The Stanford Bio-X Travel Award Program was created in order to help promote the development of public speaking skills amongst our students, as well as to provide them with the invaluable opportunity to travel and network with like-minded peers and to learn about new ideas that could potentially and positively affect their research. Many also earn awards that could help them immensely in their future careers.

Beginning in 2006, Bio-X has been providing $500 in travel subsidies to graduate students and postdoctoral fellows working in Bio-X affiliated labs, enabling them to give oral presentations of their work at an upcoming conference. To date, we have provided 501 travel subsidies to young Stanford researchers. The awardees come from many disciplines around campus; they represent 47 different departments and the research of the labs of 165 Stanford faculty members. The students have traveled to 80 foreign cities in 36 different countries, city-states, or commonwealths, and 32 different states in the United States.

We would also like to acknowledge Mr. Matthew Frank, whose generous donation to the program supported postdocs’ travel to disseminate their exciting work.

**ADDITIONAL AWARDS CONFERRED ON OUR TRAVEL AWARDEES DUE TO THEIR PRESENTATIONS**

In addition to the Stanford Bio-X travel award, a number of our student awardees have received special accolades for their research and their presentations. The full list of awards, publications, and other accomplishments related to their oral presentations may be found online at: https://biox.stanford.edu/research/travel-awards

Some highlights of our student travel awardees’ work:

**Akshay Chaudhari** traveled to Honolulu, Hawaii for the International Society for Magnetic Resonance in Medicine’s 25th Annual Meeting to present his talk, “5 Minute Comprehensive Knee MRI with 3D Double-Echo Steady-State (DESS).” Akshay’s talk received a *Magna Cum Laude award*, granted to the top 15% of submitted abstracts in the same category.
**Bogdan Conrad** traveled to Minneapolis, Minnesota for the Society for the Biomaterials 2017 Annual Meeting to give his talk, “Microribbon-based hydrogels guided mesenchymal stem cells to undergo endochondral ossification *in vivo*.” For this talk and another presentation, Bogi was awarded the *Orthopaedic Biomaterials SIG* Star Abstract Award and the SFB STAR Award, as well as a SFB STAR Honorable Mention.

**Alison Feder** traveled to Austin, Texas for the Annual Meeting of the Society of Molecular Biology and Evolution 2017 and to Andover, New Hampshire for the 2017 Microbial Population Biology Gordon Research Conference to give her talk, “Tracking evolutionary dynamics over time to uncover hidden population structure in within-host Simian-HIV populations.” Her talk received an *honorable mention as a Gordon Research Seminar selected talk* based on voting by attendees.
Xinwei Shi traveled to Honolulu, Hawaii for the International Society for Magnetic Resonance in Medicine’s 25th Annual Meeting for her talk, “Accelerated Imaging of Metallic Implants Using a Double-Peak-Model Constraint.” This talk and another that Xinwei presented at the meeting both received the Summa Cum Laude Award, given to the top 5% of submitted abstracts.

Gabriel Smith traveled to Prague in the Czech Republic for the 9th International Conference on Mycorrhiza to give his talk, “Colonization-competition tradeoffs structure ectomycorrhizal diversity.” Gabriel won the Barbara Mosse – Laval Université Prize, awarded to the first runner-up for best oral presentation.
Yonatan Winetraub was invited to Tel Aviv, Israel for the Forbes Under 30 Summit EMEA and gave talks titled, “Landing the first private robotic mission on the moon” and “Developing imaging device for recording cancer cell communication.”

Grant Yang traveled to Honolulu, Hawaii for the International Society for Magnetic Resonance in Medicine’s 25th Annual Meeting and delivered a talk titled “Comparison of Double Diffusion Encoding and NODDI.” Grant also presented a PowerPitch titled “Visualizing Axonal Damage in Multiple Sclerosis Using Double Diffusion Encoding MRI in a Clinical Setting”, which received a Magna Cum Laude Merit award, given to abstracts that score in the top 15% within a major subject review category.

