

# Dr. Daniel P. Collins – Curriculum Vitae

## Address:

Texas A&M University,  
Department of Chemistry  
Chemistry 2208  
College Station, TX 30012

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## Education

**Ph.D.** Chemistry and Biochemistry, University of South Carolina, (2007-2012)

Advisor: Dr. John H. Dawson

*Dissertation Focus:* Kinetics and coordination studies of heme-containing proteins, namely the heme-thiolate enzymes of Cytochrome P450cam and *Caldariomyces fumago* chloroperoxidase.

**B.S.** Chemistry, University of Dayton, (2004-2007)

Undergraduate Research Advisor: Dr. Shawn Swavey

*Undergraduate Thesis Focus:* Synthesis and luminescence properties of lanthanide metal complexes containing  $\beta$ -diketone and 2,2'bipyrimidine.

## Professional Teaching Experience:

### **Texas A&M University – Aug. 2015 to Present**

**General Chemistry:** General Chemistry for Engineers CHEM 107 (Spring 2016 and 2017) General Chemistry I CHEM 120 (Fall Semester – 2015-2019, Summer 2020), and General Chemistry II CHEM 102 (Spring Semester – 2018-2020)

- Led lectures for undergraduate students in a large classroom setting (2-3 sections of 300 students)
- Created and administered lecture exams, lecture content and supervise Instructional Assistant
- Held 8 hours of office hours weekly and administered final grades for students.
- General Chemistry laboratory safety supervisor – 2-3 lab periods per week

**Organic Chemistry:** Organic Chemistry I CHEM 227 (Spring 2020, 2021, 2022, 2023, Fall 2020, 2021, and 2022)

- Led lectures for undergraduate students in a large classroom setting (3 section of 100-150 students)
- Created and administered lecture exams, lecture content and supervise Instructional Assistant
- Held 4 hours of office hours weekly and administered final grades for students.

**Hullabaloo University:** First-Year Experience for Freshman – SCEN 289/100 (Fall 2019, 2020, 2021, 2022)

- Led lectures for first-year students in a small classroom setting (1 section of 10-25 students)
- Mentored 2 peer-mentors and instructed on required content for Texas A&M.
- Met with students for 13 week of academic semester to help increase education and retention.

### **The Florida State University – May 2013 to May 2015**

**General Chemistry:** General Chemistry I CHM 1045 (Spring 2014) and General Chemistry II CHM 1046 (Summer 2014)

**Organic Chemistry:** Survey of Organic Chemistry CHM 2200 (Spring 2015), Organic Chemistry I CHM 2210 (Fall 2013, Spring 2014), and Organic Chemistry II CHM 2211 (Fall 2014),

**Biochemistry:** Introduction to Biochemistry BCH 3023C (Summer 2013, Fall 2013, and Summer 2014)

- Designed and led lectures for undergraduate students in a large class setting (2 sections of 250)
- Led review sessions as well as created, administered, and graded lecture exams.
- Held 8 hours of office hours weekly and administered final grades for students.

### **Presbyterian College – January 2013 to May 2013 – Adjunct Lecturer**

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**The University of South Carolina – January 2012 to May 2013 - Lecturer**

## **Research Experience**

**University of South Carolina, (2007-2012)**

**Research Assistant**

**Advisor: Dr. John H. Dawson**

- Studied the active site structure, reaction intermediates, and kinetics for heme-containing enzymes using UV-Visible absorption spectroscopy, rapid-scan, stopped flow spectroscopy, and magnetic circular dichroism spectropolarimetry.
- Collaborated with different research groups from Georgia State University, Cleveland Clinic, and Dartmouth College to determine the active site coordination for various heme enzymes.
- Published research findings in peer-review journals and authored review articles on cytochrome P450 and heme proteins.
- Presented my research at departmental and group meetings.

## **Presentations – Teaching/Pedagogy**

“Increased Teaching Assistant Training and Pedagogy Techniques to Increase Retention and Success of First-Year Students in General Chemistry Courses” **Collins, D.**; Gordon Research Conference – Chemistry Education Research and Practice (June 2019) – Poster Presenter – Lewis, ME.

““The Tape Doesn't Lie": Recording TAs to Increase Teaching Training” **Collins, D.**; AACU Transforming STEM Higher Education Conference (November 2019) – Facilitated Discussion – Chicago, IL.

