfully completed for BS**
- **Completed hiring to ~20 faculty; Senior chaired position available in Microelectronics**

Founding chair, Krishna Rajan stepping down, with new chair, Eddie Snell to start January 2026

University of Arizona
Department of Materials Science and Engineering
<https://mse.engineering.arizona.edu>



Head: **Sammy Tin**
since: **8/2021**



Marat Latypov – NSF Career Awardee and Xiaodong Yan – NSF Career Awardee and AFOSR YIP Awardee

NAE Member Horst Hahn joined MSE Department and will lead the University's fusion energy research initiatives



MACH-X Team Awarded \$8.25million from US Army to develop materials and manufacturing technologies for affordable hypersonics



MSE@UCI

University of California, Irvine (UCI)

Department of Materials Science and Engineering

<https://mse.uci.edu>



Lorenzo Valdevit, Ph.D.
Chair since January 2024

Department numbers (2025)

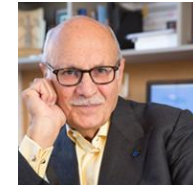
Faculty: 15 + 4 emeriti, 1 lecturer, 23 affiliates

Students: 128 Undergrad, 76 Grad

Expenditures: ~\$12M (\$15M new awards received)

Strengthened strategic relationship with Los Alamos National Laboratory

- ❑ 3 Joint Appointees (***Diran Apelian, Stacy Copp, John Watt***)
- ❑ First UCI/LANL 6-week in-residence Summer School on Manufacturing Science



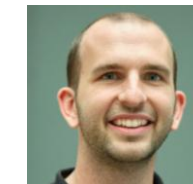
Selected New Research Awards

- ❑ 'Predictive discovery of radiation-resistant alloys for extreme fusion environments' (***Penghui Cao***) – UCOP, \$4M
- ❑ 'CAREER: Advancing Mechanistic Understanding of Catalytic Plastic Waste Upcycling via Ab Initio Enhanced Sampling' (***Elizabeth Lee***)



New educational offerings

- ❑ GE courses on 'Edible Materials: Lab to Table' (***Christoff-Tempesta***) and 'Materials in Art and Archeology' (***Apelian & Copp***)
- ❑ UG/G course on 'Essential Skills in Engineering' (***Apelian***)



US News & World Report Graduate Rankings

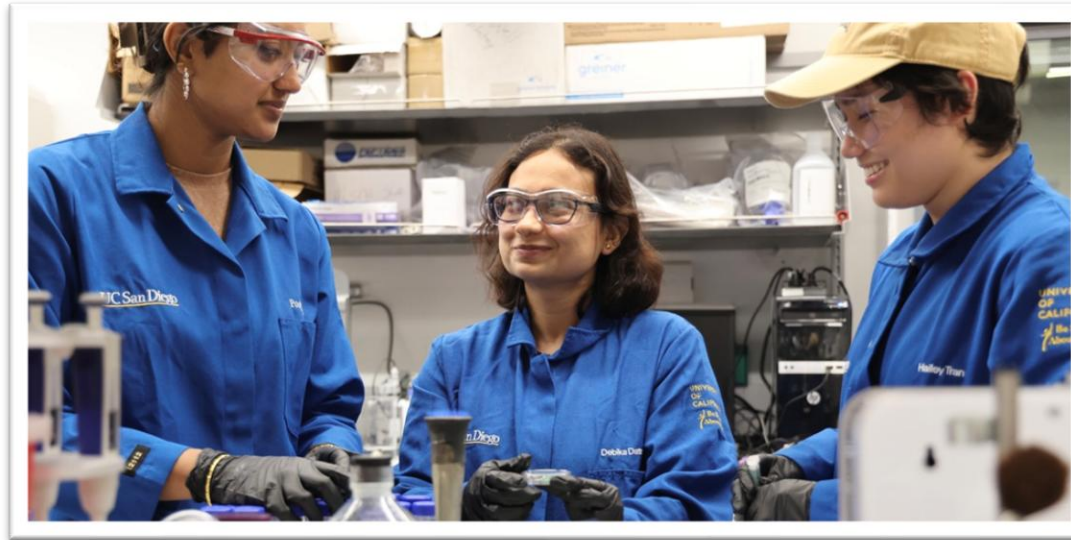
- ❑ **#29** – Up 5 spots from 2024 and first time in top 30

