HC, CAS, CEOAS & COF FACULTY RESEARCH SHOWCASE
CAS- Student Engagement

WANDA CRANNELL

wanda.crannell@oregonstate.edu
Jerry Weiland  Botany Plant Pathology

Research Plant Pathologist (Plant Doctor)
Jerry.Weiland@usda.gov

Research Focus: Nursery plant diseases
Phytophthora Root Rot

Plant nerd! Scientist!
What is your passion?

Undergraduate Research Opportunities
Visit nurseries
Collect sick plants
Identify pathogens

5 hours/week
Learn molecular & microbiological skills

Science that has an impact
Dr. Patty Skinkis
Department of Horticulture
Oregon Wine Research Institute

Title and Contact Info:
Professor and
Viticulture Extension Specialist
patricia.skinkis@oregonstate.edu
Office phone: 541-737-1411
Ag & Life Science Bldg, Room 4121

Research Focus:
• Applied vineyard research (viticulture)
• Grapevine physiology
• Yield-quality relationship
• Grower decision-making

Undergraduate Research Opportunities
• Grapevine physiology x practices studies
• Vineyard soil science studies
• Weather/climate/plant phenology studies
• Interpreting grower/industry surveys

Courses Taught:
• HORT 454: Principles & Practices of Vineyard Production
• Industry educational events
Sascha Hallett  
Department of Microbiology

Associate Professor, Senior Research  
Fish parasitology and disease

Nash Hall 535  
halletts@oregonstate.edu

Research Focus  
I use DNA detection and sequencing to understand host-parasite dynamics in aquatic systems. I measure the density of waterborne parasites and compare with infection and disease in fish to help fisheries managers.

Undergraduate Research Opportunities  
Explore distribution and abundance of parasites in the Klamath River using: water & eDNA sampling sentinel fish exposures qPCR & sequencing

Courses Taught  
MB480 General Parasitology (Ecampus)  
Salmon Disease Workshop
Paul Hughes
Food Science & Technology

Sustainable Technology & Innovative Libations Laboratories

Research focus
• Rapid wood aging of spirits
• Color optimization of spirits
• Computational chemistry
• Botanicals for spirits
• Rapid (in-field) assessment of botanicals

UG research
• Flavor standard production
• In-field botanical assays
• Quality assessment of wild Oregonian junipers
• Time-dependent spirit color development

Taught courses
• FST 251: Intro to beer, wine and spirits
• FST 437/537: Chem and biochem of distilled spirits
• FST 439/539: Production and analysis of distilled spirits

Note: Criminal history check (CHC) mandatory

Assistant professor, distilled spirits, paul.hughes@oregonstate.edu, phone: (541) 737-4595
Cecily Bishop, Ph.D.
Animal & Rangeland Sciences

Contact Info
Assistant Professor
Reproductive Physiology of Ruminants and Primates
Office: Withycombe 304A
Email: cecily.bishop@oregonstate.edu
Websites: https://anrs.oregonstate.edu/users/cecily-bishop?gid=167216 and https://www.ohsu.edu/people/cecily-vauna-bishop-phd

Research Focus
• Improving ovarian function in livestock and women
• Animal models of reproductive disorders such as polycystic ovarian syndrome and endometriosis
• Role of vitamins in fertility of cattle
• Role of dietary composition in fertility of ruminants and primates

Undergraduate Research Opportunities
• Research with cattle, sheep, guinea pigs, and nonhuman primates
• Methods to investigate protein expression in ruminant and primate tissues
• Methods to evaluate hormone levels in livestock species and primates

Courses Taught
ANS 100 Orientation to Animal & Rangeland Science
ANS 121 Introduction to Animal & Rangeland Sciences
ANS 316 Reproduction in Domestic Animals
ANS 401/501 Research
ANS 403/503 Thesis
ANS 427 Applied Physiology of Reproduction
ANS 499 Reproductive Studies
ANS 509 Teaching Practicum
ANS 599 ST/Current Topics in Reproduction
ANS 662 Hormone Action
### Faculty Title & Discipline / Contact Info
- Shalynn Pack
- Internship Coordinator & Instructor for the Dept. of Fisheries, Wildlife, and Conservation Sciences
- [FW.internship@oregonstate.edu](mailto:FW.internship@oregonstate.edu)

### Research Focus
- Wildlife, conservation, and fisheries sciences

### Undergraduate Research Opportunities
- FWCS VIEW Fellowship “Vanguarding an Inclusive Ecological Workforce”
- VIEW is a paid summer research internship with FWCS faculty for students from backgrounds that have been excluded or are currently underrepresented in ecology
- Learn more on how to apply here: [https://fwcs.oregonstate.edu/view](https://fwcs.oregonstate.edu/view)

