

# ALAINA METZLER

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## EDUCATION

### University of Mount Union

**Major:** Chemistry | **Minors:** Physics, Spanish

GPA: 4.000 | Presidential Scholar (4 Year Merit Scholarship), Honors Program

**Involvements:** Honors Council, Student Senate including Integrative Core Committee and Food Committee, Raider Programming Board, American Chemical Society, Inter-Science Research Club, Independent Research, Community Service, Alpha Mu Gamma-Foreign Language Honorary, Alpha Lambda Delta-Academic Honorary, Society of Physics Students

Aug. 2021-present  
Alliance, OH

### Geneva High School

GPA: 4.394 based on a 4.000 scale | Valedictorian | Honors | STEM Honors

Aug. 2017-Jun. 2021  
Geneva, OH

## RELEVANT EXPERIENCE

### University of Mount Union Summer Research Project

- Completed a computational and organic chemistry project under the guidance of two professor mentors
- H NMR, C NMR, HSQC, HMBC, COSY, MNOVA, NMRium, OSC, Python and VS Code, app development: <https://js.munano.org/nmr/>

Jun. 2023-Aug. 2023  
Alliance, OH

### University of Mount Union Chemistry Tutor

- Act as a resource for students to answer questions about course content and help work through practice problems

Jan. 2023-present  
Alliance, OH

### ASHTA Chemicals Entry Laboratory Technician

- Daily quality control testing including titrations and quantitative analysis to ensure all systems are working within specs
- pH; conductivity; free Cl<sub>2</sub>; KOH, K<sub>2</sub>CO<sub>3</sub>, NaOH assay; KCl, H<sub>2</sub>SO<sub>4</sub> content; making reagents; brine and bleach analysis; biomonitoring

May 2022-Aug. 2022  
Ashtabula, OH

### University of Mount Union Chemistry Lab Assistant

- Helped with lab preparation, answered any questions that students have

Jan. 2022-Jan. 2023  
Alliance, OH

### INEOS Pigments Mentorship Project

- Completed a project under the guidance of the Quality Superintendent and a Laboratory Technician to determine the quantities of compounds within slurry samples through titration
- Conclusions led to process updates and procedure reinstatement

Jan. 2020-May 2020  
Ashtabula, OH

## TECHNIQUES

❖ BCA Assay	❖ Liquid-Liquid Extraction	❖ Carbonate and Bicarbonate titrations
❖ GST Assay	❖ IR, NMR analysis	❖ Confidence intervals, t-test, Gaussian curves
❖ SDS-PAGE, Western Blot, Protein Carbonyls Slot Blot	❖ Melting Point analysis	❖ Solution preparation and dilutions
❖ HPLC	❖ Recrystallization/Purification	❖ Electrolytic preparation
❖ Buffer preparation and testing	❖ TNBSA Assay	❖ Qualitative inorganic analysis
❖ Thin Layer Chromatography	❖ DTNB Assay	❖ Vacuum filtration
❖ Column Chromatography	❖ Spectrophotometric analysis, standard addition calibration	❖ Python coding

## WORK EXPERIENCE

### University of Mount Union

Alliance, OH

#### Preview Guide Coordinator

Jan. 2023-present

- Serve as a peer mentor and role model for incoming students, assist with their transition
- Lead Preview staff by helping with new staff selection process, planning all training events, facilitating training activities
- Act as a resource for all staff and liaison between Preview Guides and Professional Staff

#### Student Ambassador

Dec. 2022-present

- Showcase Mount Union to prospective or incoming students by leading campus tours and helping with visit days

#### Honors Mentor

Jun. 2022-present

- Act as a resource to ease the transition of first year Honors Program students
- Offer advice and perspective from a current Honors student

#### Preview Guide

Feb. 2022-Dec. 2022

- Served as a peer mentor and role model for incoming students
- Assisted with their transition at Preview sessions throughout the summer

## PRESENTATIONS

- Boyd-Kimball, D., Chojnacki, E., Diaz-Palma, S., Graham, S., McMillen, A., Scheib, B., Trenka, B.B., **Metzler, A.**, Gonczy, K., and Paxton, A.B. **2022** Effect of Short-Term and Long-Term Exposure to Sucrose on Protein Expression and Oxidative Modification of Glutathione-S-Mu 1 (GSTM1) in Liver of Wild Type Mice. *The FASEB Journal*, 36 (S1).
- Metzler, A.** **2023** Stayin' Alive, Stayin' Alive: A Study of Memory and Reaction Time in Diverse Populations. University of Mount Union SCHOLAR Day.

## AWARDS/ACHIEVEMENTS

❖ Outstanding Freshman Chemistry Award, Morgan-Song Leadership Prize in Chemistry, Laurie Kolenbrander Scholarship-Mount Union	❖ Six Year State Science Fair Qualifier Award
❖ Dean's List Fall 2021, Spring 2022, Fall 2022, Spring 2023	❖ University of Rochester Bausch and Lomb Honorary Science Award; American Chemical Society Student Scholarship Award
❖ Three Community Service/Philanthropy Badges-Mount Union	❖ AP Scholar Award
	❖ INEOS Pigments/Douglas A. Towner Science Scholarship

## SKILLS

❖ Ohio Seal of Biliteracy in Spanish	❖ Written and oral communication	❖ Time management
❖ Trained in leadership (2015 JrNYLC, 2019 HOBY)	❖ Problem solving	❖ Collaboration
	❖ Organization	❖ Microsoft Office, Google software