Materials Science and Engineering Graduate Program

<http://matsci.ucsd.edu>

New Curriculum: In Fall 2024 we implemented a new curriculum based on our 2023 strategic planning process. We developed five thrust areas for our students: (1) Biomaterials, soft robotics, and biomedical devices; (2) Computational and data driven design; (3) Extreme properties and environments; (4) Quantum, electronic, and photonic materials; and (5) Sustainability and energy.

ENLACE 2025: Our high school and undergraduate summer research program was outstanding. We received 200 students (60 high school, 140 undergraduate). It is the largest high school/REU program in the US. We are very proud of it! <https://www.cbs8.com/article/news/local/outreach/innovate8/enlace-stem-program-bridges-two-countries/509-5f1a5445-39f7-43e3-a163-c6ea850eb5cf>



We continue to grow! There are now 118 affiliated faculty, and a very robust student body that represents a mixture of Master's and PhD students.

UC San Diego

World-class research infrastructure and facilities



University of Connecticut Materials Science and Engineering

< <https://mse.engr.uconn.edu/> >



Avinash Dongare,
Chair since: <Aug, 2025>

DEPARTMENT HIGHLIGHTS

- 18 Core Faculty, **8 NSF/NASA/DOE Early Career and DOD YIP Awardees**
- John Morrall Distinguished Lecture Series



FACULTY HIGHLIGHTS



- Xueju “Sophie” Wang: **2026 James W. Dally Young Investigator Award** from the Society of Experimental Mechanics (SEM). ([Article](#))

STUDENT HIGHLIGHTS

- PhD student, Shao-Hao Lu, was recently selected for the competitive Link Foundation Fellowship (<https://linkoe.org/>) [\$35,000; 7/31/2025 – 6/30/2026]



Chair: Joshua Zide
Since: 07/2022



Focus on: Two Awardees, out of Many (One senior, one a recent PhD)

Darrin Pochan

NAI Fellow/MRS Fellow 2026

For the design and discovery of new materials self-assembly mechanisms with peptides and polymers, significant advancements in soft nanostructure characterization, and international leadership in the materials community



Abigail Nolan

UD Dan Rich Doctoral Dissertation Prize Award

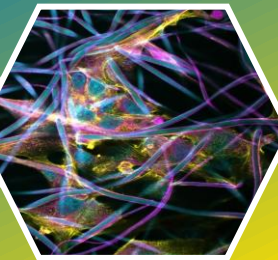
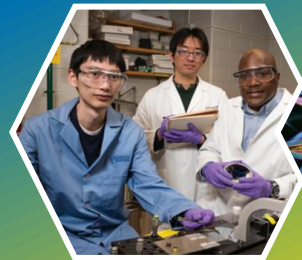
For doctoral work developed an idea and created the potential to make a valuable difference in the lives of Delawareans.



**Electronic,
Photonic,
&
Quantum
Materials**



**Polymers,
Soft Matter,
&
Biomaterials**



Milestones:

- 1) UG classes growing in size (>60) and quality
- 2) >100 PhD students across the department (5.5:1 PhD/faculty ratio)
- 3) 2 EFRCs (successful recompile for CPI); MRSEC Recompetition; other center



University of Houston

Materials Science and Engineering Program

<https://materials.egr.uh.edu>



Megan Robertson
Director since 01/2025

Program Overview

- Interdisciplinary graduate program in the College of Engineering
- 62 Ph.D. and 4 M.S. students are mentored by faculty across various Engineering and Science Departments
- 45 faculty members associated with the program (27 core faculty, 18 affiliated faculty)
- Core areas: Materials for Energy and Sustainability, Bio and Nano Materials, Electronics and Photonic Materials

