

**CYNTHIA GRAHAM BRITTAIN**  
Lecturer, Department of Chemistry  
University of Rhode Island  
cbrittain@chm.uri.edu • 401.874.2028  
www.chm.uri.edu/people/cbrittain/html

---

## EDUCATION

PHD, BIOCHEMISTRY, 1988 – University of Cincinnati, Cincinnati, OH  
Dissertation: *<sup>2</sup>H-NMR Study of the Binding of d<sub>6</sub>-Ethanol and d<sub>10</sub>-Butanol to Model and Natural Membranes*  
BS, CHEMISTRY, 1983 – University of South Florida, Tampa, FL ▪ *Summa Cum Laude*

---

## PROFESSIONAL EXPERIENCE

THE UNIVERSITY OF RHODE ISLAND, Kingston, RI Chemistry Lecturer	12/2005 – Present
THE PROCTER & GAMBLE COMPANY, Cincinnati, OH Corporate Engineering Technologies (CET) Instructional Development Leader Managing Editor of Procter & Gamble's <i>CET Core Technologies Journal</i> Corporate Engineering Training Delivery Team Manager	5/1999 – 12/2005
PROCTER & GAMBLE FAR EAST, Kobe, Japan Scientist, Beauty Care Research & Development	1/1998 – 5/1999
CLERMONT COLLEGE, UNIVERSITY OF CINCINNATI, Cincinnati, OH Assistant Professor of Chemistry	9/1996 – 12/1997
KENNESAW STATE UNIVERSITY, Atlanta, GA Associate Professor of Biochemistry, tenured Assistant Professor of Biochemistry	9/1988 – 3/1995
UNIVERSITY OF CINCINNATI, Cincinnati, OH MIAMI UNIVERSITY, Hamilton, OH Adjunct Instructor	1986, 1987, 1988 1987

---

## AWARDS

COLLEGE OF ARTS & SCIENCES, THE UNIVERSITY OF RHODE ISLAND  
Student Success Award, 2015  
Teaching Excellence Award, 2010

KENNESAW STATE UNIVERSITY, Atlanta, GA  
Semi-finalist, Distinguished Teaching Award, 1989

DEPARTMENT OF CHEMISTRY, THE UNIVERSITY OF CINCINNATI  
Thomas B. Cameron Prize for representing the highest ideals and achievement in the teaching of chemistry, 1988  
Henry Hochstetter Prize for excellence in teaching, 1985 & 1986

---

## FUNDING

UNIVERSITY OF RHODE ISLAND STEM GATEWAY COURSE INNOVATIONS PROGRAM Enhancement of the CHM 103 Learning Process: <i>Prepare – ACTIVELY Participate – Practice</i>	2015
---	------

---

UNIVERSITY OF RHODE ISLAND GATEWAY COURSE FUNDING PROGRAM CHM 103 Learning Process: <i>Prepare – Participate – Practice</i>	2012
CHAMPLIN FOUNDATIONS PROGRAM AT THE UNIVERSITY OF RHODE ISLAND Acquisition of a High Performance Liquid Chromatography—Mass Spectroscopy Instrument: Impacting the Laboratory Experience of 600 Students per Year with Research Quality Equipment	2010
UNIVERSITY OF CINCINNATI FACULTY DEVELOPMENT PROGRAM Innovation in the Organic Chemistry Curriculum through Lecture Integration and Laboratory Application of NMR and IR Spectroscopy	1996
UNIVERSITY SYSTEM OF GEORGIA TECHNOLOGY & EQUIPMENT TRUST FUND NATIONAL SCIENCE FOUNDATION INSTRUMENT & LABORATORY IMPROVEMENT PROGRAM Innovation in the Undergraduate Chemistry Curriculum through Integration of FT-NMR Spectroscopy	1995 1994
KENNESAW STATE UNIVERSITY FACULTY DEVELOPMENT PROGRAM NMR Experiments for Teaching and Research	1993
KENNESAW STATE UNIVERSITY FACULTY DEVELOPMENT PROGRAM Investigation of the Effect of High Altitude-Induced Hypoxia on Fetal Hemoglobin Levels in Adult Human Erythrocytes	1990

