Mitchell Myhre

mitchellmyhre17@live.com
1011 Wonder World Dr., Apt. #1504 • San Marcos, TX 78666 • (512)461-2481

EDUCATION

Ph D	**Integrated Molecular & Biophysical Chemistry,** Texas State Univ. **Dissertation:** Determinants of Intramolecular G-Triplex Folding and Development of Selective Probe Molecules for *in vivo* Detection	San Marcos, TX Aug 2024 – May 2027
M. S.	**Biochemistry,** Texas State University, 3.63 GPA **Thesis:** Intermolecular Interactions of G-Triplex DNA Assessed by Multi-Channel Surface Plasmon Resonance	San Marcos, TX Aug 2020 – Aug 2023
B.S.	**Biochemistry,** Texas State University •Minor in Biology •ACS Certified	San Marcos, TX Aug 2017 – May 2020

RESEARCH EXPERIENCE

Doctoral Research Assistant, Texas State University — San Marcos, TX
Advisor: Sean Kerwin, Ph.D. — May 2025 – Aug 2025

- Devised and optimized protocols for newly acquired isothermal titration calorimetry and circular dichroism instruments

Temporary Research Technician, Texas State University — San Marcos, TX
PI: Sean Kerwin, Ph.D. — Oct 2023 – Aug 2024

- Devised and optimized protocols for newly acquired surface plasmon resonance instrument

Graduate Research Assistant, Texas State University — San Marcos, TX
Advisor: Sean Kerwin, Ph.D. — Aug 2021 – Aug 2023

- Characterized secondary structure formation of short guanine-rich oligonucleotides using PAGE, CD, UV spectroscopy, and surface plasmon resonance
- Trained and mentored undergraduates working on related projects

Undergraduate Researcher, Texas State University — San Marcos, TX

Advisor: Wendi David, Ph.D. Sep 2019 – May 2020
Senior Project: Formation propensity of the G-triplex DNA

- Assessed molecularity of secondary structures formed by putative G-triplex forming sequences using native PAGE
- Compiled data from small pool of existing G-triplex literature to assess state of the field and circumstances that favor G-triplex formation

TEACHING & MENTORING EXPERIENCE

Doctoral Instructional Assistant, Texas State University San Marcos, TX
Courses: Biochemistry Techniques, Advanced Biochemistry Lab I Aug 2025 – Aug 2026

- Guided upper-class biochemistry students through laboratory courses centered around protein purification, protein analysis, and molecular biology techniques

Doctoral Teaching Assistant, Texas State University San Marcos, TX
Courses: Biochemistry Aug 2024 – May 2025

Lecturer, Texas State University San Marcos, TX
Courses: Biochemistry and Metabolism, Biochemistry Jan 2024 – Aug 2024

- Integrated active learning techniques, collaborative examinations, and digital tools to enhance student interaction.

Graduate Instructional Assistant, Texas State University San Marcos, TX
Courses: Organic Chemistry, Experimental Biochemistry, Biochemistry Techniques, Advanced Biochemistry Lab I Aug 2020 – May 2023

- Provided tutoring, graded, and prepared lab materials as needed

Biochemistry Senior Project Mentor, Texas State University San Marcos, TX
Students: Daniella Cardus and Lizette Cardenas Dec 2021 – May 2022

- Trained and assisted in SPR-based project

Texas State U-RISE Mentor, Texas State University San Marcos, TX
Student: Jacobo Garza Jun 2021 – May 2022

- Provided guidance in biochemistry techniques and experimental design

Biochemistry Senior Project Mentor, Texas State University — San Marcos, TX — Sep 2020 – May 2021
Student: Bridget Arellano
- Trained and assisted in SPR-based project

Undergraduate Instructional Assistant, Texas State University — San Marcos, TX — Jan 2020 – May 2020
Course: Biochemistry Techniques

PUBLICATIONS

From Triads to Tools: A Comprehensive Review of the Expanding Roles of G-Triplex Structures — *Molecules* 2025,*30*(21), 4303. DOI: 10.3390/molecules30214303
Myhre, M. W., Das, M. K., Williams, E. P., David, W. M., & Kerwin, S. M.

Calcium-Dependent Chemiluminescence Catalyzed by a Truncated c-MYC Promoter G-Triplex DNA — *Molecules* 2024*, 29(18),* 4457. DOI: 10.3390/molecules29184457
Das, M. K., Williams, E. P., **Myhre, M. W.,** David, W. M., & Kerwin, S. M.

PRESENTATIONS

Discover BMB 2024 — San Antonio, TX — Mar. 2024
M. Myhre, M. Kumar, W. David, and S. Kerwin*: Investigations of G-triplex DNA Formation by Surface Plasmon Resonance*

ACS Southwest Regional Meeting — Oklahoma City, OK — Nov. 2023
M. Myhre, M. Kumar, W. David, and S. Kerwin*: Investigations of G-triplex DNA Formation by Surface Plasmon Resonance*

Southeast Biophysics Consortium — Denton, TX — May. 2022
M. Myhre, D. Cardus, L. Cardenas, W. David, and S. Kerwin: *Differentiating DNA Binding Events Using Multi-Channel Surface Plasmon Resonance*

Annual Biomedical Research Conference for Minority Students — Virtual — Nov. 2021
M. Myhre, S. Kerwin, W. David, and J. Garza: *Stable G-*

triplex DNA within the Promoter Region of the c-MYC Proto-oncogene

ACS Southwest Regional Meeting Austin, TX
M. Myhre, J. Garza, W. David, and S. Kerwin: *Stable G-triplex DNA within the Promoter Region of the c-MYC Proto-oncogene* Nov. 2021

2021 Summer Research Symposium San Marcos, TX
M. Myhre, J. Garza, W. David, and S. Kerwin: *Stable G-triplex DNA within the Promoter Region of the c-MYC Proto-oncogene* Aug. 2021

AWARDS & HONORS

Outstanding Graduate Research Student	May 2023
South Texas Doctoral Bridge Scholar	May 2021 – Jul 2022
Excellence in Research Award	Nov 2020
ASBMB Degree Certification with Honors	May 2020

SERVICE

Great Texas River Clean Up: San Marcos	Mar 2025
Bobcats @ the Bench: Undergraduate STEM Research at Texas State	Aug 2021
Texas State First Gen Welcome	Aug 2021
Great Texas River Clean Up: San Marcos	Mar 2019 Mar 2018
Austin Parks Foundation	Mar 2017

MEMBERSHIP

American Society for Biochemistry and Molecular Biology	Aug 2020 – Jan 2025
American Chemical Society	Aug 2020 – Aug 2022