



College of Engineering and UHC Thesis Mixer

Teaching

-Ecohydrology (BEE 313)

Stephen Good

Assistant Professor

Biological & Ecological Engineering

stephen.good@oregonstate.edu



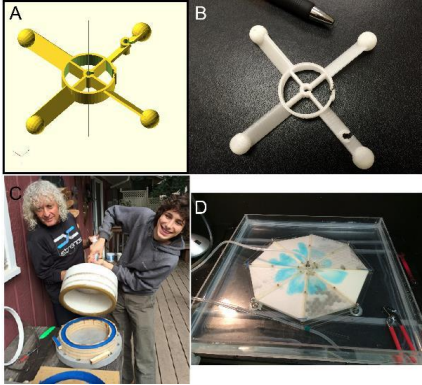
Research

Focus on understanding the influence of ecosystems on the hydrologic cycle. When, where, and how are plants using water (transpiration) and how is this altering water resource availability?

Thesis Topic Ideas/Opportunities

- Remote Sensing of the hydrologic Cycle*
- Geochemical tracers in hydrology*
- Evapotranspiration partitioning*
 - Role of climate variability*
 - 3D Vegetation modeling*

College of Engineering and UHC Thesis Mixer



- 3D Printers
- Laser/plasma cutters
- CNC routers
- Arduinos/RasPy/etc.
- Available Workspace
- Professional support
- Online repository

The **O**pen-source **P**ublished **E**nvironmental/**A**gricultural **S**ensing (**OPE**nS) Laboratory

John.Selker@oregonstate.edu

Chad.higgins@oregonstate.edu

Stephen.good@oregonstate.edu



Purpose

Addressing climate change requires **new tools** for observation and management. The OPEnS Lab combines cutting edge technologies and makes them available to the OSU, the USA, and globally. OPEnS will create **Maker lab** space at OSU and a synergistic forum for environmental sensing technology.

Thesis Topic Ideas/Opportunities

- low cost precision agg sensors
- Novel environmental monitoring
- Improve data logging/processing

College of Engineering and UHC Thesis Mixer

Teaching

- BEE 472/572 Intro to Food Engg. Principles
- BEE 473/573 Intro to Food Engg. Design
- BEE 585/586 Metabolic Systems Engg.



Frank Chaplen
Associate Professor
Dept. of Biological &
Ecological Engg.

Gilmore Hall, Rm. 203
frank.chaplen@oregonstate.edu
Tel. 541-737-1015



Research

- Microbial soil nitrification processes, nitrogen cycling
- Microbial N₂O (Greenhouse Gas) production from agricultural and undisturbed soils
- Microbial community dynamics

Skills: Genome scale constraints-based modeling, bioinformatics, biochemistry, microbiology, programming, wet lab

Thesis Topic Ideas/ Opportunities

- Build and validate model of nitrifying archaea (*Nitrososphaera viennensis*). Objective: Develop and test hypotheses regarding role in soil nitrification processes
- Integrate models for *Nitrosomonas europaea*, *Nitrobacter winogradskyi* and *Nitrobacter hamburgensis*; design improved processes for fertilizer application. Objective: Develop strategies for reducing agricultural N₂O emissions.

College of Engineering and UHC Thesis Mixer

Fate and Transport of Chemicals in the Environment

Groundwater Remediation

ENVE Senior Capstone Design



Lewis Semprini
School of Chemical, Biological,
and Environmental Engineering
541-737-6895
lewis.semprini@oregonstate.edu

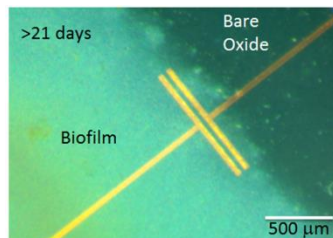


Bioremediation of Chlorinated Solvents and Emerging Contaminants

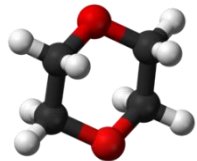


Biological Conversion of Methane to Liquid Fuels

Biofilm Processes for Wastewater Treatment



Kinetics of the Cometabolism of 1,4-Dioxane



Immobilizing Cells for the Biological Treatment of Emerging Contaminants



Reactor Studies to Evaluate the Bioremediation of Chlorinated Solvents





Milo D. Koretsky

School of Chemical, Biological, and Environmental Engineering

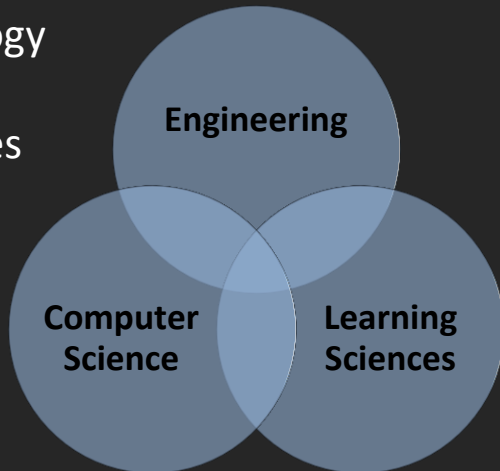
Gleeson 201 , 541-737-4591

milo.koretsky@oregonstate.edu



Research – Engineering Education

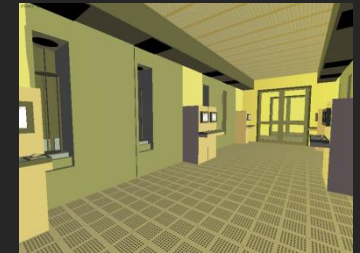
Integrating technology into effective educational practices and promoting the use of higher-level cognitive skills in engineering problem solving.



Thesis Topic Areas

- Software Development

- programming educational technology



- Student Learning

- in Virtual Laboratories through student-faculty interactions, model development, etc.
- in Concept-based Instruction
- What can we learn from experts?

- Organizational Change Strategy

- What are ways we can get other people to use evidence-based educational innovations?

College of Engineering and UHC Thesis Mixer

Teaching

- CHE 417/517 Instrumentation
- CHE 444/544 Thin Films
- CHE 451/551 Solar Energy Technologies
- CHE 541 Catalysis
- CHE/ECE 611 Electronic Materials Processing



Gregory S. Herman

School of Chemical, Biological
and Environmental
Engineering; Gleeson 213
541-737-2496

Greg.Herman@OregonState.edu



Research

The development of sustainable materials with specific functional properties for technologies ranging from devices, catalysts, sensing, and nanodimensional patterning.

