

Northwest Biology Instructors Organization Conference (NWBIO)

April 15-17, 2016



Hosted by:

**University of Oregon
& Lane Community College**

Eugene, Oregon

Location: **University of Oregon Campus**

Willamette Hall, Lawrence Hall, Huestis Hall, Klamath Hall, Ford Alumni Center

Table of Contents

Keynote Presentations	p. 3
Agenda Overview	p. 4
Workshop & Keynote Abstracts:	
Friday Keynote	p. 5
Saturday Concurrent sessions	p. 5-9
Sunday Concurrent sessions	p. 9-13
Field Trips	p. 13-14
Participating Institutions	p. 14
University of Oregon campus	p. 15
Campus Building Locations	p. 16
Klamath Hall Conference Rooms	p. 17
Huestis Hall Conference Rooms	p. 18
UO Guest Wireless Access	p. 19
Sponsor Recognition	p. 19

Keynote Presenter Introductions



Rebecca Vega-Thurber

Title: Coral Reef Decline

Hosted by Eugene Natural History Society

Lawrence Hall 177

Friday April 17th 2016, 7:30pm

Dr. Vega-Thurber's research uses interdisciplinary and high technology approaches to address questions about how viruses and microbes function in and affect the environment. Using a combination of empirical experimentation, field work, metagenomics, microscopy and molecular biology, her research provides important insight into a variety of fields including: virology, microbiology, coral reef ecology, animal physiology, and the evolution of symbioses.

Martin Storksdieck

Title: The link between college instruction and the quality of K-12 science and math education

Willamette Hall Room 100

Saturday April 16th 2016, 11:00am

Before becoming the Director of the Center for Research on Lifelong STEM Learning in June 2014 Dr. Storksdieck served as the Director of the Board on Science Education (BOSE) at the National Research Council (NRC) of the National Academy of Sciences. As the BOSE Director he oversaw studies that address a wide range of issues related to science education and science learning, and provide evidence-based advice to decision-makers in policy, academia and educational practice. His prior research focused on what and how we learn when we do so voluntarily, and how learning is connected to our behaviors, identities and beliefs. This includes the role of personal perspectives in science learning, particularly related to controversial topics such as climate change or evolution, and how connections between school-based and out-of-school learning can create and sustain lifelong interest in science, but also learning itself. He holds an M.S. in biology from the Albert-Ludwigs University in Freiburg, Germany; an M.P.A. from Harvard University's Kennedy School of Government; and a Ph.D. in education from Leuphana University in Lüneburg, Germany. Storksdieck also directs NRC's Roundtable on Climate Change Education.



Karen Guillemin

Title: Lessons learned from listening to host-microbe systems

Ford Alumni Center Ballroom

Saturday April 16th 2016, 6:00pm Dinner & Keynote Address

Karen Guillemin is a faculty member of in the Department of Biology and the Institute of Molecular Biology at the University of Oregon, where she directs a research group studying host-microbe systems. Her group uses model organisms, including the zebrafish, to study how animals coexist with their resident microbial communities in both health and disease. She directs the Microbial Ecology and Theory of Animals (META) Center for Systems Biology, an NIH National Center for Systems Biology. The META Center innovates experimental and theoretical approaches to understand how host-microbe systems biology and new approaches to teaching quantitative biology and computation through microbiology.



Agenda Overview

Friday

[1 pm optional whale watching field trip from Depoe Bay, Oregon]

5:00 -7:30pm Appetizers-Only Dinner & Drinks (cash bar), Registration and Welcome—Willamette Hall Atrium

7:30pm **Rebecca Vega-Thurber**, Oregon State University, *Coral Reef Decline* as part of the Eugene Natural History Society—Lawrence Hall 177

Saturday

8:00am breakfast (oatmeal, hard boiled eggs, bagels, fruit, coffee & tea)—Willamette Hall Atrium

8:30-9:30am 60-minute workshops

9:30-9:40am Break

9:40-10:10am 30-minute workshops

10:10-10:20am Break

10:20-10:50am 30-minute workshops

10:50-11:00am Break

11:00am – 12:00pm Keynote **Martin Storksdieck** *The link between college instruction and the quality of K-12 science and math education*—Willamette 100

12:00pm Lunch (sandwiches & side salads)—Willamette Hall Atrium

12:00pm OPTIONAL – Pearson focus group on activity based learning (bring lunch) – Klamath 5

1:00-4:00pm Field trips (meet on 13th Avenue in front of Huestis Hall for vans)

5:00pm Appetizers and Social Hour (cash bar)—Ford Alumni Center

6:00pm Dinner and Keynote, **Karen Guillemin** *Lessons learned from listening to host-microbe systems*—Ford Alumni Center Ballroom

Sunday

8:00am breakfast (oatmeal, hard boiled eggs, bagels, fruit, coffee & tea)—Willamette Hall Atrium

8:30-9:30am 60-minute workshops

9:30-9:40am Break

9:40-10:10am 30-minute sharing sessions

10:10-10:20am Break

10:20-11:20am 60-minute workshops

11:20-11:30am Break

11:30am Business meeting—Klamath Hall Room 5

Workshop & Keynote Abstracts

Friday April 15th 2016 Dinner & Keynote

5:00pm Dinner (Appetizers-Only) & Drinks (cash bar), Registration and Welcome
Venue: **Willamette Hall Atrium**

7:30pm **KEYNOTE** in collaboration with the Eugene Natural History Society

Coral Reef Decline

Dr. Rebecca Vega-Thurber

Oregon State University

Venue: **Lawrence Hall 177**

In her talk, Dr. Vega-Thurber will relate her lab's recent work on the problem of coral bleaching and the effects of marine viruses. We'll be treated to scenes of incredible beauty, both above and below the surfaces of several of the world's oceans, in addition to understanding what sick coral looks like.

Saturday April 16th Concurrent Sessions

60-minute workshops 8:30-9:30am

8:30- **Using Clinical Blood Values as a Means to Engage Students in Critical Thinking**

9:30am Brian Nichols, Julie Nelson & Katie Morrison-Graham

Lane Community College

Venue: **Klamath Hall 5**

A foundational understanding of fluid and electrolytes and acid-base balance is vital to succeeding in medical-health programs. This brief workshop will introduce the use of comprehensive metabolic panel case-studies as a means to engage physiology students in active learning and critical-thinking.

