

Sirwoo Kim

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EDUCATION AND AWARDS

Georgia Institute of Technology GPA: 3.85

Graduated May 2019

Highest Honor, Bachelor of Science in Biomedical Engineering: Honors Program Scholar, Tau Beta Pi Scholar

RESEARCH EXPERIENCE

Clinical Research Coordinator at the Brigham and Women's Hospital June 2019– Present

- Responsible studies: Molecular Imaging of Primary Amyloid Cardiomyopathy (MICA), Salivary and Intestinal Microbiota in Amyloidosis: a Pilot Study (funded by the NIH, the AHA, and Pfizer)
- Responsibilities are screening eligible patients from collaborating physicians, recruiting subjects for clinical studies, coordinating and scheduling patient visits, handling in-person patient visits on behalf of the Principal Investigator, recording and managing all data and images, processing and reviewing the financial charges and updating regulatory documents for the Institutional Research Board & Food and Drug Administration among other duties

President's Undergraduate Research Award (PURA) Recipient May 2018 – Aug. 2018

- Selected among thousands of applicants at Georgia Tech to conduct paid research, developed an *in vitro* 3D hydrogel model of the blood brain barrier to analyze the effect of vasculature on drug delivery with Dr. Lam

Undergraduate Research Assistant for Lam Lab Aug. 2017 – May 2019

- Wrote and troubleshooted protocols, adapted cell culturing techniques to develop a feasible blood brain barrier model, simulated drug transport phenomena via computational fluid dynamics programs (COMSOL) and adapted confocal and fluorescence microscopy skills/imaging techniques to assess *in vitro* medulloblastoma cell death in response to drug treatment and endothelial cell presence

Undergraduate Research Assistant for Cardiovascular Fluid Mechanics Lab Jan. 2016 – May 2017

- Facilitated research in surgically excising and mounting mitral valves, running a left heart simulator, and post-processing stereo-photogrammetry data using TecPlot, Excel, and MATLAB for Dr. Yoganathan
- Determined the causes of clinical failures in prosthetic valves to optimize surgical repair techniques

LEADERSHIP EXPERIENCE

Team Coordinator and Inventor for Biomedical Engineering Senior Design Jan. 2019 – May 2019

- Provisional Patent for 'Design of Catheters for Unhindered Bile Flow' was filed with Dr. Nima Kokabi and Dr. Bercu, Interventional Radiologists at the Emory School of Medicine for senior design project
- Prototype was presented to the public for the Georgia Tech Capstone Expo, one of the largest student design expos in the United States
- Served as a leader and organized communication between team members, the project advisor, and the faculty to create a cohesive front to efficiently lead and guide Capstone team

Pre-Health Peer Advisor for the Center for Career Discovery and Development May 2018 – May 2019

- Undergraduate advisor responsible for advising all pre-medical students (over 2000 students) at Georgia Tech
- Hired an additional pre-health advisor due to student concerns by writing a letter addressed to the President and Vice Provosts of Georgia Tech
- Strengthened the pre-medical community at Georgia Tech by coordinating, advertising, and managing events/workshops to help Pre-Health students of Georgia Tech, including but not limited to, the institute-wide Fall and Spring Pre-Health Kick-Off, involving over 20 different student organizations and over 100 students attending per session and leading the freshman orientation sessions for incoming students and families
- Jumpstarted the *Pre-Health Application Support Network: Application Mentors* to connect students seeking advice on the application process with students that have been accepted to medical schools
- Updated weekly newsletters that includes information on scholarships, workshops, job opportunities, and events

Teaching Assistant for Biotransport (BMED 3310) Aug. 2016 – May 2019

- Integrated Problem Based Learning to foster a cooperative learning environment in the weekly Problem Solving Studio for over the course of 4 different professors spanning nearly 5 semesters
- Taught students the basics of applying the fundamentals of fluid mechanics and transport phenomena to the body and its various biological and medical applications
- Held weekly office hours and set up appointments to help aid student's understanding and provide personal help
- Managed Piazza, an online questioning platform, to quickly answer online student questions
- Created, coordinated, and organized three 3 hour review sessions per semester to help students prepare for exams and graded quizzes and exams for over 140 students each semester

Student Advisory Board for Biomedical Engineering: VP, Communications Chair, Events Chair Aug. 2017 – May 2019

