

SETH CROSLow

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EDUCATION

Expected May 2021 **Bachelor of Science in Chemistry and Physics**
Monmouth College | *Monmouth, Illinois*
GPA: 3.91/4.00 | GRE: 163Q, 156V, 5.0W

RESEARCH EXPERIENCE

- Jan. 2018 - Present **Research Assistant**, Monmouth College | *Monmouth, IL*
Advisor: Dr. Audra Goach Sostarecz
- Studying the effects of conformation and cation on insulin hexamer aggregation
 - Determining the effects of pH on insulin hexamer aggregation and monomer formation
 - Building a Brewster Angle Microscope to view aggregation/interaction of insulin
- Apr. 2020 - Present **Research Assistant**, Monmouth College | *Monmouth, IL*
Advisor: Dr. Bradley Sturgeon
- Using python to replicate an EPR simulation software
 - Creating an automatic EPR deconvolution program to extract hyperfine coupling constants
- Jun. - Aug. 2019 **Research Experience for Undergraduates**, Boston College | *Boston, MA*
Advisor: Dr. Dunwei Wang
- Validated a potential-dependent mechanism switch of a heterogeneous catalyst
 - Used quartz crystal microbalance to study the effects of water adhesion on the catalyst
 - Analyzed intermediates in the water oxidation cycle *in operando* using FTIR
- Aug. 2018 **Summer Opportunities for Intellectual Activities**, Monmouth College | *Monmouth, IL*
- Tested and calibrated a newly built ceramic 3D printer
 - Began learning Fusion 360 to design unique pottery and sculptures
- Jun. - Aug. 2018 **Richard “Doc” Kieft Summer Research Program**, Monmouth College | *Monmouth, IL*
Advisor: Dr. Audra Goach Sostarecz
- Used Langmuir Trough to study the effects of divalent metal cations on insulin aggregation
 - Studied insulin’s interactions with lipids commonly found in the cell membrane
 - Coded a graphical user interface for data processing programs using Python
- Aug. 2017 - May 2019 **Monmouth College Coffee Project**, Monmouth College | *Monmouth, IL*
Advisor: Dr. Bradley Sturgeon
- Identified volatile compounds formed during the coffee roasting process using GC-MS
 - Analyzed liquid extractions of roasted coffee using thin-layer chromatography
- Aug. 2017 **Summer Opportunities for Intellectual Activities**, Monmouth College | *Monmouth, IL*
- Made dough and bread samples using various strains of yeast
 - Analyzed aromatic compounds in dough and bread samples using GC-MS

PROFESSIONAL EXPERIENCE

- Aug. 2019 - Present **Organic Chemistry Supplemental Instructor**, Monmouth College | *Monmouth, IL*
- Held class sessions semiweekly to go over class material and answer students’ questions
 - Hosted weekly office hours to answer students questions and review class material
- Jan. - May 2019 **Inorganic Chemistry Lab Assistant**, Monmouth College | *Monmouth, IL*
- Assisted the professor during lab to ensure the safety of the students
 - Graded students’ lab course materials

- Jan. - Dec. 2018 **General Chemistry Lab Assistant**, Monmouth College | *Monmouth, IL*
- Helped the professor and lab manager set up/clean up experiments
 - Recorded attendance during each lab and collected lab course material from students

PRESENTATIONS

- Sep. 2019 Croslow S., Allen B., Saulcy K., Crans D., Goach, A. “*Investigating Insulin Monomer and Hexamer Formation with Langmuir Monolayers and Brewster Angle Microscopy*”, IL-IA ACS Research Conference, St. Ambrose College. (Poster)
- Sep. 2019 Croslow S., Lang C., Wang D. “*Mechanistic Study of Intermediates in the Water Oxidation Pathway*”, Science Seminar, Monmouth College. (Oral)
- Aug. 2019 Croslow S., Lang C., Wang D. “*Mechanistic Study of Intermediates in the Water Oxidation Pathway*”, REU Research Day, Boston College. (Oral)
- May 2019 Saulcy K., Croslow S., Allen B., Sostarecz A., Crans D. “*Investigating Insulin Monomer and Hexamer Formation with Langmuir Monolayers and Brewster Angle Microscopy*”, Scholars' Day, Monmouth College. (Poster)
- Apr. 2019 Saulcy K., Croslow S., Allen B., Sostarecz A., Crans D. “*Investigating Insulin Monomer and Hexamer Formation with Langmuir Monolayers and Brewster Angle Microscopy*”, Division of Inorganic Chemistry, American Chemical Society 257th National Meeting. (Poster)
- Aug. 2018 Allen B., Croslow S., Quick R., Perez O., Phelps M., Woolard K., Wunderlich J. “*Visualization Using a Ceramic 3D Printer*”, Summer Opportunities for Intellectual Activities, Monmouth College. (Oral and Poster)
- Jul. 2018 Croslow S., Sostarecz A. “*Insulin Aggregation at the Air-Water Interface*”, Richard “Doc” Kieft Summer Research Program, Monmouth College. (Oral)
- Aug. 2017 Taylor Z., Yoder B., Burgo V., Croslow S., Currens E., McLaughlin K., Sterr J., Trettin A., Moore L., Prinsell M. “*Analyzing Volatile Compounds in Bread Using GC-MS*”, Summer Opportunities for Intellectual Activities, Monmouth College. (Oral and Poster)

HONORS AND AWARDS

- Dec. 2017 - Present Dean's List, Monmouth College
- Oct. 2019 COLL PUI Award, American Chemical Society 259th National Meeting (Invited talk/Canceled)
- Apr. 2019 McKinnie & Carolyn Phelps Scholarship, Monmouth College
- Apr. 2019 Robert Minter '66 Prize for Maximizing Scientific Potential, Monmouth College
- Apr. 2018 Edward C. and Catherine D. Hodge Memorial Scholarship, Monmouth College
- Apr. 2018 Most Outstanding Freshman Chemistry Student, Monmouth College
- Aug. 2017 Richard “Doc” Kieft Chemistry Scholarship, Monmouth College
- Aug. 2017 Dean's Scholarship, Monmouth College

PROFESSIONAL AFFILIATIONS

- Aug. 2018 - Present Member, Alpha Lambda Delta
- Aug. 2018 - Present Member, American Chemical Society
- President, Monmouth College Student Chapter ACS

SKILLS

- Instrumentation: Griffin 450 GC-MS, Kibron Langmuir Trough, FTIR
- Computer: Python, IGOR, MS Office, LaTeX