Michael M. Sutton

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EDUCATION

Columbia University, Fu Foundation School of Engineering and Applied Science, New York, NY
Doctor of Philosophy in Biomedical Engineering, GPA 3.88 — Expected May 2022
Master of Science in Biomedical Engineering, GPA 3.96 — Feb. 2018
Duke University, Pratt School of Engineering, Durham, NC
Bachelor of Science in Engineering, GPA 3.39 — May 2016
GRE: 160 (VR), 162 (QR), 5.0 (AW)

EXPERIENCE

Columbia University, New York, NY
Graduate Research Assistant, Department of Biomedical Engineering — Sept. 2016 – Present

- Explore cellular and molecular basis for mechanotransduction in osteocytes using both *in vitro* and *in vivo* approaches
- Investigate the mechanical basis of molecular systems involved in T-cell activation
- Perform quantitative and qualitative measures to identify changes in gene expression resulting from chemical or mechanical manipulation (e.g. RT-qPCR, gel electrophoresis, parallel plate fluid flow, immunocytochemistry)
- Prepare grant proposals and present research findings at conferences, both field-specific and interdisciplinary
- Mentor high school students to perform independent summer research projects

Educational Assistant, Department of Biomedical Engineering — Sept. 2017 – Dec. 2019

- Served as teaching assistant (TA) for Tissue/Molecular Engineering Lab, Fall 2017 and Fall 2018
- Served as course assistant (CA) for Quantitative Physiology I, Fall 2019

Supervisor, Competitive Sports Program — Sept. 2017 – Apr. 2020

- Officiate recreational, on-campus basketball games
- Develop training sessions and evaluate performance of officials throughout the year
- Assist in creating program policies to enhance experience of participants
- Participate in the recruitment and hiring process of new staff members

Armory College Prep — Sept. 2016 – Present
Math Coach

- Provide short lectures, guided practice, homework assignments, and quizzes/tests to high school students in foundational mathematics topics (Algebra I/II, Geometry, Trigonometry, Pre-Calculus, Calculus, and Statistics)
- Utilize Kahn Academy and College Board to monitor students' weekly progress and struggling areas
- Develop individualized study plans tailored to student need

Breakthrough Pittsburgh — May – Aug. 2016
Co-Dean of Students

- Assisted with middle school students' personal and academic growth via one-on-one support and daily observation
- Filled in as a substitute math and science teacher (organized lesson plans, supervised laboratory experiments)
- Monitored student spaces and recommended means of conflict resolution for program operations

Duke University, Durham, NC — Sept. 2014 – May 2016
Undergraduate Research Assistant, Department of Biomedical Engineering

- Acquired and processed PMHS data in order to characterize the behavior of the lumbar and cervical spines under high load rates in efforts to develop a robust set of baseline data for blast events and resultant injuries

Global Women's Health Technology Research Fellow, Global Health Institute

- Designed a curriculum to teach high school students how to make mechanically powered charging units for flashlights; implementation suited for global, low-resource settings
- Eight-week field experience at Women's Institute for Secondary Education and Research (Muhuru Bay, Kenya)

LEADERSHIP/SERVICE

Columbia University
Graduate SEAS Senator, University Senate — Sept. 2018 – May 2020

- Represented 4000+ graduate engineering students in the university's largest policy-making body
- Served as a member of the Student Affairs Committee and the Committee on Education

Vice President, Engineering Graduate Student Council Sept. 2016 – Dec. 2017

- Identified and presented key needs of current graduate students to school deans and administrators by conducting school-wide climate survey, leading to requests for department-specific reports based on analysis in Excel
- Liaised between students and administration to reconcile: safety/budget constraints, additional funding for more focused student groups, improved building accessibility, and completely subsidized utilities fee for Ph.D. students

PRESENTATIONS

Invited Speaker/Panel Discussions

- Diversity Workshop: Navigating Private Schools, Sewickley Academy, Sewickley, PA, April 11th, 2019
- Graduate School Info Session, O4U Engineering Conference, Cargill, Minneapolis, MN, October 6th, 2018
- Graduate School Info Session, O4U Engineering Conference, Stanford University, Stanford, CA, October 21st, 2017
- White House Convening on Advancing Postsecondary Diversity & Inclusion, Eisenhower Executive Office Building, Washington D.C., November 18th, 2016
- Alumni Speaker, 18th Annual Luncheon, Fund for the Advancement of Minorities through Education, The Duquesne Club, Pittsburgh, PA, May 3rd, 2016
- Racial Justice Awards (Youth Achievement), YWCA Greater Pittsburgh, Pittsburgh, PA, November 14th, 2012

Academic Poster/Podium Presentations

- "Macrophage Primary Cilia Lengthening Inhibits Osteoclastogenesis" (Podium); ORS Annual Meeting, Phoenix, AZ, February 11th, 2020
- "Macrophage Primary Cilia Lengthening Inhibits Osteoclastogenesis" (Poster); ASCB|EMBO Meeting, Washington D.C., December 9th, 2019
- "The Primary Cilium and Osteoclastogenesis" (Poster); BMES Annual Meeting, Philadelphia, PA, October 17th, 2019
- "The Primary Cilium and Osteoclastogenesis" (Poster); ORS 48th International Musculoskeletal Biology Workshop, Sun Valley, ID, July 25th, 2019 (awarded Blue Ribbon for presentation)

AWARDS/HONORS

Scholarships/Fellowships

- SMDP MedTech Scholar, October 2020
- NSF Graduate Research Fellow, April 2018
- NIH Trainee, September 2016
- Jack Kent Cooke Foundation Graduate Scholar, September 2016
- Reginaldo Howard Memorial Scholar (Duke University), September 2012
- Jack Kent Cooke Foundation College Scholar, September 2012
- National Achievement Scholarship, May 2012
- Jack Kent Cooke Foundation Young Scholar, September 2008
- Fund for Advancement of Minorities Through Education, September 2006

Conference/Travel Awards

- IPERT M-PACT Travel Grant, ASCB|EMBO Meeting, Washington D.C., December 7-11, 2019
- BMES-NSBE Travel Award, BMES Annual Meeting, Philadelphia, PA, October 16-19, 2019
- Blue Ribbon Poster Award, ORS 48th International Musculoskeletal Biology Workshop, Sun Valley, ID, July 25-28, 2019
- Alice L. Jee Young Investigator Award, ORS 48th International Musculoskeletal Biology Workshop, Sun Valley, ID, July 25-28, 2019
- BMES-NSBE Travel Award, BMES Annual Meeting, Atlanta, GA, October 17-20, 2018

SKILLS/INTERESTS

Computer Skills – MATLAB, SolidWorks, Fiji, MS Office
Interests – Football, teaching, theater, American education system