

BAILEY HODAKIEVIC

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EDUCATION

Bachelor of Science in Geology, Minor Geophysics
University of Houston – Houston, Texas

Aug 2021 – Expected July 2024
Cumulative GPA: 3.58, Major GPA: 3.69

SKILLS

Software and machinery: Agilent Masshunter, Agilent 6460 Triple Quad Liquid Chromatography Mass Spectrometer (LC-MS)

Hard skills: Liquid Chromatography-Mass Spectrometry; Solid Phase Extraction; Water sampling; Soil sampling; Proposal writing and evaluation; Biofilm formation; Budget management; Research and development

EXPERIENCE

Project Investigator, Biofilm Team Lead: Space Lotus

Jan 2022 – Present

National Aeronautics and Space Administration L'SPACE

- Awarded \$10,000 by NASA review panels and NASA MSFC's Chief Technologist for prototype development for proposed copolymer nanofibers to prevent biofilm contamination onboard the International Space Station's WPA by 20%
- Experimental design to be presented at 2023 International Conference on Environmental Systems (ICES)
- Spearheaded research and design efforts to replicate Environmental Control and Life Support System (ECLSS) microbial conditions to test nanofiber effectiveness against biofilm growth
- Collaborated with 4+ NASA ECLSS engineers and biofilm experts to ensure results yielded from experimentation would be applicable to the International Space Station's Water Processor Assembly (WPA)
- Leveraged budgetary reports to align material costs with the project's financial feasibility
- Completed 5-hour proposal evaluation training facilitated by NASA reviewers to evaluate technological merit, potential maturity, team and workforce development, project management approach, as well as alignment to agency goals and national needs

Undergraduate Research Assistant

Nov 2022 – May 2023

University of Houston

- Conducted analysis of polyfluoroalkyl substances (PFAs) in 50+ water samples from the Edwards Aquifer, San Antonio, and Guadalupe Rivers
- Utilized United States Environmental Protection Agency (EPA) Method 533 for isotope dilution solid-phase extraction (SPE) and liquid chromatography/tandem mass spectrometry to extract method analytes and isotope dilution analogues

Space City Rocketry Recovery Subteam Lead

June 2022 – Dec 2022

UH American Institute of Aeronautics and Astronautics

- Co-Led SCR's 40+ student engineering team from June 2022-December 2022 to develop a 4-inch diameter L3 rocket with a projected apogee of 39,728 feet to compete at Spaceport America 2023 Cup
- Awarded \$400 by alumni for 2 Student Research and Developed (SRAD) drogues and 1 main parachute to be deployed at an expected altitude of 39,728 ft and 1,000 ft while enduring a descent velocity of 112.83 ft/sec and 24.37 ft/sec, respectively
- Redesigned and reduced a 6" avionics bay to 4" with fully operational black powder and CO2 ejections systems, terminal blocks, and electronic-matches to communicate with flight computers and sensors to recover the rocket post apogee

Texas Hydro-Geo Workshop

Apr 2022

- Trained in Chain of Custody (CoC) procedures for packing and shipping samples
- Collected and prepared 5+ water samples from the Guadalupe River to be analyzed according to field parameters

CERTIFICATIONS & TRAININGS

EH06 General Lab Safety Training (Nov 2022); American Red Cross Wilderness/Remote Location First Aid (Feb 2022); Southwest Airline Professional Communications Certification (May 2018)

ACTIVITIES

Cougar Swimming, President

Aug 2022 – Present

UH AIPG/AEG, President

Sept 2021 – Present, May 2023 – Present

Cougar Cycling and Triathlon, Swim Captain

Sept 2021– Present, Jan 2022 – Present

UH American Institute of Aeronautics and Astronautics

Sept 2021 – Jan 2023

HONORS

Dean's List

Fall 2021, 2022; Spring 2023

2023 John O'Leary Outstanding Junior Award

2023 Earth and Atmospheric Sciences Undergraduate Scholarship

NSMAA Eckhard Pfeiffer/Carolyn Farb Scholarship Endowment

Frank L. Theall Scholarship

University of Houston Academic Excellence Scholarship