“Doodle polls and trouble topic videos: Listening to student concerns and the creation of online problem explanations” **Collins, D.** and Risica, G.; Southwest-Rocky Mountain Regional Meeting (November 2019) – Oral Presentation – El Paso, TX

“Chemistry reinforcement module: ALEKS summer prep used as an early warning” **Collins, D.**, Bethel, R., and McCartney, S.; Southwest-Rocky Mountain Regional Meeting (November 2019) – Oral Presentation – El Paso, TX

“Lightboards and Asynchronous Lectures: Improving Content and Problem Discussions for Students” **Collins, D.**; Risica, G. National Institute on Scientific Teaching SI Happy Hour (September 25, 2020– Oral Presentation (Digital).

“Using Light Board Technology to Give an Online "Face-to-Face" Interaction” **Collins, D.**; AACU Transforming STEM Higher Education Conference (November 2020) – Facilitated Discussion – Online.

“Doodle Poll and Trouble Topic Videos: Listening to Student Concerns and the Creation of Online Problem Explanations” **Collins, D.**; American Chemical Society - Fall Conference (August 2021) – Poster Session – Online.

“Active Learning in a Large Organic Chemistry Lecture: Increasing Student Engagement and Preparation” **Collins, D.**; AAC&U Transforming STEM Higher Education Conference (November 2021) – Poster Session – Online.

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“Active Learning and Flipped Classroom a Large Organic Chemistry Lecture: How to Make the Huge Rooms Seem Small” **Collins, D.**; American Chemical Society – Southwest Regional Meeting (November 2021) – Oral Presentation – Austin, TX.

### **Presentations – Hullabaloo U/Study Skills:**

“Using Technology to Help First-Year Students with Time Management, Campus Transportation, Scheduling and Budgeting” **Collins, D.**; 2020 Hullabaloo U All Instructor Symposium (May 2020) – Oral Presentation – College Station, TX

"Using Technology to Help Your Students Connect With Faculty: Five Tips and Applications to Keep Your Classroom Going During Uncertain Times" **Collins, D.**; 2020 Department of Veterinary Pathobiology Seminar Series (September 21, 2020) – Invited Oral Presentation (Digital) – College Station, TX

“Metacognition and Self-Efficacy: Helping Students THINK About Thinking” Collins, D.; 2021 Hullabaloo U All Instructor Symposium (May 2021) – Oral Presentation – College Station, TX

### **Presentations – Cancelled Due to COVID-19 Pandemic**

“Doodle polls and trouble topic videos: Listening to student concerns and the creation of online problem explanations” **Collins, D.** and Risica, G.; 2020 Transformational Teaching and Learning Conference (April 2020) – Oral Presentation – College Station, TX. *Because of the global COVID-19 pandemic, the 2020 Transformational Teaching and Learning Conference was cancelled on March 28,, 2020.*

““The Tape Doesn't Lie": Recording TAs to Increase Teaching Training” **Collins, D.**; 2020 Transformational Teaching and Learning Conference (April 2020) – Oral Presentation – College Station, TX. *Because of the global COVID-19 pandemic, the 2020 Transformational Teaching and Learning Conference was cancelled on March 28,, 2020.*

“Doodle polls and trouble topic videos: Listening to student concerns and the creation of online problem explanations . **Collins, D.**; Risica, G. 2020 Biennial Conference on Chemical Education. Abstract accepted March 31, 2020. *Because of the global COVID-19 pandemic, the 2020 Biennial Conference on Chemical Education was terminated on April 2, 2020, by the Executive Committee of the Division of Chemical Education, American Chemical Society; and, therefore, this presentation could not be given as intended.*

Tape doesn't lie: Recording teaching assistants while they are teaching to increase the effectiveness of a professional development program. **Collins, D.** 2020 Biennial Conference on Chemical Education. Abstract accepted March 31, 2020. *Because of the global COVID-19 pandemic, the 2020 Biennial Conference on Chemical Education was terminated on April 2, 2020, by the Executive Committee of the Division of Chemical Education, American Chemical Society; and, therefore, this presentation could not be given as intended.*

### **Guest Lectures/Speaking Engagements**

“Taking the Panic out of the Pandemic: 5 Tips to Surviving the Strangest Freshman Year for College Students” **Collins, D.** 2020 Texas A&M University Honor Program “Pasta and Prof” Presentation (October 7, 2020) – Invited Oral Presentation (Digital) – College Station, TX

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“Am I Absolutely Sure What Direction I am Going: 5 Tips for ‘Coming Back to Campus’” **Collins, D.**; Federation of Texas A&M University Mothers’ Club – Fall Dinner (August 2021) – Invited Keynote Speaker – College Station, TX.

