



STANFORD BIO-X PHD FELLOWSHIPS 2020



Stanford Bio-X Fellows Group Photo 2019

The Stanford Bio-X Graduate Fellowships

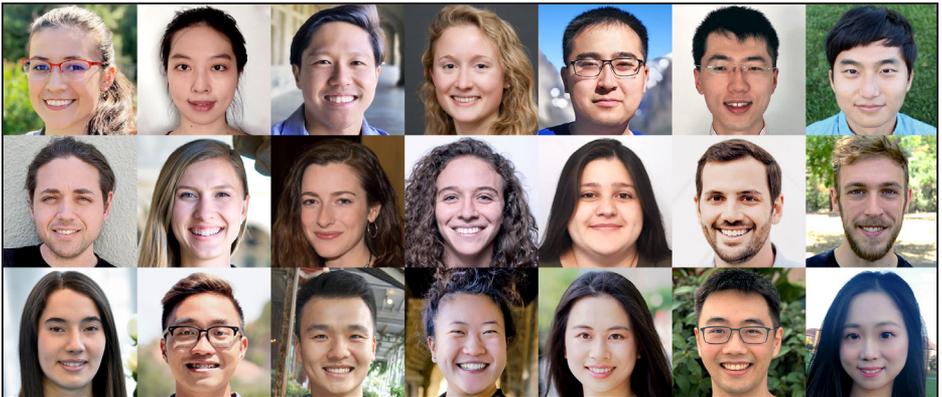


The mission of the Stanford Bio-X Program is to catalyze discovery by crossing the boundaries between disciplines to bring interdisciplinary solutions, to create new knowledge of biological systems, and to benefit human health.

Since it was established in 1998, Stanford Bio-X has charted a new approach to life science research by bringing together clinical experts, life scientists, engineers, and others to tackle the complexity of the human body. Currently over 980 Stanford Faculty and over 8,000 students, postdocs, researchers, etc. are affiliated with Stanford Bio-X. The generous support from donors, including the Bowes Foundation, enables the program to remain successful—at any given time, Stanford Bio-X is training at least 60 Ph.D fellows, and Fall 2020 brings 21 new fellows to the program.

The Stanford Bio-X Graduate Fellowship Program was started to answer the need for training a new breed of visionary science leaders capable of crossing the boundaries between disciplines in order to bring novel research endeavors to fruition. Since its inception in 2004, the three-year fellowships, including the Stanford Bio-X Bowes Fellowships and the Bio-X Stanford Interdisciplinary Graduate Fellowships (Bio-X SIGFs), have provided 318 graduate students with awards to pursue interdisciplinary research and to collaborate with multiple mentors, enhancing their potential to generate profound transformative discoveries.

Stanford Bio-X Fellows become part of a larger Stanford Bio-X community of learning that encourages their further networking and development. We achieve this through formal career development workshops and through the Stanford Bio-X Travel Program, where we award grants to fellows who are accepted to give talks at national and international meetings. Stanford Bio-X Fellows are provided the opportunity to present their work at all Stanford Bio-X symposia in order to share their knowledge and interact with other students, faculty, and members of the industry.



2020 Stanford Bio-X Fellows

Success at Stanford and beyond...



2012 Stanford Bio-X Bowes Fellow Trevor Martin is the CEO and co-founder of Mammoth Biosciences. Mammoth has raised over \$70M to build the next generation of CRISPR products in diagnostics and therapeutics. Mammoth's novel, innovative CRISPR applications can be applied to disease detection, research, agriculture, biodefense, and more. Trevor has been honored with a variety of awards for his entrepreneurial and scientific work, including Forbes's 30 Under 30 and Fortune's 40 Under 40 lists.

2012 Enlight Foundation Interdisciplinary Graduate Fellow and Stanford Bio-X SIGF Xiaojing Gao is an assistant professor of chemical engineering at Stanford. Xiaojing's lab seeks to design biological systems as "smart medicine" that can sense patients' states, process the information, and respond accordingly. His engineering targets include biomolecules, molecular circuits, viruses, and cells, with an approach that combines quantitative experimental analysis with computational simulation. The molecular tools built in Xiaojing's lab will be applied to diverse fields such as neurobiology and cancer therapy.



2011 Bruce and Elizabeth Dunlevie Fellow and Stanford Bio-X SIGF Carolina Tropini is an assistant professor in the school of biomedical engineering and the department of microbiology and immunology at the University of British Columbia. Working in the field of the gut microbiota, she is applying novel tools to longstanding questions regarding the stability of microbial communities and their response to perturbations during disease. Carolina received the Michael Smith Foundation for Health Research's Scholar Award in 2019 and the Johnson & Johnson Women in STEM²D (WiSTEM²D) Scholars Award in Engineering in 2020, and was named a Canadian Institute for Advanced Research (CIFAR) Azrieli Global Scholar through 2021.

2014 Colella Family Fellow and Stanford Bio-X SIGF Oguzhan Atay is the co-founder and CEO of BillionToOne, a venture capital-backed molecular diagnostics company. BillionToOne has developed a molecular counter platform that increases the resolution of circulating free DNA diagnostics by over a thousandfold. This technology unlocks a wide range of diagnostics, from single gene noninvasive prenatal testing to quantitative liquid biopsy applications for cancer. BillionToOne has cleared regulatory requirements and launched UNITY, the only noninvasive prenatal test that uses only a sample from the pregnant mother's blood to determine whether the baby has inherited disorders such as cystic fibrosis, spinal muscular atrophy and sickle cell disease.



2015 Felix and Heather Baker Interdisciplinary Graduate Fellow and Stanford Bio-X SIGF Teresa Purzner is currently completing the final years of her neurosurgery residency. She is the co-PI on a NIH-funded clinical trial run by the Pediatric Brain Tumor Consortium, which is investigating the role of inhibitors of the protein kinase CK2 in the treatment of medulloblastoma. This trial was a direct result from her Stanford Bio-X funded thesis studies. Teresa is also the co-founder and CSO of Cerebelly, a brain-focused nutritious baby food line that she started while at Stanford, which can now be found in over 4,500 stores nationwide.

Graduates of the program have transitioned to promising postdoctoral positions or medical training and to successful careers in academia and industry, while others have established their own start-up companies. Six of our alumni—Adam de la Zerda, Andreas Loening, Guillem Pratx, David Myung, David Camarillo, and Xiaojing Gao—are now faculty members at Stanford University. Additionally, our fellows publish high-impact first-author journal articles, receive grants and fellowships from Fulbright, the National Institutes of Health (NIH), the National Research Service Awards (NRSA), and the National Science Foundation (NSF) among others, file patent applications, and give TEDx talks, exemplifying the importance of interdisciplinary research.

To learn about the successes of our alumni, please see page 25.

Stanford Bio-X Graduate Fellowships 2020



LAURA AMAYA HERNANDEZ

Stanford Bio-X Bowes Fellow

Stem Cell Biology & Regenerative Medicine

Mentors: Howard Chang (Dermatology and Genetics) and Bali Pulendran (Pathology and Microbiology & Immunology)

In vitro Transcription of Circular RNAs with Dual Antigen/Adjuvant Capacity for Vaccine Development

Laura's project combines genetic engineering and immunology to address the challenges surrounding vaccine reactogenicity and achieving sufficient potency and efficacy. She will design a novel immunization strategy with circular RNAs (circRNAs) as both the immunogen and antigen. Taking advantage of the intrinsic capacity of 'foreign' circRNAs to activate memory responses *in vivo*, Laura will engineer circRNAs that also translate proteins, to regenerate cellular immunity against targeted antigens. Laura will validate this work with immunization studies to test the potency and durability of circRNA-based vaccines in the hopes of improving them for future use.



