

# Kerry M. Donnelly

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## EDUCATION

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### University of Rochester, Center for Medical Technology and Innovation

Expected: May 2017

Master of Science in Biomedical Engineering

### Binghamton University, State University of New York, Watson School of Engineering

May 2016

Bachelor of Science in Biomedical Engineering

Concentration in Biomedical Devices & Instrumentations

Cumulative GPA: 3.71/4.00 | Major GPA: 3.82/4.00

Magna Cum Laude | Tau Beta Pi National Engineering Honor Society, Alpha Eta Mu Beta Biomedical Engineering Honor Society

## TECHNICAL SKILLS

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MATLAB, Autodesk Inventor, Solid Edge, R, PowerLab A/D Converter, Chart5, EMG/ECG, MS Excel, MS Power Point, MS Word

## RELEVANT EXPERIENCE

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### BIOMEDICAL ENGINEERING DEPARTMENT

Binghamton, NY

#### *Project Leader Capstone Design Project*

Sep 2015 – Present

- Facilitated meetings, delegated tasks, and ensured completion of an interdisciplinary engineering student team's mission to design a wearable device that prevents hip fracture caused by the impact of a sideways fall.
- Prepared a one hundred page report including Solid Edge drawings to present and justify a design that distributes the forces of impact away from the greater trochanter. The design uses a novel mechanism which is currently being reviewed by patent attorneys.
- Designed a drop tester to simulate femoral fracture forces by dropping weights on a movable platform onto force sensors inset in a plate that simulates the curvature of the hip. The setup was used to test prototypes and prove efficacy of the design.
- Presented the clinical relevance, refined design, and testing procedure in several public presentations.

#### *Acupressure Heart Rate Monitor Bracelet*

Jan – May 2015

- Designed a device, with five other biomedical engineering students, which reads heart rate via an infrared sensor attached to the ear.
- Determined BPM from data read into an Arduino serial port using a signal processing and conditioning algorithm in R.
- Created code that caused a vibration motor, attached to a flexible bracelet on the wrist, to stimulate the acupressure point PC 6 that has been shown to lower heart rate, for BPM above a preset range.

### BIOMEDICAL ENGINEERING SOCIETY

Miami, FL

#### *Coulter College Participant*

Aug 2015

- Participated in a biomedical engineering training program including lectures on design, patent law, and regulatory strategy.
- Worked in a team of six students from Binghamton University to conduct research, develop three solutions, and refine one solution to decrease the rate of stroke in trans-aortic valve replacement (TAVR) patients.
- Designed an embolic protector to capture and remove debris knocked loose during the procedure to avoid entry into the carotid arteries. The protector is deployed and removed during the procedure via the same catheter used to place the valve.
- Presented the final design in a Venture Capital Pitch to other teams, professionals, and physicians present at the program.

## CAMPUS AND COMMUNITY INVOLVEMENT

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### BINGHAMTON UNIVERSITY

Binghamton, NY

#### Engineering World Health

Feb 2015 – Present

#### *Community Outreach Coordinator 2015-2016*

- Write lesson plans on biomedical engineering topics to encourage children in the community to pursue STEM fields.
- Organize and lead events and hands on activities with local schools and Girl Scout troops.

#### Biomedical Engineering Society

Sep 2012 – Present

#### *Director of Marketing and Social Media 2014-2015*

- Managed, designed, and updated club Facebook, Twitter, Instagram, and LinkedIn accounts followed by over 100 members.
- Organized and participated in community outreach, social, and informational events.

#### Society of Women Engineers

Sep 2012 – Present

#### *Active Member*

## WORK EXPERIENCE

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### BINGHAMTON UNIVERSITY ENGINEERING DESIGN DIVISION

Binghamton, NY

#### *Assistant Editor WTSN 103/104*

Sep 2015- Present

- Assist in updating and editing the course pack used by over 300 students for the freshman Engineering Communications class.
- Edit past student final projects to be used as examples for future classes.

#### *Lead Undergraduate Course Assistant*

Sep 2013– May 2015

- Supervised a class of twenty four and periodically presented on topics such as public speaking and presentation design.
- Graded coursework and met with students to provide additional help outside of class.
- Mentored new course assistants by meeting weekly to provide guidance.

