

MARSHA DENISE MASSEY

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Most Recent Position:

- Lecturer I - University of Central Arkansas** Aug 2016 – current
- Courses taught:
 - College Chemistry I and II (CHEM 1450 & 1451)
 - General Chemistry for Health Sciences (CHEM 1402)

Education

- University of North Carolina at Chapel Hill, Chapel Hill, NC** 2016
Ph.D. in Inorganic Chemistry
Dissertation: *Analysis of CO₂ Reduction Catalysts for Solar Fuel Production*
Advisor: Prof. Cynthia K. Schauer
- Emory College of Emory University, Decatur, GA** 2010
B.S. in Chemistry
Senior Thesis: *Copper Binding in Amyloid Fibers*
- Oxford College of Emory University, Oxford, GA** 2008
Associates in Arts and Sciences

Teaching Experience

University of North Carolina at Chapel Hill

- Teaching Assistant – Introductory Inorganic Chemistry** Jan 2015 – May 2015
- Designed and managed learning aids resource website for course
 - Guest lectured class on introduction to transition metal complexes
 - Conducted problem sessions composed of clicker and group questions
- Co-Facilitator – STEM Teaching Learning Community** Oct 2014 – Dec 2014
- Organized and facilitated weekly sessions on teaching pedagogies
- Co-Facilitator – HHMI Becoming an Effective Mentor Workshop** Mar 2014 – May 2014
- Facilitated and planned weekly discussions for six week workshop
- Undergraduate Student Mentor – Schauer Research Lab** Jan 2013 – Present
- Instructed three undergraduate students in synthetic lab techniques
- Science Tutor II – Tutor.com Online Tutoring** Feb 2012 – Present
- Tutored college and high school level students
 - Covered general, inorganic, and basic organic chemistry concepts
- Teaching Assistant – Chemistry 101 Lab Course** Aug 2010 – Dec 2010
- Created unique lecture-guided worksheets well received by students

Oxford College of Emory University**Laboratory Assistant (Organic Chemistry)**

Aug 2007 – May 2008

- Aided in training organic students to use IR instrument

Supplemental Instructor (Calculus I and II)

Jan 2007 – May 2008

- Prepared worksheets to facilitate understanding of calculus I & II
- Taught one hour supplemental calculus lectures weekly

Research Experience**University of North Carolina at Chapel Hill, Prof. Cynthia K. Schauer Lab**

Graduate Student Research Assistant

Jan 2011 – Present

- Investigate organometallic complexes for electrocatalytic reduction of carbon dioxide to alternative fuels methanol and formate/formic acid
- Synthesize manganese cyclohexadienyl and ruthenium polypyridyl complexes as well as bidentate carbene-pyridine ligands
- Train users in science departments to use Bruker IR instrument

University of North Carolina at Chapel Hill, Prof. Michel R. Gagne Lab

Summer Research Fellow

Jun 2010 – Aug 2010

- Surveyed synthetic conditions for ruthenium-catalyzed synthesis of C-glycosyl compounds with potential application in vaccine therapeutics

Emory University, Prof. David Lynn Lab

Undergraduate Researcher

May 2009 – Jun 2010

- Analyzed histidine binding to copper metal ions as a model for amyloid beta peptide aggregation in the presence of metal ions to elucidate Alzheimer's disease pathology
- Used UV-vis techniques to compare model solutions to peptide analysis

Emory University, Emory Integrated Electron Microscopy Core

Laboratory Assistant

Sept 2008 – May 2010

Awards and Honors

Graduate Research Coordinator	2015
Future Faculty Fellow	2014
Institute on Teaching and Mentoring Nominee	2014
Alliances for the Graduate Education and the Professoriate Fellow	2010
Alpha Epsilon Upsilon Oxford College Honor Society Member	2007
Dean's List Oxford College Student	2007

Certifications and Training

Introduction to Evidence-Based Undergraduate STEM Teaching Massive Online Open Course Certification with Distinction by CIRTL (Center for the Integration of Research, Teaching and Learning)	2014
Teaching Certification by TIBBS (Training Initiatives in Biomedical and Biological Sciences)	2013
Becoming an Effective Mentor Certification by HHMI (Howard Hughes Medical Institute)	2013

Service and Outreach

Renewable Energy: Solar Fuels, Gordon Research Seminar Chair	Feb 2016 – Jan 2018
Arkansas Junior Academy of Science Meeting Judge	Apr 2017
Assistant Chapter Advisor – Alpha Chi Sigma, Rho Chapter	May 2014 – May 2016
Co-Service Chair – Alpha Chi Sigma, Rho Chapter	May 2012 – May 2013
Volunteer - Family Science Day Alternative Energy Chemistry Booth	Nov 2011
Resident Advisor – Oxford College of Emory University	Aug 2007 – May 2008

Professional Memberships

American Chemical Society	2015
American Association for the Advancement of Science	2015
Society for Advancement of Chicanos/Hispanics and Native Americans in Science	2015
National Organization of Black Chemists and Chemical Engineers	2015
Alpha Chi Sigma, National Chemistry Fraternity, Rho Chapter	2012

Selected Presentations

Name of presenter(s) indicated in bold font and undergraduates indicated by underlining.

1. “Synthesis of Carbon Dioxide Reduction Intermediate Ruthenium Benzimidazol-2-ylidene Carbonyl Complexes.” **Massey, M.D.**; Duffee, K.; Kita, M.; Vass, B.F.; Wong, T.; Meyer, T.J.; Miller, A.J.M.; Muckerman, J.T.; Schauer, C.K. Mid-South Inorganic Chemist Association Meeting, Memphis, TN, Oct 08, 2016. Oral Presentation.
2. “Reactions of Electrophiles with a CO-reduction Intermediate Ruthenium Hydroxymethyl Complex.” **Massey, M.D.**; Toman, A.; Mercer, I.P.; Vass, B.F.; Schauer, C.K. Renewable Energy: Solar Fuels Gordon Research Seminar, Lucca, Italy, Feb 28, 2015. Invited Oral Presentation.
3. “Reactivity of CO Reduction Intermediate Ruthenium Hydroxymethyl Complex.” **Massey, M.D.**; Mercer, I.P.; Schauer, C.K. Energy Frontier Research Center Research Review, May 20, 2015. Invited Oral Presentation.
4. “CO Reduction in Ruthenium Polypyridyl Complexes” **Massey, M.D.**; Toman, A.; Meyer, T.J.; Brookhart, M.S.; Schauer, C.K. Energy Frontier Research Center Research Review, Chapel Hill, NC, May 21, 2014. Invited Oral Presentation.
5. “CO₂ and CO Reduction in Ruthenium Polypyridyl Complexes” **Massey, M.D.**; Toman, A.; Harrison, D.P.; Zuofeng, C.; **Lapides, A.M.**; Kang, P.; Meyer, T.J.; Brookhart, M.S.; Schauer, C.K. Energy Frontier Research Center Research Review, Chapel Hill, NC, May 21, 2014. Poster.
6. “Manganese Cyclohexadienyl Complexes as Potential CO₂ Reduction Catalysis” **Massey, M.D.**; Brookhart, M.S.; Schauer, C.K. 2012 ACS Southeastern Regional Meeting, Raleigh, NC, November 14–17, 2012. Poster.
7. “Reductive Production and Activation of Hydride Donors.” Croome, R.; **Massey, M.D.**; Toman, A.; Landers, C.; Brookhart, M.S.; Schauer, C.K. Energy Frontier Research Center Research Review, Chapel Hill, NC, May 4, 2011. Poster.