8:30- **Got Lactase? Teaching Genetics and Evolutionary Biology Using Lactase Persistence as a**
9:30am **Case Study**

Mickey Laney-Jarvis

Howard Hughes Medical Institute, Rogue Community College

Venue: **Klamath Hall 13**

Did you know that only about a third of adult humans can readily digest lactose, the main sugar in milk? This phenomenon, known as lactase persistence, provides a fascinating real life case study for teaching gene regulation, enzyme function, natural selection, and the relationship between culture and human evolution. In this workshop we will showcase hands-on classroom activities that accompany HHMI's short film "Got Lactase? The Co-evolution of Genes and Culture". These activities allow students to explore real data, and to make connections with key concepts in genetics and evolution. Participants will take with them resources and teaching tips for use in their classrooms.

8:30-
9:30am **Forming Regional Biology Education Communities of Practice (CoPs)**
NWPULSE: Alyce DeMarais, Joann Otto, Pamela Pape-Lindstrom, William B. Davis, Jenny McFarland & Gita Bangera
University of Puget Sound, Western Washington University, Everett Community College, Washington State University, Edmonds Community College, Bellevue College

Venue: **Huestis Hall 129**

Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly." (Wenger, 2006). Local and regional CoPs in the Northwest have been created by faculty to discuss and pilot science education ideas and practices and to share expertise. The NW region Partnership for Undergraduate Life Science Education (PULSE) has established a biology education CoP across AK, ID, MT, OR, WA, and WY focused on departmental level change. However to be effective CoPs are usually more locally based to permit frequent in-person conversations. To foster formation of new CoPs to promote, encourage and sustain research on biology teaching and learning and implementation of evidence-based, student-centered practices, we will highlight successful regional science education CoPs and share resources and tips to help participants launch local CoPs. Supported by NSF awards 1345033 & #51588.

8:30-
9:30am **Using Near-Peers to Facilitate Active Learning**
Lori Kayes, Devon Quick & Lindsay Biga
Oregon State University

Venue: **Huestis Hall 130**

Active learning has been shown to increase learning gains compared to didactic lecture in many situations, particularly for underrepresented minority students. However, engaging in active learning in large lectures can be challenging due to high student: faculty ratios. We utilize near peers as Learning Assistants (LAs) to effectively decrease the class size of our large lecture, provide experiential learning opportunities for LAs, and facilitate student learning. Participants will learn how trained peer facilitators (LAs) in the classroom can increase engagement, outcomes and participation with active learning in high enrollment classrooms. The session will explore implementation, strategies for success and examine data related to the implementation of interactive learning with and without LAs as evidence of the success of this program. Additionally, we will demonstrate three different strategies for engaging students in high enrollment classroom activities using LAs.

30-minute workshops 9:40-10:10am

9:40-
10:10am **Developing Scientific Writing Skills in Major's Biology Students Using a Year-Long Peer Review-Based Program**
Jennifer Schramm
Chemeketa Community College

Venue: **Klamath Hall 5**

Whatever path a major's biology student takes, he/she will be required to use writing to convey scientific ideas. The majority of students arrive at community colleges with limited writing skills and introductory writing courses do little to prepare students for the rigors of scientific writing. In addition, many students are intimidated by the prospect of other scientists critiquing their work. Should major's biology students have to wait until graduate school to learn how to communicate with their peers? I have designed a writing program that introduces students to the art of writing a scientific paper using peer review as a tool to highlight key criteria and introduce constructive criticism. This program is ideal for small classes, but could be adapted for use in major's biology classes with larger enrollments. Initial feedback from students suggests that this program prepares students for success in upper division biology courses and research internships.

9:40-
10:10am **Universal Design: Blind and Visually Impaired Students in the Biology Majors Classes**
Stacey Kiser
Lane Community College

Venue: **Klamath Hall 13**

Join me for a discussion of adapting biology laboratory activities for blind and visually impaired students in the biology classroom. Does the difference between majors and non-majors learning outcomes affect how you adapt assessment? Do you have any good ideas for making materials tactile? Please share!

9:40- **Initial Program Development At The College of Western Idaho**

10:10am Nicole Frank
College of Western Idaho

Venue: **Huestis Hall 129**

The College of Western Idaho is currently pursuing its initial accreditation through NWCCU. As a part of this process, the Department of Life Sciences has developed four new degree programs: General Biology, Human Biology, Natural Resources and Microbiological, Molecular and Biomedical Sciences. These programs were developed using all resources available to us, including the AAAS Report: Vision and Change and the PULSE rubrics as guiding documents and frequent interaction with NW PULSE fellows. In addition to these resources our programs have chosen to incorporate the AAC&U High Impact Practices of Collaborative Assignments and Projects and Undergraduate Research throughout the coursework. The resulting programs are firmly grounded in current understandings of best-practices in Biology education.

9:40- **Developing an Introductory Biology Course for Non-Majors with a Focus on Science Literacy**

10:10am Leslie Coonrod
University of Oregon

Venue: **Huestis Hall 130**

With scientific understanding at what seems like an all-time low in the general population of the US, the University of Oregon Science Literacy Program has made its mission to increase scientific literacy among undergraduate non-science majors. To this end, we developed a course entitled "Science, Policy, and Biology" which focuses on controversial topics in the news such as stem cells, cloning, GMOs, and human genetics. We use these topics as a way to learn and apply the basics of biology, as well as to explore current policy surrounding those topics. In this workshop, you will have the opportunity to experience one of the classroom activities that interfaces science and policy. Co-authors: Elly Vandegrift, Judith Eisen

30-minute workshops 10:20-10:50am

10:20- **An Activity to Teach the Scientific Method Through Active Learning in a Large Class**

10:50am Phil Lotshaw & Sheshank Mageshwar
University of Oregon

Venue: **Klamath Hall 5**

An activity that teaches the scientific method in a flipped classroom was designed and administered in a non-science majors STEM course of 60 students. Before class, students watched and answered questions about a short video describing the scientific method. In class, groups of students were given a tube with strings that stick out and which are mysteriously coupled together inside of the tube, and the students formed and tested hypotheses about what was inside of their tube. Students then reflected on what was scientific about the process and proposed experiments to study another unknown object, and a class discussion was lead based on their answers. This activity could be used to teach the scientific method through active learning in any STEM course, and to bridge the gap between technical scientific knowledge and the nature of science as problem solving through analysis cause and effect.