CHIEN-YI CHANG

Stanford Bio-X Bowes Fellow

Electrical Engineering

Mentors: Fei-Fei Li (Computer Science) and Yang Hu (Ophthalmology)

Cellular *in vivo* Neurodegeneration Prediction Using Deep Neural Networks

A key step in uncovering early pathogenic pathways and designing tailored treatments is the ability both to detect a neurodegenerative disease shortly after its onset and to predict its possible progression. Such an early diagnostic and prognostic strategy relies on the identification of dynamically related cellular markers of the pathogenic neurodegeneration process. Chien-Yi aims to take an approach that combines cellular *in vivo* imaging with large-scale deep learning to discover reliable and objective markers of neuronal function and pathology, in order to directly assess the progress of neurodegenerative diseases and gauge the effects of neuroprotective treatments that are urgently needed for clinical trials.



Rogers William and Lynda Steere Fellow, Stanford Bio-X SIGF Catherine Meis
(see pg. 7 for research details)



Stanford Bio-X Fellows Group Photo 2014

ZONGHE CHUA

Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF

Mechanical Engineering

Mentors: Allison Okamura (Mechanical Engineering), Sherry Wren (Surgery – General Surgery), Jeannette Bohg (Computer Science), and Dorsa Sadigh (Computer Science and Electrical Engineering)

Feeling through Seeing: Vision-Based Force Estimation in Robot-Assisted Surgery

Poor force estimation by surgeons during robot-assisted minimally invasive surgery (RMIS) can lead to undesirable consequences such as tissue trauma. The difficulty of force estimation in RMIS is partly attributed to a lack of haptic feedback. Zonghe hypothesizes that strong correlations between visible stimuli and interaction forces allow both humans and intelligent systems to visually estimate force. He proposes to test this hypothesis by evaluating if haptics-based training facilitates trainees' visuo-haptic internal model development for improved force estimation in RMIS, and then developing a vision-based deep learning model to estimate force in RMIS. By combining haptics and human-robot interaction, machine learning, and an understanding of human sensorimotor neuroscience with surgery, the resulting predictive models could dramatically improve surgeon training and RMIS procedures.



MADELINE COOPER

Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF

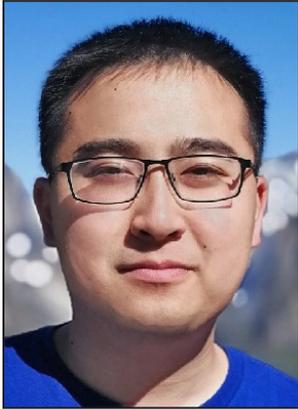
Biophysics, Medicine

Mentors: Brad Zuchero (Neurosurgery) and Alex Dunn (Chemical Engineering)

Oligodendrocyte Regulation of the Axon Cytoskeleton During Myelination

Myelination of axons by glial cells called oligodendrocytes is essential for regulating axon conduction velocity in the central nervous system of vertebrates. However, the ways that axons and oligodendrocytes respond to each other during myelination are still poorly understood. One of the best-characterized responses of neurons to myelin is myelin-induced cytoskeletal collapse in the growth cone, or tip, of an elongating axon, which inhibits neuron outgrowth – but the role of this inhibitory relationship during normal development is not known. Madeline proposes to combine the techniques of glial biology with biophysics and super-resolution microscopy to characterize how the axonal cytoskeleton responds to myelination, to pave the way to improved understanding of the dysregulation involved in common diseases like epilepsy and multiple sclerosis.





YUHANG FAN

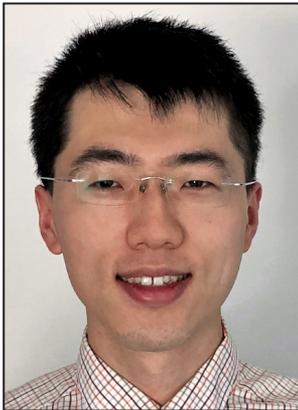
**Enlight Foundation Interdisciplinary Graduate Fellow,
Stanford Bio-X SIGF**

Bioengineering

Mentors: Bo Wang (Bioengineering) and James Ferrell (Chemical & Systems Biology and Biochemistry)

Wound-Induced Trigger Waves to Coordinate Tissue-Wide Regeneration Response

Yuhang aims to understand the rapid wound signal transduction in tissues that enables regeneration. The central working hypothesis is that wound signals propagate in the form of trigger waves induced by a positive feedback loop between extracellular signaling proteins and epidermal growth factor receptors. Yuhang will study the planarian, a highly regenerative animal, as the model system, and combine novel sequencing technology, functional genomics analysis, and computational modeling to quantify wound signal propagation, construct core regulatory genetic circuits, and model intercellular trigger wave dynamics. This work will help elucidate the fundamental rules that enable the rapid cell-cell communication and the collective stress response that are essential to tissue regeneration.



YUKUN (ALEX) HAO

Stanford Bio-X Bowes Fellow

Bioengineering

Mentors: Thomas Clandinin (Neurobiology), Michael Lin (Neurobiology and Bioengineering), and Surya Ganguli (Applied Physics)

Using Novel Imaging Tools to Dissect the Neuronal Mechanisms Underpinning Multisensory Integration

Animals must frequently integrate sensory signals from multiple modalities in order to select appropriate behavioral responses, but the neuronal computations underlying such multisensory integration remain unclear. Alex proposes to unravel these mechanisms with the fruit fly model system, using a combination of behavioral assays as well as targeted voltage imaging to obtain a comprehensive understanding of multisensory integration from synapses to neuron ensembles. Alex's project will link neural activities to sensory perception and behavioral action by integrating protein engineering with genetics in fruit fly models.



YOUNGJU JO

Stanford Bio-X Bowes Fellow

Applied Physics

Mentors: Karl Deisseroth (Bioengineering and Psychiatry & Behavioral Sciences), Surya Ganguli (Applied Physics), and David Sussillo (Electrical Engineering)

Optimal Optogenetic Control of Neural Dynamical Systems

Youngju is pursuing a tight integration of experimental and theoretical neuroscience by combining holographic optogenetics with computational tools. Through this interdisciplinary approach, he aims to establish a general framework for system identification and optimal control of neural population dynamics and animal behavior. He integrates optical, genetic, and computational techniques in behaving mouse models to achieve this goal.

BENJAMIN KNAPP

Colella Family Fellow, Stanford Bio-X SIGF

Biophysics

Mentors: KC Huang (Bioengineering and Microbiology & Immunology) and Elizabeth Sattely (Chemical Engineering)

Regulation of Bacterial Growth in Fluctuating Temperatures

While fluctuations in cells' environmental parameters, such as nutrients, have been studied in detail, temperature has typically only been investigated for its deleterious effects at extreme values, despite the natural transitions that most cells face. As a result, the responses of multispecies communities like the gut and soil microbiota to temperature shifts are largely unknown. Benjamin will develop a pipeline for quantifying single-cell temperature responses, using *E. coli* under genetic and chemical perturbations to determine the molecular mechanisms of temperature responses. He will then extend these approaches to gut and soil communities *in vitro* to understand how they are affected by temperature shocks and climate change. This work will integrate device engineering, high-throughput imaging, and human gut communities with soil ecology to provide insight into the general principles underlying growth optimization over temperatures across a wide range of species.



CATHERINE MEIS

**William and Lynda Steere Fellow, Stanford Bio-X SIGF
Materials Science & Engineering**

Mentors: Eric Appel (Materials Science & Engineering) and Peter Kim (Biochemistry)

Injectable Supramolecular Hydrogels for Sustained Delivery of Antibodies against HIV

Over 1.5 million people contracted HIV in 2018 alone. While HIV treatments have improved, there is still not an effective HIV vaccine available to prevent the spread of the disease. Broadly neutralizing antibodies (bNAbs) against HIV have been developed, but their half-lives are typically too short to allow them to be a feasible preventative strategy. Catherine's project will develop a drug delivery platform to administer bNAbs against HIV to prevent virus acquisition by way of passive immunization. Catherine's interdisciplinary approach of integrating materials science, bioengineering, biochemistry, and immunology will leverage injectable supramolecular hydrogels as the delivery mechanism to extend the pharmacokinetics of novel antibody and protein drugs to protect against HIV.





