

STEVE ROGERS

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EDUCATION

- Doctor of Philosophy in Engineering, Mechanical Engineering** May 2022
Dissertation Title: "Bone Adaptation to Mechanical Stimuli & Injury"
Committee: *Dr. Tony Stark* (Chair), *Prof. Bucky Barnes*, *Prof. Wanda Maximoff*
- Master of Applied Science, Mechanical Engineering** May 2020
Thesis Title: "Bone Fracture Limits & Injury Tolerance"
Advisor: *Prof. Nick Fury*
- Bachelor of Engineering, Mechanical Engineering** May 2018

HONOURS AND AWARDS

- John H.T. Wade Medal** 2018
 - Awarded based on contributions made to Mechanical Engineering exemplified by the Master of Engineering thesis
- Dalvi Family Entrance Scholarship** 2014
 - Awarded \$3k for final admissions average of 94%

RESEARCH EXPERIENCE

- Bone Adaptation to Mechanical Stimuli & Injury** 2020 - Present
McMaster University, Hamilton ON, Advisor Name: *Dr. Tony Stark*
 - Prepared findings for publication and assisted in laboratory analysis, quality control, and data management
 - Set up, calibrated, and maintained laboratory and research equipment
 - Supervised undergraduate students working on the research project, acted as a liaison between the undergraduate students and the faculty researcher
- Mechanical Vibrations Research Assistant** 2018 – 2020
McMaster University, Hamilton ON, Advisor Name: *Prof. Nick Fury*
 - Planned and modified research techniques, procedures, tests, and equipment
 - Collected and analyzed data, and summarized project results
 - Gained experience using CNC metal cutting machines and trained undergraduate students to use the machines safely
- Manufacturing Engineering Research Assistant** 2017 - 2018
McMaster University, Hamilton ON, Advisor: *Prof. Nick Fury*
 - Designed, built, and tested a custom tool for completing multiple machining operations
 - Planned, implemented, and maintained project timelines while adhering to all required deadlines
 - Demonstrated strong organization skills while accurately documenting, editing, and tracking records of the project progress

TEACHING EXPERIENCE

Biomechanics Teaching Assistant, McMaster University, Hamilton ON 2016 – 2018

- Taught course: Biomechanics 4BB3, an undergraduate course averaging 100 students per semester covering the following topics, Cellular Biomechanics, Hemodynamics, Skeletal Biomechanics, the Circulatory System, Muscles and Movement, and Locomotion
- Provided leadership to students by guiding them through their coursework and assignments to ensure a thorough understanding of the various course topics
- Graded assignments and quizzes, invigilated exams, and provided feedback to students on areas of improvement

PUBLICATIONS

Journal Publications

Stark, T., Barnes, B., Maximoff, W., Khan, K., “Skeletal Adaptation to Mechanical Stimuli,” Journal of Mechanical Engineering, vol.7, no.3, 2019, pp. 55-59.

Journal Papers Accepted

Khan, K. “Biomechanics of a Skull Fracture,” To be Published in: Journal of Mechanical Engineering.

Journal Papers in Review

Khan, K., “Effects of Biomechanical Stress on Bones,” Submitted to: Journal of Mechanical Engineering.

Conference Papers

(Peer-reviewed)

Khan, K., “title”, Proceedings of the Joint Congress of the Canadian Society for Mechanical Engineering and CFD Society of Canada, June 2-5, 2019, PAPERID-123456, pp. 305-312.

PRESENTATIONS

Workshop, “3D Printing Workshop”, McMaster University, November 2020.

- Facilitated a workshop to teach undergraduate students the concepts behind 3D printing technology, as well as the design and functioning of the printer
- Created a hands-on activity to allow students the opportunity to design and print a functioning object

Workshop, “CNC Machining Workshop”, McMaster University, January 2019.

- Facilitated a workshop to teach undergraduate students the concepts behind the CNC machining
- Assisted students in the fabrication of a fully functional 3-axis CNC machine that uses Arduino programming to perform functions like drilling, milling, and cutting

PROFESSIONAL TRAINING

Commanding Presence Two-Day Workshop

Ontario Society of Professional Engineers, Toronto ON, October 30, 2020

- Strengthened ability to speak and present with more confidence and authority through one on one coaching with facilitators
- “Think on your feet”: developed ability to respond quickly and eloquently to questions and enquiries in meetings, on the telephone, and during presentations

H.E.A.R.T. Workshop Series

McMaster University’s Equity & Inclusion Office, Hamilton ON, 2020

- Received Certification of Attendance for attending 3 workshops - Human Rights Fundamentals, An Introduction to the Duty to Accommodate, and Accessibility 101

WHMIS Certification, Canadian Centre for Occupational Health and Safety, 2018

CPR & First Aid Certified, Canadian Red Cross, 2018

CONFERENCES ATTENDED

The Joint Congress of the Canadian Society for Mechanical Engineering and CFD Society of Canada

CSME International Congress, Western University, London ON, 2021

25th Canadian Congress of Applied Mechanics (CANCAM)

Western University, London ON, 2017

COMMUNITY SERVICE

Community Food Advisor

2016 – present

City of Hamilton, Ontario

- Collaborated with advisors and the City of Hamilton to develop educational resources on healthy eating, food preparation and food safety
- Led small workshops and presentations monthly; actively answered questions from the public
- Completed 45 hours of training including 10 educational sessions, the Food Handler Certification course, and two community placements

MEMBERSHIPS

Women in Engineering Society	2015
The Canadian Society for Mechanical Engineering	2015
Ontario Society of Professional Engineers	2015
Professional Engineers Ontario	2015

TECHNICAL SKILLS

Software: AutoCAD, Autodesk Inventor, MATLAB, SolidWorks, Python

Laboratory: 3D printing, milling, metal lathe, drilling, soldering

REFERENCES

Dr. Tony Stark (Dissertation Supervisor)
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