

Eric Shaker

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EDUCATION

University of Pittsburgh, Pittsburgh PA
Bachelor of Science in Bioengineering
Minors: Math and Chemistry
GPA 3.8

Expected Graduation: April 2023

RELEVANT EXPERIENCE

Lead Inventor

August 2020 – August 2021

BioBulwark, Pittsburgh PA

- Developed novel vertically oriented graphene coating to be applied to polypropylene meshes using plasma enhanced chemical vapor deposition (PECVD) for bactericidal and anti-biofilm properties
- Generated the idea, pitched to Michael G Wells Competition for Innovation in Healthcare, won \$10,000 and underwent beginning development and in vitro trials
- Submitted provisional patent

Undergraduate Researcher

September 2019 – August 2021

Dr. Liang's Lab, UPMC

- Investigating link between delayed wound healing, prolonged inflammation, and vascularization in polypropylene meshes due to alterations in macrophages
- Carried out lab experiments, collected data, analyzed data using software and developed code to confirm results. Wrote a publication and an eposter to be presented at the AUGS
- Noticed significant differences in diabetic mesh specimens to typical mesh specimens for three histone deacetylases (HCADs 3,5 and 7) and key mediators involved in pro-inflammatory and pro-fibrotic pathways

Summer Intern Researcher

June 2020 – August 2021

Biostatistics Department, Columbia University

- Conducted research on network connectivity in Alzheimer's and cognitively normal patients using graph theory and computation tools in R
- Aggregated data, conducted statistical tests, looked for significance and related findings to clinical relevance
- Found decrease in small worldedness among Alzheimer's patients compared to cognitively normal data

Researcher

February 2020 – March 2021

7T Lab, Bioengineering Department University of Pittsburgh

- Conducted segmentation for 7T lab at the University of Pittsburgh to used on study evaluating efficacy of lithium treatments on Alzheimer's progression

Student Worker

February 2020 – March 2021

7T Lab, Wu Lab, Bioengineering Department University of Pittsburgh

- Conducted segmentation for both the 7T lab at the University of Pittsburgh and the Wu lab at the University of Pittsburgh
- 7T focused on finding ICV volume to compare to hippocampal volume in response to Lithium treatments for Alzheimer's disease
- Wu lab based on development biology
- Gained skills in segmentation in DSI studios, iTk-Snap, and image processing in MATLAB and imageJ

Team Member

August 2020 - Present

XARX Projects, University of Pittsburgh School of Medicine

- Involved in the design and development of medical device adapters to enable smartphones to be used as otoscopes, tongue depressors and as a stethoscope
- Attempting to integrate services within UPMC Children's Hospital to better equip patients and physicians using telehealth visits

LEADERSHIP & ACTIVITIES

Marlboro EMT Squad, Sergeant and EMT

July 2016 – July 2019

- Responded to 911 calls, treating and transporting patients. Maintained excellent quality of patient care, and utilized good communication to ensure proper continuation of care
- As Sergeant, enacted punishments, created fundraisers and events while tripling the size of the squad

Engineers Without Borders, Member

March 2020 - Present

- Aid in developing effective latrine system to provide sanitary waste facilities for a village in Bolivia
- Participate in fundraising for funds to obtain materials and travel to build facilities

Delta Chi Fraternity, Risk Manager

August 2021 - Present

- Head of the judicial board and oversee risk management policies for chapter of 80+ members

AWARDS

- Winner of the Michael G Wells Innovation and Entrepreneurship in Healthcare competition - \$10,000
- Dean's List all semesters
- Winner of Forbes Hack's – University of Pittsburgh Hackathon
- Highest GPA two-sport athlete Marlboro Highschool
- Most creative category winner in Manalapan Hackathon