10:20- **Service-learning in the Natural Sciences**

10:50am Peg Boulay
University of Oregon

Venue: **Klamath Hall 13**

University of Oregon's Environmental Studies Program emphasizes interdisciplinary dialogue and collaboration to train students in creative problem solving, critical thinking and responsible citizenship. We have sequenced service-learning pedagogy into our curriculum so students can apply and expand their academic learning, gain practical research and professional skills, serve their community, and integrate their experiences through reflection. Service-learning can be used to teach ecological and other scientific concepts through field-based research, monitoring and management projects. In a 200-level course, students explore biodiversity and ecosystem health concepts by assisting with simple ecological restoration projects. At the 400-level, the Environmental Leadership Program is an intensive capstone experience in which teams of students complete more complex projects. Meeting multiple objectives requires a thoughtful, structured approach for choosing projects, designing field methods, managing logistics, and

preparing students. We will share lessons learned regarding project planning and implementation, academic rigor and reflection, and evaluation.

10:20-
10:50am **Authentic Research in Undergraduate Biology Labs**

Tish Wiles
University of Oregon

Venue: **Huestis Hall 129**

Undergraduate labs are meant to provide a valuable experience by giving students an opportunity for hands on learning, but can often turn into students acting like robots repeating “cookbook” labs that have been done by thousands of students before them. In our 400 level Advanced Molecular Genetics lab students carried out a screen to identify mutants that were defective in gene silencing mediated by the Polycomb Repressive Complex 2 (PRC2). Students learned a variety of molecular genetic techniques and concepts while taking part in a real research project. In this session I will share the benefits and challenges of bringing authentic research into the undergraduate biology lab, and invite open discussion about making this a tractable model for undergraduate lab courses.

10:20-
10:50am **A Case Study that Integrates Ecology, Evolution and Genetics**

Carol Pollock
University of British Columbia

Venue: **Huestis Hall 130**

First-year students often have difficulty integrating topics and applying general principles to novel situations. This case study is based on the work of two graduate students in Forestry at the University of British Columbia. It integrates the evolution topic of constitutive and induced defenses and conditions under which each is adaptive, and the role of heredity and environment in patterns of phenotypic variation. It incorporates data from actual field studies and lab experiments on herbivory in the plant, *Plectritis congesta*, and allows students to make predictions based the results of these studies. This session will be an overview of the classroom presentation of the study with ample opportunity for discussion.

Keynote Address

11:00am **The link between college instruction and the quality of K-12 science and math education**

Martin Storksdieck
Oregon State University

Venue: **Willamette Hall rm 100**

The Next Generation Science Standards and the Common Core Math Standards have been adopted by many states, and those who resist adoption are adjusting their state standards to adhere at least partially to the basic architecture of the NGSS and CCMS. Soon the first wave of high school students who learned under these standards will enter colleges, and with them they will bring a new culture of science and math learning that colleges need to adjust to. The focus on disciplinary practices and performance expectations in K-12 might also serve as a useful frame to improve college instruction itself. This is badly needed: future K-12 teachers tend to mimic in their own classrooms how they were taught their discipline, and not how they were told to teach in educational methods classes. Considerable responsibility for the quality of K-12 math and science teaching, therefore, lies with faculty in colleges and universities who are teaching introductory courses in the disciplines.

12:00pm **Lunch provided (sandwiches & side salads)**

Venue: **Willamette Hall Atrium**

12:00pm **OPTIONAL – Pearson focus group on activity based learning (bring lunch from Atrium)**

Venue: **Klamath 5**

1:00pm

Field trips

Meet on 13th Avenue in front of Huestis Hall for vans. See page 14 for details regarding self-guided trips.

5:00-
6:00pm

Appetizers and Social Hour

Venue: **Ford Alumni Center Atrium**

6:00pm

Dinner & Keynote Address

Lessons learned from listening to host-microbe systems

Karen Guillemin
University of Oregon

Venue: **Ford Alumni Center Ballroom**

Microbial colonization of the digestive tract is a crucial event in vertebrate development, required for maturation of host immunity and establishment of normal digestive physiology. We have developed methods to rear zebrafish devoid of microbes to ask how the resident microbes influence normal host development. We have also curated a large culture collection of zebrafish gut bacteria, which we use to ask how specific bacteria influence host development and how simple model bacterial communities assemble. These experimental approaches have also provided valuable educational platforms for introducing undergraduate students to laboratory science and teaching concepts in statistics and bioinformatics.

Sunday April 17th Concurrent Sessions

60-minute workshops 8:30-9:30am

8:30-
9:30am

Do Targeted Written Comments and Rubric Method of Delivery Affect Performance on Future Human Physiology Lab Reports?

Zachary Clayton & Sierra Dawson
University of Oregon

Venue: **Klamath Hall 5**

This session will shine a spotlight on the various ways educators provide feedback to students on weekly writing assignments and how those may impact student performance over time. We conducted an IRB-approved study with our 300-student classroom to better understand whether the use of paper versus electronic rubrics, or additional comments, impacted student learning and performance on seven weekly writing assignments. We will invite participants to interpret the findings and come up with their own take-home messages related to their classroom practices.

