

# Cynthia A. Tope

Department of Chemistry, University of Georgia  
113 Barrington Drive Apt 1, Athens, GA 30605 | 859-992-0480 | [ctope@uga.edu](mailto:ctope@uga.edu)

---

## EDUCATION

- University of Georgia** Athens, GA  
*Ph.D., Analytical Chemistry* In Progress
- Western Kentucky University** Bowling Green, KY  
*B.S., Chemistry* 2015  
Honors thesis: *Relative Reaction Rates of the Amino Acids Cysteine, Methionine, and Histidine with Analogs of the Anti-Cancer Drug Cisplatin*

## RESEARCH EXPERIENCE

- University of Georgia** Athens, GA  
Graduate Research Assistant with Dr. Jeffrey Urbauer 2016-present
- Investigate the binding of calmodulin (CaM) and the membrane phospholipid dipalmitoylphosphatidylinositol 3,4,5-triphosphate (PIP<sub>3</sub>) to regulators of G-protein signaling (RGS) proteins by defining the binding epitopes and the structural changes accompanying these interactions.
  - Use of a wide range of analytical techniques (NMR spectroscopy, fluorescence spectroscopy, circular dichroism, column chromatography, and reverse phase HPLC) to study the CaM and PIP<sub>3</sub> interactions with RGS proteins.
- Western Kentucky University** Bowling Green, KY  
Undergraduate Research Assistant with Dr. Kevin Williams 2011-2015
- Synthesized and characterized triamine Pt(II) compounds using NMR spectroscopy.
  - Determined the effect of steric ligand bulk on the relative reaction rates of triamine Pt(II) compounds with cysteine, methionine, and histidine using NMR spectroscopy.
- Student Research Participant with Drs. Rodney King and Claire Rinehart 2009-2010
- Participated in the Genome Discovery Exploration Program sponsored by the Howard Hughes Medical Institute.
  - Isolated and characterized a new *Mycobacterium* phage, Backyardigan, from a local soil sample and purified its genomic DNA.
  - Annotated the genome of Backyardigan and submitted the results to GenBank.

## TEACHING EXPERIENCE

- University of Georgia** Athens, GA  
*General Chemistry Make-up Laboratory Assistant* 2019
- Conducted laboratories for general chemistry students who are unable to attend their regularly scheduled laboratory sessions.
  - Coordinated with other teaching assistants to accommodate student schedules for lab attendance.
  - Communicated daily with the laboratory coordinator and students to approve attendance for laboratory sessions.

*Introductory NMR Course Assistant* 2017-2019

- Assisted students with hands-on laboratory assignments, including performing and analyzing 1D and 2D NMR experiments.
- Prepared samples and set up assigned laboratory experiments.
- Troubleshooted and assisted in fixing problems with the laboratory experiments.

*General Chemistry Laboratory Assistant* 2016-2019

- Instructed weekly general chemistry laboratory sessions of approximately 24 students.
- Hosted weekly tutoring sessions in both general and organic chemistry laboratory and lecture material.
- Administered and graded mass general chemistry exams.

#### LEADERSHIP AND OUTREACH

*Judge, University of Georgia Young Dawgs Research Program Research Presentations* 2016-2019

- Mentored high school participants in laboratory research.
- Critiqued participants on effective communication skills during their presentations.
- Judged research seminars presented by high school students.

*Forensic Event Supervisor, Science Olympiad Competition* 2018

- Coordinated with event leadership to create and conduct the forensic event for high school teams.
- Established safety expectations for participants and staff for the laboratory experiments.

#### PROFESSIONAL AFFILIATIONS

**American Association for the Advancement of Science**, Member 2018-present

**UGA Science Policy Education, Advocacy, and Research**, Member 2018-present

**American Chemical Society**, Member 2012-present

#### AWARDS

**UGA Graduate School Sponsorship**, AAAS Catalyzing Advocacy in Science and Engineering Workshop, 2019

**UGA Graduate School Travel Grant Award**, University of Georgia, 2018

**Best Undergraduate Presentation in Session**, WKU Student Research Conference, 2012, 2014

#### CONFERENCE PRESENTATIONS

2018 **Tope, C.**, Hooks, S., Bieber Urbauer, R., Urbauer, J. "Production and Characterization of RGS Proteins and their Interactions with Calmodulin," Southeastern Regional Meeting of the American Chemical Society, Augusta, GA, November 2018.

**Tope, C.**, Hooks, S., Bieber Urbauer, R., Urbauer, J. "Production of RGS10 and the Effect of Ionic Strength on its Interaction with Calmodulin," Annual GSPS Research Day at UGA, Athens, GA, April 2018.

2017 **Tope, C.**, Hooks, S., Bieber Urbauer, R., Urbauer, J. "Production of RGS Proteins for Physical Studies," Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, November 2017.

2015 **Tope, C.**, Williams, K. "Relative Reaction Rates of the Amino Acids Cysteine, Methionine, and Histidine with Analogs of the Anticancer Drug Cisplatin," Western Kentucky University Student Research Conference, Bowling Green, KY, March 2015.

- 2014 **Tope, C.**, Williams, K. "Reaction Rates of the Amino Acids Cysteine, Methionine, and Histidine with Analogs of the Anticancer Drug Cisplatin," Western Kentucky University Student Research Conference, Bowling Green, KY, March 2014.
- 2013 **Tope, C.**, Williams, K. "Reaction Rates of the Amino Acids Cysteine, Methionine, and Histidine with Analogs of the Anticancer Drug Cisplatin," National Meeting of the American Chemical Society, Indianapolis, Indiana, September 2013.
- Tope, C.**, Williams, K. "Reaction Rates of the Amino Acids Cysteine, Methionine, and Histidine with Analogs of the Anticancer Drug Cisplatin," Western Kentucky University Student Research Conference, Bowling Green, KY March 2013.
- 2012 **Tope, C.**, Williams, K. "Reaction Rates of the Amino Acids Cysteine, Methionine, and Histidine with Analogs of the Anticancer Drug Cisplatin," Kentucky Academy of Science, Richmond, KY, October 2012.
- Tope, C.**, Williams, K. "Reactions of the Amino Acid Cysteine with Analogs of the Anticancer Drug Cisplatin," Western Kentucky University Student Research Conference, Bowling Green, KY, March 2012.
- 2010 Anyanwu, E., Cole, K., Driver, K., Falcone, A., Farnsworth, E., Howard, B., Howard, B, Howard, C., King, R.A., Olberding, J., Perkins, M., Rinehart,C.A., Sayre, H., Scaff, T., Schrader,S., Parthasarathy, P.T., **Tope,C.** "Sequence and Annotation of the Wizard007 Mycobacteriophage Genome," UT-ORNL-KBRIN Bioinformatics Summit, Lake Barkley, Cadiz, KY, March 2010.

#### **PUBLISHED ABSTRACTS**

- 2010 Anyanwu, E., Cole, K., Driver, K., Falcone, A., Farnsworth, E., Howard, B., Howard, B, Howard, C., King, R.A., Olberding, J., Perkins, M., Rinehart,C.A., Sayre, H., Scaff, T., Schrader,S., Parthasarathy, P.T., **Tope,C.** "Sequence and Annotation of the Wizard007 Mycobacteriophage Genome." UT-ORNL-KBRIN Bioinformatics Summit, Lake Barkley, Cadiz, KY, March 2010. Abstract published in BioMed Central-Bioinformatics.