

## GURNEET S. SANGHA

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### EDUCATION AND TRAINING:

<b>University of Maryland, College Park, Maryland</b> Postdoc., Bioengineering	03/2020 – 02/2025
<b>Purdue University, West Lafayette, Indiana</b> Ph.D., Biomedical Engineering	05/2014 – 12/2019
<b>Rutgers University, New Brunswick, New Jersey</b> B.S., <i>Summa Cum Laude</i> , Biomedical Engineering	09/2010 – 05/2014

### RESEARCH EXPERIENCE:

<b>Assistant Professor, University of California</b> Department of Biomedical Engineering, Irvine, CA Edwards Lifesciences Foundation Cardiovascular Innovation and Research Center	04/2024 - Present
<b>Postdoctoral Fellow, University of Maryland</b> Fischell Department of Bioengineering, College Park, MD Mentor: Alisa Morss Clyne, Ph.D. & Allan Doctor, M.D. Research: <i>Mechanobiology Effects on Red Blood Cell Nitric Oxide and Extracellular Vesicles, and Endothelial Function</i>	03/2020 – 02/2025
<b>Graduate Student, Purdue University</b> Weldon School of Biomedical Engineering, West Lafayette, IN Mentor: Craig J. Goergen, Ph.D. Research: <i>Dual-modality Photoacoustic and Ultrasound Imaging for Murine Atherosclerosis Characterization</i>	08/2014 – 01/2020
<b>Undergraduate Student (Ronald E. McNair Scholar), Rutgers University</b> Department of Biomedical Engineering, New Brunswick, NJ Mentor: William Craelius, Ph.D. Research: <i>NFC and QR Tag Applications in Exercise-based Hemiplegic Rehabilitative Therapy</i>	05/2013 – 05/2014
<b>Undergraduate Student, Rutgers University</b> Department of Biomedical Engineering, New Brunswick, NJ Mentor: Laura Fabris, Ph.D. Research: <i>Glioblastoma Diagnostics Development using Gold Nanoparticles and Functional Aptamers</i>	08/2013 – 05/2014
<b>Undergraduate Student, Rutgers University</b> Department of Biomedical Engineering, New Brunswick, NJ Mentor: Timothy McGuire, Ph.D. Research: <i>Development of iPrognosis for ADHD and autism diagnosis using interactive iPad games</i>	12/2013 – 05/2014

### RESEARCH SUPPORT:

1. American Heart Association Postdoctoral Fellowship	Spring 2022 – Spring 2024
2. University of Maryland President's Postdoctoral Fellowship	Spring 2020 – Spring 2022
3. National Science Foundation Graduate Research Fellowship Program	Fall 2016 – Fall 2019
4. National Institute of Health T32 Diabetes Training Fellowship	Fall 2014 – Spring 2016
5. Aresty Undergraduate Research Fellowship	Spring 2013
6. Louis Stokes Alliance for Minority Participation Grant	Spring 2013

### HONORS AND AWARDS:

1. PRIDE- Functional and Translational Genomics of Blood Disorders Program	Summer 2025 – Summer 2026
2. BMES-Cell and Molecular Bioengineering Postdoctoral Research Travel Award	Fall 2023
3. Institute for Bioscience and Biotechnology Research and Robert E. Fischell Institute for Biomedical Devices Travel Fellowship	Fall 2023
4. Nitric Oxide Gordon Conference Poster Award	Spring 2023
5. Rising Star in Engineering in Health	Fall 2022
6. Indiana Clinical and Translational Science Institute Cardiovascular Poster Award	Spring 2020
7. Society for Engineering Science Annual Technical Meeting Silver Paper Award	Fall 2019
8. Purdue Center for Cancer Research (PCCR) Travel Award	Spring 2018
9. Purdue University Joe Bourland Travel Award	Spring 2018
10. Geddes-Laufman-Greatbatch Outstanding Graduate Research Award	Fall 2017
11. Baxter Second Tier Young Investigator Award	Fall 2017
12. 1 <sup>st</sup> Place Amelia Project Research Elevator Pitch Contest	Spring 2017
13. 3 <sup>rd</sup> Place American Heart Association Scientific Presentation Award	Spring 2016