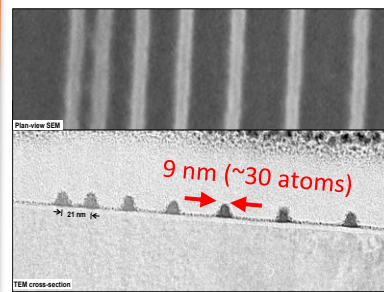
Detailed characterization of materials to obtain a better fundamental understanding of structure/property relationships.

Apply materials and processes to commercially relevant applications to promote technology transfer between OSU and industry.

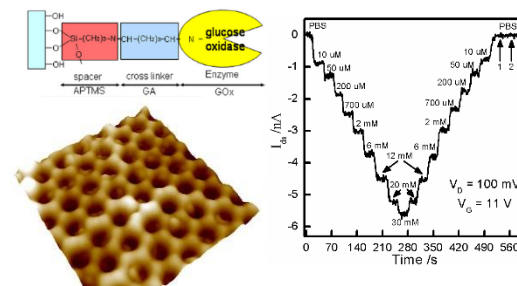
Thesis Topic Ideas/Opportunities

- *Transparent field effect in-situ glucose sensing*
- *Characterization of amorphous thin film catalysts*
- *Materials for next generation photoresists*

Enabling Moore's Law



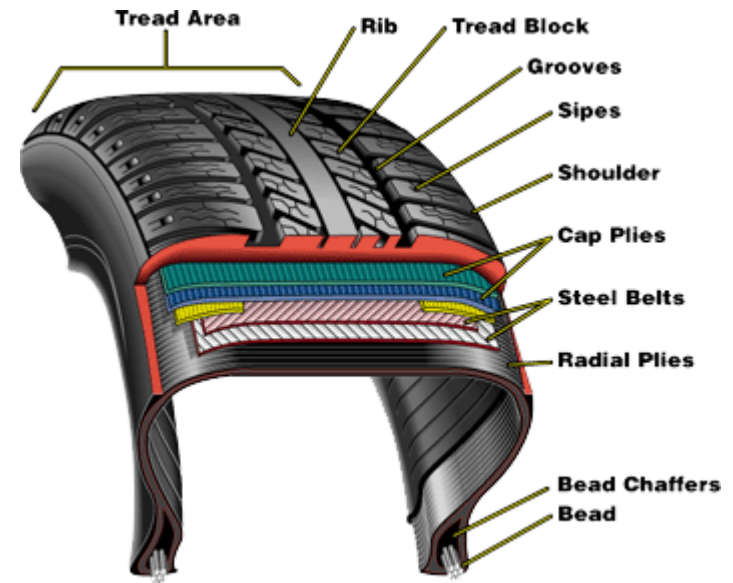
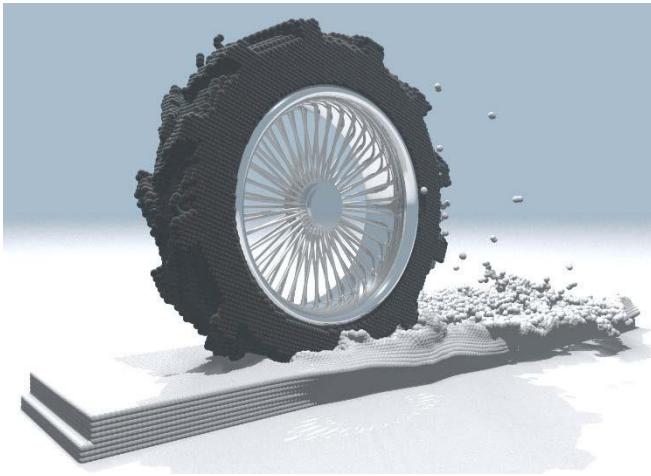
Nanostructure Enhanced Sensing



College of Engineering and UHC Thesis Mixer

Dr. Yué Zhang

Assistant Professor (Sr Res)
School of Electrical Engineering and
Computer Science



- Modeling and Simulation (fiber-reinforced composite, polymer, wood)
- Data Field Visualization (fluid and solid mechanics data)
- Image Processing (extract deformation from a sequence of images)

College of Engineering and UHC Thesis Mixer

Teaching

ENGR 201(H) : Electrical Fundamentals

ECE599 : Bioelectronic Sys. and Devices



Matt Johnston

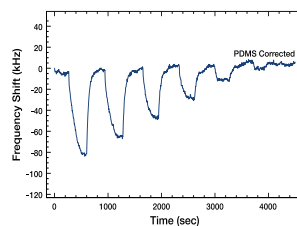
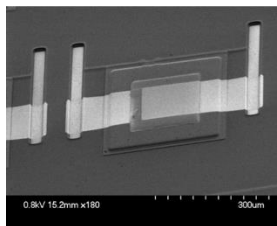
School of EECS

Kelley Engineering 4097

matthew.johnston@oregonstate.edu

Research

- Biosensors and bioelectronics
- Portable sensor systems
- Micro- and nanofabrication (MEMS, microfluidics)
- Gas sensing, environmental monitoring
- Protein sensing, medical diagnostics



Thesis Topic Ideas/Opportunities

- Low-cost biology and chemistry tools for the developing world
- Wireless sensors for air quality monitoring
- Wearable medical monitoring tools
- Internal sensors for lithium ion batteries

College of Engineering and UHC Thesis Mixer

Teaching

ECE 534 Advanced Electric Machines
ECE 438/538 Hybrid Electric Vehicles
ECE 432/532 Electric Machine Controls

Research

- High power/torque density, high efficiency AC electric machines for road vehicles, aircraft, ships.
- System noise, vibration and harness issues caused by electric machine drive components interaction and mitigation methods applying novel machine design and control strategies.
- Circuit, cooling and packaging design of various types of power converters for vehicle systems.



High voltage: kV
High current: kA
High power: MW

Julia Zhang
Energy Systems Group



Assistant Professor, EECS
zhangjul@eecs.oregonstate.edu

<http://eecs.oregonstate.edu/people/zhang-julia>



Thesis Topic Ideas

- Electric machine resolver aliasing study (Use finite element method)
- Electric machine winding insulation study
- Characterize GaN based power electronics
- Design of experiments for permanent magnet demagnetization study.



