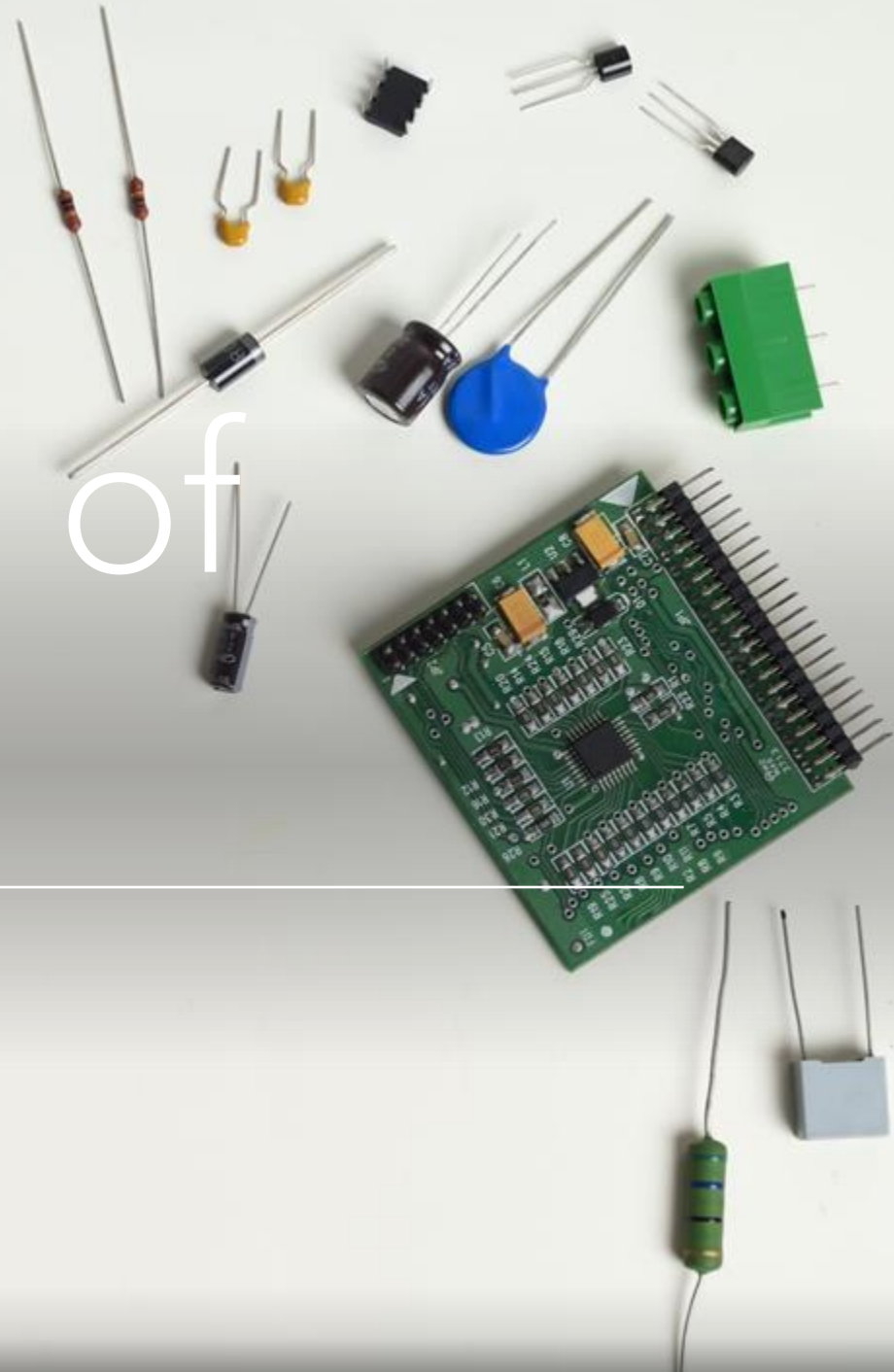
UConn School of Engineering

GRADUATE RESEARCH OPPORTUNITIES

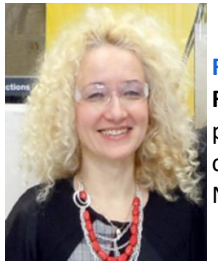


Research Areas & Links

- Biomaterials
- Biomechanics
- Neural Engineering
- Biomedical Imaging and Biosensors
- Bioinformatics & Systems Genomics

