

Zachery T. Flowers

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EDUCATION

Georgia Institute of Technology,
Bachelor of Science in Chemical & Biomolecular Engineering

Atlanta, GA
May 2022

Hope Scholarship

EXPERINCE

Aspen Air Gas,
Quality Control Intern,

Atlanta, Ga
May 2018 – October 2019

A refrigeration gas company that specialized in creating a multitude of refrigerant gasses

- Ensured the purity and composition of several different refrigeration gasses after production
- Ran several experiments individually each day to determine qualities about incoming refrigeration gasses

Purafil,
Lab Intern, Chemistry Department

Doraville, GA
April 2017 – August 2017

Air purification company that produces media samples that are used to clean polluted air

- Prepared media samples in various solutions and analyzed the remaining life of media samples
- Increased number of samples analyzed by 23% and decreased sample turnaround time by 18%
- Built reports via PowerPoint and Excel around results found and communicated to 35+ companies via media platforms

PROJECTS

Capstone Project

January 2022 – April 2022

- Created the design for an integrated plant for the company PPG to optimize their lithium-ion batteries for multiple processes
- Calculated the complete economics of the multimillion-dollar project
- Collaborated with others to determine the issues with each design iteration and innovate new strategies to meet the goal

Senior Design Project

August 2021- December 2021

- Designed a chemical plant from startup to produce dimethyl ether from methanol
- Created mass and energy balances around each unit operation to determine the optimized methods
- Identified key safety issues associated with the process and ways to counteract them

LEADERSHIP AND ACTIVITIES

Walton Research Group

January 2018 – December 2019

- In charge of synthesizing multiple polymers with the goal of creating a polymer containing MOF that can act as an air purification device
- Performed analysis of varying polymer species with calculations
- Worked with professors to design future experiments

VIP Team Chem Flow (Vertically Integrated Projects)

January 2018 – December 2019

- Collaborated with other students to produce a reaction and change the reaction from a batch reaction to a continuous flow
- Gave weekly presentations on the current state of the project

SKILLS

Software:	Autodesk Inventor, Microsoft Office, Aspen Plus, Matlab, Simulink
Communication:	Presented a Poster at Georgia State University's "Friendly Eyes" Conference, Experienced speaking in front of 150 people, written technical reports
Lab:	Distillation, Titration, Mass Spectrometry, IR Spectroscopy, Soxhlet Extraction