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| 14. Ronald W. Dollens Scholarships in Life Sciences Award | Fall 2016               |
| 15. Tau Beta Pi Engineering Honor Society                 | Fall 2013 – Spring 2014 |
| 16. Ronald E. McNair Academic Excellence Award            | Fall 2014               |
| 17. Rutgers University James J. Slade Scholar             | Fall 2013 – Spring 2014 |

**PUBLICATIONS: \* denotes co-first authorship contributions**

1. **Sangha, G.S.**, Sapp, R.M., Weber, C.M., Torbit, D., Rangachar, N., Barnes, A., Clyne, A. M. (2026). “Perivascular Fat from Female Rats Fed a High Fat Diet Impaired Mesenteric Artery Vasodilation.” *Physiological Reports*, 14.2, e70746. <https://doi.org/10.14814/phy2.70746>
2. Moiz, B., Vargas, V. A., Brandon, K. D., **Sangha, G.**, Weber, C., Li, A., ... & Clyne, A. M. (2025). Cholesterol Depletion with U18666A and Methyl- $\beta$  Cyclodextrin Increased Small Molecule Permeability Across Brain Microvascular Endothelial Cells. *Annals of Biomedical Engineering*, 1-15. <https://doi.org/10.1007/s10439-025-03841-9>
3. **Sangha, G. S.**, Smith, L. V., Kheradmand, M., Munir, K. M., Rangachar, N., Weber, C. M., ... & Clyne, A. M. (2025). Piezo1 activates nitric oxide synthase in red blood cells via protein kinase C with increased activity in diabetes. *Mechanobiology in Medicine*, 100145. <https://doi.org/10.1016/j.mbm.2025.100145>
4. Weber, C. M., Moiz, B., Pena, G. S., Kheradmand, M., Wunderler, B., Kettula, C., **Sangha, G.S.**, Smith, J.C., Clyne, A. M. (2025). Impacts of APOE- $\epsilon$ 4 and exercise training on brain microvascular endothelial cell barrier function and metabolism. *EBioMedicine*, 111. <https://doi.org/10.1016/j.ebiom.2024.105487>
5. Tabish, T.A., Zhu, Y., Shukla, S., Kadian S., **Sangha, G.S.**, Lygate, C.A., Narayan, R. (2023) “Graphene nanocomposites for real-time electrochemical sensing of nitric oxide in biological systems.” *Applied Physics Review (Featured Article)*, 10.4, 1-18. <https://doi.org/10.1063/5.0162640>
6. **Sangha, G.S.**, Weber, C.M., Sapp, R.M., Thangaraju, K., Setua, S., Pettebone, M., Doctor, A., Buehler, P.W., Clyne, A.M. (2023) “Mechanical Cues such as Shear Stress and Piezo1 Stimulation Generate Red Blood Cell Extracellular Vesicles.” *Frontiers in Physiology*, 1-16. <https://doi.org/10.3389/fphys.2023.1246910>
7. Weber, C.M., Harris, M., Zic, S.M., **Sangha G.S.**, Arnold, N., Dluzen, D., Clyne, A.M. (2023) “Angiotensin II increases oxidative stress and inflammation in female, but not male, endothelial cells.” *Cellular and Molecular Bioengineering*. 1-15. <https://doi.org/10.1007/s12195-023-00762-2>
