

# Amanda Catherine Tenhoff, EIT

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## Graduate Education

University of Minnesota, Minneapolis, Minnesota  
Doctorate of Philosophy in Biomedical Engineering

Anticipated Graduation: Spring 2022  
GPA: 3.52

## Undergraduate Education

University of St. Thomas, St. Paul, Minnesota  
Bachelor of Science in Mechanical Engineering, minor in Electrical Engineering

Graduation: May 2018  
GPA: 3.96

## Technical Skills

Mimics, 3Matic, MATLAB, C, LaTeX, SolidWorks, Microsoft Excel, computational research and modeling, data analysis

## Graduate and Undergraduate Research Experience

**Doctoral Student Researcher**, *Visible Heart Laboratories, Dr. Paul Iuzzo, University of Minnesota* November 2018 – Present

- Assisting in *in vivo* and *in situ* porcine, bovine, and canine cardiac physiological studies
- Creating 3D models of clinical congenital pediatric heart cases for surgical assistance and educational use

**Engineering Research Assistant**, *BRAm Lab, Dr. Thomas Secord, University of St. Thomas* January 2017 – May 2018

- Programmed in MATLAB to map deformation between systolic and diastolic phases
- Segmented 4D CT cardiac data to create silicone heart model for accurate benchtop device testing

**Code + Chords**, *Playful Learning Lab, Dr. AnnMarie Thomas, University of St. Thomas* May 2016 – January 2017

- Wrote software in Processing which creates visualizations driven by real-time audio input
- Received 2017 ASEE/SME Best Student Paper for Manufacturing Division

**Physics Research Assistant**, *Dr. Jeffrey Jalkio, University of St. Thomas* June 2015 – February 2016

- Mathematically derived and empirically verified relationship between buoyant force and cross-sectional area of a submerged object

## Publications

Secord T, Tenhoff A, Audi M, Lorch A. 2018. A multi-actuator approach to high bandwidth in vitro cardiac kinematic simulation. Presented at BioRob2018, Enschede, The Netherlands. 2018 Aug. DOI: 10.1109/BIOROB.2018.8487781

Meuer EM, Kern EA, Andrews M, Tenhoff A, Andrews K, Huschka P, Ryan EM, Tozour L, Thomas, AP. Board # 150: MAKER: Painting Pitches. Presented at ASEE Annual Conference & Exposition, Columbus, Ohio. 2017 Jun. <https://peer.asee.org/27775>

Tenhoff AC, Gerenz AJ, Jalkio JA. Buoys and springs – building connections between math and physics. The Physics Teacher J. 2016;54(9):556-559. DOI: 10.1119/1.4967898

## Conferences and Presentations

**Department of Surgery and Neurosurgery Research Day** – *University of Minnesota, Minneapolis, MN* June 2019

*Utilizing 3D Modeling in Pediatric Surgical Planning: Expansion of the Atlas of Human Cardiac Anatomy*

**Design of Medical Devices Conference** – *Minneapolis, MN* April 2019

**Earl E. Bakken Surgical Device Symposium** – *Minneapolis, MN* October 2018

**Society of Women Engineers Annual Conference** – *Austin, TX* October 2017

**American Society of Engineering Educators Annual Conference and Exhibition** – *Columbus, OH* June 2016

Make It! Session: *Painting Pitches* - Received 2017 ASEE/SME Best Student Paper for Manufacturing Division

## Fellowships, Honors, and Certifications

Engineer In Training Certification, State of Minnesota October 2018

University of Minnesota College of Science and Engineering Graduate Fellowship Fall 2018 – Present