RANDI GBUR

NSF PIRE-ECCI Fellow
University of California, Santa Barbara
Department of Chemistry and Biochemistry
Santa Barbara, CA 93106

EDUCATION

The University of California Santa Barbara
Ph.D. in Organic Chemistry 2013 (anticipated)

The University of Texas at Arlington
B.S. in Biochemistry
Minor in Physics 2008
Honors: *magna cum laude*

RESEARCH EXPERIENCE

The University of California Santa Barbara, Santa Barbara, CA
Graduate Researcher under Dr. R. Daniel Little July 2008 – Present

- mechanistic studies of triplet trimethylene methane (TMM) diyl trapping by molecular oxygen to form peroxides
- electrochemical studies of the reduction of substituted fulvenes for *intra*molecular cyclization and dimerization
- modification of electrode surfaces with electrochemical mediators attached to a thiophene polymer backbone for use in heterogeneous catalysis

Beijing University of Technology, Beijing, P.R. China
Visiting Researcher under Dr. Cheng-chu Zeng April 2012 – May 2012

- synthesis and electrochemical analysis of redox mediators for attachment to polymer modified electrodes

The Ohio State University, Columbus, OH
NSF-funded REU under Dr. Dennis Bong June 2007 – August 2007

- functionalization of a liposome surface employing click chemistry for use in drug delivery systems, became efficient in the use of an HPLC, mass spectrometer, and fluorimeter

The University of Texas at Arlington, Arlington, Texas
Undergraduate Researcher under Dr. Carl J. Lovely May 2006 – March 2008

- assisted in the efforts toward the natural product synthesis of a biologically active marine alkaloid and subsequent biological testing of analog compounds on *M. smegmatis*

TEACHING EXPERIENCE

The University of California Santa Barbara, Santa Barbara, CA

Undergraduate Student Mentor 2009 – present
One-on-one mentoring of an upper level undergraduate and guided research with three undergraduates, including one international exchange student

Lead Teaching Assistant 2009 – 2010
Guided new organic chemistry teaching assistants to develop better teaching skills

Head Teaching Assistant – Professor Donald Aue Fall 2009
Coordinated grading and entering of grades for over 250 students, graded exams and quizzes, and assisted in administering exams and quizzes for general organic chemistry

High School Student Mentor Summer 2009
Mentored two high school students, provided hands-on organic chemistry lab experience as well as providing guidance on the preparation of a report and presentation on their accomplishments

Teaching Assistant 2008 – Present
Instructed all levels of organic chemistry lab students, including an upper level lab, writing weekly quizzes, grading lab reports, and administering grades

The University of Texas at Arlington, Arlington, TX

Chemistry Clinic Tutor 2006 – 2008
Helped to improve the understanding of course materials for general chemistry and organic chemistry students

The University of Texas at Arlington, Arlington, TX

College of Science Ambassador Dec. 2006 – May 2008
Conducted science enrichment programs for underprivileged youth

AWARDS AND HONORS

NSF Partnership for International Research and Education: Electron Chemistry and Catalysis Interfaces (PIRE-ECCI) Fellow	2011 – 2013
Robert H. DeWolfe Graduate Teaching Fellowship in Organic Chemistry	2010 – 2012
Bruce Rickborn-Ross Johnson Fellowship	2008 – 2009
University Scholar at The University of Texas at Arlington	2007 – 2008
Who's Who Among Colleges and Universities	2007 – 2008
Accepted into Louis Stokes Alliance for Minority Participation	Summer 2007
NSF-funded REU at The Ohio State University	Summer 2007
National Society of Physics Students Grant for the Large Cloud Chamber Team	2007 – 2008
Vice President of the UTA Chemistry and Biochemistry Society	2006 – 2007
Outstanding Freshman Scholarship	2004 – 2005
Elks Lodge Service Scholarship	2004 – 2006

PUBLICATIONS

Unveiling the Role of Molecule Assisted Homolysis: A Mechanistic Probe into the Chemistry of a Bicyclic Peroxide — *J. Org. Chem.*
Randi K. Gbur and R. Daniel Little — **2012**, *77*, 2134–2141

*"*Electrosynthesis of Bioactive Materials*" in Organic Electrochemistry, 5th ed. B. Speiser & O. Hammerich, Eds.*, Chapter 26, Randi Gbur and R. Daniel Little — In press

Triarylimidazole Redox Catalysts: Electrochemical Analysis and Empirical Correlations — *J. Org. Chem.*
Ni-tao Zhang, Cheng-chu Zeng, Chui Lam, Randi K. Gbur and R. Daniel Little — In press

On the redox chemistry of fulvenes: unexplored territories
Randi K. Gbur and R. Daniel Little — In Preparation

Reduce, Reuse, Recycle: Mediator-modified electrodes for heterogeneous catalysis
Randi K. Gbur, Cheng-Chu Zeng, and R. Daniel Little — In Preparation

MEETINGS AND PRESENTATIONS

- **NSF PIRE-ECCI Annual Meeting**
  Progress Towards Mediator-Modified Electrodes for Heterogeneous Catalysis
  Shanghai, China, *Oral presentation* (Sept. 19) — 2012

- **NSF PIRE-ECCI Technology Tour**
  Suzhou, China, *Attendee* (Sept. 15-18) — 2012

- **NSF PIRE-ECCI Annual Meeting**
  Dalian, China, *Attendee* (Sept. 10-14) — 2012

- **Electromembrane Processes and Materials (ELMEMPRO) Meeting**
  Cesky Krumlov, Czech Republic, *Attendee* (Aug. 26-29) — 2012

- **63rd Annual Meeting of the International Society of Electrochemistry (Aug. 20-24)**
  Reduce, Reuse, Recycle: Mediator-Modified Electrodes for Heterogeneous Catalysis
  Prague, Czech Republic, *Oral presentation* (Aug. 21) — 2012

- **College of Life Science & Bioengineering Departmental Seminar**
  A Mechanistic Study of a Bicyclic Peroxide and the Unexpected Role of Molecule-Assisted Homolysis
  Beijing University of Technology, *Oral presentation* (May 21) — 2012

- **Department of Chemistry Graduate Student Seminar Series**
  Living Dangerously: A Mechanistic Probe into the Chemistry of a Bicyclic Peroxide and the Role of Molecule-Assisted Homolysis
  University of California Santa Barbara, *Oral presentation* (Feb. 16) — 2012

- **NSF SusChEM Workshop**
  Arlington, VA, *Participant* (Jan. 17-19) — 2012

- **National Meeting and Exposition of the American Chemical Society (Mar. 21-25)**
  Mechanistic studies of TMM diyl chemistry in the presence of oxygen: the role of peroxides
  San Francisco, CA, *Poster presentation* (Mar. 23) 2010

- **The Ohio State University Chemistry REU Symposium**
  In Situ Polymerization at the Liposome Surface
  The Ohio State University, *Poster presentation* 2007

- **Meeting in Miniature of the Southwest Division of the American Chemical Society**
  Design and Susceptibility Testing of Anti-Tuberculosis Drugs
  Ft. Worth, TX, *Oral presentation* 2007

- ***University of Texas at Arlington Academic Annual Celebration of Excellence***
  Design and Susceptibility Testing of Anti-Tuberculosis Drugs
  University of Texas at Arlington, *Oral presentation* 2007

PROFESSIONAL MEMBERSHIPS

American Chemical Society
International Society of Electrochemistry