

# Alexander T. Epp

## Curriculum Vitae

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Contact Information:  
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## Education

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**Case Western Reserve University, Doctorate of Philosophy** *May 2027 (anticipated)*

**Department:** Neuroscience

**Current GPA:** 4.00

**Hillsdale College, Bachelor of Science, Summa Cum Laude** *May 2023*

**Major:** Biochemistry

**Overall GPA:** 3.92

## Research Experience

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**PhD Student, Xiongwei Zhu Lab** *January 2024 – present*

*Case Western Reserve University*

Current research focuses on dysregulation of Mettl3 and RNA methylation in Alzheimer's disease including transcriptional and posttranslational mechanisms of dysregulation and effects of Mettl3/m6A dysregulation on Alzheimer's pathogenesis with an emphasis on mitochondrial and synaptic health.

**Rotation Student, Biomedical Scientist Training Program, CWRU** *July 2023 – December 2023*

*Case Western Reserve University*

Conducted three 8-week rotations in separate labs throughout the School of Medicine working on various projects including beta-arrestin's role in Parkinson's Disease, cAMP/cGMP signaling in Alzheimer's disease, and characterization of functional interactions between GIPC and DRP1.

**Summer Undergraduate Research Experience in Biomedical Science** *May 2022 – July 2022*

*Indiana University, School of Medicine*

Studied the influence of neuronal scaffolding protein spinophilin on the activation of caspase-3 during NMDAR-dependent apoptosis under the supervision of Dr. A.J. Baucum. Used a mammalian cell model and western blotting techniques to test my hypothesis.

**CHM 590: Independent Research** *January 2022 – May 2022*

*Hillsdale College*

Continued research project from summer research program under the supervision of Dr. Kelli Kazmier. Successfully expressed and purified the BAX protein in an *E. coli* system. Subsequently prepped for analysis by electron paramagnetic resonance (EPR) spectroscopy.

**Summer Research Program** *May 2021 – June 2021*

*Hillsdale College*

Designed a research project during the spring semester to study inhibition models of the pro-apoptotic BAX protein under Dr. Kelli Kazmier. Conducted the 6-week research project using basic DNA manipulation and protein expression techniques.

**Lab Assistant, Dr. Jeffrey VanZant's Lab** *November 2019 – March 2020*

*Hillsdale College*

Worked in the Conservation Genetics Lab 2-5 hours per week. Learned various techniques in genetic analysis: DNA isolation, PCR, Gel Electrophoresis, and BLAST analysis.

## Teaching Experience

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### Teaching Assistant, Biochemistry

*September 2021 – April 2023*

*Hillsdale College*

Supervised a group of around 10 students through a semester research project in weekly 4-hour labs. Prepared necessary reagents, buffers, and stocks as needed.

### Lab Assistant, Organic Chemistry

*August 2020 – May 2021;*

*Hillsdale College*

*January 2022 – May 2022*

Supervised weekly labs of about 20 students in organic chemistry..

### Teaching Assistant, Organic Chemistry

*August 2020 – December 2022*

*Hillsdale College*

Tutored a group of 20 students in weekly 1-hour recitations throughout Organic Chemistry I and II.

## Leadership

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### President, American Chemical Society

*April 2022 – April 2023*

*Hillsdale College*

Organized and led monthly officer's meetings and general chapter meetings. Oversaw the amending of the chapter constitution and the re-founding of the demo committee with the goal of rejuvenating engagement with the college after a decrease during the previous years due to COVID-19.

### Treasurer, American Chemical Society

*April 2021 – April 2022*

*Hillsdale College*

Kept detailed records of transactions and funds. Helped officiate monthly meetings. Organized fundraisers.

## Membership

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### National Member, American Chemical Society

*October 2020 – Present*

### Member, Sigma Zeta Society

*December 2021 – Present*

### Member, Phi Kappa Phi Society

*April 2023 – Present*

## Poster Presentations

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### Society for Neuroscience, Chicago

*October 2024*

Presented a poster: "Protein Kinase G phosphorylates Drp1 at S637 and mediates neuroprotective effects of PDE2A inhibition."

### IUSM Summer Programs Poster Session

*July 2022*

*Indiana University*

Presented a research poster: "Spinophilin and Caspase-3 in NMDAR-dependent Apoptosis."

### Hillsdale College Science Research Symposium

*February 2022*

*Hillsdale College*

Presented a research poster: "Conformational Changes in BAX during Inhibition by Bcl-xL."

## Awards and Honors

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### **Outstanding Poster Award**

*August 2024*

*Case Western Reserve*

Cash prize awarded for an outstanding research poster presentation at the annual Neuroscience Department Retreat.

### **American Institute of Chemists Outstanding Senior Award**

*February 2023*

*Hillsdale College*

Cash prize awarded to one outstanding senior in the Chemistry Department.

### **Marsden Prize in Chemistry for Outstanding Senior Research**

*February 2023*

*Hillsdale College*

\$350 prize awarded to one senior in the Chemistry Department for the best research as a senior.

### **ACS Award for Outstanding Achievement in Analytical Chemistry**

*February 2022*

*Hillsdale College*

Awarded to the student with the highest achievement in Analytical Chemistry for the 2021-2022 year.

### **Marsden Prize in Chemistry for Outstanding Junior Research**

*February 2022*

*Hillsdale College*

\$350 prize awarded to one junior in the Chemistry Department for the best research as a junior.

### **Robey Charitable Trust Scholarship**

*August 2021 – May 2022*

*Hillsdale College*

Awarded to rising junior and seniors who have demonstrated academic excellence.

### **Deans' List, Hillsdale College**

*Spring 2020; Fall 2020, 2021*

Awarded to all college students who achieve a 3.4 or greater GPA in a semester.

### **4.0 Deans' List, Hillsdale College**

*Fall 2019; Spring 2022*

Awarded to all college students who achieve a 4.0 GPA in a semester.

### **Hillsdale Merit Scholarship**

*August 2019 – May 2023*

\$12,100 per semester awarded for four years in recognition of high achievement in high school.

### **National Merit Scholar**

*August 2019 – May 2023*

Awarded to the top 1% of scores on the PSAT/NMSQT in the year which it is taken.