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## Five UC San Diego Bioengineering Graduate Students Honored as Siebel Scholars

Five University of California San Diego bioengineering graduate students working at the interface of biology, engineering and health have been honored as 2020 Siebel Scholars. Their research offers a glimpse into the depth and breadth of UC San Diego's world-renowned bioengineering graduate program. They are working to deepen our understanding of the gut microbiome; more accurately diagnose diseases like stroke; develop biomarkers for metastasis; innovate to repair the heart after a heart attack; and engineer T cells to suppress tumor growth.

This year, all five Siebel Scholars from UC San Diego are graduate students in the Department of Bioengineering, which was ranked 5<sup>th</sup> in the nation by U.S. News this year. (Read about UC San Diego's [2019 Siebel Scholars here.](#))

"I'm honored to congratulate each of these outstanding individuals. In addition to emerging as bold, world-class researchers who will improve human health, they are all proven leaders who share their time and expertise in the service of others. At the Jacobs School of Engineering, we pursue engineering for the public good," said Albert P. Pisano, Dean of the Jacobs School of Engineering.

The Siebel Scholars program recognizes the most talented students in the world's leading graduate schools of business, computer science, bioengineering and energy science. The students are selected based on outstanding academic performance and leadership, and each receive a \$35,000 award toward their final year of study.

The five UC San Diego 2020 Siebel Scholars are:

### **Pranjali Beri**

Pranjali Beri is a bioengineering Ph.D. candidate researching the utilization of adhesion strength of cancer cells to the extracellular matrix (ECM) as a potential biophysical marker for metastatic ability. During her tenure in Professor Adam Engler's lab, she has accumulated a strong publication record and has been a driving force behind the coordination of their cancer



mechanobiology research team. Beri is an active mentor to summer undergraduate students from under-represented groups in engineering through the Research Experiences for Undergraduates and Summer Training Academy for Research Success programs, many of whom have gone on to Ph.D. and Pharm.D. programs across the country. She is a recipient of an NSF Graduate Research Fellowship and plans to pursue a position that focuses on medical devices for cancer applications after graduation, in hopes of directly impacting patients' lives.

### **Xin Fang**

Xin Fang researches the role of the gut microbiome in inflammatory bowel disease (IBD) using a combination of next-generation sequencing (NGS) data and systems biology approaches. She earned a bachelor's degree in chemical and biomolecular engineering from Johns Hopkins University, and is now a Ph.D. candidate in the Department of Bioengineering, working with Professor Bernhard Palsson. Her work has been featured in seven publications. In addition to her innovative research, she is actively involved in clinical activities, mentors undergraduate and master's students, and has interned at Bristol-Myers Squibb, working to uncover potential drug targets with large-scale human exome sequencing data. Fang is also the recipient of an MSI Graduate Research Fellowship from UC San Diego, and received the Genentech Biologics Technical Development outstanding student award. She aims to leverage her experience working with multi-omics data and her skills in

data analysis to extract valuable insight from clinical data, and guide the development of novel drug targets and personalized treatment plans.

### **Vishwajith Ramesh**



Vishwajith Ramesh is a Ph.D. candidate and NSF Fellow advised jointly by Associate Professor Nadir Weibel in the Department of Computer Science and Engineering and Professor Gert Cauwenberghs in the Department of Bioengineering. His research focuses on creating software tools using machine learning and signal processing to identify and assess symptoms of neurological disorders and respiratory diseases. He is especially interested in translating his research to the real world, leading collaborations with industry partners and clinics. Ramesh oversees the development of an intuitive user interface that combines neurologists' assessments with the symptom predictions made by his algorithms to accurately characterize stroke and help better diagnose it in hospitals. He has been granted provisional patents for his inventions and his ultimate aim is to improve patient treatment and

rehabilitation. Beyond his Ph.D. research, Ramesh dedicates time to educational outreach and entrepreneurship, serving the broader community through his talks at public institutions and his efforts to promote innovation in the medical and healthcare technology spaces.



### **Martin Spang**

Marty Spang is a Ph.D. candidate developing new tissue engineering therapies, specifically biomaterial therapies to repair the heart after a myocardial infarction. He earned his bachelor's degree at Ohio State University, and is now a student in Professor Karen Christman's lab in the Department of Bioengineering. Among the numerous student organizations and mentorship programs he has been a part of, Spang has served as President of the UC San Diego Bioengineering Graduate Society (BEGS), and was the Bioengineering Representative for the Graduate Student Association, ensuring campus-wide policies were benefiting bioengineering students. He currently serves as the Alumni Chair for BEGS, coordinating alumni events and engaging recent graduates. His future plans include continuing his

work at the intersection of bioengineering, entrepreneurship, and mentoring in the biotechnology industry, with the goal of commercializing bioengineering therapies and becoming an influential leader.



### **Yiqian "Shirley" Wu**

Shirley Wu's research focuses on controllable immunotherapy, specifically the application of MRI-guided focused ultrasound engineered T cells that can recognize solid tumor antigens to investigate their efficacy in suppressing tumor growth. She earned a bachelor's degree in biomedical engineering from The Chinese University of Hong Kong, and is now a Bioengineering Ph.D. candidate working with Professor Yingxiao Peter Wang, co-advised by Professor Shu Chien. In addition to her research developments, Wu has co-authored several publications. A demonstrated outstanding leader, she advises master's students, mentors undergraduate students, and teaches the next generation of scientists not only scientific knowledge but also a sense of social responsibility as engineers and

scientists.

### **Siebel Foundation**

The Siebel Scholars program was established by the Thomas and Stacey Siebel Foundation in 2000 to recognize the most talented students at the world's leading graduate schools of business, computer science, bioengineering, and energy science. Each year, more than 90 graduate students at the top of their class are selected during their final year of studies based on outstanding academic performance and leadership to receive a \$35,000 award toward their final year of studies. Today, the active community of over 1,200 Siebel Scholars serves as advisors to the Siebel Foundation and works collaboratively to find solutions to society's most pressing problems.

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