Research Centers/Funding

- Research centers in advanced manufacturing, biomanufacturing, bioactive mineral crystallization, plastic circularity, medicine
- \$7.8M DOE FES, fusion research (Venkat Selvamanickam)
- \$4.4M DOE & Battery500, battery research (Yan Yao)
- \$5M Welch Foundation, bioactive mineral crystallization (Jeff Rimer)
- \$4M Welch Foundation, plastic circularity (Megan Robertson)

Highlights: Early Career Faculty

- Piero Canepa: Chemistry of Materials Lectureship, RSC Fellow
- Jerrod Henderson – NSF CAREER, Minority Affairs Community's William W. Grimes Award
- Mim Rahimi - AAES 40 Under 40 Recognition, NSF CAREER, DOE EnergyTech Prize

Publications Highlights

- *Science* 2025 (Yan Yao, monovalent vs. multivalent battery anodes [10.1126/science.adl5482](https://doi.org/10.1126/science.adl5482)),
- *Nature Biotech* 2025 (Bin Liu, antibody-bottlebrush prodrugs, [10.1038/s41587-025-02772-z](https://doi.org/10.1038/s41587-025-02772-z)),
- *Nature Comm* 2025 (Mim Rahimi, electrically-mediated carbon capture, [10.1038/s41467-025-61525-3](https://doi.org/10.1038/s41467-025-61525-3))



Nancy Sottos
Dept. Head

Enrollment is up!

375 undergraduates, 231 grad students



Class of 2029

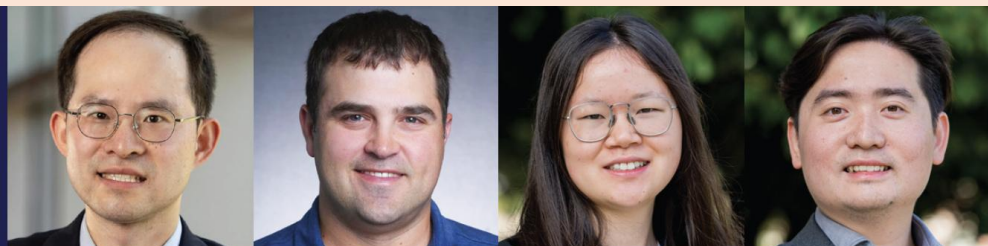
**New \$2M Illinois Semiconductor
Workforce Network led by Qing Cao**



**Qian Chen - atomic level precision
patterning on nanoparticles**



Four new faculty join the department
New search in computational materials science



Yuecheng "Peter" Zhou
Assistant Professor
FALL 2024

Daniel Krogstad
Research
Associate Professor
FALL 2025

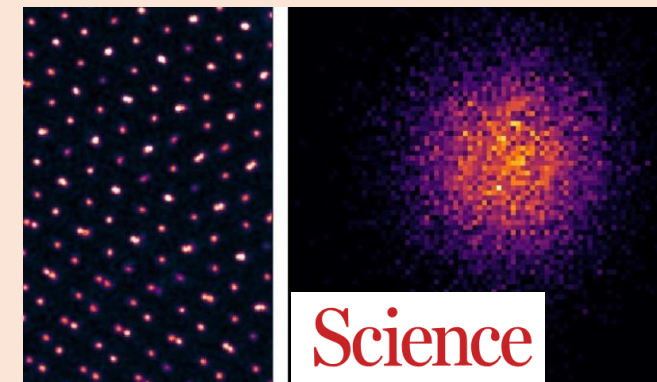
Yuanwei Li
Assistant Professor
SPRING 2026

Wenjie Zhou
Assistant Professor
SPRING 2026

Redesign of Senior Design Course
Eltoukhy Innovation lab opens



**Pinshane Huang – Visualizing
heat from atomic vibrations**





University of Michigan Department of Materials Science and Engineering

<https://mse.engin.umich.edu>

THE MICHIGAN
ENGINEER



Elizabeth A. Holm
Chair since 1/23

- Research growth: Annual expenditures reach \$1M / FTE



DOE BES PRISMS:
\$26M/11 years



NSF MRSEC:
\$18M/6 years



DARPA ICECycle:
\$12M/3 years



AFOSR MURI:
\$7.5M/5 years



DOE EFRC: \$11M/4
years



MI EV Center:
\$160M

- Faculty growth:



Grace A. Pan
Quantum
materials
synthesis

- Community growth:

- Increased enrollment at BS, MS, and PhD
- Infrastructure growth +10%
- Revisiting undergraduate curriculum for majors, double-majors, and minors

From on-demand ice caves to self-scraping windshields,
IceCycle is reimagining life in the cold





University of Minnesota
Chemical Engineering and Materials Science

<http://cse.umn.edu/cems>



Kevin Dorfman
Chair since: July 2024

Chemical Engineering and Materials Science
Wei-Shou Hu Fellowship

- **An interdisciplinary research cohort**
 - Five fully-funded Ph.D. positions to tackle the most impactful problems in **sustainability and human health**, leaning into the innovation borne out of interdisciplinary research.
 - Students will be co-advised between two CEMS faculty and also consult with an additional dedicated faculty mentor for the cohort.
- \$2.5M philanthropic gift from Stéphane Bancel, Moderna Therapeutics CEO and alumnus, and Brenda Bancel to honor the career of Distinguished McKnight University Professor Wei-Shou Hu.



University of North Texas

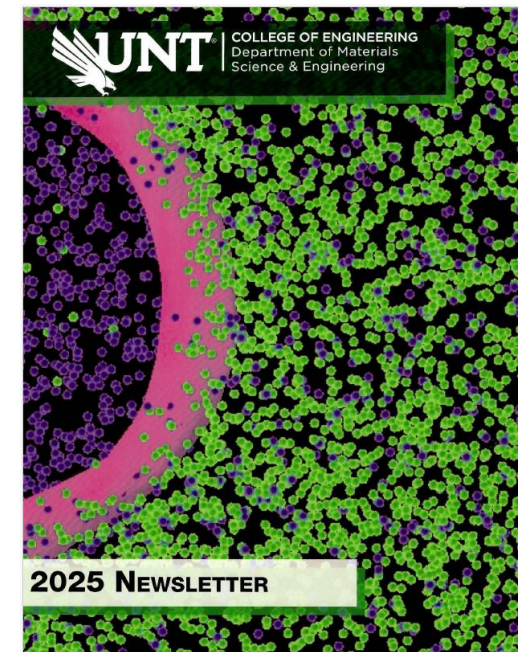
Department of Materials Science and Engineering

engineering.unt.edu/mse/



Jincheng Du
Chair since: Sept. 1, 2024

- **Research updates:** **Center for Microelectronics in Extreme Environments** (CMEE) was formed. Offers MS degree and certificate in microelectronic manufacturing. Add to three existing materials related centers: MRF, AMMPI, CAAAM. New research awards: ARPA-E awards (*Vijay Vasudevan, Narendra Dahotre*), ARL (*Rajiv Mishra, Tom Scharf*), DOD (*Nigel Shepherd*) and others.
- **Faculty:** **Dr. Anil Sachdev** (NAE, GM Fellow) joined as distinguished research professor. Dr. Ruocun Wang (energy storage), Dr. Yufeng Zheng (microscopy & alloy design) joined in 2024. Total: 21 T/TT + 10 Research faculties. 4 NSF CAREER awardees.
- **Students:** **40% increase in UG enrollment.** Multiple student fellowships (NSF, DOD, SMART) and scholarships awarded. Started ASM Teachers Camp at UNT in 2024. International collaboration/exchange with Ulsan University of South Korea and CDESI Queretaro Mexico.