Mingtao Zhao traveled to Anaheim, California for the American Heart Association Scientific Sessions 2017 to give his talk, “Cell Type-Specific Chromatin Signatures Underline Regulatory DNA Elements in Human Induced Pluripotent Stem Cells and Cardiac Cells.” He was selected as one of 5 finalists for the Louis N. and Arnold M. Katz Basic Research Prize, for which honor he received a plaque and a monetary award.
Stanford Bio-X awarded 75 travel awards in 2017:

**ELLIE ARMSTRONG**
Biology
Professors Dmitri Petrov and Elizabeth Hadly
“Genomic diversity and adaptation in captive tiger populations” (The 12th International Congress of Mammalogy)

**SHAIMAA BAKR**
Electrical Engineering
Professor Sandy Napel
“A Size-independent Radiomics Model for Classification of Indeterminate Pulmonary Nodules Seen at CT” (Radiological Society of North America 103rd Scientific Assembly and Annual Meeting)

**IAN BALLARD**
Neurosciences
Professors Anthony Wagner and Sam McClure
“Hippocampal Pattern Separation Supports Reinforcement Learning” (Annual Conference on Cognitive Computational Neuroscience)

**LAURA BOGAR**
Biology
Professor Kabir Peay
“Mechanisms of generalist host range in the ectomycorrhizal symbiosis” (3rd International Molecular Mycorrhiza Meeting)

**AMY CALGARO-KOZINA**
Chemical Engineering
Professor Elizabeth Sattely
“Discovery and engineering of an anti-fungal biosynthetic pathway from edible plants” (2017 Gordon Research Seminar and Conference on Plant Metabolic Engineering)

**SAMUEL CARTMELL**
School of Medicine
Professors Jennifer McNab and Casey Halpern
“Segmentation of the Human Nucleus Accumbens Using High-Resolution Diffusion Tractography” (International Society of Magnetic Resonance in Medicine’s 25th Annual Meeting)

Byeongtaek Oh in Phoenix, Arizona for the 2017 Biomedical Engineering Society Annual Meeting
JOSHUA CATES  
Radiology  
Professor Craig Levin  
“Evaluation of a TOF-PET detector design that achieves ≤100 ps coincidence time resolution”  
(Institute of Electrical and Electronics Engineers (IEEE) Nuclear Science Symposium and Medical Imaging Conference)  
Supported by Mr. Matthew Frank

ALEX (CHIA YU) CHANG  
Microbiology & Immunology  
Professor Helen Blau  
“Telomere shortening as a hallmark of lethal dilated cardiomyopathy” (2017 Cold Spring Harbor Laboratory Telomere Conference)  
Supported by Mr. Matthew Frank

CHEN-MING CHANG  
Applied Physics  
Professor Craig Levin  
“Design and initial results of an RF-penetrable TOF PET insert dedicated for brain PET/MRI” (Institute of Electrical and Electronics Engineers (IEEE) Nuclear Science Symposium and Medical Imaging Conference)

AKSHAY CHAUDHARI  
Bioengineering  
Professor Brian Hargreaves  
“5 Minute Comprehensive Knee MRI with 3D Double-Echo Steady-State (DESS)” (International Society for Magnetic Resonance in Medicine’s 25th Annual Meeting)

Giving this presentation helped me to prepare for the next steps in my research and in my career. It was important to have the opportunity to bring together other researchers who are working on related topics, and to discuss with them the most important next questions in the field. Explaining my work forced me to think more clearly about the research question and about how to interpret the results… This experience was highly enriching for my research. I would do it again in a heartbeat!  
— Christina Chick on her 2017 travel experience
FEIYU CHEN
Electrical Engineering
Professors John Pauly and Shreyas Vasanawala
“Variable Density Single-Shot Fast Spin Echo with Auto-Calibrated Wave Encoding”
(International Society for Magnetic Resonance in Medicine’s 25th Annual Meeting)

CHRISTINA CHICK
Psychiatry & Behavioral Sciences
Professor Amit Etkin
“Knowing How I Feel: The Role of Interoception in Emotion Processing and Regulation”
(29th Association for Psychological Science Annual Convention)
Supported by Mr. Matthew Frank

