MSE

Department Overview

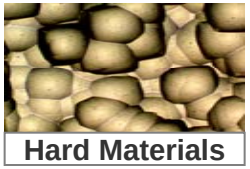

Soft Materials

Kristi Kiick
Biosynthetic methods
Biomaterials
Drug Delivery

Darrin Pochan
Biomaterials
Nanocomposites
Self-assembly

John Rabolt
Structure/processing
Thin Films/self assembly
Tissue scaffolds

Xinqiao Jia
Biomimetic Materials
Drug delivery / Tissue Engineering
Nanostructured Surfaces


Hard Materials

Matthew Doty
Quantum Dots
Magnetic Interactions
Spin Confinement in Nanostructures

Bob Opila
Electroactive films
Semiconductor interfaces
Oxide interfaces

Ismat Shah
Nanostructured materials
Thin film processes
Magnetism and Photocatalysis

Gabriela Stoleru
Semiconductor quantum dots
Optoelectronic devices
Nanopatternring


Composites

Bob Birkmire
Photovoltaics
Thin film solar
Fuel cells

Jack Gillespie
Healing materials
Interphases
Mechanics

Research Interests

- Biomolecular Materials
- Composite Materials
- Energy Storage Materials
- Nanotechnology
- Polymer Processing

Competency-based Curriculum

- Fundamental concepts
- Electives in soft/hard materials and specific research areas
- Critical thinking skills
- Conceptual, quantitative, integrative thinking
- Multidisciplinary exposure
- Work force skills-entrepreneurship, career survival, research methods and IP

Collaborative Research

- Local Industry (DuPont, Gore, BP,GE)
- Government (ARL, NIST, Sandia NL)
- International (Univ. Milan, Univ. Toronto, Kalmar Univ., State Univ. St. Petersburg - Russia)
- NSF-NIRT (2), NSF-IGERT, NIH-COBRE, NSF-RII (EPSCoR)

MSEG Research Expenditures