8. **Sangha, G.S.**, Hu, B., Li, G., Fox, S. E., Sholl, A. B., Brown, J., Goergen, C. J. (2022) “Assessment of photoacoustic tomography contrast for breast tissue imaging using 3D correlative virtual histology,” *Scientific reports*, 2(1), 1-13. <https://doi.org/10.1038/s41598-022-06501-3>
9. **Sangha, G.S.**, Goergen, C. J., Ranadive, S. M., Prior, S. J., Clyne, A. M. (2021) “Preclinical Techniques to Investigate Exercise Training in Vascular Pathophysiology,” *American Journal of Physiology-Heart and Circulatory Physiology*, 320(4), H1566-H1600. <https://doi.org/10.1152/ajpheart.00719.2020>
10. Zbinden, J.C., Blum, K.M., Berman, A.G., Ramachandra, A.B., Szafron, J.M., Kerr, K.E., Anderson, J.L., **Sangha, G.S.**, Earl, C.C., Nigh, N.R. and Mirhaidari, G.J. (2020) “Effects of Braiding Parameters on Tissue Engineered Vascular Graft Development,” *Advanced Healthcare Materials*, 9(24), 2001093. <https://doi.org/10.1002/adhm.202001093>
11. **Sangha, G.S.**, & Goergen, C. J. (2020) “Label-free photoacoustic and ultrasound imaging for murine atherosclerosis characterization,” *APL Bioengineering (Featured Article)*, 4(2), 026102. <https://doi.org/10.1063/1.5142728>
12. **Sangha, G.S.**, Busch, A., Berman, A., Acuna, A., Chambers, A., Goergen, C. J. (2019) “Effects of Iliac Stenosis on Abdominal Aortic Aneurysm Formation in Mice and Humans,” *Journal of Vascular Surgery*, 56(5), 217-229. <https://doi.org/10.1159/000501312>
13. **Sangha, G.S.**, Hale, N. J., & Goergen, C. J. (2018). “Adjustable photoacoustic tomography probe improves light delivery and image quality,” *Photoacoustics*, 12, 6-13. <https://doi.org/10.1016/j.pacs.2018.08.002>
14. Wodicka, J.R., Chambers, A.M., **Sangha, G.S.**, Goergen, C.J., & Panitch, A. (2017). “Development of a glycosaminoglycan derived, selectin targeting anti-adhesive coating to treat endothelial cell dysfunction.” *Pharmaceuticals*, 10(2), 36. <https://doi.org/10.3390/ph10020036>
15. **Sangha, G.S.**, Phillips, E. H., & Goergen, C. J. (2017). “In vivo photoacoustic lipid imaging in mice using the second near-infrared window.” *Biomedical optics express*, 8(2), 736-742. <https://doi.org/10.1364/BOE.8.000736>
16. **Sangha, G.S.**, & Goergen, C.J. (2016). “Photoacoustic tomography: applications for atherosclerosis imaging.” *Journal of Optics*, 18(8), 084005. <https://doi.org/10.1088/2040-8978/18/8/084005>
17. Lin, J., Phillips, E., Riggins, T. A., **Sangha, G.S.\***, Chakraborty, S., Lee, J., ... & Goergen, C.J. (2015). “Imaging of small animal peripheral artery disease models: recent advancements and translational potential.” *International journal of molecular sciences*, 16(5), 11131-11177. <https://doi.org/10.3390/ijms160511131>

