

ANNWESA DASGUPTA
755 W. Michigan Street
Indianapolis, Indiana 46202

CURRENT ACADEMIC EMPLOYMENT

- 2017** Post-Doctoral Researcher, STEM Education Innovation & Research Institute, IUPUI, Indiana 46202
- 2016** Post-Doctoral Researcher, Engineering Education, Purdue University, Indiana 47905
Research with assessment development and evaluation of project centered on integration of computational thinking competencies within elementary level STEM curriculum (NSF Award #1543175).
Faculty Advisor: Professor Senay Purzer
- 2015** Senior Lecturer, Biology Department, Niagara University, USA
Remodeled coursework and taught an introductory biology lecture course to non-majors. Taught two sections of anatomy and physiology labs at the sophomore level to biology and nursing majors.
Developed and taught human physiology I and II to biology and nursing majors in an online format for the summer session.

EDUCATION

- 2014** Ph.D., Biological Sciences, Purdue University, USA
Dissertation: How Do Students Think About Experimental Design In Biological Sciences?
Committee: Professor Nancy J. Pelaez (advisor)
Professor David C. Eichinger (chair)
Professor Trevor R. Anderson
Professor Dennis J. Minchella
Professor Jeffrey D. Karpicke
- 2007** Master of Science, University of Mumbai, India
Thesis: Characterization of Photosynthetic Enzymes from Green Algae
- 2005** Bachelor of Science, St Xavier's College, Mumbai, India

PUBLICATIONS

Dasgupta, A., Rynearson, A., Purzer, S., Ehsan, H., & Cardella, M. (2017). Engineering Design and Computational Thinking in K-2 Classrooms: Evidence from Student Artifacts. ASEE Conference, Columbus, OH.

Dasgupta, A., Purzer, S., & Van Epps, AS (2017). Frameworks that Integrate of Computational Thinking and Other School Subjects: A Systematic Literature Review. (*In preparation* – To be submitted to *Computer Science Education* by Summer 2017).

Dasgupta, AP, Anderson, TR & Pelaez, N (2016). Development of the Neuron Assessment for Measuring Biology Students' Use of Experimental Design Concepts and Representations. *CBE-Life Sciences Education*, 15(2), ar10.

Dasgupta AP, Anderson TR, Pelaez N (2014). Development and Validation of a Rubric for Diagnosing Students' Experimental Design Knowledge and Difficulties. *CBE Life Science Education* 13, 265-284

Dasgupta AP, Anderson TR, Pelaez N (2017). Validation of the 'Neuron Assessment' In Comparison to Other Measures of Biology Students' Understanding of Experimental Design. (*In preparation* – To be submitted to *CBE Life Science Education* by Fall 2017).

ABSTRACTS AND PRESENTATIONS

Purzer S, **Dasgupta** AP, Gaijzik EA, Moore, T, J, Tank, K.M., *A Framework for Assessment of Integration of STEM+C*, 2016. 3RD P-12 Engineering and Design Summit.

Purzer S, **Dasgupta** AP, *No Patterns in Pattern Recognition: A Systematic Literature Review*, October, 2016. Invited Speaker. 2016 IEEE Frontiers in Education Conference (FIE).

Dasgupta AP, Anderson TR, Pelaez N. CUREnet (Course-based undergraduate research experiences), 2014. Invited workshop speaker. *Assessing biology students' learning about experimental design*. Cold Spring Harbor Laboratory (Workshop).

Dasgupta AP, Anderson TR, Pelaez N. *Student Difficulties about Experimental Design in Biology* (2012). EcoLunch Seminar, Department of Biological Sciences, Purdue University (Presentation).

Dasgupta AP, Anderson TR, Pelaez N. Society for Advancement of Biology Education Research (SABER), 2012. Invited Talk. *Designing and Testing of a New Probe to Reveal Student Difficulties with Biological Experiments*. University of Minnesota- Twin Cities (Presentation).

Dasgupta AP, Pelaez N., American Physiological Society, **Research Recognition Award**. *Predicting strategies to improve student perceptions about connections between biology knowledge areas using innovative network analysis software* *FASEB Journal* 26, 2012 (Poster Abstract).

Parker LC, **Dasgupta** AP, Adedokun OA, Forney J, Minchella DJ. *A Faculty Learning Community for Integrating Quantitative Statistical Analysis into Undergraduate Biology: Preliminary Impacts and Lessons Learned*. NARST 2012. (Presentation).

