



Welcome to our Biology Education (BE) Research Area!

If a faculty position that involves great scholarly teaching is your hope or ambition, our BE area will help you achieve a competitive edge. BE is for everyone who is interested in teaching, in teaching-related research, or in understanding the importance of community, a sense of belonging, and cultural relevancy for educating the next generation. We are committed to helping all students develop the advanced reasoning and problem-solving abilities that are so critical to new discoveries in the life sciences and to society.

Our common goal is to promote high quality instruction and to enhance learning by applying educational research to course and curriculum design. BE affiliates are mobilizing our department, the university, and professional societies nationwide by transcending sub-disciplinary boundaries and working across all the research areas to help answer discipline-specific questions related to teaching and learning.

*Seven Basic Competency Areas  
for Biological Experimentation*  
<http://docs.lib.purdue.edu/pibergim/4>



**Members and affiliates of our area include:**

- Research-active faculty who complement bench or field research with educational innovation,
- Science faculty who now mainly teach,
- Non tenure-track instructors, and
- People in the Purdue International Biology Education Research Group (PIBERG).

**BE gives all biology graduate students the opportunity to contribute to PIBERG scholarship and other biology education research projects like these:**

- Development of Course-based Undergraduate Research Experiences (CUREs);
- Classroom and laboratory instructional innovation to improve teaching and learning;
- Helping students to visualize and reason about evidence to understand the richness and complexity of data that informs biological knowledge;
- Integration of engineering practice and design principles with the life sciences;
- Education of and outreach to high school biology students and teachers;
- Biology faculty development.

When you meet our BE faculty affiliates, ask about their projects, publications, leadership, and awards of distinction – or contact Dr. Stephanie Gardner ([sgardne@purdue.edu](mailto:sgardne@purdue.edu)) if you have questions about the faculty and graduate program in BE at Purdue University!



### **BE Faculty members** (primary affiliation listed first)

Ed Bartlett	Professor, NP and BE
Ximena Bernal	Associate Professor, EEB and BE
Ignacio Camarillo	Associate Professor, NP and BE
David Eichinger	Associate Professor, C&I and BE
Stephanie Gardner	Associate Professor, BE (Convenor)
Selcen Guzey	Associate Professor, C&I and BE
Sean Humphrey	Lecturer of General Biology
Dennis Minchella	Professor, EEB and BE
Chris Sahley	Professor, NP and BE
Tom Walter	Lecturer of Microbiology, BE
Olga Yurchenko	Lecturer of Molecular Biology, BE



Photo credit: Autumn Siebold

### **Funded BE Projects** (associated BEA members noted)

- Integration of Engineering Design and Life Science: Investigating the Influence of an Intervention on Student Interest and Motivation in STEM Fields, NSF # 1721141; Amount: \$1,375,896 (Guzey)
- Excellence in STEM Teaching in Indiana through Integrating Engineering Practice and Design Principles, NSF # 1758487; Amount: \$1,415,500 (Guzey)
- Grappling with Graphs: Researching and Improving Student Graphing Skills Using An Interactive Digital Graphing Tool, NSF # 1726180; Amount: \$475,000 (Gardner)
- Exploring Biological Evidence: Helping Students Understand the Richness and Complexity of Evidentiary Constructs in Biology, NSF # 1661124; Amount: \$1,270,154 (Gardner, Pelaez)
- Teachers and Researchers Advancing Integrated Lessons in STEM (TRAILS), NSF # 1513248; Amount: \$964,235 (Eichinger)
- AGEP-Transformation: The CIC Professorial Advancement Initiative, NSF # 1309173; Amount: \$345,740 (Sahley)

### **Leadership Roles**

- Associate Dean for Undergraduate Education, College of Science
- Editorial Board Member, Advances in Physiology Education
- Director, Center for Faculty Success, Office of the Provost
- Monitoring Editor, CBE--Life Sciences Education
- Program Director, Louis Stokes Alliance for Minority Participation (LSAMP)
- Co-Director of the CURE-Purdue faculty professional development program

### **Honors and Distinctions**

- American Society of Parasitologists' Distinguished Service Award
- Charles B. Murphy Award for Outstanding Undergraduate Teaching
- J. Alfred and Martha O. Chiscon Undergraduate Teaching Award
- Member of the Teaching Academy
- Murphy Exceptional Early Career Award
- Purdue 150th Anniversary Professor
- University Student Government Excellence in Teaching Award