

**Melissa A. Scherr, Ph.D.**  
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## **Education**

**Ph.D. Entomology**, Oregon State University 2010

Thesis: Evaluating benthic macroinvertebrate as bio-indicators of freshwater habitat quality in an eastern Oregon agro-ecosystem

- Part I. Invertebrate communities as indicators of habitat quality in river stretches adjacent to agricultural land use (intensive pesticide/sediment runoff) in comparison to stretches adjacent to long-term conservation/restoration projects
- Part II. Predictive modeling for responses of invertebrate communities using non-parametric multiplicative regression
- Part III. Effect of temperature body size/development and behavior of *Epeorus albertae* (Ephemeroptera: Heptageniidae)

**Bachelor of Science**, Zoology; Oregon State University

**Undergraduate Studies**, Biology; Eastern Oregon University

**Proficiencies:** S-Plus, SAS, R, PC-Ord, Hyperniche, HEC-RAS

## **Research and Professional Experience**

**June 2017 – Current, Project Coordinator for the Graduate Certificate in Organic Agriculture, Oregon State University**

- Organize Faculty for courses in development for new Program
- Assist in preparation and submission of Category I proposal for a new Program
- Report to Granting entities on progress of new Program
- Manage review processes for all new courses proposed in the new program
- Meet and Organize efforts for new programs with Department Heads, Deans and Program Directors
- Organize workshops with Center for Teaching and Learning and E-campus to assist in new course development

**January 2013 –Current, Instructor, Oregon State University**

- Integrated Pest Management Lab, Spring 2013 (ENT 311)
- Field Lab to compliment lecture (course total 5 cr., ENT 311)
- Integrated Pest Management online course (full course, ENT 311), Fall 2018
- Development of new lab manual for ENT 311
- In Development: ENT 548: Integrated Pest Management for Organic Systems
- In Development: AGRI 506: Organic Agriculture Certificate Capstone

**February 2014 – Current, Part-Time Faculty, Linn-Benton Community College**

- General Biology 101, 102 and 103 for non-majors

## **Past Research/Professional Experience**

**January 2017- September 2017: Research Associate (Post-Doc), Oregon State University**

Data Analysis

- **Completion of statistical analyses** for entomological studies conducted in western Oregon, primarily concerning the use of entomopathogenic fungi to control pests and efficacy of pollinator traps
- **Study design, project initiation** for studies on the phenology of solitary ground nesting bees in crops, including analysis of soil conditions, effects of disturbance and measuring nest success

**January 2011 – January 2017, Executive Director, Northwest Entomological Research Center (NWERC)**

Services and Research Program:

- **Evaluating changes in arthropod biodiversity in response to intensive forestry management in the Oregon Coast Range** (in cooperation with Oregon State University and the National Center for Air and Stream Improvement)

- **Urban Lake Restoration Biomonitoring – East Thornton Lake** (with the City of Albany, Greenbelt Land Trust and others) focusing on pollinator and micro-spider community fluctuations with land use changes
- **Montane Pollinator Biodiversity Surveys, Oregon Coast Range** (in cooperation with Oregon State University) focusing on pollinator diversity and abundance in response to timber management intensity
- **Endangered Species Monitoring, Willamette Valley** (in cooperation with Washington State University Extension and others) evaluating habitat metrics associated with distribution of Fender’s Blue Butterflies, Kincaid’s Lupine including nutritional resources surveys and egg deposition studies

#### Services and Research Program – Responsibilities

- Responsible for new project recruitment
- Lead in grant writing efforts
- Lead field sampling for all projects
- Manage Consultation requests
- Organize public identification request clinic
- Training/oversight of student workers
- Manage Client Contracts
- Manage internship program
- Quality control for data gathering and management
- Consult for study design and statistical analysis
- Specimen identification and curation

#### Structural Integrated Pest Management Program – Responsibilities

- Development of the NWERC IPM Certification Program Handbook
- Development of educational modules for IPM service providers
  - Six complete modules
  - Accredited in Washington for continuing education credit
- Training on-site managers for presentation of modules for staff training
- On-site structural pest management consultation

#### Past Teaching Experience

September 2015 – June 2016, Instructor, Chemeketa Community College

Introduction to Horticulture (HOR 111, 2 cr.), Integrated Pest Management (HOR 237, 5 cr.), Urban Forestry (HOR 273, 2 cr.), Pollination Biology (HOR 110, 2 cr.), Soil Science (SOIL 205, 5 cr.)

