

BROOKE J. SILAGY

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EDUCATION

COLORADO STATE UNIVERSITY, Fort Collins, CO
M.S., Chemical Engineering, June 2023

MICHIGAN STATE UNIVERSITY, East Lansing, MI
B.S., Chemistry, May 2016

EXPERIENCE

COLORADO STATE UNIVERSITY, Fort Collins, CO
Research Associate II, July 2023 – Present

Develop modular engineering process models and concurrent sustainability models using integrated techno-economic analysis and life cycle assessment. Optimize model configurations and conduct data reduction to evaluate results effectively. Generate and present research findings through journal articles and presentations.

Graduate Research Assistant – Mechanical Engineering, July 2021 – June 2023

Developed a scalable engineering process model that is coupled with techno-economic analysis and life cycle assessment to understand the economic impact through input-output methods. Integrated regionally appropriate metrics and combined results from data into sustainability models to optimize and evaluate favorable configurations. Designed in Aspen Plus® to simulate commercial extraction for potential value-added co-products. Link to SBAR research grant website: <https://sbar.arizona.edu/>

Graduate Research Assistant – Chemical Engineering, October 2020 – July 2021

Used simulated data in Python to model effects of microscopy settings and image processing errors between alternate hypothesis for single mRNA-translation experiments; Co-author of rSNAPed, a Python library for single-molecule image processing. Link to rSNAPed website: <https://pypi.org/project/rsnaped/>

Colorado Mountain Medical, Vail, CO

Medical Laboratory Technologist, September 2017 – November 2019

Collected and prepared specimens in a clinical setting while adhering to SOPs; performed quality control, calibrations, instrument maintenance and troubleshooting for equipment used in quantitative analysis.

LABCORP DRUG DEVELOPMENT (F/K/A COVANCE), Madison, WI

Preclinical Study Toxicology Technician, June 2016 – August 2017

Collected and documented preclinical pharmaceutical toxicology data including test material administration, clinical sample collections, and physiological observations.

ADDITIONAL

Skills: Techno-economic Analysis, Life Cycle Assessment, Process Modeling, Microsoft Excel®, MATLAB®, ASPEN PLUS®

Interests: Whitewater kayaking, hiking, cooking