**MANUSCRIPT SUBMITTED OR IN PREPARATION: \* denotes co-first authorship contributions**

1. Bohlman, S., **Sangha G.S.**,\* Weber, C.M.,\* Moiz B.,\* Clyne, A.M., “Statins modify systemic endothelial cell metabolism to enhance endothelial function.” **Submitted.**

**PATENTS:**

1. Goergen, C. J., **Sangha, G. S.**, Phillips, E. H., & Hale, N. J. (2018). *U.S. Patent Application No. 15/830,716.*

**BOOK CHAPTERS**

1. **Sangha, G. S.**, Kheradmand, M., Smith, L. V., & Clyne, A. M. (2026). Methods for Isolating and Characterizing Red Blood Cell Extracellular Vesicles. In *Extracellular Vesicles* (pp. 87-113). New York, NY: Springer US.

**PODIUM PRESENTATIONS:**

1. **Sangha, G.S.**, “Going with the Flow: The Evolving Role of Red Blood Cell Mechanosignaling in Vascular Health and Disease.” *The Evolving Role of Blood Cell Mechanobiology in Cardiovascular Health and Disease*. SSOE Who Does What Seminar. Irvine, California. November 2025.
2. **Sangha, G.S.**, Smith, L.V., Kheradmand-Hajibashi, M., Munir, K.M., Rangachar, N., Weber, C.M., Safari, Z., Roger S.C., Doctor A., Clyne, A.M., “*Diabetes Increases Piezo1-Driven Nitric Oxide Synthase Phosphorylation via Protein Kinase C in Red Blood Cells,*” 10<sup>th</sup> International Biofluid Mechanics Symposium. Irvine, California. September 2025.
3. **Sangha, G.S.**, Smith, L.V., Kheradmand-Hajibashi, M., Munir, K.M., Rangachar, N., Weber, C.M., Safari, Z., Roger S.C., Doctor A., Clyne, A.M., “Piezo1 Stimulates Nitric Oxide Synthase Phosphorylation in Red Blood Cells via Protein Kinase C with Increased Activity in Diabetes,” 25th UC Systemwide Bioengineering Symposium. Irvine, California. June 2025.
4. **Sangha, G.S.**, Kheradmand-Hajibashi, M., Clyne, A.M., “Red Blood Cell Mechanical Stimulation and Storage Triggers Vasoactive Extracellular Vesicle Release,” Biomedical Engineering Society Annual Meeting. Baltimore, Maryland. October 2024.
5. **Sangha, G.S.**, “Going with the Flow: The Evolving Role of Red Blood Cell Mechanosignaling in Vascular Health and Disease.” University of Nebraska Medical Center Cellular and Integrative Physiology Seminar Series. Omaha, Nebraska. March 2024.
6. **Sangha, G.S.**, “Going with the Flow: The Evolving Role of Red Blood Cell Mechanosignaling in Vascular Health and Disease.” University of California, Irvine Biomedical Engineering Seminar. Irvine, California. February 2024.
7. **Sangha, G.S.**, “Going with the Flow: The Evolving Role of Red Blood Cell Mechanosignaling in Vascular Health and Disease.” University of Delaware Biomedical Engineering Seminar Series. Newark, Delaware. February 2024.
8. **Sangha, G.S.**, Smith, L.V., Kheradmand-Hajibashi, M., Rangachar, N., Clyne, A.M., “Red Blood Cell Piezo1-PKC-eNOS Pathway as a Novel Engineering Target to Enhance Vascular Health.” Biomedical Engineering Society, Cellular and Molecular Bioengineering. San Juan, Puerto Rico. January 2024.
9. **Sangha, G.S.**, “Going with the Flow: The Evolving Role of Red Blood Cell Mechanosignaling in Vascular Health and Disease.” BME Underrepresented Needs in Technology and Engineering Seminar Series. Virtual. September 2023.
10. **Sangha, G.S.**, Smith, L.V., Clyne, A.M., “Mechanosensitive Piezo1 Stimulation Increases Endothelial and Red Blood cell Nitric Oxide via Different Pathways.” Nitric Oxide Gordon Research Seminar. Ventura Beach, California. February 2023.
11. **Sangha, G.S.**, Weber, C.M., Sapp, R.M., Pettebone, M., Clyne, A.M., “Mechanical Cues Such as Shear Stress and Piezo1 Stimulation Generate Red Blood Cell Extracellular Vesicles” SB3C. Cambridge, Maryland. June 2022.
12. **Sangha, G.S.**, “The Evolving Role of Exercise-Induced Extracellular Vesicles in Cardiovascular Disease” GradTerp Exchange. College Park, Maryland. May 2021.
13. **Sangha, G.S.**, Goergen, C.J., “Atherosclerosis Characterization Using Lipid-Specific Photoacoustic Imaging and 4D Ultrasound Strain Mapping in Mice,” Acoustic Society of America. Louisville, Kentucky. May 2019.
14. **Sangha, G.S.**, Goergen, C.J., “*Ex Vivo* Vibrational Photoacoustic Tomography Characterization of Murine Atherosclerosis,” Biomedical Engineering Society Annual Meeting. Atlanta, Georgia. October 2018.
15. **Sangha, G.S.**, Hu, B., Bolus, D., Wang, M., Skidmore, S., Sholl, A.B., Brown, J.Q., Goergen, C.J., “Multi-Modality Photoacoustic Tomography, Ultrasound, and Light Sheet Microscopy for Volumetric Tumor Margin Detection,” SPIE Photonics West. San Francisco, California. January 2018.