Robotics
Oregon State University
<http://robotics.oregonstate.edu/>

October 9, 2015

Program Director

Kagan Tumer

kagan.tumer@oregonstate.edu

Co-director

Bill Smart

bill.smart@oregonstate.edu

We're in the Midst of a New “Industrial Revolution”

- Our robots are
 - Cruising the ocean to collect valuable scientific data
 - Allowing people with disabilities to retain their independence
 - Working in the fruit orchards in the Northwest
 - Improving the supply chain of the US Navy
 - Helping prevent injuries in foundries
 - Improving efficiency of air traffic

Oregon State University: Early Lead in Robotics

- 30+ robotics faculty across OSU
 - Mechanical Engineering
 - Computer Science
 - Electrical Engineering
 - Manufacturing Engineering
 - Oceanography
- Third Ph.D. program in robotics in the US
 - First program in the West
 - One of five in the US
 - 180 applications for 15 positions for Fall 2015
- NSF REU site: *Robots in the Real World* (2014-2017)
 - 10 Undergrads/year for 3 years



OSU Robotics: Undergraduate involvement

- Building things:
 - Jonathan Hurst, legged robotics
 - Ross Hatton, casting robots
 - Ravi Balasubramanian, tendons for hands
 - Yigit Menguc, soft sensors, actuators
 - Cindy Grimm, bat ears for robots
- Robot-human interaction:
 - Cindy Grimm/Bill Smart, privacy and robots
 - Bill Smart, automatic wheel chair control
 - Kagan Tumer, long term space missions
- Exploring of the world:
 - Geoff Hollinger, underwater and aerial
 - Kagan Tumer, many, many robots



Home of OSU Robotics: Graf Hall

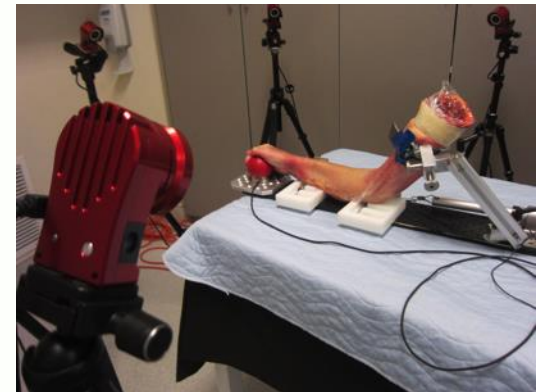
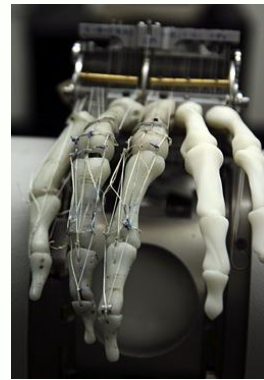


Robotics and Human Control Systems

Ravi Balasubramanian



- Research Interests:
 - Robotic Control and Dynamics
 - Human neuro-biomechanics
- Applications:
 - Mobile Robotics
 - Robotic Hands
 - Robotic Manipulation
 - Biomedical implants



Modeling and Human Computer Interfaces

Cindy Grimm

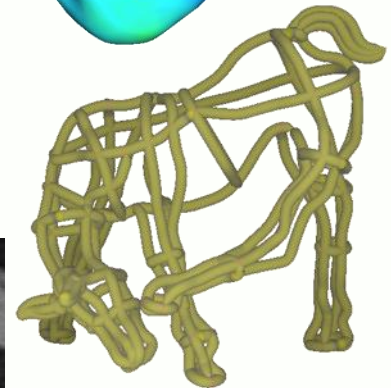
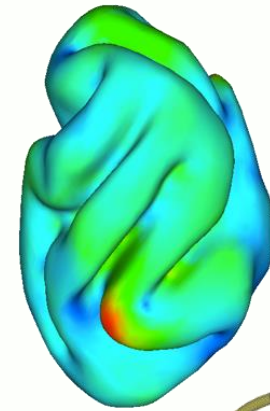
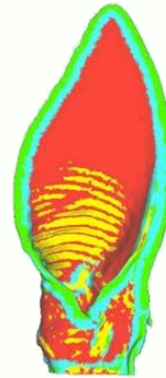
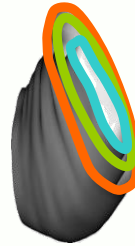


- Research Interests:

- Shape analysis for biomedical applications
- Geometric modeling
- User interfaces

- Applications:

- How do heart defects form?
- How does bat ear shape influence sonar function?
- How do brains develop?
- 3D Image Segmentation
- Sketching 3D shapes



Robotics and Applied Mechanics

Ross Hatton



- Research Interests:

- Robotic control and dynamics
- Applied geometric mechanics
- Snake robots and full-body locomotion
- Casting manipulation (free cables and whip-like objects)
- Spiders and spider webs
- Vibration



- Applications:

- Locomotion in novel environments
- Distributed mechanical sensing
- Micro air vehicle monitoring and interception
- Biological understanding



Robotic Decision Making Laboratory

Geoff Hollinger



- Research Interests:
 - Robot motion planning
 - Autonomous robots
 - Machine learning
 - Multi-robot systems
- Applications:
 - Inspection and monitoring
 - Aerial and marine robotics
 - Agricultural robotics
 - Ubiquitous sensing

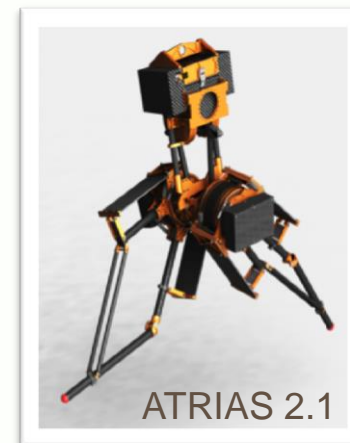
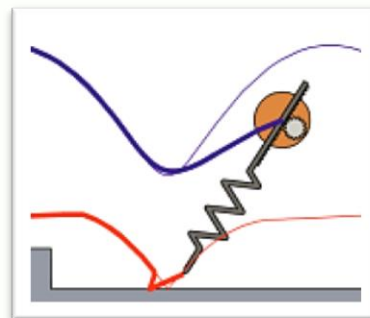
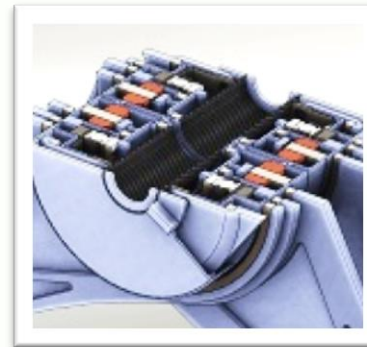