TEACHING EXPERIENCE

- Graduate Teaching Assistant and “super” peer leader for an introductory biology course participating in the Purdue course transformation venture (IMPACT) (Spring 2012). Demonstrated leadership skills in advising teaching interns and facilitating active learning as part of implementation of a cyber Peer-Led Team Learning (cPLTL) program funded by EDUCAUSE (Next Generation Learning Challenges Wave I).
- Instructor for laboratory module in BIOL 20500 - Biology for Elementary School Teachers (Fall 2011 and 2012).
- Graduate Teaching Assistant for a large enrollment introductory biology course (Spring 2010).
- Graduate Teaching Assistant for a large enrollment sophomore level microbiology course (Fall 2007-Spring 2008).

Teaching Awards

- Excellence in Teaching Award 2012-2013, Graduate School, Office of the Provost, Purdue University.
- Outstanding Graduate Teaching Assistant 2012, Biological Sciences, Purdue University.
- Research Recognition Award, 2012, Teaching Section of the American Physiological Society.

PROFESSIONAL DEVELOPMENT EXPERIENCE

- Organized and managed data collection, analysis, dissemination, and reporting of results from the STEM+C project focused on curriculum implementation of STEM and computational thinking lesson modules at the K-2 level (Fall 2016-Present).
- Evaluated curriculum and assessment design for the NSF STEM+C grant for integration of STEM and computational thinking competencies in formal and informal settings for K-2 (Spring 2016-Present).
- Collaborated on the assessment design and evaluation component for a NSF TUES-type 1 two phase project to report improvements in student skills relevant to fundamental ecology and perception changes as a result of participation in ecology project based courses (Fall 2012 -Summer 2013; Fall 2013-Summer 2014).
- Partnered with biology faculty to design learning modules as part of Faculty learning community component for the HHMI funded project, *Deviating from the Standard: Integrating Statistical Analysis and Experimental Design into Life Science Education*. (Fall 2012-Spring 2013).
- Evaluated and reported accomplishments for the HHMI-funded project: *Deviating from the Standard: Integrating Statistical Analysis and Experimental Design into Life Science Education* at Purdue University (Fall 2010- Spring 2011) (<http://hhmi.bio.purdue.edu/>).
- Evaluated a Lilly Foundation Inc. endowed undergraduate research internship program and formulated strategies to augment cross disciplinary research experiences for undergraduate students at Purdue (Spring 2010- Fall 2010; Summer 2011) (<http://tinyurl.com/DURIPurdue>).

ADDITIONAL RESEARCH EXPERIENCE

Post-Doctoral Experience

- Build online repository for assessment instruments engineering education intended to be a useful portal for previously published assessments to be beneficial for educators, teachers and researchers.

Doctoral Program

- Conducted an in depth literature review of the current theoretical frameworks in cognitive sciences and analyzed their application in undergraduate biology education research.
- Investigated role of motor proteins in transport within the *Drosophila* nervous system using cutting edge research *si*-RNA inhibition techniques.

Bachelors and Masters Program

- Experience with laboratory procedures like with fundamental cell and molecular biology techniques like genomic DNA isolation from bacterial and viral cultures, bacterial plasmid extractions, genetic karyotype study experiments, enzyme extractions and determination of enzyme kinetics.

OTHER ACADEMIC AWARDS AND HONOURS

- Distinguished Graduate Student Award, 2012, Dept of Biological Sciences, Purdue University.
- Felicitated by the Vice Chancellor of Mumbai University, India for university merit ranking.
- Awarded scholarship from Mumbai University, India for standing 2nd at the University Level.
- Merit award for the College Honors Program at St. Xavier's College, Mumbai, India.

PROFESSIONAL SOCIETIES

- Chartered member of Society for Advancement of Biology Education Research (SABER).
- Member of American Physiological Society (APS).
- Member of Purdue International Biology Education Research Group (PIBERG).
- American Society for Engineering Educators (ASEE)

SERVICE TO THE COMMUNITY

- Appointed as Brand Ambassador for Purdue University.
- Organized and disseminated a two-day workshop, “*Mini-grant: Investigating Students’ Scientific Reasoning about Biological Experiments*” in Fall 2010 to bring together biology education and research faculty in the Mid-west region to participate in students’ assessment design and evaluation for scientific reasoning about biological experiments.
- Graduate Research Assistant (2009) for evaluation of faculty response data for the research-based Diagnostic Question Clusters (DQCs).

REFERENCES

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