[MTSE Newsletter 2025](#)



UNIVERSITY OF
NOTRE DAME

University of Notre Dame

Interdisciplinary Materials Science and Engineering Program

mse.nd.edu



Ken Kuno

Executive Committee

Interim Chair Since: January 2025

PhD Program: 65 current students from seven engineering and science departments and programs; 18 alumni since 2020 start

Faculty Recognition Highlights



Prashant Kamat
*American Acad.
of Sciences and
Letters*



Peter Burns
AAAS Fellow



Pinar Zorlutuna
*Biomedical
Engineering Society
Fellow*



Xiaolong Liu



**Matthew
Rosenberger**
NSF Early Career Awards



Adam Jaffe



Yichun Wang



Meenal Datta
*Air Force and
Biomedical Society
Young Investigator
Awards*

Research Highlights



Ten ND faculty members are part of the NSF Engineering Research Center, Environmentally Applied Refrigerant Technology Hub



International Space Station Experiments

Tengfei Luo and Meenal Datta are utilizing the microgravity environment of space to conduct research on bubble dynamics and the growth of 3D glioblastoma tumor models

University of Pennsylvania

Department of Materials Science and Engineering

<https://mse.seas.upenn.edu/>



Shu Yang
Chair since: July 1, 2021

New Hires

A. Shoji Hall



Tenured Assoc. Prof., Jan 2025
Intermetallic nanomaterials;
Electrochem. catalysis

Ali Zaidi



Professor of Practice, May 2025
Policy and Energy/Sustainability

Return to Penn

Vanessa Chan



Jonathan and Linda Brassington Practice Prof.
Inaugural Vice Dean, Innovation and
Entrepreneurship
Undergraduate Chair

Former DOE Chief Commercialization
Officer Director, Office of Technology
Transitions

Honors and Awards

Christopher Murray



Fellow, 2024 National
Academy of Inventors

Shu Yang



Inaugural 2025 National
Geographic 33, Trailblazers
and Changemakers of Today

Leadership

Russell Compusto

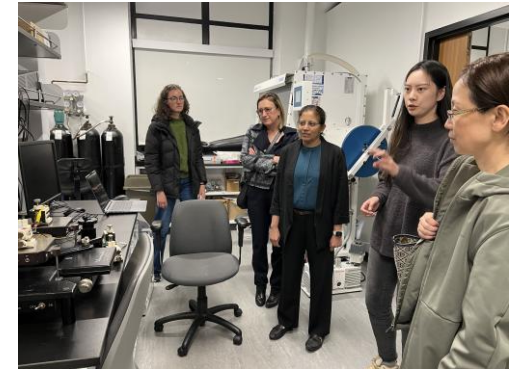


Vice Provost
Undergraduate Education

Eric Stach



President, MRS



Inaugural External Advisory Board
meeting, November 2025
Lab Tour

Growth

Faculty search (all ranks) in [Quantum Materials Discovery, Synthesis, and Characterization](#)



University of Southern California
Chemical Engineering and Materials Science Department
<https://chems.usc.edu>



Andrea M. Hodge
Chair since: August 2020

Jayakanth Ravichandran (representing the chair)

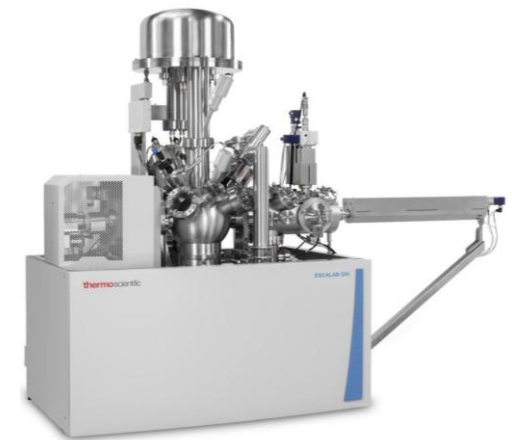
❖ **Early Career Awardees :**

Yu-Tsun Shao (DOE Early Career Award)

Zhenglu Li (NSF CAREER Award)

❖ **We launched a new MS in Energy Engineering, and a new MS in Semiconductor Science and Technology will be launched in Fall 2026**

❖ **Purchased a new XPS/AES surface analysis suite, and a Ga-FIB (adding to our Xe plasma FIB) to our new Center for Nano Imaging (CNI) (<https://cni.usc.edu>)**