SEDONA MURPHY

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Genetics

Mentors: Alistair Boettiger (Developmental Biology) and Andrew Spakowitz (Chemical Engineering and Materials Science & Engineering)

Linking Structure to Function: How Polycomb-Mediated DNA Folding Acts as a Novel Layer of Transcription Regulation

Polycomb Group Proteins (PcGs) interact with chromatin by compacting and repressing targeted regions of DNA, which regulates a conserved transcriptional memory system that is critical for stable gene repression across eukaryotes. Dysregulation of this system leads to developmental disorders and oncogenesis. Questions such as how PcGs regulate the 3D folding of chromatin, and what role this 3D structure has in transcriptional memory, are underexplored. By combining polymer modelling, super-resolution microscopy, and new genetic tools, Sedona will test how PcG-mediated structural organization of chromatin maintains a repressive state in a dynamic nuclear environment.



DANIA NANES SARFATI

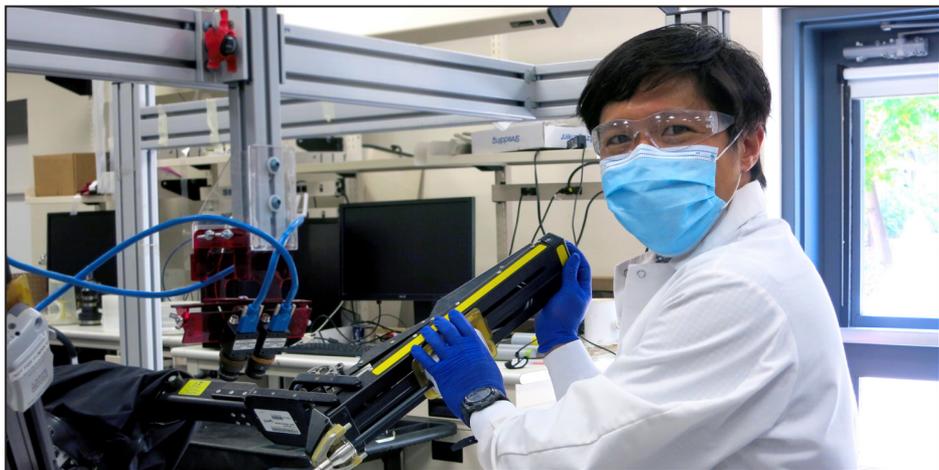
Stanford Bio-X Bowes Fellow

Biology

Mentors: Bo Wang (Bioengineering) and Stephen Palumbi (Biology)

Regeneration with Symbiosis: Handling Stress with a Partner

Symbiotic associations prevail in nature, but how organisms overcome stress while maintaining symbiotic relationships is poorly understood. Dania's research aims to understand how animals with symbiotic relationships recover from major tissue losses, and how tissue regeneration is powered by symbiotic interactions. By studying a small and simple invertebrate called *Convolutriloba longifissura* and its obligate symbiotic algae *Tetraselmis*, Dania will determine the cellular response of both partners using novel live imaging techniques, reveal concomitant transcriptional changes in both species during regeneration, and identify essential molecular processes that coordinate the response of the symbiotic partners using genetic and environmental manipulations. This research will take place at the interface of two previously separate fields, regeneration and symbiosis.



Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF Zonghe Chua
(see pg. 5 for research details)

LUCERO ROGEL-HERNANDEZ

Stanford Bio-X Bowes Fellow

Molecular & Cellular Physiology

Mentors: Miriam Goodman (Molecular & Cellular Physiology), Elizabeth Sattely (Chemical Engineering), Sue Rhee (Carnegie Institution for Science), and Andrew Fire (Pathology and Genetics)

Determining the Molecular Targets of Valerian Root Secondary Metabolites and Valproate Using *Caenorhabditis elegans*

Medicinal plants have been and continue to be valuable sources for drug discovery. For centuries, humans have relied on *Valeriana officinalis* (valerian), a flowering plant native to Europe and Asia, to treat sleep disorders, restlessness, and anxiety. Valproate, a compound derived from valerian, is widely prescribed as a mood-stabilizer and anticonvulsant. However, the mechanisms by which valerian and valproic acid engage with the nervous and endocrine systems to influence well-being are poorly understood. To identify their molecular targets, Lucero will be using the nematode *Caenorhabditis elegans* as a bioassay and genetic tool to determine the molecular targets of valerian extracts and valproate, which will provide insights for developing targeted therapeutics to treat mental illnesses. This research will combine plant chemistry and biology with genetic and molecular analysis.



JACK SILBERSTEIN

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF

Immunology

Mentors: Jennifer Cochran (Bioengineering) and Ronald Levy (Medicine – Oncology)

Engineering a Designer Immune Checkpoint Inhibitor as a Novel Cancer Therapeutic

Despite significant progress in using the immune system to fight cancer, many hurdles still remain. Leveraging protein engineering and cancer immunotherapy, Jack aims to engineer a designer immune checkpoint inhibitor with significantly enhanced binding affinity for specific immune inhibitory ligands as a way of blocking inhibitory signaling in T cells. With this targeted approach, Jack hopes to more effectively block cancer's immunosuppression, thereby maximizing the therapeutic potential of immune checkpoint blockade.



JON STINGEL

Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF

Mechanical Engineering

Mentors: Scott Delp (Bioengineering and Mechanical Engineering) and Maarten Lansberg (Neurology & Neurological Sciences)

Elucidating Energy Expenditure During Human Movement

Simulations can be used to efficiently design assistive devices aimed at improving mobility in patients who have lost it. Devices are often evaluated based on the amount of energy the user expends while using them, but current models of energy expenditure lack accuracy. Jon will focus on studying muscle energy expenditure and how it can be influenced by assistive devices to improve mobility, and will collaborate with clinicians, engineers, and roboticists to develop models of muscle energy expenditure and apply them in simulation for stroke patients.





Stanford Bio-X Fellows Group Photo 2018

ELLA THOMSON
Stanford Bio-X Bowes Fellow
Electrical Engineering

Mentors: Ada Poon (Electrical Engineering), Justin Annes (Medicine – Endocrinology, Gerontology, & Metabolism), and Joseph Wu (Medicine – Cardiovascular Medicine and Radiology)

An Implantable Artificial Pancreas Using Direct Electrical Depolarization of Beta Cells to Control Insulin Release

Type 1 Diabetes is a disorder of glucose homeostasis caused by beta-cell destruction and insulin insufficiency. Available systems to treat T1D include electronic artificial pancreases, which are limited by the need for exogenous insulin replenishment; and biological systems, which are limited by the difficulty of co-localizing glucose sensing and hormone release while maintaining immune isolation. Ella's work aims to develop an implantable artificial pancreas that spatially separates an electronic glucose sensor from an immune-isolated, electrically-controlled cellular insulin source, to control insulin release via device-triggered depolarization of implanted beta-cells. This hybrid system will combine the advantages of electronic and biological systems into an implant for better patient outcomes.



