Canaan J. McKenzie

N607 Redstone Lofts | 165 Davis Road
Burlington | VT | 05401

Canaan.McKenzie@uvm.edu
1.802.673.2250

Education: Bachelor of Science in Mechanical Engineering *Expected May 2017*
Minors in Computer Science, Mathematics
The University of Vermont, Burlington, Vermont

Experience:

January 2014 - Present: Engineered Biomaterials Research Laboratory

- Designed low temperature polymer extrusion system for translating 3D CAD models into geometrically complex scaffolds, corresponding research abstract accepted for 2017 SFB conference poster presentation.
- Wrote protocols for and documented both routine and novel processes, pursued scientific literature, secured funding through grant writing, and effectively communicated research findings orally, graphically, and in writing.
- Synthesized biocompatible hydrogel cell scaffolding for tissue regeneration, characterized rheological properties resulting in two URC 2016 posters.
- Conducted complex multi-phase chemical reactions, performed detailed literature reviews, maintained long-term cell culture, and studied material microstructure through SEM imaging.

January 2014 - Present: Teaching Assistant

Responsible for material instruction and weekly grading:

- ME 012 - Dynamics (*January 2017 - Present*)
- ME 111 - System Dynamics (*August 2016 - December 2017*)
- CS 101 - Java (*January 2015 - December 2015*)
- CS 21 - Python (*January 2014 - November 2014*)

Capstone Design Team Project: *Vermont Lung Center, UVM Medical Center*. Proof of concept modification of a commercial 3D printer into a bench-top Bio-printer for low temperature polymer extrusion.

Technical Skills: CAD - *SolidWorks*, Raspberry Pi, Arduino, Java, Python, Mathematica, MS Office (*Word, Excel, PowerPoint*), MATLAB, AR2000 Rheometer, SEM (JEOL 600)

Awards and Recognition: Vermont Scholars Award, Summer 2015 REU Summer Research Grant, Fall 2016 REU Award, UVM URC 2015 poster presentations, SFB 2017 accepted research abstract.

Published Articles:

"*Physically Crosslinked Polyvinyl Alcohol and Gelatin Interpenetrating Polymer Network Theta-gels for Cartilage Regeneration*" Miao, Tianxin, Emily Julia Miller, Canaan McKenzie, Rachael Ann Oldinski. Journal of Mater. Chem. B (2015): 9242-9249. The Royal Society of Chemistry, 09 Nov. 2015.