CAMM Embarks on an Exciting Second Year of Innovation and Impact



New Faculty



Weinan Xu & Matt Cothrine

Mohsen Asle Zaeem
Department Head



Faculty Highlights

- ❖ **David Mandrus and Easo George** Clarivate Highly Cited Researchers
- ❖ **Third of MSE faculty** are among the **top 2% of scientists** worldwide
- ❖ **Sergei Kalinin** 2025 APS Adler Lectureship Award
- ❖ **Chuck Melcher** 2025 IEEE Marie Sklodowska-Curie Award



Faculty Openings

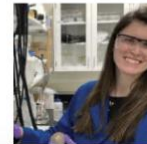
Tenure-track Assistant Prof:
Synthesis and Processing
Science of Ceramics

Tenure-track Assistant Prof:
Metallurgy:
Ultra-High Temperature Alloys

June 10, 2025

TCE Alumna Receives Prestigious PECASE Award

Marybeth Parker (BS/MSE, '11) was among 400 scientists and engineers to receive a Presidential Early Career Award for Scientists and Engineers (PECASE) for her research on the ways corrosion directly impacts Navy assets.



UT Awarded \$5 Million from Office of Naval Research To Develop Next Generation of Military Steel

August 21, 2025

Multidisciplinary faculty teams at University of Tennessee, Knoxville, in collaboration with



Student Highlights

2025 Goldwater Scholars

Marlena Alexander & Jocelyn Hess



- ❖ **Kennedy Agyekum** Margaret C. Etter Student Lecture Award
- ❖ **Sheryl Sanchez** Best Graduate Presentation Award, MRS





New Faculty members



Dr. Ron Roher,
NAE Member



Dr. Babu Chalamala,
NAE Member

- New UG program will start Fall 2026. More than 100 FTIC applications received as of 10/31/2025.
- MSE continues to lead energy and semiconductor thrusts in the School of Engineering.
- Two faculty, both NAE members, hired bringing the number of faculty to 21.
- Currently searching **2** new additional faculty in the areas of energy and microelectronics. This will bring the MSE Faculty size to 23 faculty T/TT



NORTH TEXAS SEMICONDUCTOR INSTITUTE

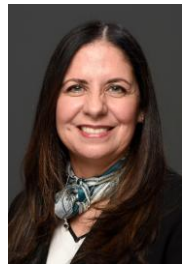
- **BEACONS**, a **\$30M** federally funded center led by MSE officially inaugurated. The Center is already producing/demonstrated several battery systems.
- The North Texas Semiconductor Institute, part of the Materials Science Department, secured **\$10M** funding from the CHIPS act for workforce development in North Texas
- New grant for **\$7.5M** to support new materials for heterogenous integration

- Research expenditures per faculty member increased 2X from \$440K (2024) to \$840K (2025).
- Several Faculty funded as part of the SMART-USA for Digital Twins part of the Manufacturing USA Institute
- MSE launched a fellowship 50K/year program for 20 MS students funded by the Texas Semiconductor innovation Fund