CHIH-CHIEN CHOU
Radiation Oncology
Professor Albert Koong
“IRE1-XBP1 Signaling Facilitates Anti-tumor Effects by Inducing Immunogenic Cell Death in Triple-negative Breast Cancer”
(The 15th International Tumor Microenvironment Workshop)
Supported by Mr. Matthew Frank

PETER COMBS
Biology
Professor Hunter Fraser
“Spatially varying allele specific expression in Drosophila hybrids”
(Cold Spring Harbor Conference on Systems Biology: Global Regulation of Gene Expression)
Supported by Mr. Matthew Frank

BOGDAN CONRAD
Stem Cell Biology & Regenerative Medicine
Professor Fan Yang
“Microribbon-based hydrogels guided mesenchymal stem cells to undergo endochondral ossification in vivo”
(Society for Biomaterials 2017 Annual Meeting)
This talk provided me with the chance to extend the conversation about synthetic biology tools for studying and engineering mammalian cells beyond the methodologies typically discussed in these meetings. Additionally, I met interesting researchers from academia, industry, and government… SEED 2017 was one of the best technical conferences I have attended during graduate school, and I truly appreciate Bio-X’s role in supporting my attendance.

— Melina Mathur on her 2017 travel experience

**AARON CRAVENS**  
Bioengineering  
Professor Christina Smolke  
“Reconstitution of somatic hypermutation in yeast for targeted evolution” (2017 Gordon Research Conference on Molecular Evolution)

**OLGA DIAMANTI**  
Computer Science  
Professor Leonidas Guibas  
“Discrete (Multi-) Vector Field Design: Representations, Applications and Challenges” (Society for Industrial and Applied Mathematics Conference on Industrial and Applied Geometry (GD17))  
Supported by Mr. Matthew Frank

**MICHAEL FANTON**  
Mechanical Engineering  
Professor David Camarillo  
“The Effect Of Neck Musculature On Brain Tissue Strain In High-speed Sagittal Impacts” (2017 Biomedical Engineering Society Annual Meeting)

**ALISON FEDER**  
Biology  
Professor Dmitri Petrov  
“Tracking evolutionary dynamics over time to uncover hidden population structure in within-host Simian-HIV populations” (Annual Meeting of the Society of Molecular Biology and Evolution 2017 and 2017 Microbial Population Biology Gordon Research Conference)

**JULIE FOGARTY**  
Chemical Engineering  
Professor James R. Swartz  
“Developing a Modular Virus-like Particle Vaccine Platform for Viral Diseases” (7th International Conference on Biomolecular Engineering)

Jake Sganga in the Republic of Singapore for the International Conference on Robotics and Automation 2017
During the conference I had an opportunity to present my work in an invited oral presentation and receive scientific feedback from senior scientists as well as post-docs and graduate students. From feedback, brainstorming, and listening to dozens of other talks, I have found new scientific directions to take my research as well as potential collaborations to start when I get back to the bench. Having the opportunity to attend this conference has reinvigorated my science and will jump-start my summer of research.

— Aaron Cravens on his 2017 travel experience

**PEYTON GREENSIDE**  
Biomedical Informatics  
Professor Anshul Kundaje  
“Graph convolutional networks can encode three-dimensional genome architecture in deep learning models for genomics” (12th Women in Machine Learning Workshop)

**ALI HEMMATIFAR**  
Mechanical Engineering  
Professor Juan Santiago  
“Surface functional groups in capacitive deionization with porous carbon electrodes” (70th Annual Meeting of the American Physical Society Division of Fluid Dynamics)

**JINGWEI HUANG**  
Computer Science  
Professor Leonidas Guibas  
“3DLite: Towards Commodity 3D Scanning for Content Creation” (SIGGRAPH Asia 2017)

**SIDI HUANG**  
Mechanical Engineering  
Professor Xiaolin Zheng  
“Facile Thermal and Optical Ignition of Silicon Nanoparticles and Micron Particles” (2017 Materials Research Society Fall Meeting & Exhibit)

