



Welcome to our Biology Education Area (BEA)!

If a faculty position that involves teaching is your hope or ambition, our BEA will help you achieve a competitive edge. BEA 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 students develop the advanced reasoning and problem-solving abilities that are so critical to new discoveries in the life sciences and to society.

### Seven Basic Competency Areas of Biological Experimentation



Our common goal is to promote high quality instruction and to enhance learning by applying educational research to course and curriculum design. BEA 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.

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

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

BEA 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 BEA faculty affiliates, ask about their projects, publications, leadership, and awards of distinction - strong recognition of great work done by members of our BEA faculty.

Nancy Pelaez, Associate Professor and BEA Convener  
Fellow, American Association for the Advancement of Science  
Fellow of the Royal Society of Biology (FRSB)



## BEA Summary

<u>BEA Faculty Members</u>		
Bartlett	Ed	Associate Professor, BEA and NP
Bernal	Ximena	Associate Professor, BEA and EEB
Camarillo	Ignacio	Associate Professor, BEA and NP
De	Rupa	Continuing Lecturer of Anatomy and Physiology
Eichinger	David	Associate Professor, BEA and C&I
Gardner	Stephanie	Associate Professor, BEA Deputy Convener
Guzey	Selcen	Associate Professor, BEA and C&I
Humphrey	Sean	Continuing Lecturer of General Biology
Minchella	Dennis	Professor, BEA and EEB
Pelaez	Nancy	Associate Professor, BEA Convener
Sahley	Chris	Professor, BEA and NP
Walter	Tom	Continuing Lecturer of Microbiology
Yurchenko	Olga	Continuing Lecturer of Plant Molecular Biology

### Externally Funded BEA Projects

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

Excellence in STEM Teaching in Indiana through Integrating Engineering Practice and Design Principles, NSF # 1758487; Amount: \$1,415,500

Grappling with Graphs: Researching and Improving Student Graphing Skills Using An Interactive Digital Graphing Tool, NSF # 1726180; Amount: \$475,000

Exploring Biological Evidence: Helping Students Understand the Richness and Complexity of Evidentiary Constructs in Biology, NSF # 1661124; Amount: \$1,336,062

Teachers and Researchers Advancing Integrated Lessons in STEM (TRAILS), NSF # 1513248; Amount: \$964,235

RCN-UBE: Assessment of Competence in Experimental Design in Biology (ACED-Bio) Network, NSF # 1346567; Amount: \$500,000

AGEP-Transformation: The CIC Professorial Advancement Initiative, NSF # 1309173; Amount: \$345,740

### Leadership Roles

Associate Dean for Undergraduate Education, College of Science

Associate Editor, *Advances in Physiology Education*

Chair-Elect, American Association for the Advancement of Science (AAAS) Section on Education (2019-2022 for a 3-year term; first year as chair-elect, second year as chair, third year as retiring chair)

Director, Center for Faculty Success, Office of the Provost

Editorial Board Member, *CBE--Life Sciences Education*

Program Director, Louis Stokes Alliance for Minority Participation (LSAMP)

### Honors and Distinctions

American Society of Parasitologists' Distinguished Service Award

Charles B. Murphy Award for Outstanding Undergraduate Teaching

Fellow of the American Association for the Advancement of Science

Fulbright Scholar

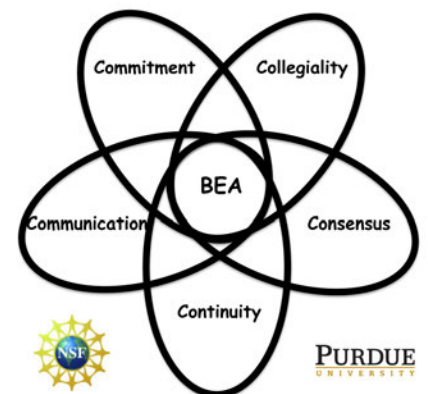
J. Alfred and Martha O. Chiscon Undergraduate Teaching Award

Member of the Teaching Academy

Murphy Exceptional Early Career Award

Purdue 150th Anniversary Professor to recognize achievements in teaching

University Student Government Excellence in Teaching Award



Pelaez et al., *Life Sciences Education* 17(2), 2018.