Legged Robotics and Passive Dynamics

Jonathan Hurst



- Research Interests:
 - Legged Locomotion
 - Legged Control Strategies
 - Emphasis on Robot Prototypes
 - Improving Robotic Actuators
- Applications
 - Dynamic running on rugged terrain
 - Agile field robots
 - Human-assistive “co-robots”
 - Prosthetics



ARIAS 2.1

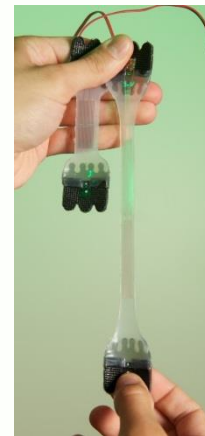
Biologically-Inspired and Soft Robotics

Yiğit Mengüç



- Research Interests:

- Soft sensors and actuators
- Gecko-inspired adhesion
- Wearable soft robotics
- 3D printing
- Laser micromachining
- Material selection in robot design



- Applications:

- Smart clothing
- Robotic fabric and rubber prostheses/orthoses
- Wall-climbing search and rescue robotics
- Pressure-resistant deep sea robotics



Personal Robotics & Machine Learning

Bill Smart



- Research Interests:
 - Human-robot interaction
 - Long-term robot autonomy
 - Shared-autonomy human-robot systems
 - Open-source software architectures for robotics
 - Robots in the theatre
 - Machine learning for the control of physical systems
 - Advanced user interfaces for robot assistants
- Applications:
 - Body surrogates for persons with severe motor disabilities
 - Robot assistants for industrial tasks
 - Biomechanical modeling and optimization



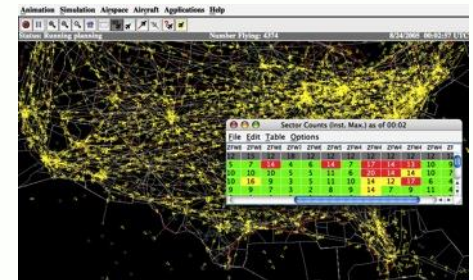
Autonomous Agents and Distributed Intelligence

Kagan Tumer



- Research Interests:

- Multi-Robot Coordination
- Autonomous Robots
- Control of Complex systems
- Multi-objective Optimization
- Evolutionary Algorithms

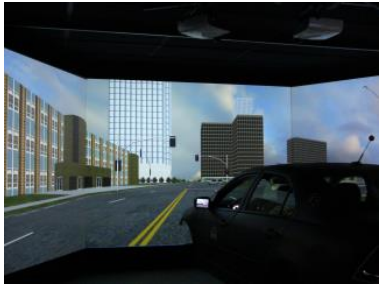


- Applications:

- Robot navigation
- Multiple autonomous vehicle coordination
- Traffic flow optimization
- UAV traffic management
- Energy system control
- Wave energy buoy shape optimization



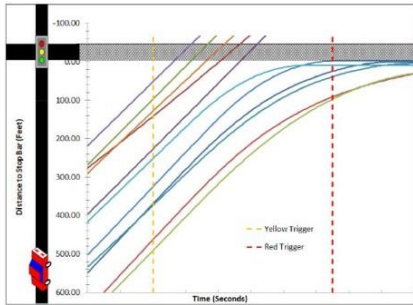
College of Engineering and UHC Thesis Mixer



Driving Simulator



Bicycle Simulator



Vehicle Trajectory



Object Rendering



Eye Tracking in the field and lab

David S. Hurwitz

Associate Professor
School of Civil & Construction Engineering
Director
OSU Driving & Bicycling Research Lab
Owen 305
541-737-9242
david.hurwitz@oregonstate.edu



Thesis Topic Ideas/Opportunities

Traffic Control Devices:

- *Determine the effectiveness of innovative signs, signals, pavement markings*

Transportation User Behavior:

- *Assess glance patterns, perception reaction times, and comprehension of drivers, pedestrians, and cyclists*

Safety:

- *Determine the contributing causes of a particular crash type (i.e. right hook crashes at signalized intersections)*

Engineering Education:

- *Identify commonly held misconceptions regarding an aspect of transportation engineering (i.e. signalized intersection design)*

College of Engineering and UHC Thesis Mixer

Teaching

- *Transportation Engineering*
- *Transportation System Analysis and Planning*
- *Traffic Flow Analysis and Control*
- *Traffic Modeling and Simulation*



Haizhong Wang

*School of Civil and Construction
Engineering; Owen 307*

541-737-

8538 haizhong.wang@oregonstate.edu



Research

The impacts of emerging technologies such as connected vehicle or autonomous vehicle on traffic operation and infrastructure management.

The Agent-based Modeling and Simulation of Evacuees' Decision-Making in Near-field Tsunami.

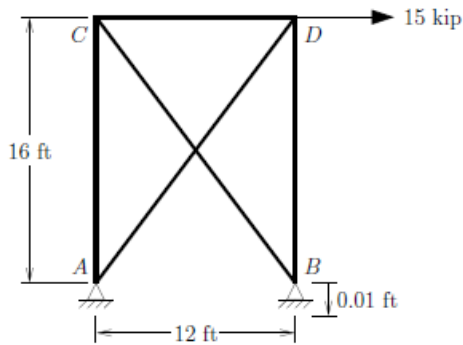
The Post-disaster Transportation Network Resiliency and Recovery.

Thesis Topic Ideas/Opportunities

- *Connected/Automated Vehicles and Their Implications to Future Driving*
- *Smart Cities and Big Data Initiatives in Transportation*
- *An Agent-based Modeling and Simulation of Individual or Group Movements in Emergency*

College of Engineering and UHC Thesis Mixer

Teaching (this year)



- Statics (ENGR 211)
- Structural Theory II (CE 382)
- Matrix Structural Analysis (CE 585)
- Nonlinear Structural Analysis (CE 537)