**AMANDA JACOBSON**  
Microbiology & Immunology  
Professor Denise Monack  
“The host intestinal microbiota limits Salmonella transmission” (Cold Spring Harbor Meeting on Bacterial Pathogenesis & Host Response)
Presenting at SFB was not only a great opportunity to practice and advance my formal and informal communication skills, but I got to learn a lot by attending many talks and posters relating to my project and field. Overall, it was a very rewarding and stimulating experience, and I hope I get to attend such a conference again in the future. I really need to thank Bio-X for all their support allowing me to attend SFB 2017.

— Bogdan Conrad on his 2017 travel experience
LOUISE KIRU  
Radiation Oncology  
Professor Guillem Pratx  
“Single cell imaging using radioluminescence microscopy reveals an unexpected binding pattern for $[^{18}F]$-HFB” (World Molecular Imaging Congress 2017)  
Supported by Mr. Matthew Frank

BENJAMIN KNAPP  
Biophysics  
Professor KC Huang  
“Supergrowth: Effect of osmotic oscillations on the rate of cell growth and the regulation of the proteome” (American Society for Cell Biology and the European Molecular Biology Organization 2017 Meeting)

SRIVATHSAN KOUNDINYAN  
Electrical Engineering  
Professor Dwight Nishimura  
“Nonrigid Motion Correction Using 3D iNAVs with Generalized Motion Compensated Reconstruction & Autofocusing” (International Society for Magnetic Resonance in Medicine (ISMRM) Workshop on Motion Correction in MRI & MRS)

CALVIN KUO  
Mechanical Engineering  
Professors David Camarillo and Scott Delp  
“Head Center of Rotation: How the Neck Constrains Head Motion Following External Loads in Vivo” (2017 Biomedical Engineering Society Annual Meeting)

HONG-PYO LEE  
Mechanical Engineering  
Professor Ovijit Chaudhuri  
“Enhanced Stress Relaxation In Hydrogels Promotes Cartilage Matrix Formation By Chondrocytes” (ORS (Orthopaedic Research Society) 2017 Annual Meeting)

YUPING LI  
Biology  
Professors Gavin Sherlock and Dmitri Petrov  
“Understanding Adaptation and Fitness Trade-offs in Yeast” (28th International Conference on Yeast Genetics and Molecular Biology)
This was the first occasion in my graduate career where I could present my research to a very large audience that consisted of individuals within and outside my field. Due to this exposure to a very diverse audience, I was able to receive a significant amount of feedback on my projects. Getting such feedback from researchers outside one’s field can be rewarding, as it often times involves a new paradigm for performing research. The opportunity to meet and network with these researchers was also a very valuable experience. I am very happy that I was able to receive financial assistance from Bio-X to make my attendance… possible.
— Akshay Chaudhuri on his 2017 travel experience

JUNZHE LOU
Materials Science & Engineering
Professor Yan Xia
“Stress relaxation hydrogels with tunable mechanics and their applications for 3D cell culture” (254th American Chemical Society (ACS) National Meeting)

CHRISTOPHER MADL
Bioengineering
Professor Sarah Heilshorn
“Maintenance of Neural Progenitor Cell Stemness in 3D Hydrogels Requires Matrix Remodeling” (Materials Research Society Spring Meeting 2017)

MELINA MATHUR
Bioengineering
Professor Christina Smolke
“Programming Protein Function with Synthetic RNA Splicing Devices” (SEED (Synthetic Biology: Engineering, Evolution & Design) 2017)

SARAH MATTONEN
Radiology
Professor Sandy Napel
“PET Radiomics for Non-Small Cell Lung Cancer” (Radiomics 2017)
Supported by Mr. Matthew Frank

JILL McCRARY
Civil & Environmental Engineering
Professor Alexandria Boehm
“Photoinactivation of pathogenic bacteria: mechanisms and cellular response of Staphylococcus aureus” (University of North Carolina Water Microbiology Conference 2017)