8:30-
9:30am

Teaching Homeostasis in Physiology, A&P and Animal Biology Courses

Jenny McFarland & Mary Pat Wenderoth
Edmonds Community College, University of Washington

Venue: **Klamath Hall 13**

Homeostasis is a core concept necessary for understanding regulatory mechanisms in physiology. Many undergraduate texts highlight abstract aspects of the concept rather than emphasizing a general model that can be comprehensively applied to all homeostatic mechanisms. As a result, learners often fail to develop a clear, concise model with which to think about physiological systems. In this workshop, we will propose a standard model for homeostatic mechanisms and a vocabulary for helping undergraduate students build effective mental models of homeostatic regulation in physiological systems. We will discuss common sources of confusion ("sticky points") that arise from inconsistencies in vocabulary and illustrations in undergraduate texts. Finally, we will discuss a simplified model and a list of physiologically regulated variables. This workshop is based on: A physiologist's view of homeostasis by Modell, Cliff, Michael, McFarland, Wenderoth & Wright. 2015. *Advances in Physiology Education*. 39(4):259-266.

Supported by NSF DUE-1043443.

8:30- **Training Biology Graduate TAs for Excellence in the Classroom**

9:30am Jessica White, Lori Kayes & Kristen Andersen
Oregon State University

Venue: **Huestis Hall 129**

Since its inception in fall 2008, and with funding from a Howard Hughes Medical Institute grant, the Integrative Biology department at Oregon State University has been requiring its new GTAs to participate in teaching training through a pre-service orientation, weekly seminars, and an optional one-credit graduate course. The effectiveness of these training efforts has been assessed via (1) pre-test and post-test assessment each term of GTAs regarding their knowledge and skill related university-level instruction, pedagogy, as well as related policies and procedures; and (2) scores on standardized student teaching evaluations. In this session, the presenters will share additional details about the training efforts including specific topics covered in the orientation, seminars, and accompanying course as well as assessment results and how the efforts were initiated and realized financially and organizationally.

8:30- **Developing Effective Active Learning In-Class Content For Front-Loaded Biology Courses**

9:30am Jan Just
Portland Community College

Venue: **Huestis Hall 130**

Flipping, or Front-Loading biology courses has become more common in recent years. Creating course content, homework, and pre-lecture questions to make time available during lecture for inquiry, discussion, and activities can be time consuming. However, designing and implementing in-class activities that are engaging and have sufficient substance to warrant the use of our limited face-to-face opportunities can be a challenge, and may be the limiting factor when instructors contemplate moving to this fundamentally different format. I will discuss a variety of theories and techniques related to classroom management, activity design, and connection to course assessment, as well as outline a system that allows for a range of techniques to accommodate instructor styles and a broad range of class sizes.

30-minute "Sharing Sessions" 9:40-10:10am

9:40- **The Flipped Classroom**

10:10am Jessie McAbee
Bellevue College

Venue: **Klamath Hall 5**

Have you tried or considered flipping your classroom? Flipping involves providing lecture materials outside of class and using class time for student centered learning. I will share my experiences flipping my General Biology class. I would like to facilitate a discussion of the challenges and benefits of flipping, with participants sharing practices, questions and insights. Current educational research into flipping may also be considered if time allows.

9:40- **GenEd Science/Biology: Why is it important?**

10:10am Christine Andrews & Lisa Bartee
Lane Community College & Mt. Hood Community College

Venue: **Klamath Hall 13**

A science literate population is becoming more and more important and yet a lot of our 100 level students will only take 2 or 3 science classes. What are the most important take aways from a gen ed science class? Let's have a discussion about why there are science requirements, what are the outcomes that we should be striving for in all of our 100 level (non-majors) biology classes. We will use this time to share ideas on outcomes, activities to help teach these outcomes and assessments.

9:40-
10:10am **Teaching Guidelines**
Marie Gabbard
College of Western Idaho

Venue: **Huestis Hall 129**

As a new community college, CWI's Life Science Department recognizes the need for assessment/evaluation, enabling continual improvement, and allowing us to reach our goal of excellence in Science education. To this end, we have developed Teaching Guidelines, designed to be reflective in nature for use by faculty for course and professional development. These guidelines will assist in both the peer review process performed annually and the supervisor annual observation. The document addresses Class Preparation, Creating a Student Centered Classroom and Professionalism. Our objective is to address a wide range of topics to ensure faculty are using the principles outlined in Vision and Change, core biological concepts, active learning pedagogy, strong assessment practices and the knowledge of how course outcomes relate to programmatic outcomes. The Teaching Guidelines document is dynamically designed by faculty and reviewed by the department on a continual basis.

9:40-
10:10am **Making the Big Class Feel Small**
Sierra Dawson
University of Oregon

Venue: **Huestis Hall 130**

Research indicates that active learning and developing relationships with students is key to creating significant learning, but how do we create active learning or build relationships in a room with 100 students? How about 300 students? What are the various mechanisms we can put into place to help make our big class feel a little bit smaller? Join me for a round-table conversation about the different strategies we each use to make large classes less intimidating and impersonal, and ensure the student enjoy the same quality educational experience as they would in a small class.

60-minute workshops 10:20-11:20am

10:20-
11:20am **Building Community and Creating Authentic Learning Opportunities**
Jacqlyn King & Jon Runyeon
University of Oregon

Venue: **Klamath Hall 5**

Student learning, persistence and retention improve when students have personal relationships within their academic community and opportunities for authentic learning. Given the physical design of classrooms and reality of larger class sizes, one might assume that a teacher-centered approach, where the instructor is viewed as the content expert and students assume the role of passive and invisible participants, is inevitable. During this workshop, we will share techniques to help you transform your classroom into an engaging experience where students have the opportunity to apply knowledge from their preparatory assignments and interact with their team of instructors and peers. You will leave this workshop with a new outlook on the community and engagement that can be established in a large (or small) classroom setting through the use of authentic preparatory assignments.

10:20-
11:20am **Supporting Classroom Innovation with Our Science Literacy Teaching Journal Club**
Elly Vandegrift & Julie Mueller
University of Oregon

Venue: **Klamath Hall 13**

For the past six years, the University of Oregon Science Literacy Program and Teaching Effectiveness Program have co-sponsored a weekly Science Literacy Teaching Journal Club. In our weekly sessions attended by faculty, postdocs, graduate students, and undergraduates from a range of disciplines, we read current science education literature and discuss how to apply it in our own classrooms. In this interactive workshop, you will have the opportunity to experience a typical session, and we will discuss reasons for the Journal Club's longevity and success.