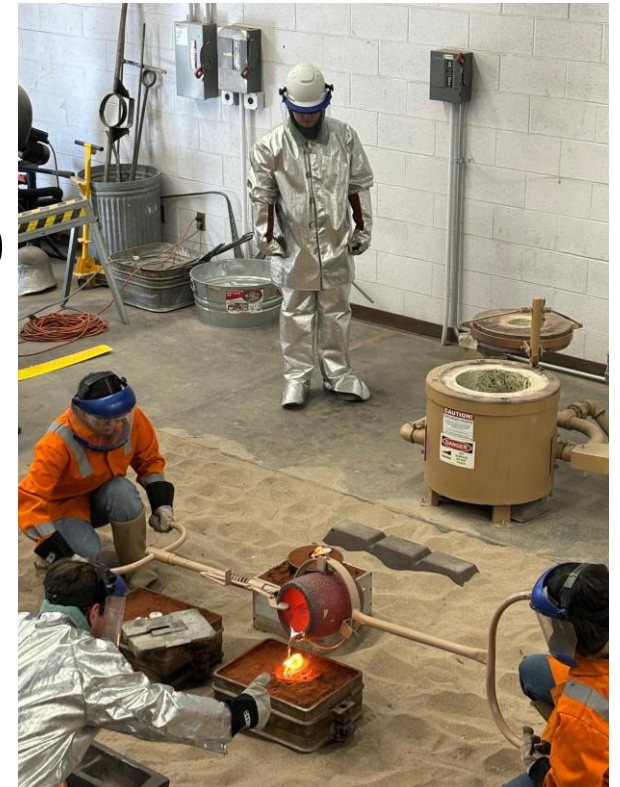
UTEP METALLURGICAL, MATERIALS AND BIOMEDICAL ENGINEERING

<https://www.utep.edu/engineering/mmbme/>



Stella A. Quinones
Chair since: Sept 2018

- Reinstatement of B.S. in Mining Engineering with 1st cohort in 2027
(last graduate in 1966).
- B.S. in Metallurgical and Materials Engineering Enrollment > 100 students in Fall 2025
 - ABET Accreditation Fall 2025
- Collaboration Interests:
 - Computational Materials Curricular Strategies
 - Online graduate programs or certificates
 - Recruitment initiatives or ideas



University of Virginia

Materials Science & Engineering

<https://engineering.virginia.edu/departments/materials-science-and-engineering>



Beth Opila
Chair since: January 2023

New Faculty Hires



July 2025 starts

- **Lin Zhou**, Associate Professor
TEM, quantum materials
- **Liqin Ke**, Associate Professor
Computational, magnetic materials
- **Streit Cunningham**, Assistant Professor
Autonomous lab, materials for extreme environments

Graduate Student NSF-GFRP Awards

- Savannah Horowitz, Jacob Kennedy (ChemE)

Faculty Awards

- Electrochemical Society, Henry B. Linford Award for Distinguished Teaching - **Rob Kelly**
- American Physical Society's John H. Dillon Medal - **Liheng Cai**
- PECASE Winners - **Liheng Cai** and **Jimmy Burns**



University of Wisconsin - Madison

Department of Materials Science & Engineering

<https://engineering.wisc.edu/departments/materials-science-engineering/>



Izabela Szlufarska,
Chair since: July 2020

Most recent awards



Prof. Dan Rhodes
ARO PECASE (2025)
Also: NSF CAREER



Prof. Jason Kawasaki
**Gordon and Betty Moore
Foundation Experimental
Physics Investigator (2025)**
*Also: AFOSR YIP, DARPA YIP
NSF CAREER*

Faculty growth

- Assistant Prof. Dylan Barber (polymers)
- 3 open positions (open rank):
 - AI in polymer science
 - Application-inspired materials design
 - Chair position (open area)



Prof. Dylan Barber

\$19 MLN Fusion Innovation Research Engine (FIRE) Center

- Development of fusion blanket materials
- UW spin-off industry partners (Realta Fusion, SHINE Techn.)



Prof. Xudong Wang
AAAS Fellow (2025)
MRS Fellow (2025)



Dr. Katy Jenkins (MS&E '20)
UW spin-off SixLine Semiconductor
Forbes 30 Under 30 list (2025)

New industry partnerships

- New industry hub with Western Digital





Worcester Polytechnic Institute

Materials and Manufacturing Engineering Program

Mechanical and Materials Engineering Department

- **New faculty:**



Lichao Fang

Assistant Professor

Prof. Fang works with developing computational and data driven models with X-ray imaging experiments in advanced manufacturing and design.

- **Research funding: over \$13 million from DARPA, DOE, Army, Navy, and industry**
- **New Initiative:**
 1. **New Degree Proposal: BS in Materials Science and Engineering**
 2. **Graduate Certificate in AI in Manufacturing Engineering**
 3. **MS degree in Manufacturing Engineering Management**



Department Head
Robert Hyers



Program Director
Jianyu Liang