

INSTITUTE FOR MATERIALS DISCOVERY AND DESIGN

**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.

"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

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 Poulidakos

Molecular Biology

Rachel Dutton
 James Golden
 Susan Golden
 Stephen Mayfield

NanoEngineering

Jinhye Bae
 Shaochen Chen
 David Fenning
 Darren Lipomi
 Ping Liu

Y. Shirley Meng
 Shyue Ping Ong
 Tod Pascal
 Jon Pokorski
 Nicole Steinmetz
 Andrea Tao

Physics

Monica Allen
 Chunhui Rita Du
 Alex Frano
 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

LEADERSHIP

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JOIN US.