16. **Sangha, G.S.**, Hale, N., Goergen, C.J., “Motorized Photoacoustic Tomography Probe for Label-Free Improvement in Image Quality,” SPIE Photonics West. San Francisco, California. January 2018.
17. **Sangha, G.S.**, Goergen, C.J., “Vibrational Photoacoustic Tomography for *In Vivo* Lipid Imaging,” Medical Physics Seminar. West Lafayette, Indiana. May 2017.
18. **Sangha, G.S.**, Hale, N., Wang, M., Ginsberg, H., Brown, J.Q., Goergen, C.J., “Photoacoustic Tomography for Tumor Margin Assessment,” Amelia Project Annual Meeting. Kokomo, Indiana. April 2017.
19. **Sangha, G.S.**, Goergen, C.J., “Vibrational Photoacoustic Tomography for *In Vivo* Lipid Imaging.” Biomedical Engineering Summer Seminar. West Lafayette, Indiana. August 2016.
20. **Sangha, G.S.**, Phillips, E.H., Berlant, C., Goergen, C.J., “Optimization of Vibrational Photoacoustic Imaging for *In vivo* lipid Imaging,” American Heart Association Chicago Research Network Symposium: Translational Research in Cardiovascular Disease: From Bench to Bedside. Chicago, Illinois. September 2016.
21. **Sangha, G.S.**, Fabris, L., “Biosensing Platform for Detecting and Monitoring Circulating Tumor Cells,” AGER Undergraduate Research Symposium. Rutgers University-New Brunswick, May 2014.
22. **Sangha, G.S.**, Fabris, L., “Biosensing Platform for Detecting and Monitoring Circulating Tumor Cells,” 2014 Annual Aresty Research Symposium. New Brunswick, New Jersey. May 2014.
23. **Sangha, G.S.**, Amalan, K., Shah, S., Ali, J., “iPrognosis,” Rutgers Biomedical Engineering Senior Design Symposium. New Brunswick, New Jersey. May 2014.
24. **Sangha, G.S.**, Craelius, W., “Application of NFC and QR Tags in Rehabilitative Therapy,” 21<sup>st</sup> Annual McNair Scholars National Research Conference. Baltimore, Maryland, September 2013.
25. **Sangha, G.S.**, Craelius, W., “Application of NFC and QR Tags in Rehabilitative Therapy,” Ronald E. McNair Post- Baccalaureate Achievement Symposium. New Brunswick, New Jersey. July 2013.