Laura Bogar in Toulouse, France for the 3rd International Molecular Mycorrhiza Meeting
COLIN MCKINLAY
Chemistry
Professors Robert Waymouth and Paul Wender
“Charge-Altering Releasable Transporters (CARTs) for the Delivery and Release of Messenger RNA” (2017 Polymers Gordon Research Conference)

FARAH MEMON
Bioengineering
Professor Butrus (Pierre) T. Khuri-Yakub
“Capsule Ultrasound Device: Characterization and Testing Results” (2017 IEEE International Ultrasonics Symposium)

FRANK MOSS
Chemistry
Professor Steven Boxer
“Nanometer-Scale Lipid Clusters in Model Membranes Revealed by Atomic Recombination in NanoSIMS” (61st Annual Meeting of the Biophysical Society)

KAREN MRUK
Chemical & Systems Biology
Professor James Chen
“Optical control of neural ablation in zebrafish as a model for secondary injury mechanisms” (Society for Neuroscience – Neuroscience 2017)
Supported by Mr. Matthew Frank

SUNGMIN NAM
Mechanical Engineering
Professor Ovijit Chaudhuri
“Matrix stress relaxation regulates tumor growth in three dimensional microenvironments through control over p27” (2017 Biomedical Engineering Society Annual Meeting)

BYEONGTAEK OH
Neurology & Neurological Sciences
Professor Paul George
“In vivo electrical stimulation of neural stem cells via a conductive polymer scaffold to enhance stroke recovery” (2017 Biomedical Engineering Society Annual Meeting)
Supported by Mr. Matthew Frank

DIEGO OYARZUN
Mechanical Engineering
Professor Juan Santiago
“Selective passive adsorption of nitrate with surfactant treated porous electrode and electrostatic regeneration” (70th Annual Meeting of the American Physical Society Division of Fluid Dynamics)

I was very excited to have the opportunity to present my work at such a large international conference. Presenting my work… provided me with rewarding experience from preparing for to delivering a professional talk. It also allowed me to receive valuable feedback from professionals and learn a lot from their questions and suggestions [and] helped me bring back many new ideas to broaden my research. Thanks to [the] Bio-X travel awards, I could successfully start my… research career as a young scientist in [the] professional world.
— Hong-pyo Lee on his 2017 travel experience
ADELAIIDA ROSA PALLA  
Microbiology & Immunology  
Professor Helen Blau  
“Novel IL6 Family Member is an Inducer of Quiescence that Augments Muscle Stem Cell Engraftment and Regeneration” (The International Cell Senescence Association (ICSA) 2017 Conference)  
Supported by Mr. Matthew Frank

VÉRONIQUE PEIFFER  
Bioengineering/Byers Center for Biodesign  
Professor Paul Yock  
“The Value-oriented Health Economic Environment: What Every Innovator Should Know” (2017 Biomedical Engineering Society Annual Meeting)  
Supported by Mr. Matthew Frank

STEPHANIE PERKINS  
Bioengineering  
Professors Brian Hargreaves and Bruce Daniel  
“A Mixed-Reality System for Breast Surgical Planning” (16th Institute of Electrical and Electronics Engineers (IEEE) International Symposium on Mixed and Augmented Reality)

ERMELINDA PORPIGLIA  
Microbiology & Immunology  
Professor Helen Blau  

CHARLES (RUIZHONGTAI) QI  
Electrical Engineering  
Professor Leonidas Guibas  
“PointNet: Deep Learning on Point Sets for 3D Classification and Segmentation” (2017 Institute of Electrical and Electronics Engineers (IEEE) Conference on Computer Vision and Pattern Recognition)

MARJAN RAFAT  
Radiation Oncology  
Professor Edward Graves  
“CD8+ T cells Prevent Circulating Tumor Cell Recruitment After Radiation” (The 15th International Tumor Microenvironment Workshop)  
Supported by Mr. Matthew Frank