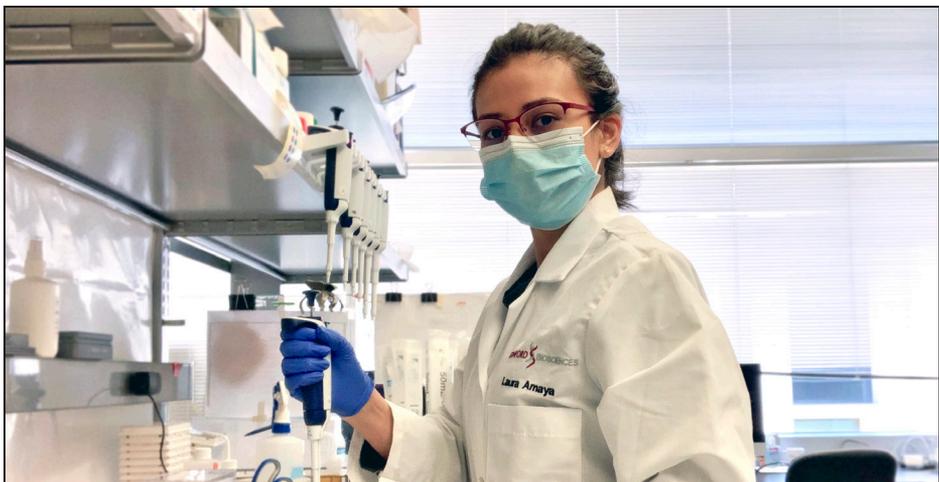
VICTOR TIEU
Stanford Bio-X Bowes Fellow
Bioengineering

Mentors: Lei Stanley Qi (Bioengineering and Chemical & Systems Biology) and Crystal Mackall (Pediatrics – Hematology & Oncology and Medicine – Blood & Marrow Transplantation)

Reprogramming CAR-T Cells to Deliver CRISPR Payloads for Targeted Gene Therapy

CRISPR-based gene-editing shows great promise as a therapy for genetic diseases, but effective delivery remains a major challenge. Victor will design, build, and test a new CRISPR delivery platform that uses reprogrammed CAR-T cells designed to conditionally deliver synthetic proteins into target cells upon antigen recognition while mitigating cytotoxicity. Originally developed for cancer immunotherapy, the CAR-T cells will be used to repair genetic mutations in a Duchenne muscular dystrophy model. Victor's work will improve CRISPR delivery as a genetic therapy as well as expanding the available synthetic immunology toolbox with applications beyond oncology.





Stanford Bio-X Bowes Fellow Laura Amaya Hernandez (see pg. 4 for research details)



DAVID WANG
Stanford Bio-X Bowes Fellow
Biology, Medicine

Mentors: Liqun Luo (Biology) and Jun Ding (Neurosurgery and Neurology & Neurological Sciences)

The Role of Embryonic Neuronal Activity in the Development of Neural Circuits and Behavior

Neuronal activity plays a pivotal role in assembling neural circuits. Early developmental activity in sensory systems often shapes the architecture of primary sensory circuits prior to experience. However, the role of the neuronal activity in shaping neuronal ensembles or neonatal behavior has not been well-studied. David will use genetic tools to target embryonically active neurons in the olfactory cortex of the brain and examine the function of these neurons in representing neonatally-experienced sensory information, as well as how their embryonic activity governs sensory-driven behavior and the development of circuit physiology. David's research lies at the intersection of development, systems, and behavioral neuroscience.



LUCY WANG
Stanford Bio-X Bowes Fellow
Mechanical Engineering

Mentors: Ellen Kuhl (Mechanical Engineering) and Miriam Goodman (Molecular & Cellular Physiology)

Predicting Failure Thresholds in Traumatic Brain Injury Using Anatomically Accurate, Ultrahigh Resolution Axon Models

Axon damage is a characteristic feature of traumatic brain injury and is associated with poor outcomes. Computational models have been successfully used to study axon damage, but these models focus exclusively on the passive cytoskeleton of axons in complete isolation. Additional recent experiments show that interactions between cytoskeletal components generate active tension and play a major protective role. Using a combined *in vivo/in silico* approach that leverages both neurobiology and mechanics, Lucy will study the active interplay between cytoskeletal elements and develop a new computational model to predict injury thresholds for axons that will inform safety thresholds in traumatic brain injury.



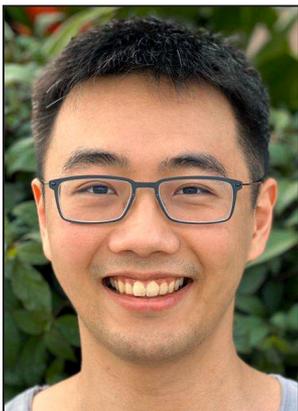
PUMIAOYAN

**Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF
Electrical Engineering**

Mentors: Boris Murmann (Electrical Engineering), Krishna Shenoy (Electrical Engineering), and Jaimie Henderson (Neurosurgery)

Efficient Machine Learning Implementations for Implantable Brain-Computer Interfaces

Fully-implantable intracortical brain-computer interfaces (iBCIs) have the ability to revolutionize neuroscience and medicine. However, the capability, performance, and robustness of iBCIs are limited by the current state of neural decoding algorithms. Machine Learning (ML) based algorithms outperform state-of-the-art decoders, but they require further optimization to use in fully-implantable iBCIs. Pumiao will combine neuroengineering, ML, integrated circuit design, and clinical translation to investigate a variety of machine learning/neural network algorithms, with area and power constraints in mind, in both offline and online closed-loop studies. She will then design and produce optimized ML decoder hardware to help demonstrate the potential of future fully implantable iBCIs.



ERIC ZHAO

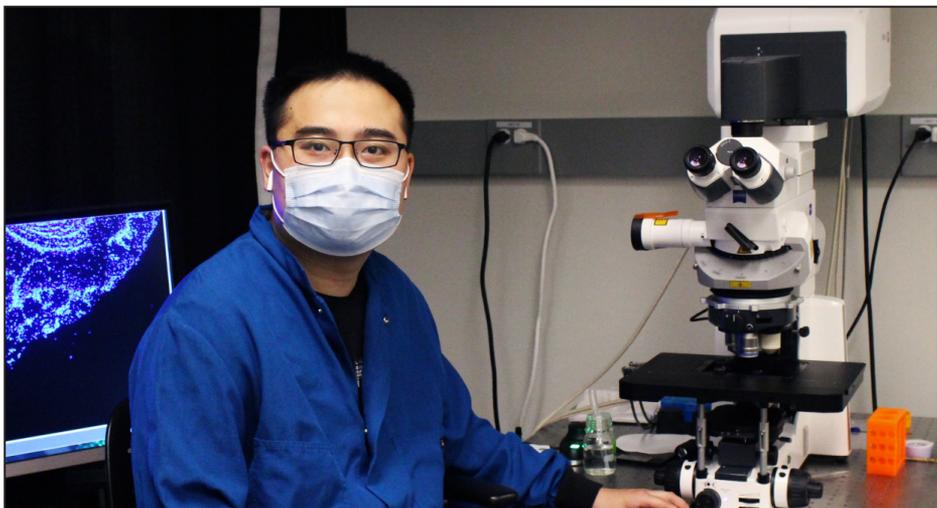
**Donna Schweers and Thomas Geiser Fellow, Stanford
Bio-X SIGF**

Chemical Engineering

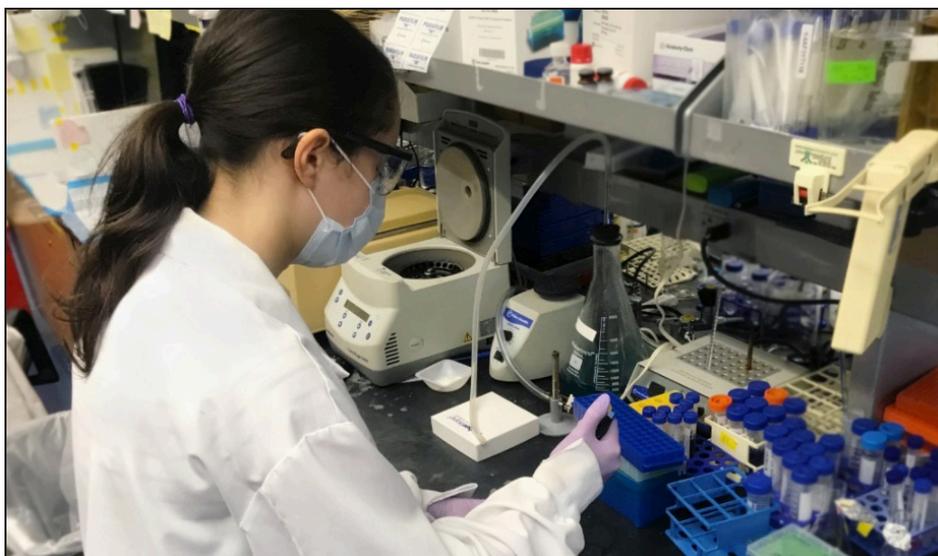
Mentors: Nicholas Melosh (Materials Science & Engineering) and Geoffrey Gurtner (Surgery – Plastic & Reconstructive Surgery)

Development of Next Generation Peripheral Nerve Interfaces

The trade-off between the invasiveness and longevity of peripheral nerve interfaces has long prohibited the development of next-generation neuroprostheses. With recent advances in semiconductor processing, it is now possible to fabricate and insert biomimetic electrodes that are the same size as natural axons. With this capability, these electrodes may be able to seamlessly integrate into the nerve in an unprecedented way. Using nanofabrication, electrophysiology, and next-generation molecular analysis, Eric will investigate and optimize the interaction at the abiotic/biotic interface between the biomimetic electrode and the biological axons.



