

BIOGRAPHICAL SKETCH

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NAME: Connelly, Sandra**eRA COMMONS USER NAME (agencylogin):** SJConnelly**POSITION TITLE:** Principal Lecturer of Life Science**EDUCATION/TRAINING** (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Juniata College, Huntingdon, PA	BS	05/1998	Biology/Criminal Justice
State University of New York at Buffalo, Buffalo, NY	MS	06/2003	Ecology & Evolutionary Biology
Miami University of Ohio, Oxford, OH	PHD	12/2007	Zoology
State University of New York at Buffalo, Buffalo, NY	Other training	08/2003	Molecular Ecology
Lehigh University, Bethlehem, PA	Graduate Student	05/2005	Molecular Ecology

A. Personal Statement

I have been teaching science and mentoring students and faculty in the classroom for over 18 years. I have been working intensively with deaf and hard of hearing students in the classroom and beyond for the last nine years. Recently I am the Co-PI on a grant through the National Technical Institute for the Deaf at Rochester Institute of Technology to study the success of deaf and hard of hearing students who transition and transfer between programs during their academic career. Further, I work with support staff and faculty to improve and enhance the learning experiences of all students in the classroom, particularly focusing on the pedagogy required to engage all students and promote learning in a higher learning, "main stream" classroom (PI, Implementing the Flipped Class Model...). I am experienced teaching and mentoring in lecture, laboratory, seminar, workshop, one on one research, blended and online learning formats. These highly varied experiences have prepared me to mentor researchers and instructors in higher education classrooms and in collaborative research programs.

B. Positions and Honors**Positions and Employment**

1998 - 1999	Laboratory and Field Research Assistant in Agronomy Science, Rodale Institute Experimental Farm, Kutztown, PA
1999 - 2001	Research Technician / Technical Writer, Pennsylvania State University, Department of Agronomy and Soil Science, State College, PA
2002 - 2002	Research Technician Aquatic Ecology, State University of New York at Buffalo, Buffalo, NY
2007 - 2007	Adjunct Professor of Zoology, Miami University of Ohio, Oxford, OH
2007 - 2009	Lecturer Life Sciences, Rochester Institute of Technology, Rochester, NY
2009 - 2017	Assistant Professor of Life Science, Rochester Institute of Technology, Rochester, NY
2017 -	Principal Lecturer of Life Science, Rochester Institute of Technology, Rochester, NY

Other Experience and Professional Memberships

- 2004 - 2005 Research Technician Antarctic Expedition, University of West Florida 2005 - Member, American Society of Limnology & Oceanography
- 2009 - Member, Society for Integrative and Comparative Biology 2009 - Member, American Society of Photobiology
- 2012 - 2014 Chair, Academic Support Committee, Rochester Institute of Technology Academic Senate
- 2013 - Member, Biological Stain Commission
- 2013 - 2014 Faculty Subject Expert, AP Biology Standards Settings Achievement Level Descriptions Validation Panel, College Board
- 2013 - 2014 Leader, Engaging students with the flipped classroom model: A community of practice, Rochester Institute of Technology Teaching & Learning Center
- 2014 - Graduate, Project Kaleidoscope Summer Leadership Institute
- 2014 - Campus Associate, Association of American Colleges and Universities 2014 - Participant, Project Kaleidoscope STEM Education initiatives
- 2014 - 2014 Co-Chair, Student Voice Education, Rochester Institute of Technology Curricular Innovation Task Force
- 2014 - Chair, Experiential Learning in Life Sciences, Rochester Institute of Technology
- 2015 - Member, Science Teachers Association of New York State
- 2016 - Curriculum Mapping and Learning Outcomes Assessment, Life Sciences, Rochester Institute of Technology
- 2016 - Online Learning Committee, College of Science, Rochester Institute of Technology
- 2017- Secretary, Central-Western Section, Science Teachers Association of New York State
- 2017 - 2017 eCybermission Judge, US Army Educational Outreach Program

Honors

- 2011 Richard & Virginia Eisenhart Provost's Award for Excellence in Teaching, Rochester Institute of Technology
- 2014 College of Science Outstanding Teaching Award, Rochester Institute of Technology
- 2015 Effective Practice Award, Online Learning Consortium
- 2016 Brightspace Accessibility Award (D2L Corporation)

C. Contribution to Science

1. In the past three years, I have mentored 30 bachelors and three graduate students on projects in my, and my collaborators, labs. Five of the undergraduate students are deaf or hard-of-hearing, 21 are women, and seven are from groups underrepresented in the STEM disciplines. Six of my undergraduates have presented at meetings in the past two years. Three of these students are in graduate school now in chemistry, bioinformatics, and neuroscience (female). I have mentored ten undergraduates (eight women) in STEM teaching through Independent Study. Students underlined below.
 - a. Connelly, SJ, Meier, K, Becker, M. Inquiry and Investigations: Salamander antipredator defenses: A field exercise to engage students in ecosystem dynamics. American Biology Teacher. To be published September 2017.
 - b. Wronko, E, Babbitt, C, Connelly, S, Tomaszewski, B, Tyler, A. "Geospatial and Toxicity Assessment of Carbon Nanomaterial Release." Presentation at the ISIE-ISSST 2017 Conference: Science in Support of Sustainable and Resilient Communities, Chicago, IL, June 25, 2017.

