UNDERGRADUATE RESEARCH MIXER

NOV 7, 2018
3-5 PM
LINC 302
Courses:  
Environmental Sciences Orientation (ENSC 101)  
Geography International Development & Globalization (GEOG 330)  
Geography of Africa (GEOG 311)  
Global Resources & Development (GEOG 431)  
Geography of Food and Agriculture (GEOG 432)  

Areas of research & interest  
• Global South geographies  
• Environmental & social consequences of development  
• Agrarian change, land grabs  
• African studies  
• Environmental histories  
• Crop biodiversity & culture  

Larry Becker  
Professor, Geography  
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Supervised undergraduate research. Thesis titles:  
• Tourism in South Caicos, Turks & Caicos Islands  
• Market Factors, Women and Shea in Northern Ghana  
• Development and Coca Cultivation in Colombia  
• Ecuadorian Plurinationalism & Indigenous Resistance  
• The New Rural America: Land Use Changes in the John Day Region of Oregon  
• The Tourism Industry in Guizhou, China and Its Effects on Poverty Reduction  
• Gender-Focused Programs at a Micro-Finance Institution: A Case Study in Ayacucho, Peru  
• French Wine Regulation: New Perspectives in Burgundy
Dr. Ed Brook

A Search for Cosmic Spherules in Antarctic Ice Core Samples

OSU Ice Core Lab
PI: Ed Brook, CEOAS
brooke@geo.oregonstate.edu

- Spherules are melted micrometeorites
- They are rare!
- They may provide a new way to determine the age of ancient ice
- The project: filter samples, look for spherules, document their occurrence, appearance, and composition
- Eventually date them and also examine similar problems in ocean sediments
Teaching: Estuarine Ecology, Biological Oceanography, Aquatic Microbial Ecology

Research: Microbial communities in aquatic systems (coastal ocean, estuaries, rivers, lakes)
- Microbial diversity (who they are)
- Microbial function (what they do)
- Microbial ecology (why they do it)

Microbial genomic diversity
Microbial metabolism
Organic matter chemical diversity

Undergrad Research Opportunities
- Microbial genomics in river ecosystems
- Microbial ecology of Oregon estuaries
- Arctic permafrost microbes
- Pathogenic Vibrio ecology
- Seagrass microbiomes
- Salmon microbiomes
- Oyster microbiomes

ROMEO
River Organic Matter and Ecological "Omics"

Byron Crump, Burt 342, Weniger 529
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Dr. Ed Dever

**Teaching**
- OC 332 Coastal and Estuarine Oceanography (past years)

**Research Foci**
- Ocean Observatories Initiative
- Moorings, gliders, profilers off OR and WA
- All kinds of measurements (physical, chemical, biological)

**Prof. Ed Dever**
Physics of Oceans and Atmospheres (POA)
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devere@oregonstate.edu

**Undergraduate Research Opportunities**
Ocean Observatories Initiative
- Data
- Cruises
- Instrumentation
Dr. John Dilles

Teaching

• Mineralogy
• Field geology
• Geologic map interpretation
• Mineral deposits geology
• VIPER seminars

Prof. John Dilles
Geologist
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Research Foci

• Origin of magmatic-hydrothermal mineral deposits
  Geochronology & geochemistry (zircons, stable isotope)
• Hydrothermal minerals and zoning
• Field and structural geology
• Magmatic processes that produce ore-forming fluids

Undergraduate Research Opportunities

• Zircon U/Pb ages & geochemistry
• Finding anhydrite (CaSO₄) in granites
• “Footprints” of hydrothermal alteration zones around porphyry copper deposits for mineral exploration
• Blueschists at Mitchell, OR (age & petrology)
• Field study of Boulder batholith, Montana
Using satellite data to study marine heat waves

Can wind patterns created by our coastline help us predict the spatial structure of marine heat waves?

During the “Blob” marine heat waves of 2014-2016, the spatial structures of the wind and sea-surface temperature anomalies were very similar. Our new NASA grant funds my lab to look at past marine heat waves and the ongoing Fall 2018 event too. Join us!

http://fewingslab.ceoas.oregonstate.edu
GEOG 201: Foundations of Geospatial Science and GIS
   Basics of GIS, GPS, Remote Sensing, Cartography
GEOG 462/562: GIS III. Geospatial Analysis
   GIS Programming in Python

Grad level or future: GEOG 560: GIS I (Introduction to Geography Information Systems) and Winter 2020: eCampus GEOG 481 (Digital Image Processing)

Dr. Robert Kennedy
Assistant Professor in Geography, Environmental Sciences, and Marine Resource Management (GEM)
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Strand Ag 334B

Courses
• Forest disturbance, recovery, and policy
  • Land cover change
• Carbon dynamics and mapping in support of modeling
• Computation, programming, algorithms
• See: http://emapr.ceoas.oregonstate.edu

Research
• Interpretation of land cover classes and land cover change events (continental U.S.)
• Online data gathering in support land cover mapping efforts (international)
• Various programming tasks (Javascript, Python)

Opportunities
Projects
- Analyzing atmospheric processes
- Weather and climate modeling
- Evaluating air-sea exchange
- Satellite observations of clouds

Dr. David Noone
nooned@oregonstate.edu
How have Oregon salt marshes changed through time?

Sediment Dynamics Lab
Grad. Contact: Erin Peck
PI: Rob Wheatcroft
peckerin@oregonstate.edu

Natural and Human Impacts

Explore exciting research questions about Oregon estuaries

Changing Landscapes

Learn diverse lab skills

1700 Tsunami Deposit
Dr. Karen Shell

Research

Improving predictions of future climate change by understanding physical feedbacks (such as those related to water vapor, ice albedo, and clouds) in different computer models as well as satellite and other observational data.

Karen Shell
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Research Opportunities

- Run climate models (Play SimEarth!)
- Analyze climate model and satellite data used for the IPCC Assessment Reports (Get in trouble for downloading too much data!)
- Develop code for new processes in climate models (Crash a supercomputer!)

Average cooling due to cryosphere (ice and snow) and change in cooling 1979-2008
Do you like to play with mud?

Do you like magnets?

How about using mud and magnets to understand some of Earth’s most important problems

Monitoring Earth’s Magnetic Field

Reconstructing past climates

Tracing the past retreat of ice sheets

Paleomagnetism Past climates of the PNW Cordilleran

P-Mag Lab
Paleomagnetic & Environmental Magnetic Research Laboratory

Research Opportunities
- Magnetic measurements in the P-Mag Lab
- Sediment separations: How does the whole compare with the parts? - Scanning XRF (elemental) and other analyses

Projects
Climate History of the Pacific Northwest Using Marine and Lake Sedimentary Archives

Prof. Joseph Stoner jstoner@ceoas.oregonstate.edu
Dr. Maureen Walczak mwalczak@ceoas.oregonstate.edu
Dr. Brendan Reilly breilly@ceoas.oregonstate.edu