Lillian McCallum

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EDUCATION

UBC Bachelor of Applied Science, *Biomedical Engineering* *2020 – 2025 (expected)*
- Dean's Honour List (2020W, 2021W, 2022W)

TECHNICAL SKILLS

Programming Languages: Python, C#, C, Java, R
Software: MS Excel, SolidWorks, MATLAB, FlowJo, Prism (GraphPad)
Laboratory: mammalian cell culture, aseptic technique, micro pipetting, BSL-1

TECHNICAL EXPERIENCE

Zymeworks Inc., *In Vitro Pharmacology Co-op* *May - Dec. 2024*
- Performed in vitro assays including T cell dependent cytotoxicity and Meso Scale Discovery biomarker assays to assess the efficacy and safety of trispecific T cell engagers targeting acute myeloid leukemia.
- Supported the maintenance of multiple mammalian cell lines and gained hands-on experience freezing/thawing cells in cryopreservation.
- Designed multi-colour flow cytometric experiments, conducted appropriate compensation, and gated populations for further analysis with FlowJo, MS Excel, and Prism.

Aruna Revolution Health Inc., *R&D Engineering Intern* *June – Dec. 2023*
- Extracted cellulose fibers from various plants including cattails (*Typha*) and hemp (*Cannabis sativa)* to create non-woven fabrics for a 100% compostable menstrual pad.
- Developed a starch-based bioplastic suitable for dual extrusion manufacturing as an alternative to the polyethylene bottom layer in traditional plastic pads. Conducted waterproof, water vapour permeability, and tensile strengths tests according to ASTM standards.
- Navigated through FDA regulations and 510(K) premarket submission guidelines for medical devices.

UBC WasteNauts Engineering Design Team, *Project Co-founder & Member* *April 2023 - current*
- Co-founded a project aimed to create mycelium based compostable packaging to replace traditional cardboard and paper-based products in the shipping industry.
- Inoculated fungal strains on various substrates using aseptic technique to analyze the growth rate and physical properties of its mycelium.

OTHER EXPERIENCE

The Grainery Food Co-op, *Volunteer* *Aug. – Dec. 2023*
- Provided in store customer service for a 100% volunteer run and non-profit food co-op that provides local and organic whole foods to the Halifax community at affordable prices.

Engineering for Kids Vancouver, *Part Time STEM Instructor* *May 2022 – April 2023*
- Led groups of 5-12 children in hands-on learning activities relating to mechanical design, robotics, and engineering.

INTERESTS

UBC Varsity Outdoors Club, *Member* *Sept. 2022 - current*
Piano, *First Class Honours Level 9 Piano, The Royal Conservatory of Music* *June 2020*
Figure Skating, *Quadruple Gold Medalist, Skate Canada STARSkate* *Dec. 2019*