Corwin Benedict Kerr

corwin@corwinkerr.com

EDUCATION

University of Michigan — *Fall 2019*
Starting Chemical Engineering PhD — Ann Arbor, MI

North Carolina State University — May 2019
Chemical Engineering B.S. — Raleigh, NC
Mathematics Minor
University Honors Program GPA 4.0 /4.0

CAPSTONE

"Mixing controlled synthesis of colloidal semiconductor nanocrystals"
Richard L. Blanton Outstanding Capstone Award May 2019

RESEARCH EXPERIENCE

***Undergraduate Researcher**, Raleigh, NC* September 2017 – May 2019
Abolhasani Lab, NC State University

- Developed sensor for velocity and slug length in two-phase microfluidic systems
- Reduced error in velocity data by up to 75% and enabled use of slug length

AWARDS & GRANTS

Outstanding Poster Presentation, NCSU Undergraduate Symposium April 2019
1st Place in Category Poster, AIChE Undergrad. Poster Competition October 2018
Travel Grant Recipient, University Honors Program Fall 2018
Grant Recipient, NCSU Office of Undergraduate Research Summer 2018

PUBLICATIONS

2. **C. B. Kerr**, R. W. Epps, and M. Abolhasani, "A low-cost, non-invasive phase velocity and length meter and controller for multiphase lab-in-a-tube devices". *Lab on a Chip.* https://doi.org/10.1039/c9lc00296k
1. K. Abdel-Latif, R. W. Epps, **C. B. Kerr**, C. M. Papa, F. N. Castellano, and M. Abolhasani, "Facile Room-Temperature Anion Exchange Reactions of Inorganic Perovskite Quantum Dots Enabled by a Modular Microfluidic Platform". *Advanced Functional Materials*. https://doi.org/10.1002/adfm.201900712. **My contribution: key measurement module.**

WORK EXPERIENCE

***Honors Village Fellow**, Raleigh, NC* August 2016 – May 2018
NC State University Honors Program and University Housing

- Served in highly selective, paid, academic leadership role in Honors Village
- Planned and led 3 interactive class sessions
- Led writing workshops and organized out of class events utilizing Village funds

STUDY ABROAD

***IPL International Summer School**, Lyon, France* Summer 2017
CPE Lyon (École Supérieure de Chimie Physique Électronique)

- Collaborated with professors and students from 5+ different cultures
- Traveled and navigated independently, speaking only French for one week afterwards

PRESENTATIONS & POSTERS

Oral Presentations

1. "A Low-Cost Velocity and Slug Length Meter for 'Lab-on-a-Tube' Devices for Real-Time Control." Kennesaw State University, GA. National Conference on Undergraduate Research. *April 12, 2019.*

Poster Presentations

5. "Flow Characterization for Multi-Phase Lab-in-a-Tube Devices via Low-Cost Optical Methods." NC State University, Spring Undergraduate Research Symposium. *April 2019*. **(Outstanding Poster Presentation**, 24 awardees in 200 posters**)**
4. "A Low-Cost Optical Velocity Meter for Multi-Phase Lab-on-a-Tube Devices." American Institute of Chemical Engineering, Undergraduate Student Poster Competition. Pittsburgh, PA. *October 2018*. **(1st Place in category "General Engineering")**
3. "Optical Detection of Droplet Velocity in Two-Phase Microfluidic Systems." State of North Carolina Undergraduate Research & Creativity Symposium. *November 2018*.
2. "Optical Detection of Droplet Velocity in Two-Phase Microfluidic Systems." NC State University, Summer Undergraduate Research Symposium. *July 2018*.
1. "Optical Detection of Droplet Velocity in Two-Phase Microfluidic Systems." NC State University, Spring Undergraduate Research Symposium. *April 2018*.

FAMILIAR SOFTWARE: Mathematica, MATLAB, LabVIEW, Aspen Plus, LaTeX

ASSOCIATIONS & MUSICAL INVOLVEMENT

• Tau Beta Pi, member	Spring 2018 – Present
• AIChE, member	Fall 2017 – Present
• Flutist, University Theatre Pit Orchestra	Fall 2015 & Spring 2017
• Flutist, Raleigh Civic Symphony	Fall 2015 – Fall 2016
• Greensboro Symphony Youth Orchestra	Sept 2011 – May 2015
• **Third Place Winner, Concerto Competition**	Spring 2015
• Governor's School East, Natural Science	Summer 2014