- Served as a liaison between BME students and the faculty to voice concerns and provide resolutions to alleviate any and all tension within the community
- Provided student input in hiring a new BME corporate relations advisor and academic advisor
- Helped students become more involved with biomedical engineering through multiple semesters of Town Hall, Registration Advising Event, and the Student Faculty Social
- Conducted over 60 User Interviews per semester with various undergraduate students per semester and reported findings to the department to gain a firmer understanding of student perspectives
- Contributed to the various topics discussed in the department's Undergraduate Curriculum Committee meetings regarding key aspects of student life

Student Advisory Board for Vice Provost's Office of Undergraduate Education (VPUE SAB) Aug. 2016 – May 2019

- Served as a collective representative of BME, the international student population, the Honors Program, and the pre-health track to directly voice and address student concerns to the Vice Provost of Georgia Tech, the Assistant Vice Provost of Georgia Tech, as well as various faculty/campus representatives related to the topic at hand

Tau Beta Pi Executive Board (Director of Initiate Programs) Jan. 2018 – May 2019

- Worked closely with the Dean and the Registrar's office to recruit potential initiates
- Created and submitted reports to the national headquarters of Tau Beta Pi and organized various initiation events/workshops for initiates to get properly initiated and familiarize themselves with the organization
- Worked closely with Team Leaders, and Executive Officers to foster a better community within Georgia Tech

Student Advisory Board for Office of Pre-Health Mar. 2018 – May 2019

- Discussed with other pre-health student organization leaders to improve pre-health experiences for GT students
- Coordinated and promoted pre-health events to improve student participation/communication between organizations

Teaching Assistant for Physics I & II (PHYS 2211 and PHYS 2212) Aug. 2016 – May 2017

- Organized and held weekly recitations for multiple sections (over 30 students per section) to answer questions and explain difficult topics
- Graded weekly worksheets and quizzes assigned during each recitation section

COMMUNITY OUTREACH

Biomedical Engineering Ambassadors (FUTURES) Aug. 2017 – May 2019

- Led weekly tours and info sessions for prospective students and their families to represent the BME department
- Introduced and connected with prospective students to the various resources available at Tech and kept in touch with individual students and families

Biomedical Engineering Mentorship Program Aug. 2016 – Aug. 2017

- Created an environment within the BME community that encourages relationships with underclassmen
- Kept close contact with mentees, regularly checked in on wellbeing, and provided connections to the right resources

Honors Leadership Council for GT Honors Program (Admissions & Community Council) Aug. 2016 – Aug. 2017

- Managed, planned, and executed a freshman retreat each year for over 200 incoming freshmen
- Formed ongoing mentoring relationships with freshmen each year and hosted various social events for Honors students to foster a stronger sense of community and camaraderie
- Developed and incorporated new methods and improve essay questions in the Honors Program admissions process

VOLUNTEERING

Winship Cancer Institute College Volunteer (Clifton and Midtown) May 2017 – May 2019

- Competitively selected to work over 100 hours at Emory's Medical Oncology and Hematology, Breast Imaging, Radiology, and Radiation department in both Clifton and Midtown location
- Performed various tasks within the hospital, from cleaning the infusion center to greeting and directing patients

International Department Volunteer Translator for Dankook University Hospital Jan. 2014 – Dec. 2016

- Interpreted medical diagnoses from Korean to English and vice versa for American soldiers and their families based in Korea to better facilitate communication
- Translated foreign transaction letters for the Head of Dankook University Hospital
- Translated and edited Dankook University Hospital's medical brochures & websites to enable a more global access

Volunteer for HBO's Westworld Season 2 Premiere Jan. 2018 – May 2018

- Helped HBO and Atlanta's Multicultural Sci-Fi Organization raise awareness of HBO's premiere for Westworld
- Coordinated and staffed the event during the day of the premiere

SKILLS

Languages: Korean (native), Spanish (DELE A1), Japanese (Basic), Traditional Chinese (Basic), Russian (Basic)

Certifications: Heartsaver First Aid CPR AED, CITI Program in Good Clinical Practice

Skills: SolidWorks (Proficient), PMOD (Proficient), COMSOL (Intermediate), MATLAB (Intermediate), Tec Plot (Basic), Excel (Proficient), Laser Cutter (Proficient), 3D Printer (Proficient), Confocal Microscopy (Basic)