---

## PROFESSIONAL ACTIVITIES

### AMERICAN CHEMICAL SOCIETY (ACS)

- Co-Chairman, Kids & Chemistry Initiative, Cincinnati Section, 1996
- Co-Chairman, Advertising, Cincinnati Section, 1996
- Sponsor of Kennesaw State ACS Student Affiliates, 1993 – 1995
- Georgia Section Chairman, 1994
- Georgia Section Chairman-Elect, 1993
- Secretary, Women Chemists Discussion Group, Georgia Section, 1992 – 1993
- Writer, Editor, Publisher for *The Filter Press* (newsletter of the Georgia Section), 1993 – 1994
- Writer, Editor, Publisher for *The Lattice Network* (newsletter for Georgia science teachers), 1993
- Invited Speaker, Meeting of the Georgia Section, 1993
- Outside Reviewer, Petroleum Research Fund Type B Grants-In-Aid, 1992
- Chemistry Demonstrator, National Chemistry Week, 1987 – 1988 (Cincinnati), 1991 – 1994 (Georgia)

### NATIONAL SCIENCE FOUNDATION

- Review Panelist & Panel Chairman, Instrument & Laboratory Improvement Program, 1997
  - Review Panelist, Instrument & Laboratory Improvement Program, 1995
- 

## PUBLICATIONS

- L.M. Sigward and C.G. Brittain, *Introduction to Methodology of Process Development (MOPD)* web-based training course, Corporate Engineering Technologies, The Procter & Gamble Company, Cincinnati, OH, 2004.
- J. Varadarajan, B. Weinstein, J.P. Hecht, C.G. Brittain, *Lump Cake Physical Stability Model and Methods*, Corporate Engineering Technologies, The Procter & Gamble Company, Cincinnati, OH, 2004.
- C.G. Brittain, *DOX Fundamentals* web-based training course, Corporate Engineering Technologies, The Procter & Gamble Company, Cincinnati, OH, 2001.
- C.G. Brittain, *Statistical Methods* resource website (design and content), Corporate Engineering Technologies, The Procter & Gamble Company, Cincinnati, OH, 2000.

C.G. Brittain, *Design of Experiments (DOX): Plan for Success (International Version)*, Corporate Engineering Technologies, The Procter & Gamble Company, Cincinnati, OH, 1998.

C.G. Brittain, *General Chemistry Experiments for the Allied Health Student: A Prescription for Common Laboratory Ailments, Second Edition*, Kendall/Hunt Publishing Company, Dubuque, IA, 1992.

C.G. Brittain, *Organic and Biochemistry Experiments for the Allied Health Student: A Prescription for Common Laboratory Ailments*, Kendall/Hunt Publishing Company, Dubuque, IA, 1990.

C.G. Brittain, *General Chemistry Experiments for the Allied Health Student: A Prescription for Common Laboratory Ailments*, Kendall/Hunt Publishing Company, Dubuque, IA, 1990.

C. Graham-Brittain, R. J. Hitzemann, and G. P. Kreishman, "Detection of a Novel Binding Site for Butanol in DPPC/GM<sub>1</sub> Liposomes by <sup>2</sup>H-NMR Spectroscopy," in *Biological and Synthetic Membranes*, Progress in Clinical and Biological Research, Volume 292, edited by D. Allan Butterfield, Alan R. Liss, Inc., New York, NY, 1989.

G. P. Kreishman, C. Graham-Brittain, H. E. Schueler, and R. J. Hitzemann, "Introduction of New Alcohol Binding Sites at the Lipid/Water Interface by the Incorporation of Monosialogangliosides Into DPPC Liposomes," in *Redox Chemistry and Interfacial Behavior of Biological Molecules*, edited by G. Dryhurst and K. Niki, Plenum Publishing Corporation, New York, NY, 1988.

R. J. Hitzemann, C. Graham-Brittain, H. E. Schueler, and G. P. Kreishman, "Ordering/Disordering Effects of Ethanol in Dipalmitoyl Phosphatidylcholine Liposomes," *Anal. of the N. Y. Acad. Sci.*, 492, 142, 1987.

R. J. Hitzemann, H. E. Schueler, C. Graham-Brittain, and G. P. Kreishman, "Ethanol Induced Changes in Membrane Order: An NMR Study," *Biochim. Biophys. Acta.*, 859, 189, 1986.

G. P. Kreishman, C. Graham-Brittain, H. E. Schueler, and R. J. Hitzemann, "On the Use of Nuclear Magnetic Resonance (NMR) Spectroscopy to Study the Mechanism(s) of Ethanol Action," *Alcohol and Drug Research*, 6, 1, 1986.

G. P. Kreishman, C. Graham-Brittain, and R. J. Hitzemann, "Determination of Ethanol Partition Coefficients to the Interior and the Surface of Dipalmitoyl-phosphatidylcholine Liposomes Using Deuterium Nuclear Magnetic Resonance Spectroscopy," *Biochem. Biophys. Res. Commun.*, 130, 301, 1985.

---

## PRESENTATIONS

C. Graham Brittain, M. McGregor, "Transformation of a G2C Chemistry Course: Process, Progress, and Results," JNGI 2016 Gateway Course Experience Conference, Atlanta, GA, 4/2016.