Chemical and Biomolecular Engineering

George M. Bollas
Research: Systems Engineering, Process Systems Engineering, Energy Processes for Power Generation, CO_2 Capture & Utilization, Fault Detection Isolation & Accommodation, Surrogate and Reduced Order Modeling, Optimal Scale-up of Uncertain Systems, Process Design, Modeling



Radenka Maric
Research: Efficient and sustainable use of precious metals in demanding reactions, Fuel cells and batteries, Hydrogen generation Nanomaterials and thin film coating

Ranjan Srivastava
Research: Computational Biology, Computational Materials, Machine Learning & Applied Soft Computing

Anson Ma
Research: Emulsions, foams, and interfacial rheology, Additive Manufacturing, Nanotechnology

Luyi Sun:
Research: Functional organic/inorganic hybrids, Wearable electronics and soft robotics, New polymer processing development, Layered compounds

Jeffrey McCutcheon
Research: Membrane separations, Polymer and ceramic membranes, Desalination and water, reuse, Forward osmosis, Organic Solvent Nanofiltration

Yongku Cho
Research
Biotherapeutics, Antibody engineering, Neurodegeneration, Alzheimer's disease detection and therapeutics

Matthew Stuber
Research: Process systems engineering and operations research, Rigorous design under uncertainty, Process retrofit and improvement for sustainability, Renewable water treatment and desalination

Cato T. Laurencin
Research: Regenerative Engineering, Biomaterials and Nanotechnology, Drug Delivery Systems, Stem Cell Science and Immunology, Convergence

Kelly Burke
Research: Using Liquid Crystals to Control Extracellular Matrix Deposition, Protein Organization, and Cell Fate *In vitro,* Protein Biomaterials to Modulate of T cell and Macrophage Activation in Chronic Inflammatory Environments, New Polymeric Materials for Soft Tissue Repair, particularly for GI tissues

How to find out more about us:
Visit our website:
cbe.engr.uconn.edu

Civil Engineering

Structural Engineering & Transportation and Urban Engineering

Understanding Behavior and Properties of Nano-Sized Particles in Cement-Based Materials
PI: Kay Wille

Repair of Steel Beam/Girder Ends with Ultra High-Strength Concrete (Phase III)
PI: Arash Zaghi, Ph.D.

Addressing Aging Infrastructure: From Components to Networks
PI: Timothy Vadas & Arash Zaghi

Resilient ExtraTerrestrial Habitats Institute (RETHi)
PI: Ramesh Malla

Viscoelastic Modeling Aided Experimental Optimization toward Fracture-Resistant
PI: Jeongho Kim

IRES Track II/Collaborative Research: PREEMPTIVE Multidisciplinary Natural Hazards Engineering Institute Series for Advanced Graduate Students
PI: Richard Christenson

Disaster Resilience through Diverse Evacuation and Emergency Transportation Systems
PI: Jin Zhu

Development and Application of a Disaggregate Artificial Realistic Data Generator for Computationally Testing Safety Analysis Methods
PI: John Ivan, Ph.D.

Prioritizing People - Mixed Equilibrium Assignment for AV Based on Occupancy
PI: Nicholas Lownes

https://cee.engr.uconn.edu/research/transportation-and-urban-engineering

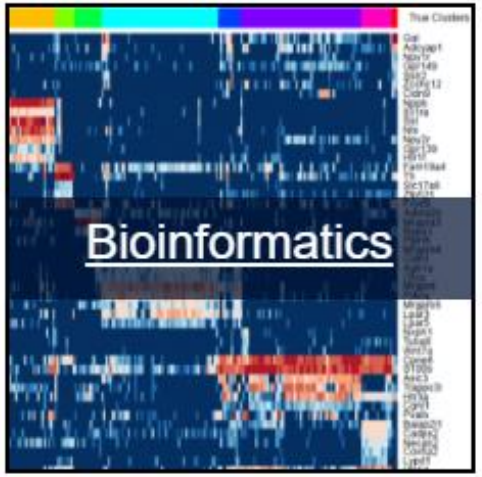
https://cee.engr.uconn.edu/research/structural-engineering-applied-mechanics

