Nabeel Chowdhury Nabeel Chowdhury 08/06/2020

2330 Euclid Height Blvd, Cleveland OH 44106 | (573)465-1883 | nchowdhury@ricres.org

Objective

- To obtain a world-class education/research experience in a challenging and stimulating environment with a focus on the control systems of upper and lower limb myoelectric prosthetics.

Education

PhD (ongoing) | AUG, 2017- | CASE WESTERN RESERVE UNIVERSITY

- Major: Biomedical Engineering
- GPA=4.0

BS | AUG, 2012-MAY, 2016 | WASHINGTON UNIVERSITY IN ST. LOUIS

- Major: Biomedical Engineering
- GPA=3.5

Experience

RESEARCH ASSISTANT (WOC APPOINTMENT) | LEWIS STOKES VA | AUGUST 2017-

- Research assistant with a WOC appointment at the Lewis Stokes Veterans Association in Cleveland working on peripheral nerve interfaces to restore and study sensation in amputees.

RESEARCHER | REHABILITATION INSTITUTE OF CHICAGO | JULY 2016-JULY 2017

- Research assistant at the Rehabilitation Institute of Chicago in the Center for Bionic Medicine. Did work on the design and control of lower limb powered prosthetic devices. Worked on teams of engineers as well as had independent projects towards the goal of improving these devices.

RESEARCHER | WASHINGTON UNIVERSITY SCHOOL OF MEDICINE | FEBRUARY 2015-MAY 2016

- Research as part of the WUIMIS biomaterials lab designing medical models, creating 3D printed myoelectric prosthetics and 3D printed body powered prosthetics, 3D printing medical models out of various materials, and bioprinting various structures. I also taught 3D modeling and prosthetic design to the younger undergrads in the lab to carry on after I graduated.

RESEARCHER | WASHINGTON UNIVERSITY SCHOOL OF MEDICINE | MAY 2015-AUGUST 2015

- Created an affordable, 3D printed, myoelectric prosthetic for a pediatric patient.

RESEARCH ASSISTANT | WASHINGTON UNIVERSITY SCHOOL OF MEDICINE | AUGUST 2012-FEBRUARY 2015

- Research in a biomaterials lab under Dr. Corey Deeken at the Washington University School of Medicine in the effectiveness of absorbable electrospun hernia repair meshes and their comparison to market brand Hernia meshes. Tissue Culture of mouse fibroblasts. Scanning Electron Microscopy. Histology. Biomechanical testing experience on an Instron. Experience in pig studies with hernia meshes.

RESEARCH ASSISTANT | UNIVERSITY OF NORTH CAROLINA CHARLOTTE | JUNE 2014-JULY 2014

- Creation and drug loading of bioceramics for the use in the curing of bone diseases as part of the El-Ghannam lab.

PROGRAMMER | DR. STOECKER AND ASSOCIATES | MAY 2012-AUGUST 2013

- Created programs teaching lesson plans created by Dr. Stoecker and Associates to educate future medical students interested in dermatology.

RESEARCH ASSISTANT | MISSOURI SCIENCE AND TECHNOLOGY | ARPIL 2012-AUGUST 2012

- Assisted in electro deposition on various substrates to test the properties of new materials in various applications in Switzer lab.

RESEARCH ASSITANT | WASHINGTON UNIVERSITY IN ST. LOUIS | MAY 2011-AUGUST 2011

- Assisted in genetic testing on organisms in Shahar lab.

Courses Taken

Introduction to Biomedical Engineering
Introduction to Electrical and Electronic Circuits
Principles of Biology I and II
Probability and Statistics for Engineering
Quantitative Physiology
Signals and Systems
Transport Phenomena
Biochemistry
Robotics Laboratory
Biomedical Engineering Design
Biomedical Ethics
Control Systems
Engineering Leadership and Team Building
Biological Neural Computation
Organic Chemistry I and II with lab
Biomechanics
Physiological Control Systems
Computer Science
Bioengineering Thermodynamics
Electromagnetics
Sociological Approaches to American Medicine
Numerical Methods for Computational Modeling in Biomedicine
Conflict Management and Negotiation
Bioelectric Phenomena
Basic and Advanced Animation in Three Dimensions
Engineering Ethics and Sustainability
Cellular Neurophysiology

Skills & Abilities

Programming in Java, Matlab, C++, and Authorware
Scanning Electron Microscopy
Basic electrodeposition and testing
Statistical analysis
The use and programming of an Arduino
Design and construction of sensors for mechanical testing
Firing and creation of bioceramics
Uniaxial and Biaxial Mechanical Testing
Harvesting of tissue from cadavers, donors, and pigs
Use of Fourier Transform Infrared Spectroscopy
3D modeling in CAD, Blender, Inventor, and Zbrush
Medical Modeling
Tissue Culture and Cell line maintenance
The use and theory of electrospinning
PCR and DNA extraction from Drosophila Melanogaster
An understating of biomechanics and circuits
The use of a 3D printer and printing of various materials
Experience in writing and presenting papers
Drug loading of materials
Strain Analysis
Use of High Performance Liquid Chromatography
Use of ICP-OES
Bioprinting
Prosthetic design

Publications

Zihni, Ahmed M., Jaime A. Cavallo, Dominic M. Thompson, Nabeel H. Chowdhury, Margaret M. Frisella, Brent D. Matthews, and Corey R. Deeken. "Evaluation of Absorbable Mesh Fixation Devices at Various Deployment Angles." Surgical Endoscopy 29.6 (2014): 1605-613. Web.

Activities

8/12 – 5/16	Biomedical Engineering Society	1 hr/wk
8/13-5/16	Engineering Council	2 hrs/wk
8/13 – 5/16	MSA	1 hr/wk
12/14-5/15	Shadowing doctors	2-5 hrs/wk
8/15-5/16	TA for Quantitative physiology	6-13 hrs/wk

Honors and Awards

2012	Valedictorian. Also received status of AP Scholar with Distinction award from College Board, 2012
2014/15/16	Dean's List

References

Dr. Dustin Tyler dxt23@case.edu
Dr. Micheal Brunt bruntm@wudosis.wustl.edu
Mr. Dominic Thompson thompsonni@wudosis.wustl.ed
Dr. Levi Hargrove l-hargrove@northwestern.edu
Dr. Jeffery Blatnik blatnikj@wudosis.wustl.edu
Dr. El-Ghannam arelgha@uncc.edu