

# Alexander Steil

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## Education

**Bachelor of Science** 2014 - 2018  
Cell and Molecular Biology Major, Chemistry Minor  
University of Wisconsin – La Crosse

## Research Experience

**Professional Research Assistant – Jagannathan Lab** 2019 - present  
CU Anschutz Medical Campus

**Undergraduate Research Assistant – Klein Lab** 2016 - 2019  
University of Wisconsin - La Crosse

- **Used CRISPR/Cas9 to study site-specific oxidation in mammalian myoblasts**
  - Successfully developed mutant cell line C2C12 CALM1 M109Q
    - M to Q mutation sterically mimics an oxidized M109 in Calmodulin
    - Designed gRNA, donor DNA, and primers for PCR screening of mutants
  - Performed cell proliferation and morphology assays to characterize mutant phenotype
  - Utilized immunofluorescent microscopy and western blotting to understand protein localization and expression in mutant cells
  - Designed plasmids and drug treatments to rescue mutant phenotype

## Grants and Awards

**UWL Frey Fund for Scientific Entrepreneurship** 2017, 2018

**UWL Undergraduate Research and Creativity Grant** 2018  
Site-specific oxidation of Calmodulin as a mechanism of muscle degeneration

**UWL Undergraduate Research and Creativity Grant** 2017  
CRISPR mediated investigation of Calmodulin oxidation

## Presentations

**Medical College of Wisconsin Redox Biology Symposium** 2018  
Poster: Site-specific redox regulation of myogenesis.  
Alex Steil and Jennifer Klein Ph.D. (2018)

**Midwest Regional Biophysical Society Symposium** 2017  
Poster: CRISPR-mediated oxidation of CaM M109 to CaM M109Q.  
Alex Steil, Brandon Harris, and Jennifer Klein Ph.D. (2017)