May 2011 – September 2015, Adjunct Instructor, University of Oregon

- Ecology (4 cr.)
- Insect Biology (4 cr.)

#### June 2006 – June 2010, Graduate Research Fellow, National Science Foundation Graduate Fellowship Research Program, Oregon State University

- Freshwater and macroinvertebrate ecology in agriculturally impacted rivers
  - Data collection: protocol establishment, sampling, observation, habitat measurements (field and laboratory components)
  - Macroinvertebrate identification (80+ taxa)
  - Ecological community analysis; multivariate modeling
- Grant and manuscript writing; scientific presentations and posters
- On-campus teaching:
  - ENT 311 – Invited lecture, “Fates of Pesticide in Aquatic Systems” (2008, 2009, 2010)
  - ENT 311 – Introduction to Insect Pest Management Lab (Spring 2009)
  - Invited Lecture: Introduction to Ordination (2010)

#### June 2005 – June 2006, Graduate K-12 Fellow, Toshiba America Foundation “Discovering Partners in Nature Program”, Oregon State University

- Creation and execution of three separate K-12 level educational curricula in rural schools in the Willamette Valley spanning the school year, focused on pollination biology
- Coordination of guest speakers and experts for classroom visits
- Organization of field trips for participating schools

- Planning, organization and execution of end-of-year symposium for participating K-12 schools, showcasing student original research

**June 2004 – June 2005, Undergraduate K-12 Fellow, National Science Foundation Rural Science K-12 Education Program, Oregon State University**

- Creation and execution of middle-school level education curricula in rural schools in the Willamette Valley spanning the school year, focused on hands-on, placed natural science

**Volunteer Experience**

2015-2017 **Volunteer/Presenter**, SAGE Garden Insect Workshops  
 2014-2017 **Volunteer/Presenter**, Girl Scouts of America (Entomology Badge)  
 2013 and 2014, **Volunteer/Presenter**, Entomological Foundation Teaching Workshop  
 2012 and 2013, **Community Volunteer**, Institute for Applied Ecology  
 2007-2008, **Speaker/Tour Leader**, American Women in Science (AWIS) Workshops, Oregon State University  
 2006, **Co-Instructor**, Winter Wonderings - Insect Ecology, Oregon State University SMILE Program  
 2005, **Speaker/Mentor**, Oregon Math, Engineering, Science and Achievement (MESA), Oregon State University  
 2005-2009, **Outreach**, Bug Zoo, Oregon State University  
 2004-2005, **Outreach Coordinator**, Bug Zoo, Oregon State University

**Awards and Recognition**

2009 Ph.D. student presentations, 2<sup>nd</sup> place for the President’s Prize, Pacific Branch of the Entomological Society of America  
 2007 National Science Foundation Graduate Research Fellowship  
 2006, 2007 WSARE Graduate Student Grant in Sustainable Agriculture “*Assessment of riparian management practices in northeastern Oregon,*” \$19,000  
 2006, 2007 Agricultural Research Foundation Grant “*Evaluation of Agricultural Runoff in Oregon Rivers Using Bio-monitoring,*” \$19,800  
 2006 Oregon State University Minority Pipeline Fellowship  
 2005 National Science Foundation GK-12 Graduate Fellowship  
 2004 National Science Foundation GK-12 Undergraduate Fellowship

**Publications and Presentations**

Loehle, C., **Scherr, Melissa**, and Verschuyl, J. Foliage arthropod biomass equations for open habitats of the Pacific Coast Range. *Agricultural and Forest Entomology*. *In review 9-2018*.

**Scherr, M.A.** Integrated Gardening: The case for alternatives to pesticides. Presentation for the Linn County Master Gardeners, BEEvent March 2017.

**Scherr, M.A.** Pollinators in Silvicultural Landscapes. Presentation for the Helena Chemical Company, February 2017.

Root, H., J. Verschuyl, T. Stokely, P. Hammond, **M. Scherr** and M. Betts. 2017. Plant diversity enhances moth diversity in an intensive forest management experiment. *Ecological Applications* 27(1) pp. 134-142.

