

Isabella Jodoin

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EDUCATION:

University of Massachusetts Lowell, Lowell, MA 01854

Anticipated Bachelors Graduation Fall 2022

Honors Senior undergraduate for Bachelor of Science in Biomedical Engineering: Cellular/Tissue **GPA: 3.7**

Enrolled Biomedical engineering Master's in Biomedical Engineering & Biotechnology

- **Relevant coursework:** Graduate Advanced Tissue Engineering, Neural Engineering, Capstone, Drug Delivery, Quantitative Physiology with Lab, Biomaterials, Graduate Tissue Engineering, Biomechanics, Transport Phenomena, Thermodynamics, Bioinstrumentation with Lab, Organic Chemistry with Lab, Bioethics/Genetics Research, BME MATLAB applications, CAD, Honors Entrepreneurship, Engineering Ethics

ACADEMIC AWARDS AND RECOGNITION:

December 2020–February 2021

- Recipient of UML's \$1,200 Honors College Fellowship, where I focused 100 hours of research to evaluate and validate pre-FDA/EUA approved Covid-19 nasal swabs in trial, through a corresponding conducted swab study.
- Mentioned during the National Next Generation Tissue Engineering online symposium for my contributions to a physiologically relevant 3D Gingival Tissue Model to study host-pathogens interactions in-vitro in Dr.Ghezzi's Lab at UML

September 21st 2021

RESEARCH EXPERIENCE:

RADx | UML's Medical Device Development Center, *Research Lab Technician* | *December 2020–August 2021*

- Supported lab operations in a fast-track program for the validation, development and commercialization of new technologies under the NIH mandate to streamline SARS-COV-2 diagnostics and increase testing capacity in the U.S. Participating in Bi-weekly presentations, upkeep of laboratory notebook and continuously improving SOPs.

3D Skin Model | Tufts University *Research Lab Assistant*

July 2021–October 2021

- Fellowed a Phd student working on a human skin equivalent project with both neural and immune stem cells at the Kaplan Lab
- Processed silk for various uses as a biomaterial, carried out traditional tissue culture (without bioreactor or natural milieu/media), controlled porosity of silk scaffolds, oversaw antibody staining, confocal microscopy, and scaffold seeding.

ACADEMIC PROJECTS:

Capstone Project: Controlled Tissue Engineering bioreactor environment

September 2021–Present

- Working with a fellow BME student to develop the prototype for a new controlled tissue culture platform, offering the scientist control of an otherwise confounding variable to the culture, with a bioreactor.
- In the process of acquiring intellectual property of the prototype/idea.

POSHture

September–December 2020

- Team leader on the development of a CAD prototype for a posture correctional device composed of a reconfigurable and individualized insert, providing specific unmatched ergonomics at the patient's preference of both style and comfort.
- Semi-finalist of DifferenceMaker competition Fall 2020.

EpinephBAND

January–December 2020

- Design lead for creation of prototype of a new device to more safely facilitate delivery of epinephrine in the event of a detected spike in histamine and heartrate.
- Semi-finalist of DifferenceMaker competition Spring 2020.
- Presented a business strategy for implementation to consumer market to the RiverHawk Venture Fund Advisory Board.

Invisinsulin

September 2019–May 2020

- Worked with fellow students to prototype a user-friendly insulin management system incorporated into a wearable wristlet design, offering a discrete solution and heightened quality of life for the diabetic patient.

SKILLS:

- *Biomedical Laboratory:* Silk boiling, Tissue Culture, Bioreactors, Biomaterials, Aliquoting, Amplification/Lysis plate preparation, Autoclave, Centrifuge, Extraction protocols, Florescence plate reader, Nanodrop, Real time RT-PCR, Scanning electron microscope, Spectroscopy, Sterile lab techniques in the BSL 2.
- *Software:* MATLAB, Arduino, SolidWorks, Microsoft Office, Desmos
- *Mechanical:* CNC plasma cutter, Instron tensile, Table saw, Lathe, Planer

PROFESSIONAL AFFILIATIONS:

Treasurer of University of Massachusetts Lowell Society of Biomedical Engineers (BMEs) *May 2020–Present*

Secretary of Society of Women Engineers (SWE) *September 2019–Present*

- Administration of SWE board activities. Alignment with fellow members for SWE management planning. Oversee, draft and send out all SWE emails ~3 times a week.

Member of Alpha-Alpha-Alpha (Tri-Alpha 1st generation) Honors Society *November 2020–Present*