Michelle Wu in Prague, the Czech Republic, for the Intelligent Systems for Molecular Biology and the 16th European Conference on Computational Biology
ASHWIN RAMACHANDRAN  
Aeronautics & Astronautics  
Professor Juan Santiago  
“Inertial effects in microfluidic flow focusing and mixing” (70th Annual Meeting of the American Physical Society Division of Fluid Dynamics)

CHEN RAN  
Biology  
Professors Xiaoke Chen and Liquan Luo  
“Spinal Cord Circuit for Thermosensation and its Reorganization in Persistent Pain” (Keystone Symposia on Synapses and Circuits: Formation, Function and Dysfunction)

CAMARIN ROLLE  
Neurosciences  
Professor Amit Etkin  
“TMS-EEG Methods” (5th Science Factory: TMS-EEG Workshop and Summer School)

ADAM RUBIN  
Stem Cell Biology  
Professor Paul Khavari  
“Mapping epigenomic regulatory networks with combined CRISPR and single cell ATAC” (EMBO-EMBL Symposium: From Single- to Multiomics)

SANDRA SCHACHAT  
Geological Sciences  
Professors Jonathan Payne and Kevin Boyce  
“Presentation by the recipient of the 2017 Snodgrass Memorial Research Award: The comparative morphology of wing pattern in Lepidoptera” (Entomology 2017: Annual Meeting of the Entomological Society of America)

TANIA SEABROOK  
Neurobiology  
Professor Andrew Huberman  
“Connecting the retina to the brain: specificity of subcortical targeting” (The Association for Research in Vision and Ophthalmology (ARVO) 2017 Annual Meeting)  
Supported by Mr. Matthew Frank

Ju Eun Jeon in Waterville Valley, New Hampshire for the Gordon Research Seminar on Plant Metabolic Engineering
The Bio-X Travel Award helped fund my attendance at the Cold Spring Harbor Microbial Pathogenesis and Host Response Meeting, where I gave an oral presentation of my thesis work. This conference experience was fantastic – presenting my work to a knowledgeable, creative audience in my field was a great way to get feedback from and share our work with other scientists. In addition… I attended this meeting to meet potential postdoctoral advisors. Giving an oral presentation of my work was unbelievably helpful for me to secure meetings… and postdoctoral interviews afterwards.

— Amanda Jacobson on her 2017 travel experience
LI TAO
Electrical Engineering
Professor Craig Levin
“Ionizing photon interactions in a material induce modulation of its optical properties at a femtosecond time scale: A new direction to improve timing for ToF-PET” (2017 IEEE Nuclear Science Symposium and Medical Imaging Conference/24th Symposium on Room-Temperature X- and Gamma-Ray Detectors)

MICHAEL WAINBERG
Computer Science
Professors Anshul Kundaje and Michael Bassik
“Transcriptome-wide association studies are vulnerable to false positives due to co-regulation” (American Society of Human Genetics 2017 Annual Meeting)

TING WANG
Genetics
Professor Michael Snyder
“Functional regulatory mechanism of smooth muscle cell-restricted LMOD1 coronary artery disease locus” (American Society of Human Genetics 2017 Annual Meeting)
Supported by Mr. Matthew Frank

YONATAN WINETRAUB
Biophysics
Professors Adam de la Zerda and Steven Chu
“Landing the first private robotic mission on the moon” and “Developing imaging device for recording cancer cell communication” (Forbes Under 30 Summit EMEA)

MICHELLE WU
Biomedical Informatics
Professor Rhiju Das
“Recurrent neural network models to quantitatively predict RNA-RNA interactions” (Intelligent Systems for Molecular Biology and the 16th European Conference on Computational Biology)

JOY XIANG
Bioengineering
Professor Christina Smolke
“Data-rich strategies for elucidating hammerhead ribozyme sequence-function relationships and engineering ribozyme switches” (The 22nd Annual Meeting of the RNA Society)
From 2006 to 2016, Stanford Bio-X gave 426 travel awards to Stanford graduate students from many disciplines across the university. They represent 41 different departments and 142 faculty members.

For the complete list of Stanford Bio-X travel awardees from 2006 to 2016, please visit: https://biox.stanford.edu/research/travel-awards
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