WE DISCOVER DESIGN AND CHARACTERIZE ADVANCED MATERIALS HUMANITY NEEDS

ENERGY MATERIALS
- High-endurance solar cell, fuel cell and battery materials and devices.
- Biofuels, solar fuels, and sustainable energy conversion materials.
- Membranes, electrocatalysts and photocatalysts.

ELECTRONIC MATERIALS
- Quantum materials for quantum sensing, communication and computation.
- Materials for 5G/6G communications and 3D integration.
- Lasers and next-generation optical and display materials.

BIO-INSPIRED MATERIALS
- Therapeutic nanoparticles, small molecules, and proteins.
- Bio-inspired and bio-based materials.
- 3D-printed medical implants; and biomedical devices.

IMDD.UCSD.EDU
"The first big win for the Institute is the $18 million NSF grant funding a Materials Research Science and Engineering Center (MRSEC) at UC San Diego. This MRSEC capitalizes on three specific strengths at UC San Diego—our leadership in materials science, our leadership in the life sciences and our position as a national resource in high performance computing."

— Michael Sailor, Ph.D.,
Director, Institute for Materials Discovery and Design
Director, Materials Research Science and Engineering Center

LEADERSHIP

MICHAEL SAILOR
IM/DD Director
msailor@ucsd.edu

ANDREA TAO
IM/DD Co-Director
atao@ucsd.edu

CODY NOGHERA
Corporate Research Partnerships
cnoghera@eng.ucsd.edu
+1 858 598-3010

DATA DRIVEN MATERIALS RESEARCH
We are forging new paths that weave together theoretical and experimental research approaches in order to leverage data to drive innovation.

ADVANCED FABRICATION AND CHARACTERIZATION
We are world leaders in nano-scale materials fabrication and characterization. We apply this expertise to accelerate our materials discovery and design.

INNOVATION AND ENTREPRENEURISM ECOSYSTEM
The people we train are empowered to capture the value of their innovations. Our students lead startups and transform companies large and small.

Chemistry and Biochemistry
Mike Burkart
Neal Devaraj
Joshua Figueroa
Andrew Kummel
Francesco Paesani
Michael Sailor
Alina Schimpf
Akif Tezcan

Computer Science and Engineering
Qi (Rose) Yu

Electrical and Computer Engineering
Eric Fullerton
Yu-hwa Lo

Mechanical and Aerospace Engineering
Prabhakar Bandaru
Javier Garay
Olivia Graeve
Marc Meyers
Lisa Poulakakos

Molecular Biology
Rachel Dutton
James Golden
Susan Golden
Stephen Mayfield

NanoEngineering
Jinhye Bae
Shaochen Chen
David Fenning
Darren Lipomi
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Y. Shirley Meng
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J on Pokorski
Nicole Steinmetz
Andrea Tao

Physics
Monica Allen
Chunhui Rita Du
Alex Frano
Jérémie Palacci
Ivan Schuller
Oleg Shpyrko

Structural Engineering
Hyunsun Kim

BENEFITS OF PARTNERSHIP

• Industry-faculty-student research teams
• Recruit our top students
• Collaborate one-on-one with faculty
• Embed a visiting Industry Fellow in our labs
• Research Reviews
• Fast-track research agreements
• Access to commercialization engine with lab-to-market focus

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