

## MARISSA D. PINA

Bachelor of Science in Chemistry Candidate

Department of Chemistry, Truman State University

660.342.8678

Kirksville, Missouri 63501

mdp1446@truman.edu

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### EDUCATION

Bachelor of Science in Chemistry candidate. Truman State University, Kirksville, Missouri. Anticipated: May 2021.

#### **Relevant Coursework**

- Quantitative Chemical Analysis with laboratory
- Organic Chemistry I & II with laboratories
- Physical Chemistry I & II with laboratories
- Inorganic Chemistry with laboratory
- Instrumental Analysis with laboratory
- Biochemical Principles I with laboratory
- Biospectroscopy

### SKILLS

- Computer – Intermediate proficiency - Microsoft Word and Excel, SpectrAA, Bruker, OMNIC
- Computational Methods – Intermediate proficiency – Linux, Amber18 MD, VMD
- Computational Methods – Beginning proficiency – Python
- General Laboratory – Intermediate proficiency - pipetting, weighing, titrating, tidiness
- Laboratory Instrumentation - Intermediate proficiency - UV-visible spectroscopy, X-ray diffractometer, NMR
- Leadership - held chair and executive positions yearly in Alpha Chi Sigma, American Chemical Society, and Women in Physics
- Technical Writing – Advanced proficiency – drafting manuscripts for Physical Chemistry labs and original research proposals during research experiences, and contributing to manuscripts as final research experience projects

### APPOINTMENTS

**Counselor**, Scholastic Enhancement Experience 2020

Center for Diversity and Inclusion, Truman State University, Kirksville, Missouri 63501

- Mentored students one-on-one through Zoom and in-person

**Research Assistant**, McNair Summer Research Internship II 2020

Ronald E. McNair Program, Truman State University, Kirksville, Missouri 63501

Advisor: Bill Miller III, Ph.D.

- Investigated potential inhibitors toward the main protease of the novel coronavirus
- Deployed docking and molecular dynamics (MD)
- Analyzed results using VMD, MMPBSA binding free energies and decomposition free energies, RMSD, and RMSf
- Completed a manuscript and presented research presentations four times throughout the internship
- Participated in the MoLSSI Python Webinars

**Research Assistant**, McNair Summer Research Internship II 2019

Ronald E. McNair Program, Truman State University, Kirksville, Missouri 63501

Advisor: Brittany Hagenhoff, Ph.D.

- Refined proposal from McNair Summer Research Internship I to find a method of detection of several metals in samples of water from natural sources
- Refined process for standardizing samples of natural water in terms of pH, solid content, etc.
- Used graphite furnace atomic absorption spectroscopy to detect six different metals in natural water samples
- Completed a manuscript and presented over my results

**Research Assistant**

2018-2019

Chemistry Department, Truman State University, Kirksville, Missouri 63501

Advisor: Bill Miller III, Ph.D.

- Investigated drugs that have the potential to inhibit the effects of endometriosis that have less adverse effects than existing birth control methods
- Deployed molecular docking and molecular dynamics
- Periodically presented research progress at lab meetings

**Research Assistant, MOLSAMP Summer Research Experience for Undergraduates**

2018

Department of Biomedical, Biological &amp; Chemical Engineering, University of Missouri, Columbia, Missouri 65211

Advisor: Heather K. Hunt, Ph.D.

- Received X-ray diffractometer training, utilized other instruments such as furnaces, a spin coater, UV-visible spectrophotometer
- Drafted a proposal to assess the most efficient technique for finding mechanical stability of TiO<sub>2</sub> thin films
- Created a poster over my research and presented at the conference at the University of Missouri and at Truman State University

**Research Assistant, McNair Summer Research Internship I**

2018

Ronald E. McNair Program, Truman State University, Kirksville, Missouri 63501

Advisor: Brittany Hagenhoff, Ph.D.

- Drafted a proposal over the detection of contaminants in wastewater
- Developed hypothesis for proposal and conducted literature review on topic area
- Identified potential methods to investigate research question

**CONFERENCE PRESENTATIONS**

1. [Marissa D. Pina](#) and Brittany Hagenhoff. "Determination of Remnant Metal Waste in Natural Waters by Graphite Furnace Atomic Absorption Spectroscopy (GFAAS)." 2019 Truman State University Summer Research Symposium, Truman State University, Kirksville, Missouri. Oral Presentation.
2. [Marissa D. Pina](#), Eduardo Torres Dominguez, and Heather K. Hunt. "Mechanical Stability Assessment of a Photocatalytic TiO<sub>2</sub> Thin Film." 2018 Truman State University Summer Research Symposium, Truman State University, Kirksville, Missouri. Poster Presentation.
3. [Marissa D. Pina](#), Eduardo Torres Dominguez, and Heather K. Hunt. "Mechanical Stability Assessment of a Photocatalytic TiO<sub>2</sub> Thin Film." 2018 University of Missouri Summer Research Internship Program, University of Missouri, Columbia, Missouri. Poster Presentation.
4. [Marissa D. Pina](#) and Brittany Hagenhoff. "Wastewater Contaminants and their Effect on the Purity of Surface and Drinking Waters." 2018 McNair Heartland Research Conference, Kansas City, Missouri. Oral Presentation.

**HONORS & AWARDS**

2020	Dr. Emmanuel Nnadozie McNair Scholarship Recipient
2020	Alpha Kappa Alpha Sorority, Inc.- Mu Tau Chapter Alumni Scholarship Recipient
2020	Peter and Mary Summers Heinze Scholarship Recipient
2020	Willard Wayne Roberts Scholarship Recipient
2020	Dr. Dean Rosebery Science Scholarship Recipient
2020	Tricia M. Mason Memorial Chemistry Scholarship Recipient
2020	Acceptance to the Science and Engineering Leadership Institute at the University of Delaware

2015                      National Hispanic Merit Scholar

### **PROFESSIONAL SOCIETIES AND ORGANIZATIONS**

- American Chemical Society (2016 – present)
  - Professional Chemistry Organization
    - Historian (2018-2019)
    - Fundraising Chair (2017-2019)
    - Secretary (2017)
- Women in Physics (2016 – present)
  - Professional Physics Organization designed for retention of minorities in the sciences
    - Treasurer (2019-present)
    - Vice President (2016-2019)
- Alpha Chi Sigma (2017 – present)
  - Professional Chemistry Fraternity
    - Social Chair (2017-2019)
- Ronald E. McNair Post-baccalaureate Achievement Program (2017 – present)
  - Scholars program designed to increase representation of disadvantaged students in graduate programs
    - Scholar (2017-present)
- Missouri Louis Stokes Alliance for Minority Participation (2018 – present)
  - Program designed to increase the retention of minority students majoring in the sciences
    - Scholar (2018-present)