Michael H. Scott

*Associate Professor
School of Civil &
Construction Engineering
Owen 346*

541-737-6996

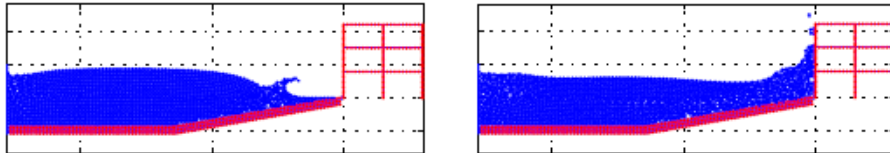
michael.scott@oregonstate.edu

web.engr.oregonstate.edu/~mhscott

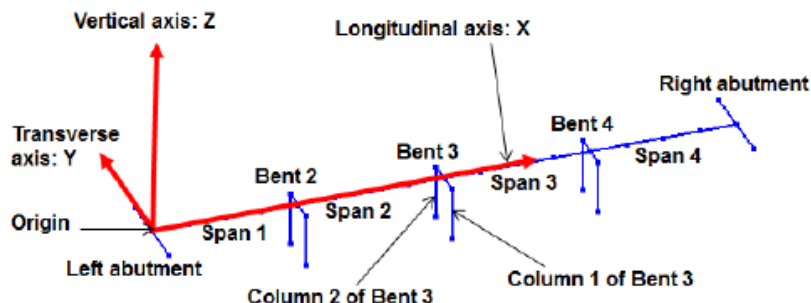


Some Current Research

- Simulation of fluid-structure interaction



- Earthquake simulation of highway bridges



Thesis Topic

Ideas/Opportunities

- **Validate numerical simulation models** for tsunami loading on bridges
- **Calibrate earthquake simulation models** across disparate software packages
- **Develop OpenSees/Python educational modules** for courses in engineering mechanics and structural analysis



College of Engineering and UHC Thesis Mixer

Teaching (this year)



- Seismic design of steel buildings
- Design loads for buildings
- Design of steel structures (intro to design of steel members, connections and systems)



Judy Liu

Professor

School of Civil &

Construction Engineering

Owen 242

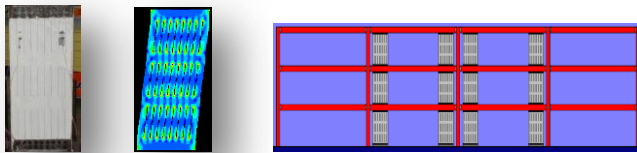
541-737-1552

judy.liu@oregonstate.edu

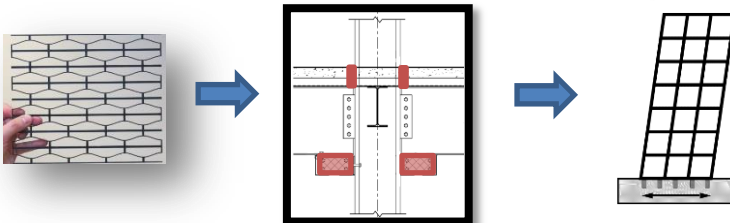


Some Current Research

- Steel slit panel frames for seismic design of steel buildings



- 3D-printed energy dissipation elements and seismic fuses for steel buildings



Thesis Topic

Ideas/Opportunities

- Innovate and optimize steel slit panel geometries for multi-hazard design (e.g., earthquake, windstorm, disproportionate collapse resistance)
- Refine modeling and design tools for steel slit panel frames
- Design 3D-printed energy dissipation elements or seismic fuses for steel buildings

College of Engineering and UHC Thesis Mixer

Teaching (this year)

- CE 382 Structural Theory (spring)
- Probabilistic design and analysis of structures
- Performance-based design

Andre Barbosa

Assistant Professor & Kearney Faculty Scholar

School of Civil & Construction Engineering

Owen 342

541-737-7291

Andre.Barbosa@oregonstate.edu

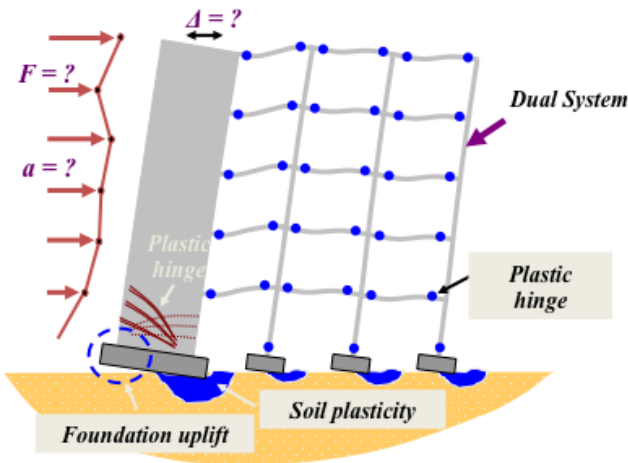


Thesis Topic

Ideas/Opportunities

- Computer modeling of building models to multi-hazard loadings (e.g., earthquake, windstorm)
- Design and testing of rocking **cross-laminated timber structures**
- Design and testing of reinforced concrete columns retrofitted with **titanium** rebars
- **Fiber-reinforced concrete** bridge column modeling and testing

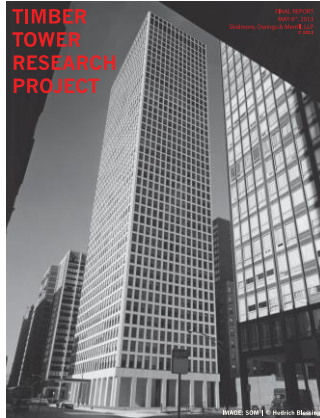
Some Current Research



Soil-structure Interaction



Lab Testing



TIMBER TOWER RESEARCH PROJECT

College of Engineering and UHC Thesis Mixer

Teaching

- *Introduction to CBEE*
- *Polymer Science and Engineering*
- *Transport Phenomena*
- *UHC Colloquia – Plastics for Poets and Energy IQ*



Skip Rochefort

*School of Chemical, Biological,
and Environmental Engineering*

Gleeson 205

541-737-2408

skip.rochefort@oregonstate.edu



Research

Anything related to POLYMERS!

Biomaterials

Environmental Sustainability

Engineering Education

K-12 Outreach

Thesis Topic Ideas/Opportunities

- *Plastics Recycling - Building Insulation in Third World Countries and Green Building*
- *Plastics Recycling – 3D printing filaments*
- *Equine Synovial Fluid Characterization for treatment of Lameness in Horses (with VetMed)*
- *Hydrogels for Spinal Disc Replacement*
- *Biodegradable agricultural films from waste biomass for organic farming*

...or anything that might interest You and Me!

College of Engineering and UHC Thesis Mixer

Teaching

- [CBEE 102: Engineering and Problem Solving Fundamentals](#)
- [HC 407: Exploring the Magic of Engineering Physics](#)
- [CHE 525: ChemE Analysis](#)
- [CHE 514: Fluid Flow](#)
- [CHE 599: Colloids & Interfaces](#)

Research

I am a *transport engineer*, who develops both theoretical and experimental methods to study complex fluids, soft solids, miscible fluid interactions, and biological systems. I am interested in multiphase systems and mechanics of materials.