**Scherr, M.A.** 2015. Arthropods as Environmental Indicators. Presentation for the Calapooia Watershed/Greenbelt Land Trust Seminar Series, Spring 2015.

**Scherr, M.A.** 2014. Exploring Insect Biology: Targeted Collecting. Entomological Foundation Teacher’s Workshop, Entomological Society of America annual meeting in Portland, Oregon.

**Scherr, M.A.** 2013. NWERC IPM Certification Program Handbook. Open access via NWERC webpage, updated July 2013.

**Scherr, M.A.**, D. Wooster and S. Rao. 2011. Interactions between macroinvertebrate taxa and complex environmental gradients influencing abundance and distribution in the Umatilla River, Northeastern Oregon. *Journal of Freshwater Ecology* 26 (2): 255-266.

**Scherr, M.A.**, D. Wooster, and S. Rao. 2010. The effects of temperature on growth and development of *Epeorus albertae* (McDunnough) (Ephemeroptera: Heptageniidae) nymphs. *Environmental Entomology* 39 (6): 2017-2024.

**Scherr, M.A.**, D. Wooster and S. Rao. 2012. Interactions between macroinvertebrate taxa and complex environmental gradients influencing abundance and distribution in the Umatilla River, Northeastern Oregon. The 96<sup>th</sup> Meeting of the Pacific Branch of the Entomological Society of America. Portland, Oregon.

**Scherr, M.A.**, D. Wooster and S. Rao. 2010. Bioassessment of the Umatilla River, Eastern Oregon. 2<sup>nd</sup> Annual Student Research in Entomology Symposium, Oregon State University. Corvallis, Oregon.

### **Publications and Presentations, cont.**

**Scherr, M.A.**, D. Wooster and S. Rao. 2009. Growth rate and developmental changes in *Epeorus albertae* (Ephemeroptera: Heptageniidae) in response to temperature. 1<sup>st</sup> Annual Student Research in Entomology Symposium, Oregon State University. Corvallis, Oregon.

**Scherr, M.A.**, D. Wooster and S. Rao. 2009. Effects of Temperature on development and behavior of *Epeorus albertae* (Ephemeroptera; Heptageniidae) (McDunnough) nymphs. The 93<sup>rd</sup> meeting of the Pacific Branch of the Entomological Society of America. San Diego, California.

**Scherr, M.A.** and S. Rao. 2008. A Scientist's Experience: Place-based Learning in Rural Oregon. The 59<sup>th</sup> Annual meeting of the Entomological Society of America. Reno, Nevada.

**Scherr, M.A.**, D. Wooster and S. Rao. 2008. Effects of Adjacent Land Use on Benthic Macroinvertebrates in Eastern Oregon. The 59<sup>th</sup> Annual meeting of the Entomological Society of America. Reno, Nevada.

Rao, S., **M. Scherr**, L. Royce, W.P. Stephen, R. Halse and A. Soeldner, 2007. Bees and Pollination: A 'Scientist' Experience for Rural Youth in Oregon. *American Entomologist*. 53 (2): 74-77.

Rao, S. and **M.A.Scherr**. 2006. NSF GK-12 Rural Science Education Program at Oregon State. University Sustained beyond Year Three. The 2006 Annual Meeting of the National Science Foundation GK-12 Program. Washington, D.C.

**Scherr, M.A.** and S. Rao. 2006. Changes in Rural Communities through Enriched Science Experiences: Preparing Today's Youth for Tomorrow's Challenges. Meeting of the National Science Board, Oregon State University. Corvallis, Oregon.

C. Gray and **M.A. Scherr**. 2005. White Mold: bringing a common garden pest into the classroom. Rural Science Education Teacher's Workshop, Oregon State University. Corvallis, Oregon.

### **Memberships in Professional Societies**

Entomological Society of America (SEB), member since 2006

- Symposium Coordinator, Program Chair: Student Research in Entomology Symposium, Oregon State University (2009 and 2010)
- Pacific Branch Representative, Student Affairs Committee: Entomological Society of America (2006-2008)
- Graduate Student Symposium Coordinator: Pacific Branch Entomological Society of America (2007)