

Christina M. Ragain, Ph.D., M.S.

PROFESSIONAL APPOINTMENTS

Southeast Missouri State University, Cape Girardeau, MO August 2014-Current
Assistant Professor

The University of Texas at Tyler, Tyler, TX June 2006-May 2009
Lecturer in Chemistry

PROFESSIONAL PREPARATION

The University of Texas at Austin, Austin, TX June 2009 – May 2014
Ph.D. Chemistry

“Vibrational Stark effect spectroscopy measurement of local electrostatic fields in proteins and their connection to protein-protein interactions.”

Advisor: Lauren Webb

Yale University, New Haven, CT July 2004 – May 2006
M.S. Chemistry

“Investigating the connection between functional loop dynamics and catalysis in triosephosphate isomerase.”

Advisor: J. Patrick Loria

“Simulation and interpretation of NMR spectra using QM/MM techniques.”

Advisors: Victor Batista and J. Patrick Loria

University of North Carolina at Greensboro, Greensboro, NC August 2001 – May 2004
B.S. Chemistry, Concentration: Biochemistry, Summa Cum Laude

“An Instrument for probing molecular reaction dynamics with millimeter wavelength spectroscopy.”

Advisor: Liam Duffy

AWARDS & HONORS

2016-2017 College of Science, Technology and Agriculture Teaching Award	2017
Faculty-Mentored Student Research and Creative Activity Grant	2017
Grants and Research Funding Committee Awards	2015, 2016, 2017
Outstanding Student Poster, ACS National Spring Meeting, Physical Chemistry Division	2013
Professional Development Award, UT-Austin	2012
Dorothy B. Banks Fellowship, San Antonio Area Foundation	2012
The 2011 Paul Barbara Fellowship Award, Telluride Science Research Center	2011
Chemistry Department Pre-Emptive Fellowship, UT-Austin	2009
Distinguished Chemistry Fellowship, Yale	2004
NIH Training Grant, Yale	2004
Student Excellence Award, UNCG’s highest honor for undergraduates	2004
Chancellor’s List, UNCG, requires 3.65 GPA and 12 or more hours	2 semesters, 2001-2004
Dean’s List, UNCG, requires 3.5 GPA and 6 or more hours	6 semesters, 2001-2004
Jean Dreyfus Bossevain Undergraduate Scholarship for Excellence in Chemistry, UNCG	2003
Dean’s List, Maryville College, requires 3.25 GPA	4 semesters, 1999-2001
Maryville College Dean Scholar Award, scholarship-based award for incoming students	1999

PUBLICATIONS

- Miller, E.M.; Qing, X.; Cella, M.E.; Nenninger, A.W.; Mruzik, M.N.; Brillós-Monia, K.A.; Hu, Y.Z.; Sheng, R.; **Ragain, C.M.**; Crawford, P.W. "Voltammetric Study of Some 3-Aryl-quinoxaline-2-carbonitrile 1,4-di-N-oxide Derivatives with Anti-Tumor Activities." *Molecules* 22, 1442 (2017)
- Ho, J; Newcomer, M.B.; **Ragain, C.M.**; Gascon, J.A.; Batista, E.R.; Loria, J.P.; Batista, V. S. "The MoD-QM/MM Structural Refinement Method: Characterization of Hydrogen Bonding in the *Oxytricha nova* G-quadruplex" *J. Chem. Theory Comput.* 10: 5125–5135 (2014).
- Ragain, C. M.**; Newberry, R. W.; Ritchie, A. W.; Webb, L. J. "The Role of Electrostatics in Differential Binding of RalGDS to Rap Mutations E30D and K31E Investigated by Vibrational Spectroscopy of Thiocyanate Probes." *J. Phys. Chem. B* **2012**, *116*, 9326-9336.
- Kempf, J.G., Jung, J., **Ragain, C.**, Sampson, N., and Loria, J.P. "Dynamic requirements for a functional protein hinge." *Journal of Molecular Biology.* **368**, 131-149 (2007).