#### **POSTER PRESENTATIONS:**

1. **Sangha, G.S.**, Smith, L.V., Kheradmand-Hajibashi, M., Rangachar, N., Weber, C.M., Clyne, A.M., “Red Blood Cell Mechanical Stimulation via Piezo1 as a Novel Target to Enhance Vasculoprotective Nitric Oxide Bioavailability.” Biomedical Engineering Society Annual Meeting. Seattle, Oregon, October 2023.
2. **Sangha, G.S.**, Smith, L.V., Clyne, A.M., “Mechanosensitive Piezo1 Stimulation Increases Endothelial and Red Blood cell Nitric Oxide via Different Pathways.” Nitric Oxide Gordon Research Seminar. Ventura Beach, California. February 2023.
3. **Sangha, G.S.**, Sapp, R.M., Clyne, A.M., “Mechanosensitive Piezo1 Stimulation Increases Red Blood Cell and Endothelial Cell Nitric Oxide Through Different Pathways” Biomedical Engineering Society Annual Meeting. San Antonio, Texas. October 2022.
4. **Sangha, G.S.**, Sapp, R.M., Clyne, A.M., “Mechanosensitive Piezo1 Stimulation Increases Red Blood Cell and Endothelial Cell Nitric Oxide Through Different Pathways” American College of Sports Medicine Integrative Exercise Physiology Conference. Baltimore, Maryland. September 2022.
5. **Sangha, G.S.**, Thangaraju, K., Pettebone, M., Doctor, A., Buehler, P.W., Clyne, A.M., “Red Blood Cell Extracellular Vesicles Promote Atheroprotective Gene Expression and Arterial Vasodilation” Extracellular Vesicle Studies: From Benchtop to Therapeutics. Virtual Poster. July 2021.
6. **Sangha, G.S.**, Goergen, C.J., “Murine Atherosclerosis Characterization Using Cross-Sectional Lipid-Specific Photoacoustic and Longitudinal 4D Ultrasound Imaging” Indiana Clinical and Translational Science Institute Meeting. West Lafayette, Indiana. January 2020.
7. **Sangha, G.S.**, Goergen, C.J., “Murine Atherosclerosis Characterization Using Cross-Sectional Lipid-Specific Photoacoustic and Longitudinal 4D Ultrasound Imaging,” Society of Engineering Science. St. Louis, Missouri. October 2019.
8. **Sangha, G.S.**, Leyba, K., Goergen, C.J., “Murine Atherosclerosis Characterization Using Lipid-Specific Photoacoustic Imaging and 4D Ultrasound Strain Mapping,” European Molecular Imaging Meeting. Glasgow, Scotland. March 2019.
9. **Sangha, G.S.**, Soepriatna, A.H., Forbrich, A., Heinmiller, A., Goergen, C.J., “Photoacoustic Imaging of Myocardial Oxygen Saturation Changes Using Retrospective Gating,” European Molecular Imaging Meeting. Glasgow, Scotland. March 2019.
10. **Sangha, G.S.**, Phillips, E. H., Goergen, C.J., “*In Vivo* Vibrational Photoacoustic Tomography of Murine Perivascular Fat,” Biomedical Engineering Society Annual Meeting. Minneapolis, Minnesota. October 2016.
11. **Sangha, G.S.**, Phillips, E.H., Goergen, C.J., “In Vivo Vibrational Photoacoustic Tomography of Perivascular Fat in Apolipoprotein E-Deficient Mice,” American Heart Association Arteriosclerosis, Thrombosis, and Vascular Biology | Peripheral Vascular Disease. Nashville, Tennessee. May 2016.

12. **Sangha, G.S.**, Phillips, E.H., Li, R., Cheng, J., Goergen, C.J., “Vibrational Photoacoustic Imaging of Lipid in Murine Abdominal Aortic Aneurysms,” Indiana University Center for Diabetes & Metabolic Diseases 2015 Annual Diabetes Symposium. Indianapolis, Indiana. August 2015.
13. **Sangha, G.S.**, Phillips, E.H., Li, R., Cheng, J., Goergen, C.J., “Vibrational Photoacoustic Imaging of Lipid in Murine Abdominal Aortic Aneurysms,” VA Research Symposium. Indianapolis, Indiana. May 2015.
14. **Sangha, G.S.**, Phillips, E.H., Li, R., Cheng, J., Goergen, C.J., “Vibrational Photoacoustic Imaging of Lipid in Murine Abdominal Aortic Aneurysms,” Arteriosclerosis Thrombosis and Vascular Biology Peripheral Vascular Disease 2015 Scientific Session. San Francisco, California. May 2015.

### **SERVICE AND OUTREACH:**

1. **Fellowship Peer Review**
  - American Heart Association Predoctoral and Postdoctoral Fellowship Fall 2024, 2025
2. **Conference Service**
  - World Molecular Imaging Conference Abstract Reviewer Spring 2024
  - Annual Biomedical Research Conference for Minoritized Scientists Travel Award Reviewer and Research Presentation Judge Fall 2023
  - Biomedical Engineering Society Annual Meeting Cardiovascular Mechanics 1 Session Co-Chair Fall 2022
3. **Peer-Review 13 Journal Articles** Fall 2019 – Present
  - *Publons Web of Science Research ID: AAP-3034-2020*
  - Journal of Biomechanical Engineering
  - Physiological Reports
  - Applied Optics, Laboratory Investigations
  - Biomedical Optics Express
  - Annals of Translational Medicine
  - Biomedical Engineering
4. **President Fischell Department of Bioengineering Postdoctoral Association University of Maryland, College Park, MD** Spring 2022 – Present
  - Established postdoctoral association in collaboration with bioengineering graduate student society (BGSS).
  - Secured \$3000 in annual funding from bioengineering department for professional development activities.
  - Coordinated professional development workshops for postdocs in collaboration with faculty and BGSS.
5. **Local Community Scientific Outreach Purdue University, West Lafayette, IN** Fall 2014 – Fall 2019
  - Organized cardiovascular outreach events for AHA Heart walks and West Lafayette Farmers Market.
  - Recruited undergraduate and graduate students to present research in lay terms to the public.
  - Designed interactive demonstrations to help children learn cardiovascular concepts.
6. **Ronald E. McNair Post-Baccalaureate Program Ambassador Rutgers University, New Brunswick, NJ** Fall 2013 - Spring 2014
  - Assisted as student representative for the McNair Post-Baccalaureate Program.
  - Served as an advocate on behalf of the program to legislators, public and university officials.
  - Organized recruitment events and interviewed students interested in the McNair program.