Enlight Foundation Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF Yuhang Fan
(see pg. 6 for research details)



Stanford Bio-X Bowes Fellow Ella Thomson (see pg. 10 for research details)

BIYAO ZOU

City Hill Foundation Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF

Epidemiology

Mentors: Mindie Nguyen (Medicine – Gastroenterology & Hepatology) and Shan Xiang Wang (Materials Science & Engineering and Electrical Engineering)

Development and Validation of a Methylated Cell-Free DNA Biomarker Screening Panel for Hepatocellular Carcinoma Early Detection in a Multicenter Cohort

Hepatocellular carcinoma (HCC) is the second leading cause of cancer mortality worldwide. Early HCC diagnosis increases survival, but the current HCC surveillance tests (ultrasound and serum alpha-fetoprotein) have suboptimal accuracy. The Nguyen and Wang labs have integrated meta-analysis and microarray data to identify certain methylated cell-free DNA biomarkers for HCC. Biyao will employ giant magnetoresistive biosensor technology to develop a rapid and low-cost multiplexed assay to screen and quantify these biomarkers, and then validate the accuracy of this HCC biomarker diagnostic in a well-characterized multicenter cohort. This interdisciplinary approach of computational modeling, bioinformatics, and biosensing techniques will pave the way to cost-effective and portable HCC surveillance based on highly accurate HCC biomarkers, and will improve HCC survival.



“I have had an amazing experience with Bio-X. The program has introduced me to students, faculty, and industry leaders in departments with names I could barely recognize; it exposed me to cutting edge research and ideas that seem almost magical in their complexity; and, most importantly, it has enabled me to apply my expertise and passions in engineering to meaningful research in neuroscience. I am incredibly grateful for this opportunity provided to me by Bio-X.”

— Morgridge Family SIGF Fellow, Stanford Bio-X SIGF Roshni Cooper

Stanford Bio-X Graduate Fellowships 2004-2019 (in alphabetical order)



SUHAAS ANBAZHAKAN

Stanford Bio-X Bowes Fellow 2018

Bioengineering

Mentors: Alison Marsden (Pediatrics – Cardiology, Bioengineering) and Kristy Red-Horse (Biology)

“Computational investigations of coronary artery growth mechanisms during embryonic heart development”



ANDRÉS ARANDA-DÍAZ

Stanford Bio-X Bowes Fellow 2016

Bioengineering

Mentors: KC Huang (Bioengineering, Microbiology & Immunology) and Justin Sonnenburg (Microbiology & Immunology)

“A multiscale approach to antibiotic resistance in the gut”



LAWRENCE BAI

Stanford Bio-X Bowes Fellow 2019

Immunology

Mentors: Aida Habtezion (Medicine – Gastroenterology & Hepatology), Purvesh Khatri (Medicine – Biomedical Informatics and Biomedical Data Science), and Paul (PJ) Utz (Medicine – Immunology and Rheumatology)

“Elucidating the role of epigenetic modifications in inflammatory bowel disease (IBD) pathogenesis and presentation using mass cytometry”



KAISHA BENJAMIN

Stanford Bio-X Bowes Fellow 2019

Bioengineering

Mentors: Andrew Endy (Bioengineering) and Bruce Buckingham (Pediatrics – Endocrinology)

“Engineering a live bacterial therapeutic for Type 1 diabetes (T1D)”



SALIL BHATE

Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016

Bioengineering

Mentors: Garry Nolan (Microbiology & Immunology) and Stanley Lei Qi (Bioengineering, Chemical & Systems Biology)

“Computational interrogation of high-parameter tissue architecture and its implications for cancer immunotherapy”



MATTHEW BULL

Stanford Bio-X Honorary Fellow 2015

Applied Physics

Mentors: Manu Prakash (Bioengineering), Jan Skotheim (Biology), and Tim Stearns (Biology)

“Collective ciliary modes govern organism-scale behavior—Decision making in the world’s simplest animal”

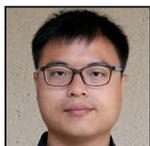
“The support of the Bio-X SIGF and the Bio-X community has meant so much to me in my graduate school career. Because of Bio-X, I’ve been able to take more ownership over the path of my Ph.D. and pursue work that crosses traditional disciplinary boundaries. I was also able to take some time off during graduate school when an opportunity arose for me to work in industry, confident that my funding would still be there on my return. That experience was so valuable to me professionally and it never would have been possible without Bio-X.”

— Morgridge Family SIGF Fellow, Stanford Bio-X SIGF Bethany Percha



PAMELA CAI
Stanford Bio-X Honorary Fellow 2019
Chemical Engineering

Mentors: Andrew Spakowitz (Chemical Engineering and Materials Science & Engineering), Sarah Heilshorn (Materials Science & Engineering), and Justin Sonnenburg (Microbiology & Immunology)
“Characterization and modeling of intestinal mucus as an anti-microbial barrier”



SHI-AN CHEN
Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2018
Biology

Mentors: Hunter Fraser (Biology) and Michael Bassik (Genetics)
“Direct measurement of gene-environment interactions by high-throughput precision genome editing”



ROBERT COUKOS
Stanford Bio-X Skippy Frank Fellow 2019
Genetics

Mentors: Alice Ting (Genetics and Biology) and Michael Bassik (Genetics)
“An integrated protein engineering and functional genomics approach to investigate the insertion pathway of mitochondrial tail-anchored proteins”



KIARA CUI
Stanford Bio-X Bowes Fellow 2018
Chemical Engineering

Mentors: Alexander Dunn (Chemical Engineering), Gerald Fuller (Chemical Engineering), Kyle Loh (Developmental Biology), and David Myung (Ophthalmology)
“Patterning stem cell differentiation and investigating tear film stability: fluid mechanics-based in vitro models of development and disease”



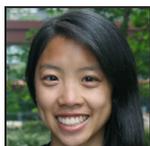
REBECCA CULVER
Stanford Bio-X Honorary Fellow 2019
Genetics

Mentors: KC Huang (Bioengineering and Microbiology & Immunology) and Michael Fischbach (Bioengineering)
“General genetic tools for discovery of functional pathways in the human gut microbiota”



OLIVIA DE GOEDE
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019
Genetics

Mentors: Karla Kirkegaard (Genetics and Microbiology & Immunology) and Stephen Montgomery (Pathology and Genetics)
“Defining the regulatory roles of long non-coding RNAs in the immune system”



MELODY DONG
Stanford Bio-X Honorary Fellow 2017
Bioengineering

Mentors: Alison Marsden (Pediatrics – Cardiology, Bioengineering) and Marlene Rabinovitch (Pediatrics – Cardiology)
“Computational modeling of pulmonary arterial hypertension to determine abnormal hemodynamic effects on endothelial gene expression”



STEPHAN EISMANN
Stanford Bio-X Bowes Fellow 2019
Applied Physics

Mentors: Ron Dror (Computer Science) and Rhiju Das (Biochemistry)
“RNA structure prediction and design using deep neural networks”

**ANNA ELLEMAN****Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2018****Chemistry**

Mentors: Justin Du Bois (Chemistry) and John Huguenard (Neurology & Neurological Sciences)

"Understanding the role of voltage-gated sodium channels in neural hyperexcitability"**COREY FERNANDEZ****Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2019****Neurosciences**

Mentors: Anthony Wagner (Psychology), Lisa Giocomo (Neurobiology), and Jay McClelland (Psychology)

