

Karen E. Bledsoe

Department of Biology, Division of Natural Science
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Home:
4230 12th Street SE
Salem, OR 97302-1870
503-581-2795 (h)

Research interests

- Student concepts and conceptual change in science
- Problem-based and project-based learning
- University outreach to K-12 schools

Current research:

- “Conceptions held by undergraduate non-science major students about biological molecules.” Project approved by WOU IRB board July 2007.
- “Does use of History of Science in an introductory biology course affect student understanding of the Nature of Science and key science concepts?” Project approved by WOU IRB board, October 2007.

Academic Record

- Doctor of Philosophy, Science Education, 2007, Oregon State University, Corvallis, Oregon.
- Master of Science, Plant Systematics and Ecology, 1993, Oregon State University, Corvallis, Oregon
- Master of Arts in Teaching, 1991, Willamette University, Salem, Oregon
- Bachelor of Science, Biology, 1985, Willamette University, Salem, Oregon

Grants

- 2008 Oregon Mathematics and Science Partnerships Program (Oregon ESEA Title IIB MSP)
- 2007 Faculty Travel Award, Western Oregon University

Professional Memberships

- Association for Science Teacher Education (ASTE)
- School Science and Mathematics Association (SSMA)
- Oregon Academy of Science (OAS)
- National Association for Research in Science Teaching (NARST)
- National Science Teacher’s Association (NSTA)
- Oregon Collaborative for the Excellence in the Preparation of Teachers (OCEPT)

Current Position

- Adjunct Assistant Professor Division of Natural Science and Mathematics tel. 503- 838-8206 9/06-present
Western Oregon University Monmouth, OR 97361
Courses taught:
 General Biology 101, 102, 103
 Biology for Elementary Schools
 Honors Biology
 Principles of Biology 213 lab

Experience, Education

- Part-time Instructor Math and Science Division tel. 541-917-4741 04/04 - 08/07
 Biology Linn-Benton Community College Albany, OR 97321
 Subjects: Biology 100 series
- Graduate Assistant Department of Science and Mathematics Education tel. 541-737-4031 9/00 - 12/06
 Oregon State University Corvallis, OR 97331
 Assignments:

Managing Editor, School Science and Mathematics Journal (3 years)
 Curriculum coordinator, GENETIC project, SMILE program (3 years)
 Consultant to middle school science teacher, Grant Community School
 Field supervision of pre-service teachers (2 years)

Program evaluator:

- Hydroville Curriculum Project
- GK-12 project
- Hatfield Marine Science Center educational programs

Web page design and management

Writing textbook copy

Teaching pre-service teachers

- Pedagogy I and II (TA)
- Research Practicum (TA)
- Diagnosing and Addressing Science Misconceptions
- Life Science Activities for Elementary and Middle School Teachers

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|--|---|--------------------------------|
| • Adjunct Instructor | Division of Natural Science and Mathematics tel. 503- 838-8206
Western Oregon University Monmouth, OR 97361
Subjects: General Biology, Biology for Elementary Schools | 9/95 - 6/00 |
| • Substitute/Temporary
Teacher: Science
High School level | Salem-Keizer School Dist. 24-J tel. 503-399-3061
1309 Ferry St. SE Salem, OR 97301
Subjects: Physical Science, Biology,
Chemistry, Physics | 9/91 - 6/92 and
9/93 - 9/95 |
| • Temporary Staff: Biology | Willamette University tel. 503-370-6181
Department of Biology Salem, OR 97301
Subjects: Plant Systematics, General Biology | 2/95 - 3/95 |
| • Adjunct Professor, temporary | Linfield College tel. 503-229-7056
Department of Continuing Education
McMinnville, OR 97128-6894
Subjects: Field Botany | 3/94 - 5/94 |
| • Teacher: High School Science
(Temporary position) | South Salem High School tel. 503-399-3252
1912 Church St. SE Salem, OR 97302
Subjects: Biology, Physical Science | 9/92 - 6/93 |
| • Student teacher | North Salem High School tel. 503-399-3241
via Willamette University MAT program
School of Education, Willamette University
Salem, OR 97301
Subjects: Biology (1 full semester) | 9/90 - 6/91 |
| • Environmental Educator
Youth Interpretive Program
Outdoor School | City of Salem tel. 503-588-6162
Department of Parks and Recreation
550 Liberty St. SE Salem, OR 97301
Developed and taught environmental education programs for
participants ages 8-12. | 9/89 - 10/90 |
| • Laboratory Teaching Assistant | Willamette University tel. 503-370-6181
Department of Biology Salem, OR 97301
Subjects taught: General Biology lab | 9/84 - 5/85 |

Experience, Science

- Assistant to Herbarium Curator Oregon State University tel. 541-737-4106 10/85 - 6/88
Department of Botany and Plant Pathology
Corvallis, OR 97331
- Biological Technician USDA Forest Service tel. 503-666-0670 6/87 - 10/87
Mt. Hood National Forest
2955 NW Division St. Gresham, OR 97030
- Research Assistant Dr. Susan Kephart tel. 503-370-6181 6/84 - 9/84
Willamette University
Department of Biology Salem, OR 97301

Professional Service

- Editorial Review Board, Electronic Journal of Science Education, 11/07 - present
- Reviewer, School Science and Mathematics Journal, 9/06 - present
- Reviewer, Journal of Research in Science Teaching, 09/06 - present
- Science Education Co-chair and Webmaster, Oregon Academy of Science, 9/98 - present
- Faculty Fellow, Oregon Collaborative for the Excellence in the Preparation of Teachers (OCEPT)

