

Education:

The University of Akron Honors College, Akron, Ohio

Bachelors of Science in Chemical Engineering and Biochemistry

Minor in Business

Expected Graduation May 2018

Grade Point Average: **3.8/4.0**

Presidents List

Dean's List

Lancaster Scholarship

Lubrizol Chemistry Scholarship

Rowley, John and Helen Endowment Scholarship

Work Experience:

The Goodyear Tire and Rubber Company, Akron, Ohio

[5/18/2015-Present]

A Fortune 100 Global Company that is the largest tire company in the world, producing not only Goodyear Tires, but also Kelly, Dunlop, Fulda, Sava, and Debica. In addition to tires, Goodyear Chemical also produces many more rubber products and polymers for a variety of consumer, automotive, medicinal, and industrial markets.

Polymer Physics Co-op, RDE&Q, Summer 2016

- Designed experiments to determine the effect of filler microstructures
- Determined the effect of certain additives on polymer properties
- Repurposed a product for use in the compounding industry
- Successfully tested a green alternative for rubber compounding while avoiding a loss of performance
- Investigated a new filler for implementation
- Supported Chemical Operations Research by testing functionalized polymers
- Cured samples according to experimental needs
- Learned about different techniques to extract data relating to polymer properties and physical characteristics

Material Science Co-op, Global Material Science, Summer 2015

- Initiated project with functional polymers to improve tire properties
- Synthesized new organic molecules and characterized them with NMR, GCMS, and UV-VS
- Troubleshooting and optimizing reaction conditions
- Characterization of molecules with NMR, GCMS, and UV-VS
- Optimized reactions designed to test molecular properties, mimicking conditions of a mixer
- Created polymers with functional end-groups and different molecular weights
- Characterized End-Groups using NMR Spectroscopy
- Designed set of reactions to test polymer reactivities ran with GPC analysis
- Conducted polymer curing and additives study with mechanical (RPA) tests run to analyze physical properties
- Created automated calibration curves for various compounds using GCMS software

The JM Smucker Company, Orrville, Ohio

[1/12/2014-5/15/15]

A Fortune 500 Company that owns over 18 different brands in the food industry. Today, Smucker is the leading marketer and manufacturer of fruit spreads, coffee, peanut butter, shortenings and oils, ice cream toppings, sweetened condensed milk, and other natural foods in North America.

Analytical Chemist Intern/Coop, Coffee R&D

- Established chemical profiles to support differentiations of in-house coffee vs. competitors for product applications
- Worked with analytical and biochemists to isolate coffee chemicals for sensory enhancement
- Collaborated with Ohio State University to study to non-enzymatic browning (Malliard Reaction)
- Conducted comprehensive testing and presentations on the carcinogen furan and its levels in coffee
- Designed procedures and methods for testing the quality and consistency of coffee using various analytical techniques
- Operation of analytical equipment including mass spectroscopy (GC-MS, Triple Quad-MS, Quad TOF, GC-MS 2D, GCMS Purge N Trap, SPME) as well as chromatography (HPLC, analytical and preparative)
- Good working knowledge of analytical software such as Chemstation, Agilent, JMP, Gerstel, and Ion Analytics for data collection and determination

Activities and Interests:

- **Research System Lead/Vice-President of The Akronauts:** An Aerospace Rocket Design Team that builds sounding rockets
 - Investigated new rocket technology and improve existing technology
 - Focused on making fuel, a spin-stabilized body, and a conforming nosecone
 - Conducted and organized testing of new technologies as well as assigned individual member duties
- **DREAMAkron Treasurer:** An Honors' organization designed to ensure success in underprivileged/inner city youth
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 - Organized and conducted the organization's first 5K run as a fundraiser
 - Dedicated tutor and mentor for students in DREAMAkron
- **College Relations Director of AIChE:** Amercian Institute for Chemical Engineers, Akron Chapter
 - Organized speakers and other events for UA Chemical Engineering Students
 - Represented the Akron Chapter during National Conferences across the US
 - Recognized and provided for the professional and informational needs of chapter members
- **Other Activities**
 - Research on structural color in bird feathers under Dr. Matthew Shawkey
 - Tutor for UA in Physics, Organic Chemistry, Genetics, and Calculus
 - LeadAkron Leadership Program Graduate
 - Sixth Sigma Project Involvement
 - Peer Mentor for At-Risk Chemical Engineering Freshman at the UA Honors College

Skills:

Laboratory Skills: Experience with designing and synthesizing new molecules, as well as characterization using NMR (Nuclear Magnetic Resonance) spectroscopy. Ran polymerizations, steam stripping, familiar with working with air sensitive reactions. Working knowledge on polymer testing equipment such as Instron, RPA, and Mooney. Work done on instruments including GCMS, HPLC (both analytical and preparatory), Triple Quad, QTOF, NIR, 2D GCMS, SPME, GPC and Purge N Trap GCMS. Developed experimental methods and prepared samples for analysis. Work with solutions and software to create Internal Standards and check mixes.

Software Skills: Microsoft Word, Microsoft PowerPoint, SciFinder and Microsoft Excel. Proficient in Ion Analytics, Gerstel and Agilent systems. Familiarity with JMP and Astra Systems.

Communication Skills: Excellent verbal and written communication skills. Takes initiative, great independent worker or team player, possesses strong leadership qualities, energetic and hardworking, great presentation, communication, and interpersonal skills, intrinsically driven, meets deadlines, works quickly and accurately under pressure.