## **MENTORING AND TEACHING:**

### **1. Teaching**

- BME 60C: Engineering Analysis/Design: Computer-Aided Design Spring 2025, 2026
- BME295: Fundamentals of Blood for Biomedical Engineers Winter 2026

### **2. Mentored 23 Trainees in Research**

- Sophie Parker, Undergraduate Student Winter 2026 – Present
- Kate Cockerton, Undergraduate Student Winter 2026 – Present
- Laura Molina, *Ph.D. Student* Winter 2026 – Present
- Yue Yu, *Ph.D. Student* Winter 2026 – Present
- Hang Yu, *Master's Student* Fall 2025 – Present
- David Quiroz, *Ph.D. Student* Winter 2025 – Present
- Abhinav Vijay, Undergraduate Student Winter 2025 – Present
- Harleen Kaur, Undergraduate Student Winter 2025 – Present
- Brandee Hess, Undergraduate Student Winter 2025 – Present
  
- Heather Violet Neisser, Undergraduate Student Summer 2023 – Present
- Lauren Smith, *Graduate Student* Fall 2022 – Present
- Marzyeh Kheradmand-Hajibashi, *Graduate Student* Fall 2022 – Present
- Paige Boyland, Undergraduate Student Fall 2022 – Summer 2024
- Donaysia Delara Torbit, Undergraduate Student Summer 2022 – Summer 2024
- Xavier Garcia, Undergraduate Student Fall 2021 – Fall 2023
- Nimisha Rangachar, Undergraduate Student Fall 2021 – Fall 2023
- Annie Barnes, *Honors Thesis Undergraduate Student; NSF-GRFP Awardee* Summer 2021 – Spring 2023
- Morgan Pettebone, *Honors Thesis Undergraduate Student* Fall 2020 – Fall 2022
- Alex Kevin Yeh, Undergraduate Student Spring 2019 – Summer 2019
- Shelby Skidmore, Undergraduate Student Spring 2017 – Fall 2017
- Nick Hale, Undergraduate Student Spring 2016 – Summer 2016
- Hannah Ginsberg, Undergraduate Student Spring 2016 – Summer 2016
- Corey Berlant, Undergraduate Student Fall 2015 – Spring 2016

### **3. TRiO Student Support Services Tutor**

- Provided tutoring to 26 undergraduate students from underrepresented and disadvantaged backgrounds. Fall 2012 – Spring 2014
- Helped students grasp fundamental pre-calculus, biology, and chemistry concepts.

## **PROFESSIONAL MEMBERSHIPS:**

- Biomedical Engineering Society
- American Heart Association
- American Society of Hematology
- American College of Sports Medicine
- American Physiological Society

## **TECHNICAL SKILLS:**

- Animal: Small animal vascular surgery to study atherosclerosis, deep vein thrombus, aneurysms
- Preclinical Imaging: Small animal ultrasound and photoacoustic tomography
- Mechanistic Toolkit: Cell culture, Western blot, RT-PCR assays to quantify endothelial dysfunction hallmarks
- Flow Chambers: Pressure myography, parallel plate flow chamber, cone and plate flow chamber, red cell shearing
- Extracellular Vesicles: Isolation, purification, and characterization from plasma, cells, and bulk tissue
- Exercise Intervention: Small animal treadmill training and acute human aerobic exercise testing
- Computational: HemoCell simulations of circulating cells
- Programming: MATLAB
- Exposure: Magnetic resonance imaging, DNA extraction, Java programming, SimVascular