PRESENTATIONS

- Ragain, C. M** and Webb, L. J. "Measuring electrostatic fields at protein interfaces using vibrational Stark effect spectroscopy" National Meeting of the American Chemical Society 2013 (Poster)
- Ragain, C. M.**; Arrington, C; Gonzalez, N; Newberry, R. W.; Ritchie, A. W.; Webb, L. J. "Role of Electrostatics in Differential Binding of RalGDS to Ras Mutations D30E and E31K Investigated by Vibrational Spectroscopy of Thiocyanate Probes." National Meeting of the American Chemical Society 2013 (Poster)
- Ragain, C. M.**; Gonzalez, N; Newberry, R. W.; Ritchie, A. W.; Rivas, J. N.; Webb, L. J. "Measuring Electrostatic Fields at the Protein-Water Interface using Vibrational Stark Effect Spectroscopy." National Meeting of the American Chemical Society 2013 (Poster)
- Ragain, C. M.**; Newberry, R. W.; Ritchie, A. W.; Webb, L. J. "The Role of Electrostatics in Differential Binding of RalGDS to Ras Mutations D30E and E31K Investigated by Vibrational Spectroscopy of Thiocyanate Probes." American Chemical Society Southwest Regional Meeting 2012 (Talk)
- Ragain, C.**, Newberry, R., Ritchie, A. and Webb, L. "Role of Electrostatics in Binding Discrimination of RalGDS to Rap Mutations E30D and K31E Investigated by Vibrational Stark Effect Spectroscopy." American Chemical Society Southwest Regional Meeting 2011 (Poster)
- Ragain. C.** "Chemistry outreach programs at the University of Texas at Tyler: impacting the women of East Texas." American Chemical Society National Meeting Spring 2009 (Poster)
- Ragain. C.**, "Chemistry outreach programs at the University of Texas at Tyler" Biennial Conference on Chemical Education 2008 (Talk)

Ragain, C., Gascon, J., Loria, J.P. and Batista, V. “Quantum Mechanics/Molecular Mechanics study of the NMR spectra of Thallium bound to G-quadruplex from Oxytricha Nova” American Chemical Society National Meeting Fall 2006 (Talk)

Ragain, C., Gascon, J., Loria, J.P. and Batista, V. “Quantum Mechanics/ Molecular Mechanics study of the NMR spectra of Thallium bound to G-quadruplex from Oxytricha Nova” American Chemical Society National Meeting Fall 2005 (Talk)

Ragain, C. and Duffy, L. “An Instrument for probing molecular reaction dynamics with millimeter wavelength spectroscopy.” South East Regional Meeting of the American Chemical Society Fall 2002 (Poster)

Student Presentations

Southeast Student Research Conference – Austin (2016), Cody (2017), Eric (2017) and Krystina (2017)

ACS LEADERSHIP COURSES

Planning Successful Activities	Jan 2017
Social Media Strategies for your Local Section	Jan 2017
Communication with Your Members	Jan 2017
Local Section Training	Jan 2017
Collaboration Across Boundaries	Jan 2017
Strategic Planning	Jan 2017
Developing Communication Strategies	Sept 2013
Coaching and Feedback	Sept 2013
Leading Change	Apr 2013
Fostering Innovation	Apr 2013
Leading without Authority	Nov 2012

PROFESSIONAL MEMBERSHIPS

Member, American Chemical Society (ACS)

Member, American Association for the Advancement of Science (AAAS)

Member, Alpha Chi Sigma

SYNERGISTIC ACTIVITIES

Advisor for the SEMO American Chemical Society Student Chapter	2016-Current
Chair-Elect for the Local Section of the American Chemical Society	2017
YCC Chair for the Local Section of the American Chemical Society	2017
Co-Advisor or the SEMO American Chemical Society Student Chapter	2014-2016
Serves on varies department, college and university committees	2014-Current
Departmental Representative UT Austin Graduate Student Assembly	2011-2012
Program Committee Member – ACS – Division of Chemical Ed	2009-2011
Co-advisor for UT Tyler Student Affiliates of the American Chemical Society	2008-2009
Founder of “Discover Science” Outreach Program at UT Tyler	2007-2009
President Skeptical Chemists (Chemistry Club)	Fall 2002
Treasurer Maryville College American Chemical Society	2000-2001
Co-founder/Co-President Deutsche AG (German Club)	2000-2001