10:20-
11:20am

Oregon Introductory Biology Majors Summit Report

NW Biology Consortium

Lane Community College, Mt Hood Community College, Western Oregon University, Oregon State University, Linfield College, Willamette University, University of Portland, Whitman College

Venue: **Huestis Hall 129**

The Northwest Biosciences Consortium is a group of faculty from two-year and four-year colleges at both public and private institutions in Oregon. We are working towards creating modern, student-centered, integrated, and investigative introductory biology experiences for all students aligned with the Vision and Change: A Call to Action mandate. Recently, we convened a Majors Biology Summit involving over 60 faculty from around the state in a workshop to develop instructional modules and assessment techniques in core areas identified by faculty as essential areas in the study of introductory biology for majors. We will share some of the activities presented in the workshop. Additionally, we hope to share some of the modules developed at the workshop and get faculty feedback on their alignment and utility in Introductory Biology for majors. Supported by the National Science Foundation RCN-UBE grant (DBI-1248121).

10:20-
11:20am

Developing Scientific Writing Skills

Kathy Nomme

University of British Columbia

Venue: **Huestis Hall 130**

In our first year lab course we ask students to write a journal style article on the experiment they perform. We require that students develop an explanation for their experimental results, and not just to describe their results by answering a series of questions. Since the basis of effective scientific writing is the integration of appropriate evidence to support your ideas, we have developed a series of resources and activities to guide first year biology students through this process. In this workshop we will present activities that help students identify appropriate evidence, learn how to incorporate the evidence, and follow the conventions of a scientific argument. Anecdotal evidence from former students indicates that the lessons they learn about writing in first year serve them well in upper level courses.

11:30am

NWBio Business meeting

Venue: **Klamath Hall 5**

Field Trips

1:00-4:00pm Saturday April 16, 2016

1. Tour of the Friends of Buford Park Native Plant Nursery and Wildflower Walk. Cost: FREE

Botanists Gail Baker and Susie Holmes (LCC Faculty) will lead a tour of the Friends of Buford Park (FBP) Native Plant Nursery and wildflower walk. The nursery provides internships for UO and LCC students pursuing majors in environmental sciences, environmental studies and a range of plant science and ecology disciplines. You will see how the Friends produce quality native plants and seed to support restoration projects on and around Mt. Pisgah. You will learn how UO and LCC biologists participate in the nursery's efforts to understand the genetics, community and population ecology of our local native plant species used in habitat restoration projects. For more info about FBP Native Nursery visit: <http://www.bufordpark.org/native-plant-nursery/>

2. Cascades Raptor Center and Spencer's Butte Natural History Hike. Cost: \$10

Ornithologists and ecologists Carrie Newell, Bert Pooth, and Joseph Russin (LCC Faculty) will take you to a popular field trip destination for students in many of their field biology courses. The Cascades Raptor Center (CRC) and the City of Eugene's Spencer's Butte Hiking Trails are important outdoor classrooms for students of all ages and many UO and LCC students obtain internships through these organizations. For more info about CRC visit: <http://cascadesraptorcenter.org/>
For more info about Spencer's Butte Hiking Trails visit: <http://www.spencerbutte.com/>

3. Brewery Tour. Cost: Incidental

Join LCC Faculty Stacey Kiser, home brewer, and Katie Morrison-Graham, microbiology instructor, on a tour of the Ninkasi Brewing facility <http://www.ninkasibrewing.com/?ageVerified=defaultValue>. Tour participants will need to **wear closed-toed shoes**, and just in case you have family members, tour **participants must be over 13 years of age**. Field trip participants can then participate in other optional tours of fermented beverages (cider, wine, braggot, mead) or build a self-guided walking touring using provided maps. Fermentation science is a growing occupation, especially in Eugene, a place affectionately referred to by some as "Beervana". Many students are transferring into this emerging field, obtaining degrees in pickling, leavening, and kombucha! Learn about the science of brewing from local experts and enjoy tastings as well. Eugene Ale Trail maps will also be available at the welcome booth.

Self-guided destination suggestions (all within walking distance of UO campus)

Map of Campus: <http://uoregon.edu/maps>

Oregon Relays will be held at UO's Historic Hayward Field April 15-16

For more info on meet and tickets, visit: <http://oregonrelays.runnerspace.com/>

University of Oregon's Urban Farm (2-5pm Farm will be staffed)

According to farm director, Harper Keeler, Urban Farm is the most popular class at UO! Visit this outdoor classroom and learn from staff (Friday afternoon) how it is used in classes that teach students how to produce food sustainably as well as a destination for field research in pollination ecology and other biology courses. For more info, visit: <http://blogs.uoregon.edu/urbanfarm/>
<https://www.youtube.com/watch?v=9e4hD1oPdQE>

Jordan Schnitzer Museum of Art

At the JSMA, UO science faculty and museum staff collaborate to bring art into science classrooms. One of six museums in the state of Oregon accredited by the American Association of Museums, the University of Oregon's Jordan Schnitzer Museum of Art (JSMA) is a premier Pacific Northwest visual arts center, features engaging exhibitions, significant collections of historic and contemporary art, and exciting educational programs that support the university's academic mission and the diverse interests of its off-campus communities. Current exhibits include: Olga Volchkova: The Nature of Religion and From the Heart: The Photographs of Brian Lanker. For more info on current exhibits, visit: <http://jsma.uoregon.edu/exhibitions/current>

Museum of Natural & Cultural History

300 million years of Oregon natural history featuring Buzz saw sharks with art by Ray Troll and new exhibits on indigenous beads. The collections are frequently used to supplement student classroom at the UO. For more info on current exhibits, visit: <http://natural-history.uoregon.edu/>