### Courses Taught
- FW 209 Career Skills in Fisheries & Wildlife
- FW 410 Internship
- FW 401 Research
<table>
<thead>
<tr>
<th>Faculty Title &amp; Discipline / Contact Info:</th>
<th>Research Focus:</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Selker, Distinguished Professor</td>
<td>Groundwater movement and quality</td>
</tr>
<tr>
<td>Hydrology &amp; Engineered water systems</td>
<td>Agricultural Water Management</td>
</tr>
<tr>
<td><a href="mailto:John.Selker@Oregonstate.edu">John.Selker@Oregonstate.edu</a></td>
<td>Sensing the environment</td>
</tr>
<tr>
<td>541-829-0137 or 541-737-6304</td>
<td>Mathematical dynamics of Nature</td>
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<thead>
<tr>
<th>Undergraduate Research Opportunities</th>
<th>Courses Taught (mostly graduate)</th>
</tr>
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<tbody>
<tr>
<td>Make sensors! (Open-Sensing.org)</td>
<td>Senior Design</td>
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<tr>
<td>Understand African Hydro (TAHMO.org)</td>
<td>Vadose Zone Processes</td>
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<tr>
<td>Conduct laboratory flume experiments</td>
<td>Groundwater Hydraulics</td>
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<td>Provide field support for measurements</td>
<td>Stochastic Hydrology</td>
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Melanie Davis
Fisheries, Wildlife, and Conservation Sciences

Faculty Title & Discipline / Contact Info:
Assistant Unit Leader, USGS Oregon Cooperative Fish and Wildlife Research Unit

Courtesy Faculty, Department of Fisheries, Wildlife, and Conservation Sciences

Email: melanie.davis@oregonstate.edu

Research Focus:
- Aquatic ecosystems
- Climate change
- Habitat restoration
- Salmonids
- Non-game fishes
- Migratory waterbirds
- Quantitative Ecology

Undergraduate Research Opportunities:
We will be hiring one lead field technician (5-6 months) and two assistant field techs (3 months) to help sample fish in the Goose Lake Basin in eastern Oregon this Summer.

I am always open to paid and unpaid internship opportunities:
- GIS/remote sensing of fish and waterbird habitats
- Tufted Puffin habitat sampling

Courses Taught:
FW 599: The Dichotomy of Disturbance

Note: Right now I only teach graduate-level courses
Food web models of 40-year-old streams at Mt. Saint Helens

Primary production in urban stream reaches

Fish age detection based on Markov chain model

Parasite infection rates in freshwater snails

Seasonal changes in PP in urban and reference stream reaches
ERIN LIEUALLEN
erin.lieuallen@oregonstate.edu
Research Foci
• Water resources politics
• Environmental conflict management

Research Opportunities
• Treaty coding
• Hydropolitical Assessment
• Desk research on water resources

International relations
Jenna Tilt, PhD Geography
tiltj@oregonstate.edu

Research Foci

Human Dimensions of Natural Hazards Mitigation and Adaptation

How can communities increase their capacity to adapt to chronic and acute hazards?

Undergraduate Research Opportunities

Geospatial: Story maps, PGIS analyses (geocoding, spatial statistics), other (data collection/validation)
Policy Analysis: Collecting and analyzing existing plans and documents
Social Science: Interview transcription/coding, workshop organization, translation (Spanish)

Teaching

Geog 250: Intro. to Sustainable Land Use Planning
Geog 451/551: Planning Principles and Practices for Resilient Communities
Geog 452/552: Environmental Assessment
Jonathan Fram

Research Foci
• Coastal physical oceanography
• Ocean observing (collecting and making-available continuous long-term time series data from autonomous gliders, moorings, and profilers)

Title & Discipline, Contact Information
• Associate Professor Senior Research, POA, CEOAS
• Endurance Array Project Manager, Ocean Observatories Initiative
• www.oceanobservatories.org
• Ocean Observing Center (126 SW McKenzie Ave.)
• jonathan.fram@oregonstate.edu

Undergraduate Research Opportunities
• We employ 3 students who refurbish our moorings and profilers. One student will be graduating this spring, so we will advertise for one person to start this summer
• We have 1 undergraduate intern who just started
• With collaborator Leif Rasmuson (Oregon Department of Fish & Wildlife), in the next month we will hire 1 undergraduate to study water clarity off the Oregon coast using ODFW ROV surveys, OOI cameras, and ODFW & OOI environmental data
JC Creveling

jessica.creveling@oregonstate.edu

Seeking 3 Summer REU Students,
Applications due Feb. 15

Cambrian ‘explosion’ of animal life ~540 million years ago

https://ceoas.oregonstate.edu/summer-research-internships-undergraduates
Dr. Mary Santelmann