"An integrated approach to investigating dynamic memory processes in goal-directed behavior"**JONAS FOWLER****Stanford Bio-X Honorary Fellow 2019****Stem Cell Biology & Regenerative Medicine**

Mentors: Kyle Loh (Developmental Biology) and Hiromitsu Nakauchi (Genetics)

"Combining developmental biology and immunology to efficiently generate human T Cells in vitro from pluripotent stem cells"**TONY GINART****Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019****Electrical Engineering**

Mentors: James Zou (Biomedical Data Science) and Mark Schnitzer (Biology and Applied Physics)

"Visual inception with optogenetic actuators and deep generative control"**DAVID GLASS****Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2018****Immunology**

Mentors: Sean Bendall (Pathology) and Stephen Quake (Bioengineering, Applied Physics)

"An integrated multi-omic single-cell atlas of human B cell identity"**CALEB GLASSMAN****Stanford Bio-X Honorary Fellow 2017****Immunology**

Mentors: K. Chris Garcia (Molecular & Cellular Physiology, Structural Biology) and Michael Bassik (Genetics)

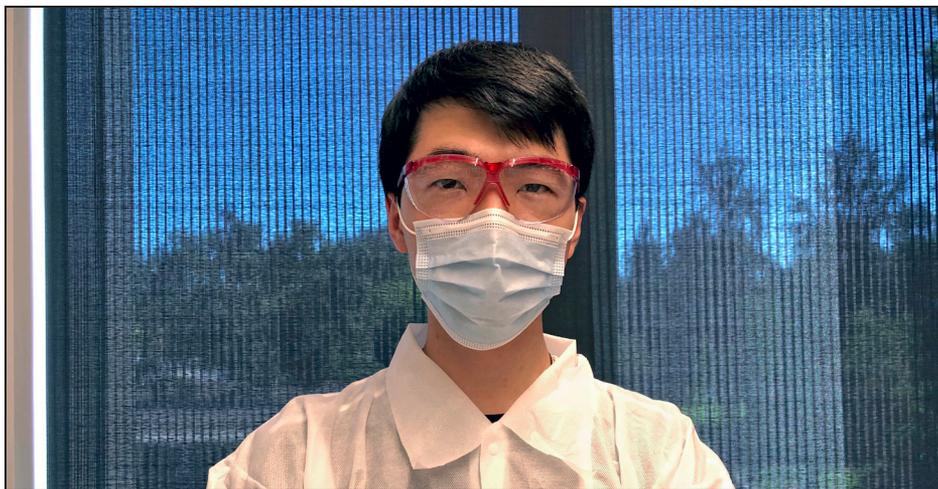
"Functional and biophysical investigation of coevolved receptor-ligand interactions using yeast and mammalian surface display"**EMMA DEL CARMEN GONZALEZ GONZALEZ****Stanford Bio-X Bowes Fellow 2018****Chemical Engineering**

Mentors: Roseanna Zia (Chemical Engineering) and Drew Endy (Bioengineering)

"Spherically confined colloidal suspensions: a model for intracellular transport"**AMALIA HADJITHEODOROU****Stanford Bio-X Bowes Fellow 2014****Bioengineering**

Mentors: Julie Theriot (Biochemistry, Microbiology & Immunology), Polly Fordyce (Bioengineering, Genetics), and Robert Tibshirani (Statistics, Biomedical Data Science)

"The cytoskeletal circuitry underlying directional decisions during neutrophil migration"



Stanford Bio-X Bowes Fellow Yukun (Alex) Hao (see pg. 6 for research details)



MARY HALL
Stanford Bio-X Bowes Fellow 2018
Mechanical Engineering

Mentors: Marc Levenston (Mechanical Engineering) and Garry Gold (Radiology)
“Contrast agent diffusion as a computed tomography biomarker for early osteoarthritis detection”



LINDSEY HASAK
Stanford Bio-X Fellow 2019
Education

Mentors: Bruce McCandliss (Education) and Anthony Norcia (Psychology)
“Imaging the emergence of letter-sound cortical associations in children within schools”



NINA HOROWITZ
Mona M. Burgess Fellow, Stanford Bio-X SIGF 2019
Chemistry

Mentors: John Sunwoo (Otolaryngology – Head & Neck Surgery) and Garry Nolan (Microbiology & Immunology)
“High-dimensional profiling of novel innate lymphoid cells to determine their function and immunotherapeutic potential”



TIMOTHY HORTON
City Hill Foundation Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2017
Neurosciences

Mentors: Justin Annes (Medicine – Endocrinology, Gerontology, Metabolism) and Jennifer Cochran (Bioengineering)
“Confronting the central challenge to developing a regenerative medicine: lineage-specific drug activity”



BRIAN HSUEH
Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2015
Neurosciences, MSTP

Mentors: Karl Deisseroth (Bioengineering, Psychiatry & Behavioral Sciences), Seung Kim (Developmental Biology), Krishna Shenoy (Electrical Engineering), and David Lyons (Psychiatry & Behavioral Sciences)
“Pathways to clinical CLARITY: methodologies for transparent-volume quantitative analysis of irregular, soft, and heterogeneous tissues in development and disease”



SARAH HULL
 Rogers Family Interdisciplinary Graduate Fellow, Stanford
 Bio-X SIGF 2019

Chemical Engineering

Mentors: Sarah Heilshorn (Materials Science & Engineering) and David Myung (Ophthalmology)

"Investigation of stem cell regeneration of the cornea using bioorthogonally crosslinked hydrogels"



KWANG EUN JANG
 Stanford Bio-X Bowes Fellow 2014

Bioengineering

Mentors: Dwight Nishimura (Electrical Engineering) and Shreyas Vasanawala (Radiology)

"Multichannel 3D cone trajectory development for MR abdominal/cardiac imaging"



HANNAH KEMPTON
 Stanford Bio-X Honorary Fellow 2017

Bioengineering

Mentors: Stanley Lei Qi (Bioengineering, Chemical & Systems Biology) and Garry Nolan (Microbiology & Immunology)

"Dissecting the role of macrophage polarization in the tumor microenvironment"

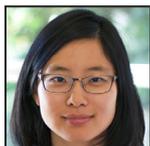


MARGARITA KHARITON
 Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF 2017

Bioengineering

Mentors: Bo Wang (Bioengineering) and William Talbot (Developmental Biology)

"Single-cell dissection of neuronal organization in a regenerative brain"



CAROLYN KIM
 Mona M. Burgess Fellow, Stanford Bio-X SIGF 2017

Computer Science

Mentors: Mohsen Bayati (Operations, Information, & Technology) and Michael Baiocchi (Medicine – Stanford Prevention Research Center)

"Adaptive experimental designs for clinical trials"



DANIEL KIM
 Stanford Bio-X Bowes Fellow 2015

Biomedical Informatics, Medicine

Mentors: Anshul Kundaje (Genetics, Computer Science), Paul Khavari (Dermatology), William Greenleaf (Genetics), Howard Chang (Dermatology), and Michael Snyder (Genetics)

"An integrative machine learning framework applied to epidermal differentiation"



Stanford Bio-X Bowes Fellow Lucero Rogel-Hernandez (see pg. 9 for research details)



ELGIN KORKMAZHAN
Stanford Bio-X Bowes Fellow 2018
Biophysics

Mentors: Alexander Dunn (Chemical Engineering) and William Weis (Structural Biology, Photon Science Directorate, Molecular & Cellular Physiology)
"Investigating cytoskeletal repair mechanisms upon epithelial cell detachment"



DEEPAK KRISHNAMURTHY
Stanford Bio-X Bowes Fellow 2015
Mechanical Engineering

Mentors: Manu Prakash (Bioengineering) and Giulio de Leo (Biology)
"Life under gravity: Multi-scale measurement tools for plankton biophysics and disease ecology"



BAUER LESAVAGE
Stanford Bio-X Bowes Fellow 2018
Bioengineering

Mentors: Sarah Heilshorn (Materials Science & Engineering) and Theo Palmer (Neurosurgery)
"Robust and efficient expansion of human neural stem cells for clinical translation"