Saturday Only: Eugene Artisan & Farmer's Market

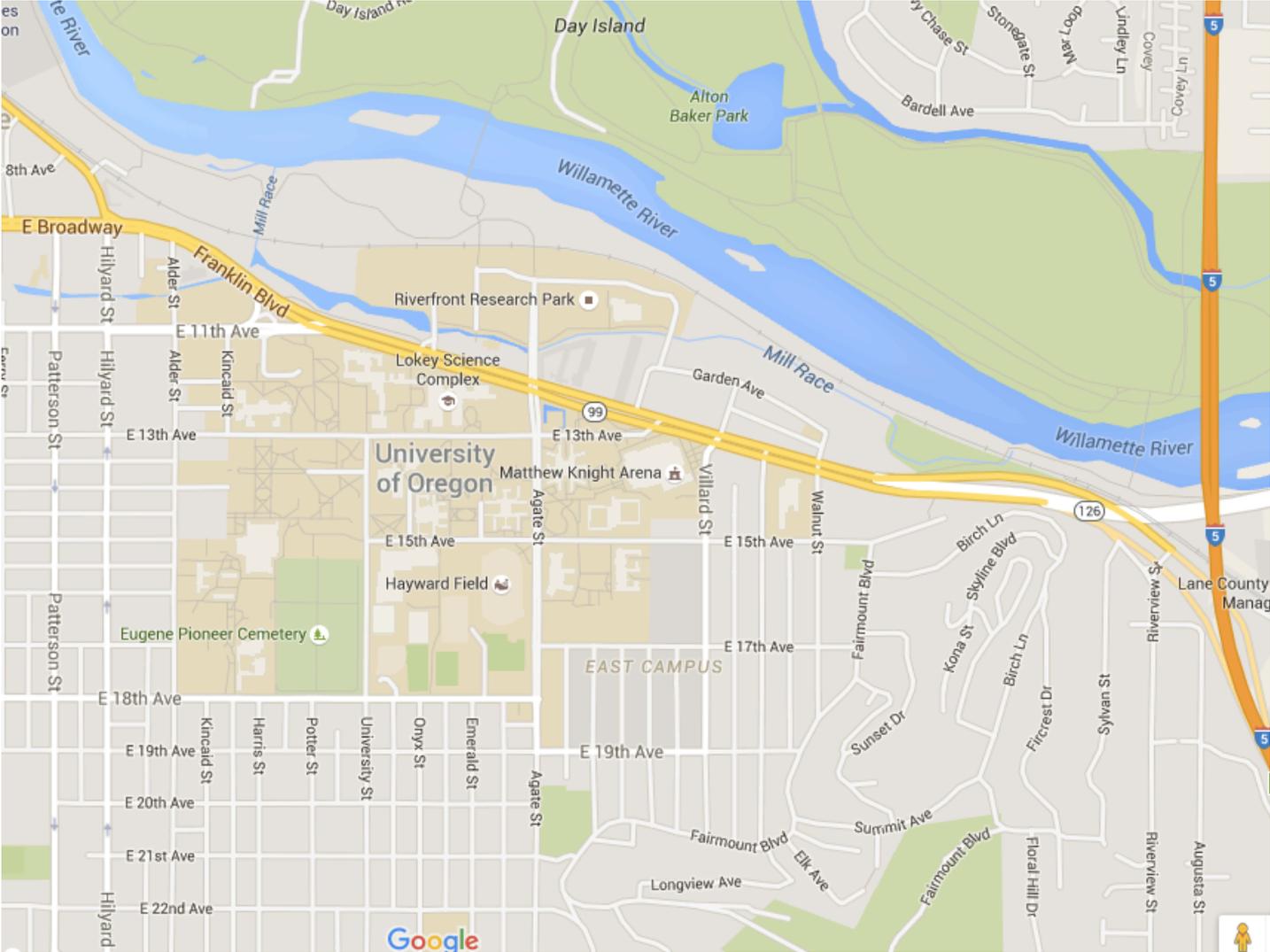
Enjoy food, crafts, produce, music and more. Visit Eugene's seasonal open air market ongoing since 1970! For more info visit: <http://eugen Saturdaymarket.org/index.html>

The Lane County Farmer's Market is a field excursion destination for LCC plant science courses to explore the relationship between phenology (plant & pollinator life cycles) and availability of local produce. Student record data about plant parts available for sale during the spring, interview vendors and consider the reality of eating seasonally and locally.

