

## EDUCATION

2021-present **B.Sc. (Honours) with Co-op**, Biochemistry and Molecular Biology with a **Certificate in Genetics**, Dalhousie University  
Supervisor: Dr. John Archibald

## PUBLICATIONS

### Works submitted/in progress

1. Bennett, J. L., MacIsaac, S. A., Li, J., Rehman, M. B., **Fitzgerald, R. E.**, Stoddart, A. K., Gagnon, G. A. (2025). Photolysis at the Speed of Light: Chemical Free Degradation of Trace Organic Contaminants by Bespoke Photolysis Using High Intensity UV LEDs. [Preprint](#)

## RESEARCH EXPERIENCE

2025-present **Research Student Co-op**, Dalhousie University

Supervisor: Dr. John Archibald

*Aurantiochytrium limacinum* Zoospore Isolation

- Co-ordinating culturing, isolation and harvest of zoospore stage protists.

*High Salinity Environmental Samples*

- Isolating organisms from environmental samples and identification with 18S rDNA.

2024

**Research Engineer Assistant Co-op**, Dalhousie University

Supervisors: Drs. Amina Stoddart and Graham Gagnon

*Routine Wastewater Quality Testing*

- Followed weekly quality testing protocols of wastewater samples including but not limited to BOD, TOC/DOC, ATP, DNA and Ammonia.

*Molecular Analyses of Aerobic Tanks at Wastewater Facilities in HRM*

- Processed wastewater samples from aerated tanks from facilities around HRM for downstream DNA sequencing through.

*UV-LED Disinfection Studies*

- Utilized a bench scale BOD5 experimental model to perform UV-LED disinfection studies on wastewater samples with a collimate beam.
- Performed UV disinfection protocols for trace organic compounds and developed absorbance based standard curve for Urea analysis.

## INTERNSHIP & WORK EXPERIENCE

2023 **Data Analytics Summer Intern**, PricewaterhouseCoopers, Ottawa Canada

- Prepared data visualizations for leadership team use, process included data clean up through Alteryx program, data programming in Alteryx and data visualizations using Power BI software.

2022 **Administrative Services Summer Intern**, PricewaterhouseCoopers, Ottawa, Canada

- Updated online records management system firmwide to improve organizational hierarchy of online records.

2019-2021 **Cashier, Cashier Supervisor & Keyholder**, Shoppers Drug Mart, Ottawa, Canada

- 2018-2019    **U12 Novice Team Sports Coach**, GO Capital Artistic Swimming, Ottawa, Canada
- Designed training plans and carried them out with 8-12 girls, who competed provincially.

### **VOLUNTEERING**

- 2025-present    **Science Outreach Volunteer**, MicroScape Program, Institute of Comparative Genomics.
- 2025-present    **Planning Committee Member**, 2025 Parkinson's Canada SuperWalk, Halifax.
- 2024             **Volunteer**, 2024 Parkinson's Canada SuperWalk, Halifax.
- 2023             **Kitchen Volunteer**, Out of the Cold Community Association, Halifax, Canada
- 2022-2023      **Event Planning Committee Member**, Dalhousie Biochemistry Student Society
- 2020-2021      **Co-Committee Leader and Participant Experience Lead**, Relay for Life Nepean High School, Ottawa.