Papers and publications

- Bledsoe, K. (2007). *How do engineering students develop and reason with concepts of electricity in a project-based course?* Published dissertation, Oregon State University.
- Bledsoe, K., Shieh, R., Park, Y., & Gummer, E. (2004). Role perceptions and role dynamics between graduate scientists and K-12 teachers in a school-university outreach project: Understudied constructs. *Journal of Higher Education Outreach and Engagement*, 9(2), 107-122.
- Kephart, S., K. Sturgeon, J. Lum, K. Bledsoe, Varietal Relationships in *Silene douglasii* (Caryophyllaceae): Morphological Variability at the Population Level, *Systematic Botany*, 1999.
- Bledsoe, K. Morphology and Cytology of *Trillium albidum* Freeman (Liliaceae). 1993. Thesis.

Unpublished reports

- Shieh, R., & Bledsoe, K.E. (2003). *Evaluation of the GK-12 Fellowships to Enhance Science Education in Oregon*. Prepared for the Oregon State University GK-12 Project and the National Science Foundation.

Presentations

- National Association for Research in Science Teaching annual conference, April 15-18, 2007. "How do electrical engineering students develop and reason with concepts of electricity in a project-based course?"
- Oregon Academy of Science annual meeting, February 2007. "Models of circuits held by first-year electrical engineering students in a task-based laboratory course."
- Association for Science Teacher Education international conference, January 3-6, 2007. "How do engineering students without a strong knowledge base reason and form ideas about electricity within a task-based learning context?"
- National Writing Project annual meeting, November 17-19, 2005. "The Digital Fotonovela: Collaborative Writing Using Technology." With Glen Bledsoe.
- National Association for Research in Science Teaching annual conference, April 4-7, 2005. "Role perceptions within a school-university outreach project: Under-researched constructs." With Ruey Shieh, Young-Shin Park, Edith Gummer.
- Oregon Academy of Science annual meeting, February 2005. "Strategies for educational engagement: A model for professional development for teachers of minority students and academic enrichment in an after school program." With SueAnn Bottoms.
- National Writing Project annual meeting, November 18-20, 2004. "Technology Media in Elementary Classrooms." With Glen Bledsoe.
- Oregon Science Teacher's Association annual meeting, October 8, 2004. "Writing-to-Learn in Science."
- 12th Annual Graduate Student Conference, Oregon State University, May 5, 2004. "Role perception and role dynamics within a GK-12 outreach project." With Ruey Shieh, Young-Shin Park, Dr. Edith Gummer.
- Oregon Academy of Science annual meeting, February 2004. "Role perception and role dynamics within a GK-12 outreach

- project.” With Ruey Shieh, Young-Shin Park, Dr. Edith Gummer.
- Oregon Academy of Science annual meeting, February 2004. “The ‘guest scientist’: Outcomes of a program to place graduate science and mathematics students in K-12 classrooms.” With Ruey Shieh, Young-Shin Park, Dr. Edith Gummer.
 - 11th Annual Graduate Research Conference, Oregon State University, May 8, 2003. “Evaluation of a K-12 outreach program to support inquiry-based learning in math and science: An interim report.” With Ruey Shieh.
 - Center for Learning and Teaching in the West Research Forum II. April 3-4, 2003. “Project-based learning in math and science education doctoral research seminars.” With Dr. Edith Gummer, Jung-mi Ha.
 - Oregon Academy of Science annual meeting, February 2003. “Curriculum development through assessment: Measuring problem solving skills in Hydroville curriculum participants.” Co-presented with Molly Bloomfield and Angie Ruzicka.
 - Oregon Academy of Science annual meeting, February 2003. “But what I really meant was...”: The limitations of written instruments to assess student conceptions around natural selection.
 - Oregon Academy of Science annual meeting, February 2000. “Beyond Methods and Science 101: Developing science classes for elementary education majors.”
 - Willamette University Biology Department, February 1989, March 1991, and February 1994. “Cytological technique in *Trillium albidum*.” Workshop.
 - Thesis defense, Oregon State University, March 1993. “Morphology and cytology of *Trillium albidum* Freeman (Liliaceae).”
 - Willamette University Biology Department, April 1985. “The effects of flower position and flowering time on seed set.”
 - Oregon Academy of Science, April 1985. “The effects of population density on fruit set in Onagraceae.”
 - Willamette University Biology Department, December 1984. “The effects of population density on fruit set in Onagraceae.”

References

Dr. Larry Flick, Chair, Department of Science and Mathematics Education, Weniger Hall, Oregon State University, Corvallis, OR, 97331. 541-737-3664. flickl@onid.orst.edu

Carolyn Lebsack, Biology Department, Linn-Benton Community College, 6500 Pacific Blvd. SW, Albany, OR, 97321, 541-917-4762, lebsacc@linnbenton.edu

SueAnn Bottoms, The SMILE Program, Oregon State University, Gladys Valley Center, Corvallis, OR, 97331-3510, 541-737-4653. bottomss@smile.oregonstate.edu.

Dr. Lonnie Guralnick, Division Chair, Natural Science and Mathematics Division, Western Oregon University, 345 N. Monmouth Ave., Monmouth, OR, 97361. 503-838-8863, guralnl@wou.edu

Dr. Karen Haberman, Department Chair, Biology Department, Western Oregon University, 345 N. Monmouth Ave., Monmouth, OR, 97361. 503-838-8478, habermk@wou.edu