My ultimate goal is to provide detailed insight into the macroscopic characteristics of materials and processes through an in-depth understanding of the fundamental physics found at a molecular level.



Travis Walker

*Assistant Professor of CBEE
Faculty of Materials Science*

web.engr.oregonstate.edu/~walkert2
travis.walker@oregonstate.edu

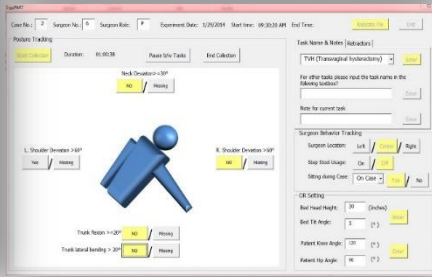


Thesis Topic Ideas

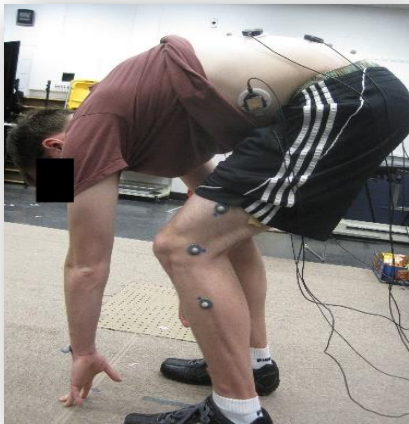
- Dilatational interfacial viscosity
- Biofilm characterization
- Magnetic bead microrheology
- Chocolate 3D printer
- Fibrin formation

College of Engineering and UHC Thesis Mixer

Research



❖ Human Factors/Ergonomics in Operating Room



❖ Work Safety



❖ Touch Control



Xinhui Zhu

School of Mechanical, Industrial, and
Manufacturing Engineering

Dearborn 108

Xinhui.Zhu@oregonstate.edu

Thesis Topic Ideas/Opportunities

- ❖ Investigate relationships between work-related factors and musculoskeletal injuries/disorders for divers occupations including surgeons and office workers
- ❖ Evaluate the usability of touch control devices, such as smartphone and laptop

College of Engineering and UHC Thesis Mixer

ME
382

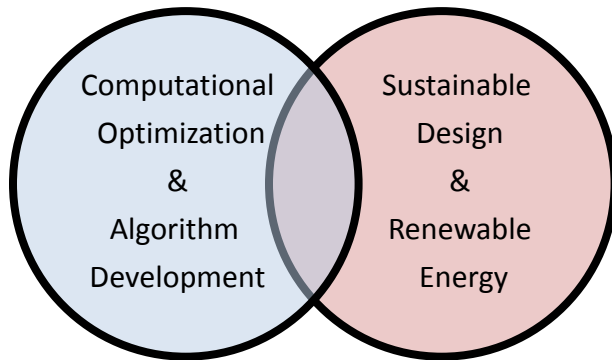
ME
519

MIME
101

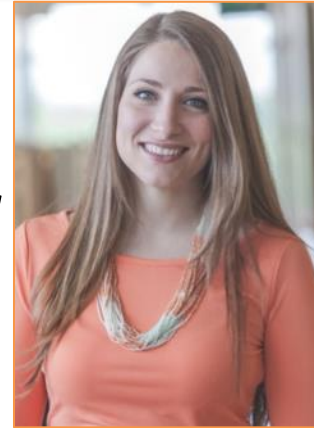


Teaching

Research



Dr. Bryony DuPont
Assistant Professor
Mechanical Engineering
Rogers Hall 216

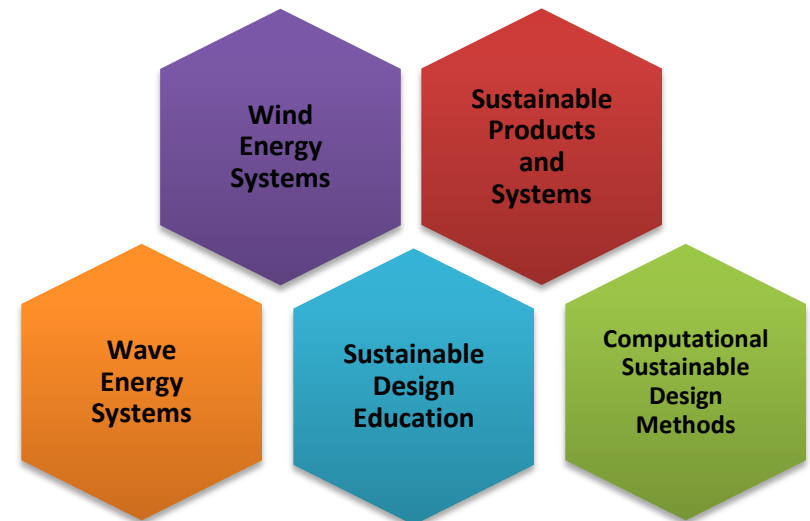


bryonydupont.com

bryony.dupont@oregonstate.edu



Thesis Topic Ideas/Opportunities



College of Engineering and UHC Thesis Mixer

MFGE 336: Production Engineering

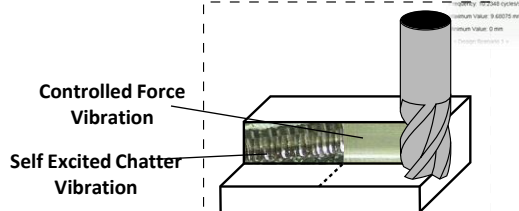
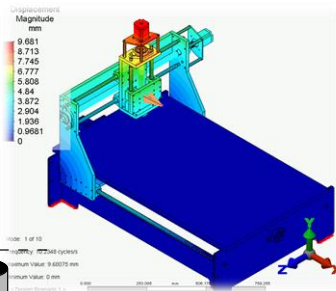
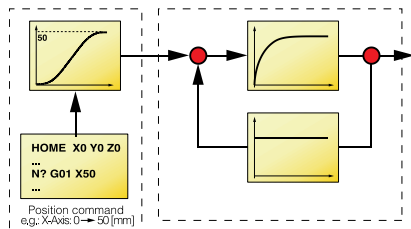
General understanding of the production engineering function within industry and process design.

MFGE 437: Comp. Control of Manu. Process

Automated manufacturing system design and operations.