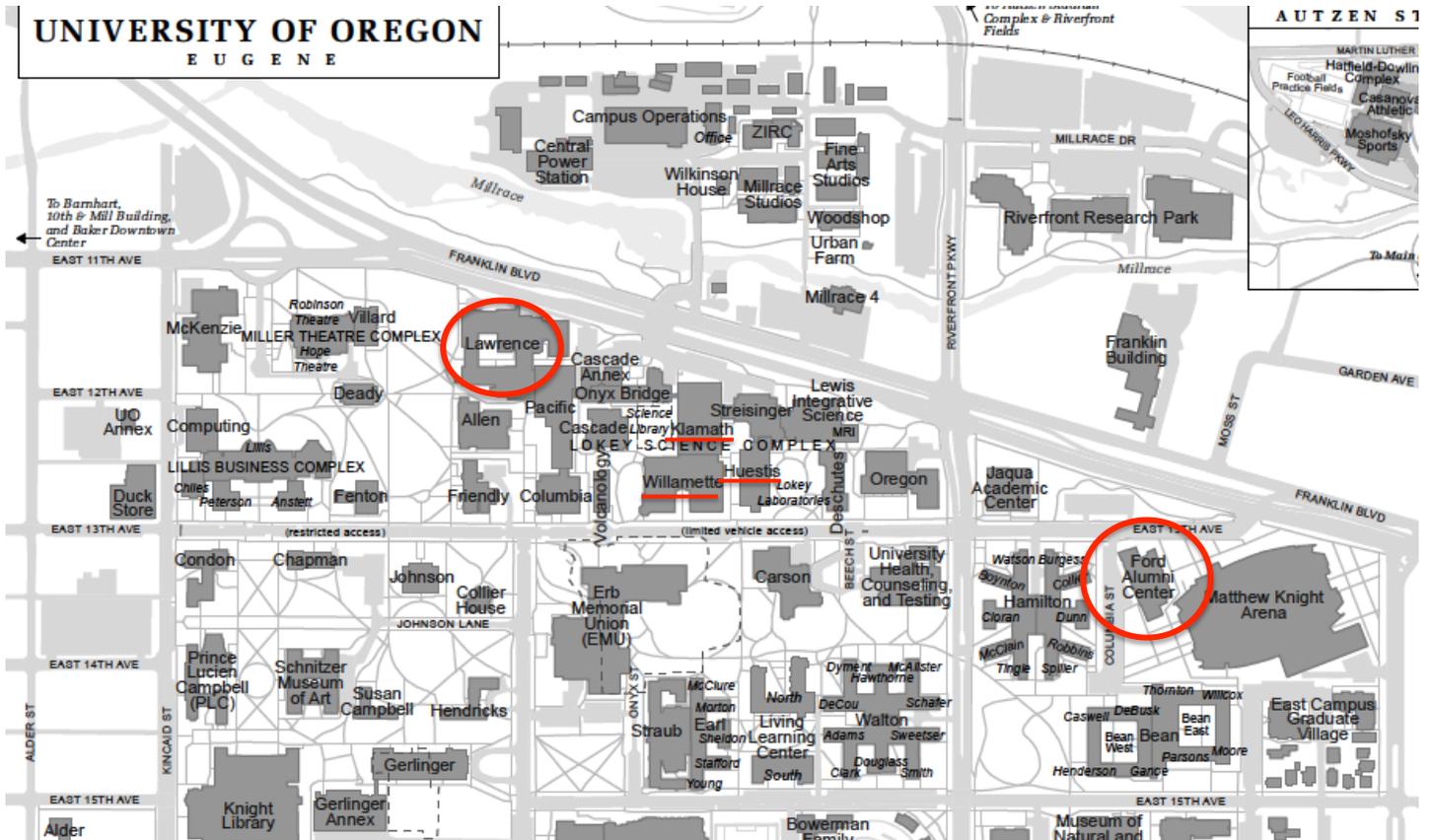
Participating Institutions

Bellevue College
Big Bend Community College
Cascadia College
Central Oregon Community College
Central Wyoming College
Centralia College
Chemeketa Community College
Clatsop Community College
College of Western Idaho
Columbia Basin College
Edmonds Community College
Everett Community College
George Fox University
Grays Harbor College
Rogue Community College
Lane Community College
Linfield College
Linn-Benton Community College
Lower Columbia College
Mt. Hood Community College
North Seattle College
Olympic College
Oregon State University
Pacific Lutheran University
Portland Community College
Portland State University
Renton Technical College
San Diego City College
Shoreline Community College
Skagit Valley College
South Puget Sound Community College
Southwestern Oregon Community College
Tacoma Community College
Treasure Valley Community College
University of Alaska Southeast
University of British Columbia
University of Oregon
University of Washington
University of Washington, Bothell
University of Wyoming
Washington State University
Wenatchee Valley College
Western Oregon University
Western Washington University
Willamette University
Yakima Valley Community College

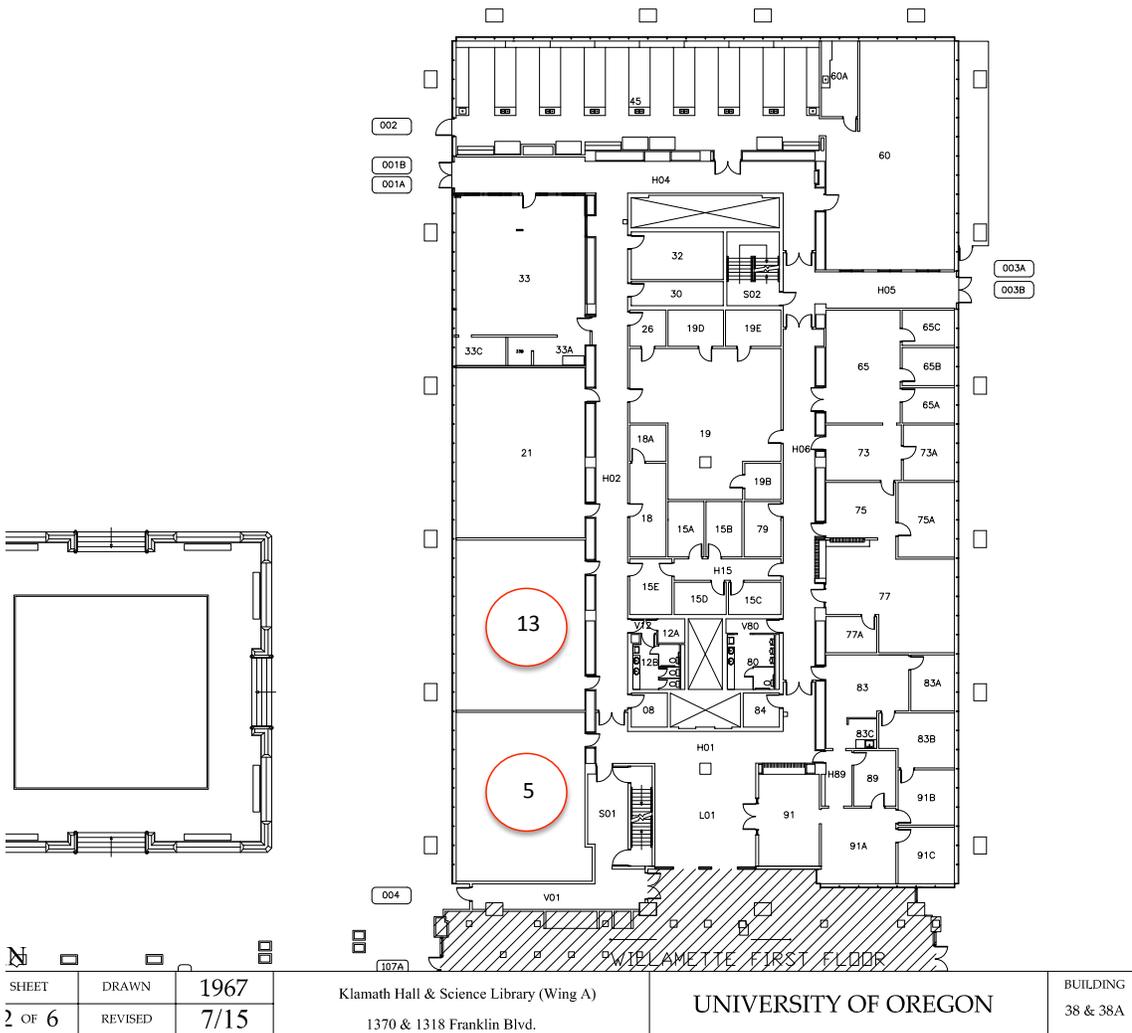
University of Oregon campus relative to I-5 and Franklin Blvd