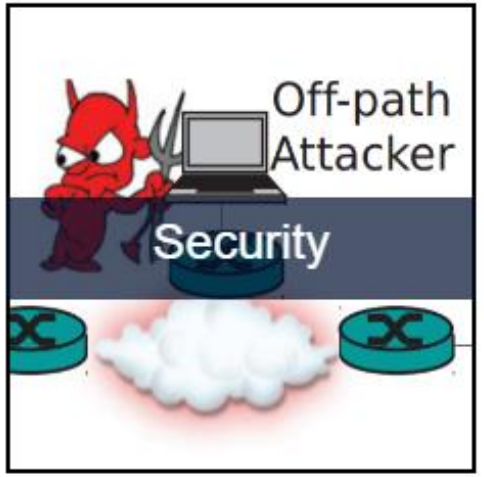
Computer Science and Engineering

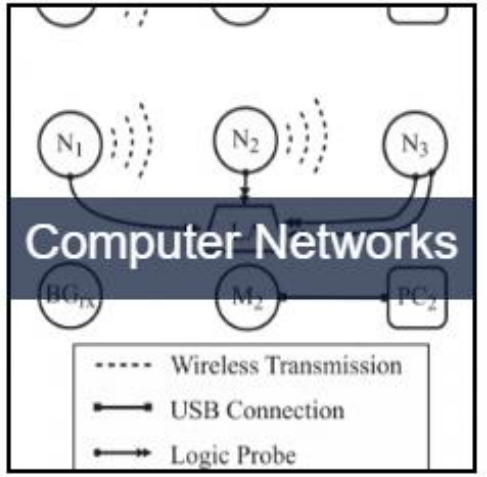
Outstanding peers: over 30 faculty; over 150 graduate students.

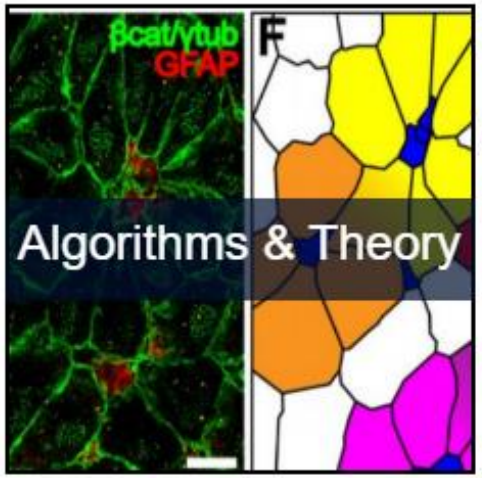
Flexible graduate programs.

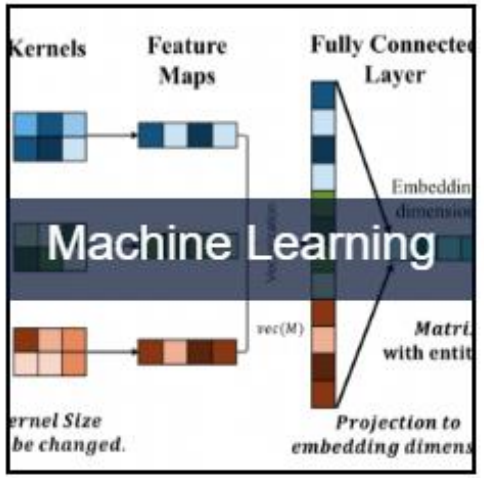
https://www.cse.uconn.edu/research/research-areas/