- c. Layman, AW, Mills, JL, Connelly, SJ. "Assessment of crumb rubber degradation products under controlled conditions." Association for the Sciences of Limnology and Oceanography, Summer Meeting, 2016.
 - d. Connelly SJ, Walling K, Wilbert SA, Catlin DM, Monaghan CE, Hlynchuk S, Meehl PG, Resch LN, Carrera JV, Bowles SM, Clark MD, Tan LT, Cody JA. UV-Stressed *Daphnia pulex* Increase Fitness through Uptake of Vitamin D3. PLoS One. 2015; 10(7):e0131847. PubMed PMID: [26147286](#); PubMed Central PMCID: [PMC4492615](#).
 - e. Tobias M, Connelly SJ. Interaction of nutrition and UV radiation on *Daphnia*. . SICB Annual Meeting 2012; 2012 January; Charleston, SC, United States.
 - f. Eng AE, Connelly SJ. Effects of multiple abiotic stressors on microcrustaceans, *Gammarus* spp. and *Artemia* spp., in light of ozone depletion. SICB Annual Meeting 2009; 2009 January; Boston, MA, USA.
2. This project focuses on students who transition between programs and/or transfer between University programs during their academic careers. These transitions can be highly disruptive to their learning and, in many cases, can significantly delay graduation and their entry in to graduate school or the work force. This project has qualitatively and quantitatively assessed the transition phase of deaf and hard-of-hearing students from an Associates Degree program to a Bachelors of Science program at Rochester Institute of Technology. These results have been accepted to the Journal of Developmental and Physical Disabilities for publication.
- a. Lynn, M.A., Schley, S., Tobin, K.M., Lengyel, D.M., Ross, A. Connelly, S.J. Deaf, Hard-of-Hearing, and Hearing Students in an Introductory Biology Course: College Readiness, Social Learning Styles, and Success. Journal of Developmental and Physical Disabilities – Accepted Sept 5, 2016.
 - b. Lynn MA, Connelly SJ, Ross A, Lengyel DM, Tobin KM. A Quantitative and Qualitative Assessment of the Experiences of Deaf and Hard-of-Hearing Students Transitioning into Baccalaureate Studies in ST EM Disciplines. Effective Access Technology Conference; 2014; Rochester, NY, USA.
 - c. Lynn MA, Connelly SJ, Ross AD. A Quantitative and Qualitative Assessment of the Experiences of Deaf and Hard-of-Hearing Students Transitioning into Baccalaureate Studies in ST EM Disciplines. Assessment Network of New York, 2nd Annual Meeting; 2014; Rochester, NY, USA.
3. The students in higher education today are not the same as students ever before. Let alone technological advances, significant changes in the classroom population have arisen, including increased numbers of academically supported students, students who identify as having severe academic challenges, and students who simply lack direction. This change calls for significant modifications to the delivery of classroom content. The Flipped Classroom / Blended Learning model, by design, transfers much of the content learning (lectures) to time spent outside of class and permits a more interactive environment in the classroom. This study aims to "flip" the General Education Biology course to identify better, and more efficient, means of instruction and assessment for a highly diverse population of students, including minimally 30% deaf and hard of hearing students. The videos generated for extramural instruction are being produced ADA Compliant with both closed captioning and American Sign Language embedded in all videos, and are being made available to anyone through posting on YouTube. The face-to-face time of the course is now focused on critical thinking and adaptive learning. It is believed that such advanced pedagogical methods of ten reserved for upper-level undergraduate and graduate students will garner significant improvements to the content delivery in general education science courses, providing better access to the materials for all students (increased learning and retention), and providing a more nurturing environment in which to explore science rather than memorize science.
- a. Connelly, SJ (2016). "Active Learning in a Case Study Classroom". Case Studies in Science Summer Workshop, University at Buffalo, May. Speaker and Facilitator.

- b. Connelly SJ. Safe Teaching Experiments: Hedging Against Risk. Rochester Institute of Technology: Teachers on Teaching; 2015 March; Rochester, NY, USA.
 - c. Connelly SJ. Implementing the Flipped Class Model to Engage All Students in a Large General Education Biology Course. Rochester Institute of Technology: PLIG Faculty Showcase; 2014 November 19; Rochester, NY, United States.
 - d. Connelly SJ. How I Flipped My Class – Or, What I did Last Semester! Cornell University Teaching Conference; 2014 June 19; Ithaca, NY, United States.
 - e. Connelly SJ. The Flipped Classroom: Fostering Teaching and Learning. Pearson Webinar; 2014 April 09.
4. This project aims to identify the root causes of class D/W/F rates in STEM disciplines so that the appropriate and more focused strategies can be implemented, concomitantly improving retention. The project is using data mining techniques and statistical analyses on coded data (identity removed) to identify strong characteristics that would result in a student who was most likely to earn a D/W/F in a course and how those characteristics differ from the “successful” students in those same courses. Correlations of final grades in courses, common exams, and overall GPA to multiple factors, including placement exams, high school class rank, distance of RIT from the students home, and any targeted support programs in use by the student (tutoring, etc.) have been calculated.
- a. Connelly, SJ (2017) “Faculty Panel: Challenges & Best Practices.” Project Access: Train the Trainer Workshop, National technical Institute for the Deaf. April.
 - b. Connelly SJ. Measuring Your Success in Course Redesign. Pearson Webinar; 2014 February 27.
 - c. Connelly SJ. (Re)Designing for a more engaged classroom with alternate content delivery. CiTE Conference; 2014; Fort Worth, TX, USA.
 - d. Bradley L, Connelly SJ, Hane E, Wahl A. General Education Assessment: Assessment is a Team Sport. Assessment Network of New York, 1st Annual Meeting; 2013; West Point, NY, USA.

D. Research Support

Ongoing Research Support

1438280, National Science Foundation Babbitt (PI) 01/01/14-01/01/18

Direct and Embodied Ecological Impacts Across the Fullerene Life Cycle

Role: KP