Campus Building Locations



Klamath Hall Conference Rooms



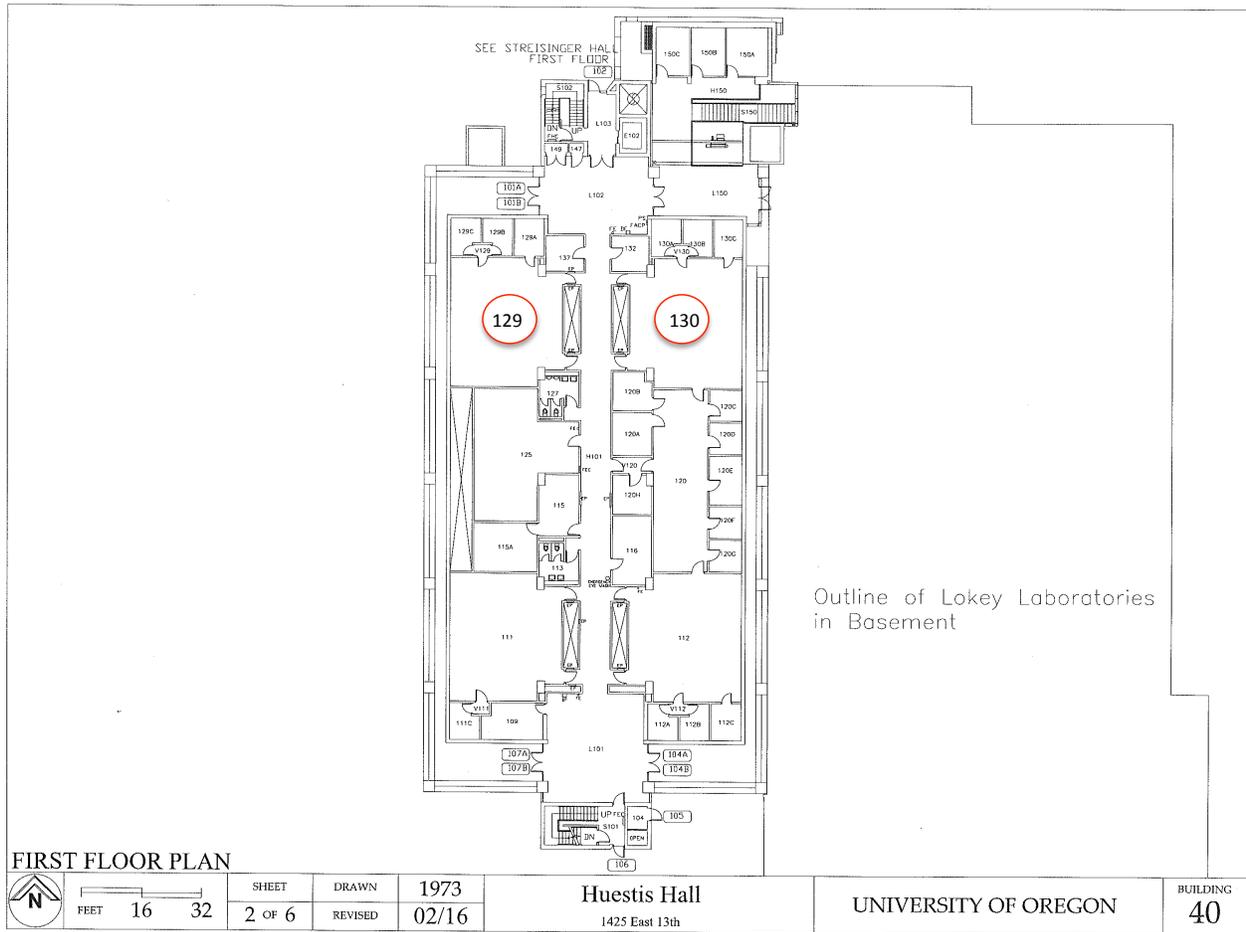
SHEET	DRAWN	1967
2 OF 6	REVISED	7/15

Klamath Hall & Science Library (Wing A)
1370 & 1318 Franklin Blvd.

UNIVERSITY OF OREGON

BUILDING
38 & 38A

Huestis Hall Conference Rooms



UO Guest Wireless

Visitors can now register themselves for 7-day access to UO's wireless network:

1. On your computer or mobile device, select the **UO Guest** wireless network.
2. Select **Create an account**.
3. Provide the requested information, then check the box indicating you accept the terms and conditions (UO's [Acceptable Use Policy](#)), and click **Register**.
4. Click **Send password via email** and/or **Send password via text message**. (*Note: The system may not acknowledge the button click, but it is sending you the message.*)
5. Once you've received a message containing your password, click **Log in**.
6. Enter your assigned username and password. You should then be connected to the **UO Guest** wireless network.

After the initial registration process, you can use wireless by selecting the **UO Guest** wireless network on your computer or mobile device and logging in with your assigned username and password, if necessary.

Thanks to our sponsors!

Lane Community College, Vice President's Office
Lane Community College, Science Division
Pearson Education
Thermo Fisher Scientific
Falling Sky
Organically Grown Company
Humble Bagel
Wildcraft
Ninkasi
University of Oregon, Biology Department
University of Oregon, Science Literacy Program
W.W. Norton and Company
Mt. Pisgah Arboretum
Native Plant Society of Oregon
Oregon Flora Project
Mountain Rose Herbs
HHMI