STEVEN LEUNG
Stanford Bio-X Bowes Fellow 2013
Bioengineering

Mentors: Kim Butts Pauly (Radiology) and Pejman Ghanouni (Radiology)
"Computational modeling of high intensity focused ultrasound therapies"



HONGQUAN LI
Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2017
Electrical Engineering

Mentors: Manu Prakash (Bioengineering), Fabian Pease (Electrical Engineering), and Leo Hollberg (Physics)
"Open, configurable high-throughput imaging platform for diagnostics and research"



CATHERINE LIOU
Stanford Bio-X Bowes Fellow 2018
Chemical Engineering

Mentors: Elizabeth Sattely (Chemical Engineering) and Justin Sonnenburg (Microbiology & Immunology)
"Plant metabolic engineering to quantify the impact of individual dietary nutrients on host biology"



CHUNZI LIU
Stanford Bio-X Bowes Fellow 2019
Chemical Engineering

Mentors: Gerald Fuller (Chemical Engineering), Carolyn Bertozzi (Chemistry), and David Myung (Ophthalmology)
"Investigating the altered surface properties of mucin-deficient corneal epithelium and their contributions to dry eye disease"



MOLLY LUCAS
Stanford Bio-X Bowes Fellow 2019
Neurosciences

Mentors: Amit Etkin (Psychiatry & Behavioral Sciences), Fei-Fei Li (Computer Science), and Russell Poldrack (Psychology)
"Closed-loop treatment optimization for repetitive transcranial magnetic stimulation with reinforcement learning"



CAITLIN MAIKAWA
Stanford Bio-X Bowes Fellow 2019
Bioengineering

Mentors: Eric Appel (Materials Science & Engineering) and Bruce Buckingham (Pediatrics – Endocrinology)
“Supramolecular designer excipient for improved insulin formulations”



KELLY MCGILL
Stanford Bio-X Bowes Fellow 2017
Immunology

Mentors: PJ Utz (Medicine – Immunology & Rheumatology) and Purvesh Khatri (Medicine – Biomedical Informatics, Biomedical Data Science)
“Sex affects immune system aging”



JORGE MERAZ
Stanford Bio-X Bowes Fellow 2018
Civil & Environmental Engineering

Mentors: Craig Criddle (Civil & Environmental Engineering) and Eric Appel (Materials Science & Engineering)
“Transformation of greenhouse gases into sustainable, biodegradable microbial plastics”



CAITLYN MILLER
Stanford Bio-X Honorary Fellow 2017
Bioengineering

Mentors: Jennifer Cochran (Bioengineering) and Carolyn Bertozzi (Chemistry)
“Targeted approaches for in situ cancer vaccination”



MIRA MOUFARREJ
Stanford Bio-X Bowes Fellow 2018
Bioengineering and Computer Science

Mentors: Stephen Quake (Bioengineering, Applied Physics) and David Stevenson (Pediatrics)
“Using cell-free RNA (cfRNA) to investigate prenatal complications”



Stanford Bio-X Fellows Group Photo 2016



JOHANNA O'DAY
Stanford Bio-X Bowes Fellow 2017
Bioengineering

Mentors: Scott Delp (Bioengineering, Mechanical Engineering) and Helen Bronte-Stewart (Neurology & Neurological Sciences)
"Developing a novel measurement system to understand the neural and biomechanical signatures of pathological gait in Parkinson's disease"



ASHWIN RAMACHANDRAN
Stanford Bio-X Bowes Fellow 2017
Aeronautics & Astronautics

Mentors: Juan Santiago (Mechanical Engineering) and Sanjiva Lele (Aeronautics & Astronautics, Mechanical Engineering)
"Electrokinetic microfluidics for rapid and automated clinical diagnostics"



ANNINA SARTOR
William and Lynda Steere Fellow, Stanford Bio-X SIGF 2018
Chemistry

Mentors: W. E. Moerner (Chemistry) and Wah Chiu (Photon Science Directorate, Bioengineering, Microbiology & Immunology)
"Developing correlative cryogenic superresolution light and electron microscopy with applications to the study of protein aggregates in neurological disease"



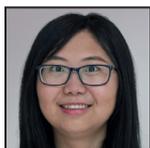
NICOLE SCHIAVONE
Stanford Bio-X Bowes Fellow 2019
Mechanical Engineering

Mentors: Alison Marsden (Bioengineering and Pediatrics – Cardiology), Doff McElhinney (Cardiothoracic Surgery and Pediatrics – Cardiology), and John Eaton (Mechanical Engineering)
"Integrated in vitro and in silico analysis of premature bioprosthetic pulmonary valve dysfunction in children with tetralogy of Fallot"



TIM SCHNABEL
Stanford Bio-X Bowes Fellow 2015
Bioengineering

Mentors: Elizabeth Sattely (Chemical Engineering), Drew Endy (Bioengineering), Sharon Long (Biology), and KC Huang (Bioengineering)
"Engineering ammonia production in free-living diazotrophs for plant fertilization"



LIYUE SHEN
Stanford Bio-X Bowes Fellow 2019
Electrical Engineering

Mentors: John Pauly (Electrical Engineering) and Lei Xing (Radiation Oncology – Radiation Physics)
"Enabling single-view computed tomography by deep learning for image guided interventions"



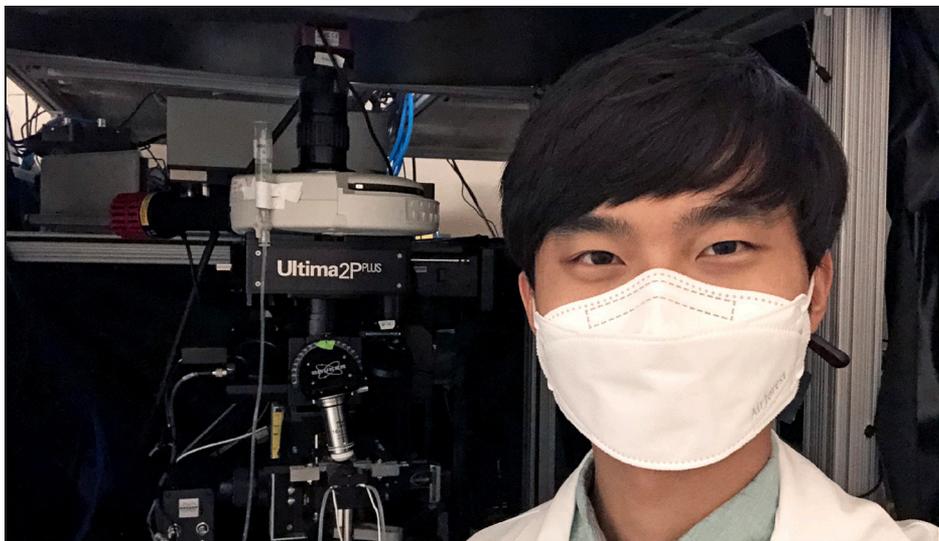
STEVEN SHUKEN
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2017
Chemistry

Mentors: Tony Wyss-Coray (Neurology & Neurological Sciences) and Joshua Elias (Chemical & Systems Biology)
"Proteomics of brain aging, disease, and rejuvenation in the CSF"



AJAY SUBRAMANIAN
Rosenberg Ach Family Fellow, Stanford Bio-X SIGF 2019
Materials Science & Engineering

Mentors: Guosong Hong (Materials Science & Engineering) and Marion Buckwalter (Neurology & Neurological Sciences and Neurosurgery)
"Injectable photovoltaics for wireless, gliosis-free deep brain stimulation"



Stanford Bio-X Bowes Fellow Younglu Jo (see pg. 6 for research details)



LAKSHMAN SUNDARAM

Stanford Bio-X Bowes Fellow 2019

Computer Science

Mentors: Anshul Kundaje (Genetics and Computer Science), William Greenleaf (Genetics), and Michael Bassik (Genetics)

"Predicting deleterious non-coding rare and de-novo sequence variants in neurological disorders and congenital heart disorders"