J. L. Caulkins, K. A. Fournier, J. Baglama, C. Graham Brittain, "G2C at URI: A Case Study in Gateway Course Reform to Support Student Success," JNGI 2015 Gateway Course Experience Conference, Charlotte, NC, 4/2015.

L. M. Sigward, C. G. Brittain, "Methodology of Process Development (MOPD) Web Based Training," 20<sup>th</sup> Global Process Community Symposium, Cincinnati, OH, 10/2005.

V. L. H. Bevilacqua, M. A. Hawks, J. L. Powers, E. A. Demby, D. P. Hurst, T. G. D'Onofrio, J. H. Brown, K. W. Buehner, P. H. Reggio, L. M. Padolsky, C. G. Brittain, "Substance P Structure Determination: A Team Project for the Undergraduate Biochemistry Laboratory Course," 44<sup>th</sup> Experimental NMR Conference, Savannah, GA, 3-4/2003.

S. M. Jerguson, C. G. Brittain, J. K. Young, and R. P. Hicks, "An Undergraduate Exercise in Determining Neuropeptide Secondary Structure Using Two Dimensional Magnetic Resonance Spectra," 207th National Meeting of the American Chemical Society, San Diego, CA, 3/1994.

C. G. Brittain, J. Dawson, and R. L. Hodges, "Catalyzing Reactions to Chemistry," 1992 Science and Leadership Meeting of the Georgia Science Teachers Association, Atlanta, GA, 2/1992.

G. P. Kreishman, H. E. Schueler, C. Graham-Brittain, R. J. Hitzemann, and R. A. Harris, "Ethanol Induced Changes of Molecular Order at the Surface of Synaptic Plasma Membranes from Ethanol Sensitive and Insensitive Mice," 1989 Research Society on Alcoholism Scientific Conference, Beaver Creek, CO, 6/1989.

G. P. Kreishman, C. Graham-Brittain, H. E. Schueler, and R. J. Hitzemann, "Solvation of Specific Structural Domains at the Lipid/Water Interface of Neuronal Membranes by Alcohols," 1989 International Symposium on Charge and Field Effects in Biosystems, Richmond, VA, 6/1989.

C. Graham-Brittain, G. P. Kreishman, and R. J. Hitzemann, "Deuterium NMR Evidence of a Unique Surface Binding Site for Alcohols in DPPC/GM<sub>1</sub> Liposomes," 1989 Biophysical Society Meeting, Cincinnati, OH, 1989.

G. P. Kreishman, C. Graham-Brittain, and R. J. Hitzemann, "Detection of a Novel Surface Binding Site of Alcohols in DPPC/GM<sub>1</sub> Liposomes using <sup>2</sup>H-Nuclear Magnetic Resonance Spectroscopy," International Symposium on Biological and Synthetic Membranes, Lexington, KY, 10/1988.

C. Graham-Brittain, G. P. Kreishman, and R. J. Hitzemann, "Detection of a Novel Alcohol Binding Site on the Surface of DPPC-GM<sub>1</sub> Model Membranes by Deuterium Nuclear Magnetic Resonance," 1988 Biophysical Society Meeting, Phoenix, AZ, 2/1988.

G. P. Kreishman, C. Graham-Brittain, H. E. Schueler, and R. J. Hitzemann, "Solvation of the Surface of Neuronal Membranes by Ethanol and the Resulting Changes in Molecular Order of the Lipids," 1st Eurasia Conference on Chemistry of Solutions, Bangkok, Thailand, 1/1988.

G. P. Kreishman, C. Graham-Brittain, H. E. Schueler, and R. J. Hitzemann, "Alcohol-Induced Changes in Molecular Order at the Water/Lipid Interface of Neuronal Membranes," Third International Symposium on Redox Mechanisms and Interfacial Properties of Molecules of Biological Importance, Honolulu, HI, 10/1987.

C. Graham-Brittain, G. P. Kreishman, and R. J. Hitzemann, "Determination of Ethanol-d<sub>6</sub> Partition Coefficients of the Interior and Surface of Dipalmitoyl-Phosphatidylcholine Liposomes Using Deuterium Nuclear Magnetic Resonance Spectroscopy," 20th ACS Great Lakes Regional Meeting, Milwaukee, WI, 6/1986.

R. J. Hitzemann, C. Graham-Brittain, H. E. Schueler, and G. P. Kreishman, "Ethanol-Induced Changes in Neuronal Membrane Order, Conference on Alcohol and the Cell," The New York Academy of Sciences, Philadelphia, PA, 5/1986.