“Discussing Diversity, Inclusion, and Looking Forward at Texas A&M” **Collins, D.**; FISH AIDES Student Organization – November Meeting (November 2021) – Invited Keynote Speaker – College Station, TX.

“How to Exemplify the Core Values of Texas A&M” **Collins, D.**; ASSIST Student Organization – November Meeting (November 2021) – Invited Keynote Speaker – College Station, TX.

### **Professional Associations**

American Chemical Society, University of Dayton (2004-2007), University of South Carolina (2012-13), The Florida State University (2013-2015), Texas A&M University (2015-present)

### **Professional Development and Teaching Certifications:**

- “Quality in Online Learning” Course – Online Learning Consortium – May 2020 to June 2020
- Scientific Short Course (6 week course) – National Institute on Scientific Teaching – July 2020
- Inaugural NASH-ACUE “Effective Teaching Practices” Cohort – August 2020 to May 2021
- OrganicERs “Active Learning in Organic Chemistry” Cohort – June 2021 to August 2021
- Inaugural ACUE “Inclusive Teaching for Equitable Learning” Cohort – September 2021 to November 2021
- ACUE Inspiring Inquiry and Preparing Lifelong Learners in your Online Course Cohort – March 2022 to May 2022.
- ACUE Designing Learner-Centered and Equitable Courses Online Course – May 2022 to Present

### **Grants**

EDGE Grant – Texas A&M (3 years/\$33,000 per year) – Creation of Recitation Program for First-Year Chemistry and Increasing Teaching Training and Mentoring for Graduate Students (2018-2020)

### **Recent Publications**

**Collins, D.P.**; Johnson, E.; Coulter, E.D.; Beharry, Z.; Ballou, D.P.; Dawson, J.H. Caught in the Act: Monitoring O-O Bond Cleavage in Acylperoxoferric Cytochrome P450cam to Form Compound I in Real Time. (2022) *Journal of Inorganic Biochemistry*, 236, <https://doi.org/10.1016/j.jinorgbio.2022.111949>

### **Awards and Honors**

2019 Honoring Excellence Award – Department of Residence Life – February 2019

2020 McGraw-Hill ALEKS All-Star Educator of the Year – January 2021

2021-22 Association of Former Students – College Level Teaching Award – October 2021

2021-22 Association of Former Students – University Level Teaching Award – April 2022

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## **Departmental Service**

Volunteer/Mole Mascot –Chemistry Open House – October 2015-Present  
Chemistry Road Show – Volunteer – September 2019 to Present  
Aggieland Saturday – Demonstration Lead Presenter – February 2020 and 2022  
Canvas Support Committee – College of Science – May 2021 to June 2022  
Co-Director – Chemistry Outreach – September 2022 - Present

## **College of Science/Arts & Sciences Service**

Question Reader/Science Judge – National Science Bowl Middle School and High School Texas A&M Regionals – February and March 2016 to Present  
Judge - Texas Junior Science and Humanities Symposium – January 2018-2023  
Judge – Texas Junior Academy of Science – October 2017-2022  
Appointed Member – College of Science Faculty Advisory Committee – February 2020 to June 2022

## **Texas A&M University Service**

Honor Council Faculty Member – September 1, 2017 to Present  
Aggie Honor System Advisory Council – December 2019 - Present  
University Disciplinary Appeals Panel – Faculty Member – September 2018 to Present  
University Academic Appeals Panel – Faculty Member – October 2019 to Present  
Faculty Senate – Appointed Member – August 2018 to May 2020, August 2021 to Present  
Faculty Senate – Executive Committee Member – June 2019 to May 2020, May 2022 to Present  
Faculty Senate Academic Affairs Committee – Appointed Member – August 2018 – June 2019, August 2021 to Present  
Faculty Senate Personnel and Wellness Committee Member – August 2019 to Present  
First Year Experience Implementation Task Force – Appointed Member – December 2018 – March 2019  
Texas A&M Academic Professional Track Faculty (APTF) University Committee – August 2021 to Present  
Texas Science and Engineering Fair – Judge – March 2021 and 2022  
PRIDE Mentors – August 2021 to Present

## **National Service**

Department of Energy – National Middle School and High School Science Bowl Competition – May 2020 and 2021  
National Institute on Scientific Teaching (NIST) – Presidential Nomination Committee – November 2021 to Present