

# Hayden E. Fowler

☎ (205)-907-1626

✉ Hayden.Fowler@Colorado.edu

🏠 4870 Meredith Way., Apt. 206  
Boulder, CO 80303

## ✍ Education

**University of Colorado Boulder** (CU Boulder)  
**Doctor of Philosophy in Chemical Engineering**

Boulder, Colorado      GPA: 3.9  
*Anticipated Graduation: May 2023*

**The University of Alabama in Huntsville** (UAH)  
**Bachelor of Science in Chemical Engineering**

Huntsville, Alabama      GPA: 4.0  
*May 2018, Summa Cum Laude*

## 🔧 Experience

**University of Colorado Boulder** | **Graduate Research Assistant** – Boulder, CO

*September 2018 – present*

**PI: Dr. Timothy J. White**

- Thesis: *Functional Mechanical Responses in Liquid Crystal Elastomers*
- Tailor mechanical deformation in liquid crystalline polymer networks and elastomers
- Explore electromechanical effects in liquid crystal elastomers

**The University of Alabama in Huntsville** | **Undergraduate Researcher** – Huntsville, AL

*January 2016 – May 2018*

**PI: Dr. Yu Lei**

- Thesis: *Investigation of Copper Catalysts for Propylene Epoxidation*
- Conducted independent research involving the design, synthesis, and characterization of copper catalysts for propylene epoxidation via molecular oxidation

**Cyclotron Institute, Texas A&M University** | **Undergraduate Researcher** – College Station, TX

*May-August 2017*

**PI: Dr. Greg Chubaryan**

- Established design parameters for significant aspects of the heavy ion guide
- Developed a digital interface for remote control of the gas handling system

**University of Alabama** | **Student Research Assistant** – Tuscaloosa, AL

*July 2013 – May 2014*

**PI: Dr. Ryan L. Hartman**

- Investigated the use of cyclodextrin on the solubility of methane into water to aid the synthesis of clathrate hydrates in a laboratory for further investigation into their prevention in natural gas lines

**Student Success Center, UAH** | **Tutor** – Huntsville, AL

*August 2015 – May 2018*

- Tutored students in a variety of STEM subjects
- Observed and provided feedback to other tutors

**Honors College, UAH** | **Head Tutor** – Huntsville, AL

*August 2015 – December 2016*

- Spearheaded the first tutoring program internal to the Honors College

## 📄 Publications

**Fowler, H. E.**; Donovan, B. R.; McCracken, J. M.; White, T. J. Localizing Genesis in Polydomain Liquid Crystal Elastomers. *Soft Matter*. **2020**, 16, 330-336.

Donovan, B. R.; **Fowler, H. E.**; Matavulj, V.; White, T. J. Mechanotropic Elastomers. *Angewandte Chemie*. **2019**, 131, 1-6.

McCracken, J. M.; Tondiglia, V. P.; Auguste, A. D.; Godman, N. P.; Bagnall, B. N.; **Fowler, H. E.**; Baxter, C. M.; Matavulj, V.; Berrigan, J. D.; White, T. J. Microstructured Photopolymerization of Liquid Crystalline Elastomers in Oxygen-rich Environments. *Advanced Functional Materials*. **2019**, 1903761.

## Presentations

**“Localizing Genesis in Polydomain Liquid Crystal Elastomers”** | Poster

- **International Liquid Crystal Elastomer Conference**, *September 2019* – Eindhoven, Netherlands
- **Ferroelectric Liquid Crystal Conference**, *August 2019* – Boulder, CO

**“Nonlinear Deformation in Liquid Crystal Elastomers”** | Poster

- **Anseth-Bowman-White Independent Study Poster Presentations**, *December 2018* – Boulder, CO

**“Investigation of Copper Catalysts for Propylene Epoxidation”** | Poster

- **Higher Education Day**, *February 2018* – Montgomery, AL
- **UAH Materials Science Symposium**, *November 2017* – Huntsville, AL
- **UAH 3<sup>rd</sup> Annual Research Horizons Day**, *April 2017* – Huntsville, AL
- **15<sup>th</sup> Annual Symposium of the Southeastern Catalysis Society**, *September 2016* – Asheville, NC

**“The Heavy Ion Guide Gas Handling System: Calculations and Execution”** | Poster

- **Texas A&M Summer 2017 Undergraduate Poster Session**, *August 2017* – College Station, TX

**“The Effect of  $\alpha$ -cyclodextrin on the Solubility of Methane to Aid the Research of Clathrate Hydrates”** | Poster

- **Intel’s International Science and Engineering Fair**, *May 2014* – Los Angeles, CA
- **Alabama State Science and Engineering Fair**, *April 2014* – Huntsville, AL
- **Central Alabama Regional Science and Engineering Fair**, *March 2014* – Birmingham, AL

## Leadership and Involvement

**GAANN Student Leadership Team**, *2019*

- Worked as part of a team of GAANN fellows to plan outreach and volunteering events

**College of Engineering mentor**, *2019*

- Helped new graduate students to the College of Engineering at CU Boulder navigate their first year

**Department of Chemical and Biological Engineering mentor**, *2019*

- Helped new graduate students to the Department of Chemical and Biological Engineering at CU Boulder navigate their first year

**Honors College mentor**, *2015 – 2017*

- Guided Honors College freshmen at UAH through their first year of college, assisted in easing the transition from high school to college, and instilled core skills needed to be successful in college

**Organic Chemistry PASS Leader**, *2017*

- Planned and led interactive, recitation-style study sessions twice per week

## Honors

**NSF Graduate Research Fellow**, *2020-2023*

**GAANN Fellow**, *2018-2020*

**Dean’s Graduate Assistantship**, *2018*

**Highest Academic Achievement**, *2018*

**Outstanding Chemical Engineering Student**, *2018*

**Prevost Research Program Award**, *2017*

**Honors Summer Stipend Award**, *2017*

**Research Horizons Top Undergraduate Poster**, *2017*

**Organic Chemistry Award**, *2016*

**Junior Community Service Award**, *2016*

**Charger Distinction Scholarship**, *2014*

NSF GRFP

Dept. of Chem. Eng., CU Boulder

College of Engineering, CU Boulder

Honors College, UAH

College of Engineering, UAH

Honors College, UAH

Honors College, UAH

College of Engineering, UAH

College of Science, UAH

Honors College, UAH

UAH