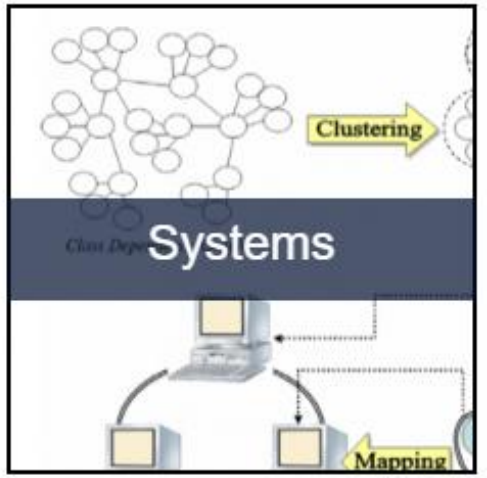


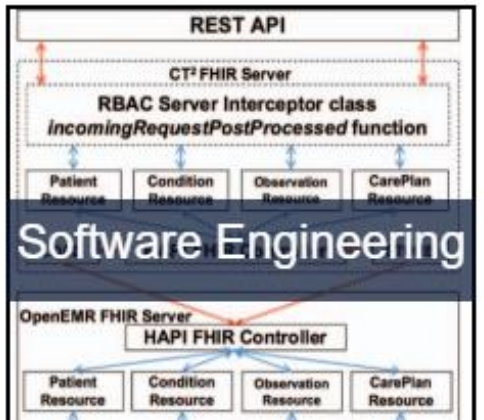


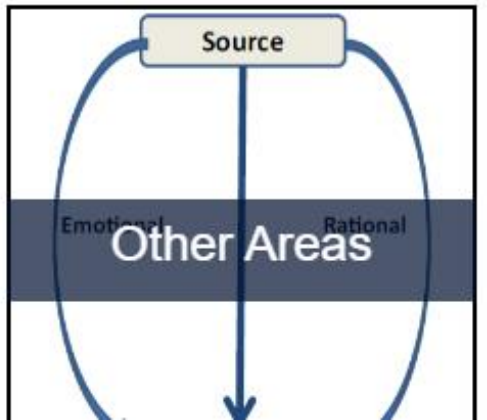












Electrical and Computer Engineering

Research Areas: biomedical engineering, systems (including power electronics), computer engineering, electronics and photonics, nanotechnology, sustainable energy (including power electronics)

Current openings:

- image processing
- including biomedical
- imaging processing
- signal processing
- computer engineering

https://www.ee.uconn.edu/people/faculty/faculty_research

Environmental Engineering

https://environ.engr.uconn.edu/

Satellite and Radar Remote Precipitation Sensing, Distributed Hydrologic Modeling of Complex Terrain Floods
PI: Emmanouil Anagnostou

Water Resources Management & Policy, Science-Policy Interactions, Adaptive Capacity and Resilience, Adaptation to Climatic Variability and Change
PI: Christine Kirchhoff

Climate Prediction Systems, Data Analytics, Environmental Modeling
PI: Malaquías Peña

Biosensor Development
PI: Baikun Li

Surface Hydrology, Climate Variability, Climate Changes, Climate Impacts, Ecosystem-Climate Interactions
PI: Guiling Wang

Material Science and Engineering

Current Open Positions:

Functional Materials

Materials modeling

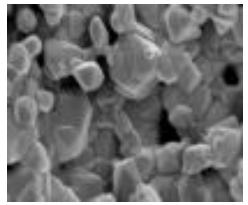
Microscopy

https://mse.engr.uconn.edu/research-topics

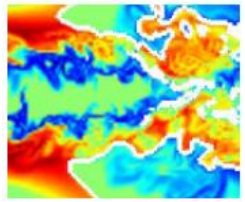
https://mse.engr.uconn.edu/

https://mse.engr.uconn.edu/graduate-program-admission

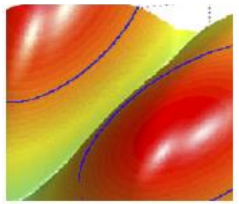
Mechanical Engineering



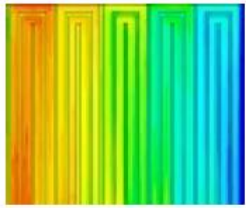
- **Advanced Materials Processing:** Properties of ceramic and metallic materials and coatings, optical ceramics, photonic crystals, optical fibers, thin films, polymer and composite materials processing, microfabrication processes.



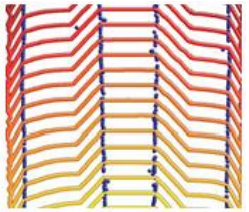
- **Fluid Mechanics and Combustion:** Turbulent flows and vortices, flows in micro channels and capillaries, flows in turbomachinery, chemically reacting flows, flame propagation, stability and extinction, non-intrusive optical and laser diagnostics of flows.



- **Dynamics, Sensing and Control:** Smart materials for control and sensing, advanced sensors, vibration suppression, new perspectives in time-delayed systems and stability, high-speed machining chatter, non-linear vibrations, real-time detection and on-line monitoring.

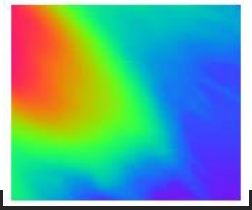


- **Energy systems:** multidisciplinary research on propulsion systems, PEM, solid oxide and direct methanol fuel cells, and wind turbines



- **Computational Shape Modeling and Design:** geometric modeling, computational design, geometric reasoning, design methodologies for complex mechanisms, gear systems and structures.

- **Micro and Nano-scale Systems:** experimental, computational and theoretical studies on fluid and heat transport in micro devices, micro electro-mechanical systems, mechanics of structures at nanometer length scales, nano-structured materials synthesis, carbon nanotubes.



- **Biomedical Related Applications:** Cellular and biomedical micro-manipulations, cell membrane mechanics and transport, modeling of protein motion, human skeletal motion analysis.