Post-Doctoral Position in Biochemistry Education and Visualization Research

**Duration:** one year commencing 18 August 2014, with a possibility of renewal for a further year depending on performance and funding, including ability to generate external funding

**Salary:** $35,200 to $44,000 (depending on expertise and experience) plus a benefits package for an 11-months appointment consisting of 9 months academic year salary plus 2 months of summer salary, and a $5,000 budget to use towards conference travel and other research-related expenses. A background check will be required for this position.

**Supervisor:** Trevor Anderson, Visualization in Biochemistry Education (VIBE) Research Group, Divisions of Chemistry Education and Biochemistry, Dept. of Chemistry, Purdue University

**Co-Advisor:** Nancy Pelaez, Purdue International Biology Education Research Group (PIBERG), Dept. of Biological Sciences, Purdue University.

**Area of research:** The VIBE Research Group is a vibrant and productive group of currently 9 doctoral students working under the joint supervision of Drs Trevor Anderson in Chemistry Education and Nancy Pelaez in Biology Education. Our research focuses on the niche area of visualization in biochemistry education, an area of national and international importance given the central role played by representations in the teaching and researching of modern life science. VIBE has a strong international flavor with several foreign students and collaborations with colleagues in Australia, Sweden, The Netherlands, South Africa, Brazil, and the USA. Current research projects focus on four interrelated areas of biochemistry education: 1) visual literacy and the development and assessment of visual skills and representational competence, 2) science inquiry and reasoning about experiments and data collection equipment, 3) assessment design and validation, including concept inventories and reasoning with core concepts and representations, and 4) curriculum and faculty development. Our work aims to introduce cutting-edge science and visualization approaches to the undergraduate curriculum wherever biochemistry is taught, including upper division biochemistry courses. We specialize in the development of novel methods for collecting and processing data about students' and experts' visual and reasoning skills that compose representational competence in biochemistry. A major focus is on modeling the cognitive processes deployed by experts when using representations to explain phenomena.

**Qualifications:** A Ph.D. degree in Biochemistry, Chemistry, Biology or Science Education and demonstrated interest and ability in educational research. Experience or knowledge in multimedia development and/or visualization research is an added advantage but is not essential.

**Expectations of the position:** The successful applicant will be expected to do the following:
- Perform his/her own research in biochemistry education and visualization approved by the advisors;
- Participate in writing grant proposals;
- Help advise and mentor approximately 9 VIBE doctoral students;
- Help organize weekly VIBE Group meetings;
- Participate in organizing science education research workshops;
- Help manage the VIBE Group's MacMini Server;
- Oversee the installation of VIBE's online database of Conceptual and Reasoning Difficulties (CARD);
- Perform agreed upon activities for the candidate's professional and career development.

**Applications:** Review of applications will begin 24 March 2014 and continue until the position is filled. Individuals applying for this position should have earned their Ph.D. by August 2014. Send applications to Dr. Trevor Anderson at the email address below, as a single PDF file containing: (1) a cover letter with a statement of background, research interests and how you feel your knowledge and skills meet the requirements of the position, (2) a curriculum vitae, and (3) names and contact details of three referees.

**Contact:** Dr. Trevor Anderson, Visualization in Biochemistry Education (VIBE) Research Group, Divisions of Chemical Education and Biochemistry, Department of Chemistry, Purdue University, West Lafayette, Indiana 47907-2084, USA; Email: ander333@purdue.edu; https://www.bio.purdue.edu/vibe/; https://www.bio.purdue.edu/piberg/