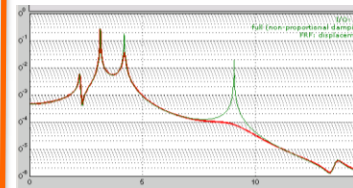
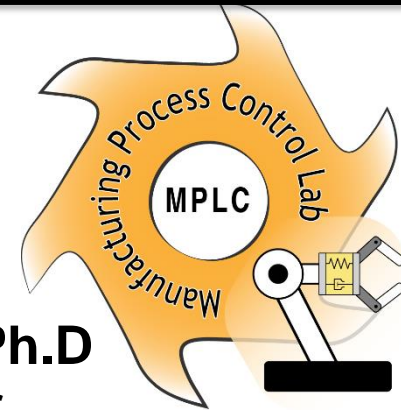
MFGE 599: Precision Motion Generation

- Dynamics and Controls
- Optimization
- Process Machine Interaction



Burak Sencer, Ph.D
Assistant Professor

MIME - Advanced Manufacturing
Manufacturing Process Control Laboratory
<http://research.engr.oregonstate.edu/mpcl/>



Design of a
Automatic
Dynamics
Identification
Software on
Matlab/Dspace



Design of a Precision
Linear Motor Driven
Motion Stage

Milling Cutting
Process Simulation
Software

College of Engineering and UHC Thesis Mixer

Teaching

- MIME 101: Intro. to MIME
- ME 373: Mech. Eng. Methods
- ME 331: Intro. Fluid Mechanics

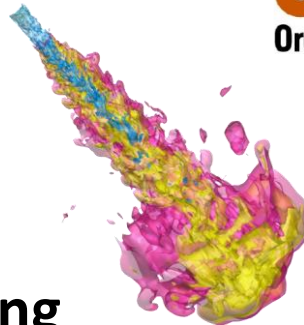


Kyle Niemeyer
*Assistant Professor, MIME
Rogers 320*

kyle.niemeyer@oregonstate.edu
www.kyleniemeyer.com



Research



- Combustion modeling
- Computational fluid dynamics
- High performance computing;
graphics processing units

Thesis Topic Ideas/Opportunities

- Reduce chemical model for hydrocarbon fuels
- Simulate turbulent flames
- Simulate fluid-structure interaction

College of Engineering and UHC Thesis Mixer

Teaching

Introduction to MIME
Thermal-Fluid Sciences
Humanitarian Engineering

→ *Developing an interdisciplinary study
Abroad course for this summer*

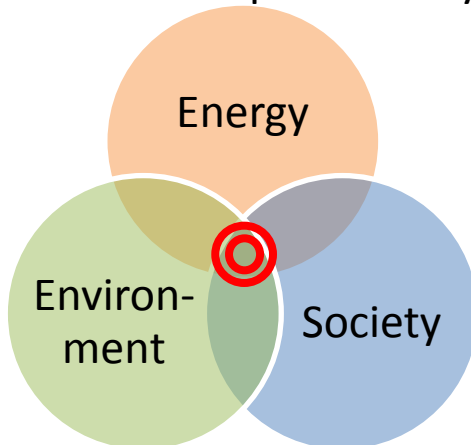
Nordica MacCarty

*Assistant Professor
Mechanical Engineering
309 Dearborn
nordica.maccarty@oregonstate.edu*



Research

Imagine if the only energy you could access was provided by a three-stone fire...



How do we understand the factors and outcomes that dictate how we can sustainably meet basic energy needs?

Thesis Topic Ideas

Modeling...

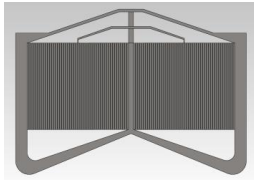
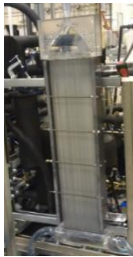
1. Adoption and usability of energy technologies
2. Performance and cost of technologies such as solar water heaters or lighting
3. Fuel harvest renewability and climate impact

→ *Work with other disciplines across the university*

College of Engineering and UHC Thesis Mixer

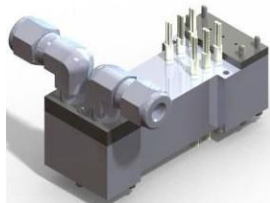
Teaching

- ME 383 Mechanical Component Design
- Mentor of ME Capstone Projects



Research

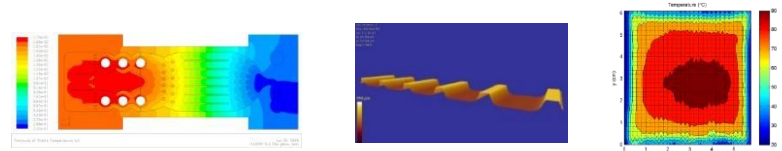
- Waste Heat Recovery --- Combustion Engines, Power Plants, and Data Centers (DOD ICE, DOE Supertruck, Facebook)
- Energy Storage/Conversion --- Alternatives to Batteries to Enable Renewables
- Thermal Management and Engine Emission Technology Enhancement



Hailei Wang

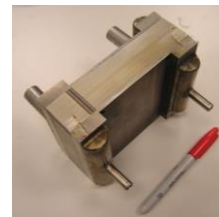
Research Assistant Professor
MBI, HP Building 11
541-713-1354

Hailei.wang@oregonstate.edu



Thesis Topic Ideas/Opportunities

- High Performance, Low Cost and Low Impact Heat Exchangers
- Supercooling for Energy Storage/Desalination
- Boiling Enhancement Using Nanofilms
- Dual Functional Catalytic converters
- Hydrogen Storage for Fuel Cell Vehicles
- Solar thermal and PV interactions