<table>
<thead>
<tr>
<th>Teaching</th>
<th>Research</th>
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<tbody>
<tr>
<td>GEOG 324 Ecological Biogeography</td>
<td>Wetlands and restoration</td>
</tr>
<tr>
<td>WRP 524 Sociotechnical Aspects of Water Res.</td>
<td>Climate change impacts on coastal streams</td>
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<tr>
<td>WRP 517 Writing in Water Resources</td>
<td>Sustainable land and water management</td>
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<td>WRS 505 Journal Club/ Reading and Conference</td>
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<tr>
<td>WRS 507 Seminar in Water Resources</td>
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Mary Santelmann; Professor in Geography and Director of the Water Resources Graduate Program. Mary.Santelmann@oregonstate.edu

Undergraduate Research Opportunities

- Assist visiting scholar with field work in restored salt marshes
- Catalogue and measure bulk density of moss collections from boreal peatlands
- Collaboration with Siuslaw Watershed Council on restoration projects
### Erica Fleishman

<table>
<thead>
<tr>
<th>Oregon Climate Change Research Institute</th>
<th>professor, geography &amp; geospatial science <a href="mailto:erica.fleishman@oregonstate.edu">erica.fleishman@oregonstate.edu</a></th>
</tr>
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<tbody>
<tr>
<td>Research on climate change and its effects on Oregon’s human and natural systems</td>
<td>Research at OCCRI and in my lab group encompasses physical, social, and natural sciences, and the arts and humanities</td>
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<tr>
<td>Assist governments, communities, and industry in projecting, mitigating, and adapting to the effects of climate change</td>
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### Fleishman lab

Research on responses of birds, plants, butterflies, and other taxonomic groups to changes in land use, land cover, and climate in the western United States
Kelsey Emard

Teaching
GEOG 300 Sustainability for the Common Good
GEOG 314 Geography of Latin America
GEO 309 Environmental Justice
GEOG 105 People, Places, Perspectives in the Global South

Research Foci
• Rural livelihoods
• Adaptation to environmental change in agricultural and coastal communities
• Governance of conservation areas, especially coastal

Contact Information
Instructor and Assistant Professor (Sr Res) Geography and Geospatial Sciences
kelsey.emard@oregonstate.edu
140 Wilkinson Hall

Undergraduate Research Opportunities
Integrating Climate Data into Farm Management: A Case Study in the Willamette Valley to Guide Actionable Science
• Literature review (winter/spring 2022)
• Data collection and coding (spring/summer 2022)

Global Lifestyle Migration and Social-Environmental Change on Costa Rica’s Caribbean Coast
• Transcript coding (anytime)
• GIS analysis (anytime)
Matthew Goslin

Intro to Geospatial Sciences (201)
Geographic Information Systems I (360)
Cartography (370)
Web Mapping (371)
Remote Sensing 2: Image Processing (481)
Geography of Salmon (Science, Policy, Culture)

Instructor: Geospatial Sciences (Geography)
Matthew.Goslin@oregonstate.edu

Research:
Plant-river interactions & river restoration
How can plants drive river evolution?
How does river hydrology & environment drive plant species patterns?
Middle Fork John Day River, Santiam Basin
Willamette, McKenzie, Umpqua

Undergraduate Research Opportunities
Topo-bathymetric channel surveys
Riparian plant surveys
Remote sensing of key species expansion
Monitoring of river restoration projects using aerial imagery & field sampling
Your ideas?
Massimo Bionaz
Animal & Rangeland Sciences

Faculty Title & Discipline / Contact Info
Massimo Bionaz
Ruminant Nutrigenomics
massimo.bionaz@oregonstate.edu
541-737-9507

Research Focus
- Nutrigenomics in dairy cows
- Use of spent hemp biomass as feed for livestock
- Milk and human health

Undergraduate Research Opportunities
Spent hemp biomass fed to steers

Courses Taught
ANS207- Sophomore Seminar (Fall)
ANS439/539 – Dairy Production Systems (Fall)
ANS538- Lactation Biology (Spring)
ANS599 – Special Subjects
Robert Kennedy

### Teaching

- **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

### Research Foci

- Satellite Remote Sensing
- Land cover mapping
- Carbon estimation
- Forests and ecosystems
- Disturbance mapping
- Capacity building

### Undergraduate Research Opportunities

- Photo-interpretation of land cover and disturbance in SE Asia and in the PNW
- Interpretation of time-series satellite imagery and spectral trajectories
- Various programming tasks (Google Earth Engine, Python)