MIME

Mechanical Engineering
Thermal Fluid Sciences

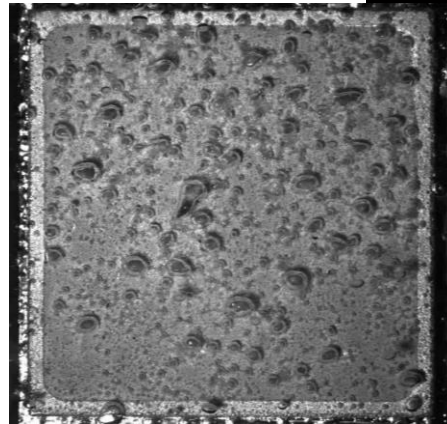
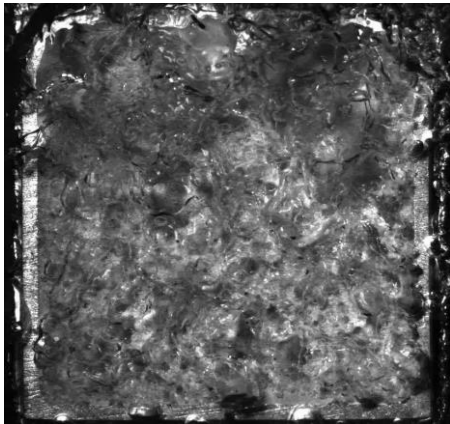
Dr. Joshua Gess

joshua.gess@oregonstate.edu

Dearborn 113

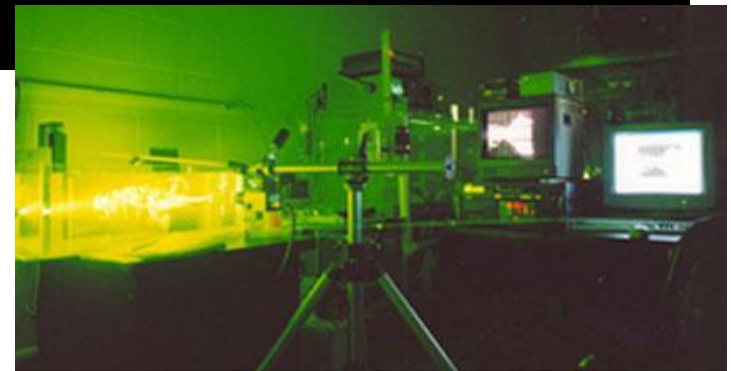
**What do I get to
play with?**

High Speed Camera



Electronics Thermal Management

Air Cooling for High Power Electronics Cooling of



What can I do for you?

College of Engineering and UHC Thesis Mixer

Teaching

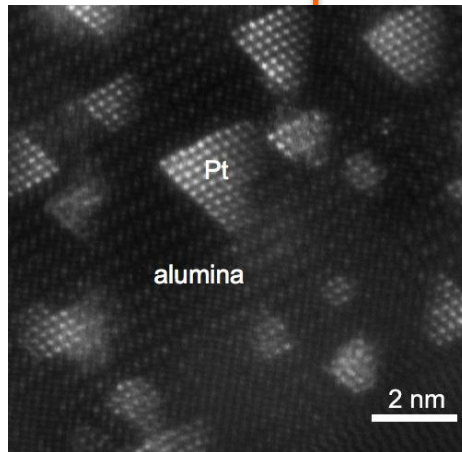
Winter 2016:
MATS 581 Thermodynamics of Solids
In planning for 2016/17:
Course(s) on transmission electron
microscopy theory and practice

Research

Experimental studies on:

- kinetics of phase transformations
- interface science

Transmission electron
microscopy techniques
play a key role in the
research program for
characterizing materials
from the nano- to the atomic scale.



Melissa K. Santala

*Assistant Professor
School of Mechanical, Industrial,
and Manufacturing Engineering
307 Dearborn Hall*



melissa.santala@oregonstate.edu



Thesis Topic Opportunities

- Crystallization kinetics of phase change materials for memory devices
- Characterization of metal-oxide interfaces related to catalysis

Undergraduate projects may focus on processing or characterization techniques complementary to TEM

College of Engineering and UHC Thesis Mixer

Teaching

- *Capstone Design*
- *Solid Mechanics*
- *Component Design*
- *Mechanical Mechanisms*



John P. Parmigiani

*School of Mechanical, Industrial,
and Manufacturing
Engineering; Dearborn 303F
541-737-7023
parmigjo@enr.orst.edu*



Research

Computational (e.g. FEA) modeling, typically with experimental validation, of mechanical and material systems. Design, fabrication, and testing of technically interesting and relevant mechanical devices

Current project topics include chainsaw lubrication and safety, characterization of high-performance adhesives, modeling of carbon fiber panels, and cutting mechanics.

Thesis Topic Ideas/Opportunities

- *OFF-GRID WATER SYSTEM: Fairfield Farm is a certified organic farm. Currently, water is provided by an electric pump. When the power is out, there is no access to water. This is an opportunity to create a water system using solar, wind, and perhaps even bicycle power.*
- *CHAINSAW PERFORMANCE: Participate in the development of improved chainsaws*

College of Engineering and UHC Thesis Mixer

Teaching

- MATS 321 Intro to Materials Science
- MATS 571 Electronic Properties of Materials
- MATS 671 Electronic Properties of Oxides

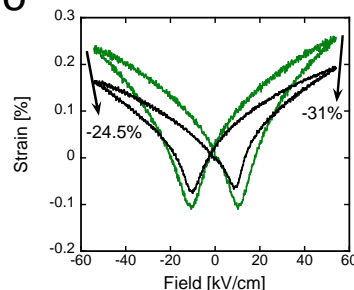
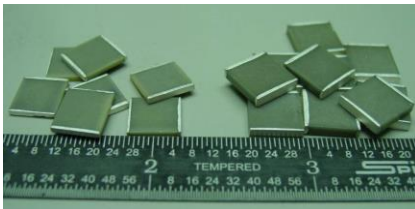
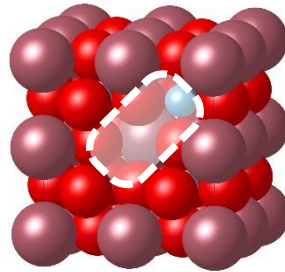
David Cann

Prof. Materials Science and ME
cann@enr.orst.edu



Research

- Synthesis and electronic properties of ceramic materials
- Focus on the role of crystal structure and point defects on the dielectric and electro-mechanical properties



Thesis Topic Ideas/Opportunities

- Ceramic materials with electric-field induced phase transitions:
 - Electric cooling/actuator devices
- Development of new oxygen conductors for use as electrolytes
- Development of new ceramic capacitor materials for high power/high temperature applications

College of Engineering and UHC Thesis Mixer

Fall Workshops on:

Who What Where Why:

Summer Research

Experiences for

Undergraduates (REU) (How to
find and apply for REU Programs)

Winter Workshop on

REU essays and personal
statements



Alicia Lyman-Holt

*Director of Undergraduate
Research*



Office: 133 Covell Hall

541-737-7008

Alicia.Lyman-Holt@oregonstate.edu

Stop by between 9 am -3 pm or make
an appointment