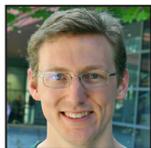
ALEXANDER TARASHANSKY

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2018

Bioengineering

Mentors: Bo Wang (Bioengineering) and Dmitri Petrov (Biology)

"Predicting competition outcomes between stem cell lineages in tissues"



TERENCE THEISEN

Colella Family Fellow, Stanford Bio-X SIGF 2017

Microbiology & Immunology

Mentors: John Boothroyd (Microbiology & Immunology) and Polly Fordyce (Genetics, Bioengineering)

"Determining functions of a family of surface proteins in the ubiquitous pathogen Toxoplasma gondii"



KIMBERLY VASQUEZ

Stanford Bio-X Bowes Fellow 2019

Microbiology & Immunology

Mentors: KC Huang (Bioengineering and Microbiology & Immunology), Gavin Sherlock (Genetics), and Justin Sonnenburg (Microbiology & Immunology)

"Tracking evolution and community assembly within the mammalian gut"



AVIN VEERAKUMAR

Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2017

Bioengineering, Medicine

Mentors: Mark Krasnow (Biochemistry) and David Kingsley (Developmental Biology)

"Identifying genetic and cellular events underlying the evolution of the human speech circuit"



PRANAV VYAS

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019

Bioengineering

Mentors: Manu Prakash (Bioengineering) and Christopher Lowe (Biology)

“Cells to organism: Morphogenesis, repair and size-control as emergent properties of cell-scale interactions in an early diverging metazoan Trichoplax adhaerens”



JIARUI WANG

Mona M. Burgess Fellow, Stanford Bio-X SIGF 2018

Chemistry

Mentors: Lucy Shapiro (Developmental Biology) and W. E. Moerner (Chemistry)

“Molecular cinematography: single-molecule imaging of heterogeneous protein behaviors for understanding asymmetric cell division in Caulobacter crescentus”



COSMOS (YUQI) WANG

Felix and Heather Baker Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2018

Neurosciences

Mentors: Thomas Südhof (Molecular & Cellular Physiology) and Axel Brunger (Molecular & Cellular Physiology, Photon Science Directorate, and Neurology & Neurological Sciences)

“Clq3 in synapse specification, from molecular structure to olfactory behavior”



JOHN WEN

Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2019

Neurosciences

Mentors: Thomas Clandinin (Neurobiology) and Lisa Giocomo (Neurobiology)

“Bridging the computational gap between vision and navigation”



AARON WILK

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019

Immunology, Medicine

Mentors: Catherine Blish (Medicine – Infectious Diseases), Lacramioara Bintu (Bioengineering), and Paul Wender (Chemistry)

“Single-cell characterization and control of epigenetic regulation during human natural killer cell response to influenza”



YONATAN WINETRAUB

Stanford Bio-X Bowes Fellow 2016

Biophysics

Mentors: Adam de la Zerda (Structural Biology) and Steven Chu (Physics, Molecular & Cellular Physiology)

“Trying to reveal cancer cell communication: Creating a molecular acoustic Optical Coherence Tomography (OCT) imaging device”



ADELE XU

Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2019

Genetics, Medicine

Mentors: Maria Barna (Genetics) and Jonathan Pritchard (Biology and Genetics)

“Regulation of gene translation by alternative ribosomal protein isoforms in mammals”



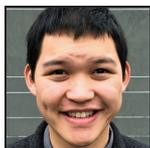
YUAN XUE

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2018

Bioengineering

Mentors: Stephen Quake (Bioengineering, Applied Physics) and John Boothroyd (Microbiology & Immunology)

“Single-cell co-transcriptomic measurement of Toxoplasma infection”



ANDREW YANG
Stanford Bio-X Honorary Fellow 2015
Bioengineering

Mentors: Tony Wyss-Coray (Neurology), Carolyn Bertozzi (Chemistry), and Michelle James (Radiology, Neurology)
"Circulatory proteins permeate the brain via selective transport impaired with age"



RENZHI YANG
Stanford Bio-X Bowes Fellow 2016
Biology

Mentors: Jun Ding (Neurosurgery) and Michael Lin (Neurobiology, Bioengineering)
"Dissecting the neural network underlying motor control"



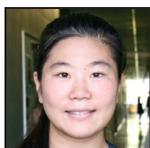
ALEXANDER YOSHIKAWA
Stanford Bio-X Bowes Fellow 2017
Chemical Engineering

Mentors: Tom Soh (Radiology, Electrical Engineering) and Carolyn Bertozzi (Chemistry)
"Development of highly specific xeno-nucleic acid (XNA) aptamers to modulate the innate immune system"



NOAH YOUNG
Stanford Bio-X Bowes Fellow 2012
Bioengineering

Mentors: Karl Deisseroth (Bioengineering, Psychiatry & Behavioral Sciences) and Gordon Wetzstein (Electrical Engineering)
"Light field imaging for high speed volumetric calcium activity recording in the larval zebrafish"



XINZHI ZOU
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019
Bioengineering

Mentors: Michael Lin (Neurobiology and Bioengineering) and Julien Sage (Genetics and Pediatrics – Hematology/Oncology)
"A programmable system for rewiring aberrant cancer signaling to therapeutic effector release"



Where are they now?

221 of our Stanford Bio-X Fellows have graduated and gone on to utilize what they have learned in the corporate, academic, and governmental sectors...

Amin Aalipour (Stanford Bio-X Fellow 2017) has defended his thesis and is now doing clinical rotations.

Namiko Abe (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2006) is a senior medical writer at Caudex, New York.

Shelley Ackerman (Stanford Bio-X Bowes Fellow 2014) is a Senior Scientist at Bolt Biotherapeutics, Inc., a start-up with compelling technology from Stanford that has demonstrated complete cures in numerous cancer models.

Eliza Adams (Stanford Bio-X Bowes Fellow 2017) recently graduated and will be starting as a Consultant at the San Francisco office of the Boston Consulting Group in December 2020.

Jaimie Adelson (Stanford Bio-X Honorary Fellow 2010) is a researcher on the Global Burden of Disease Study at the University of Washington Institute for Health Metrics and Evaluation.

Afsheen Afshar (Stanford Bio-X Bowes Fellow 2005) is the Founder and Managing Member of Pilot Wave Holdings, the first investment firm in the world dedicated to bringing world-class technologies to small businesses. He is a senior business executive and deep technical/AI expert who has extensive experience across a variety of industries and enterprises driving large-scale technological transformation associated with hundreds of millions in value. In addition, he regularly advises start-ups, universities, investors, enterprises, and others across the globe on how best to leverage modern technology. His current appointments include Technical Advisor to Lokavant, Inc., Aginity, Inc., and DotAlign, Inc.

Atish Agarwala (Stanford Bio-X Bowes Fellow 2015) is currently an AI Resident at Google, where he is studying the connections between physics, evolution, and machine learning.

Rachel Agolia (Stanford Bio-X Honorary Fellow 2016) is an Application Scientist at Namocell, a start-up that builds instruments for fast and precise cell sorting and distributing.

Ron Alfa (Stanford Bio-X Bowes Fellow 2011) is the senior vice president of Translational Discovery at Recursion Pharmaceuticals.

Katherine Amberg-Johnson (William and Lynda Steere Fellow, Stanford Bio-X SIGF 2016) is a senior scientist at Schrodinger, a biotechnology company that uses a physics-based computational platform to accelerate drug development.

Edith Arnold (Stanford Bio-X Bowes Fellow 2006) is working at Apple, Inc. as an engineering manager, leading a team developing motion sensing algorithms for health applications.

Georgios Asimenos (Stanford Bio-X Bowes Fellow 2005) is the Chief Technology Officer at DNAnexus, a Stanford-spawned startup company which sits at the intersection of two of the most ground-breaking fields: cloud computing and genomics. DNAnexus powers all things genomics, including next-generation diagnostic tests, large research consortia studies, and pharmaceutical discovery. Most recently, DNAnexus has been involved in a groundbreaking project to process the Next-Generation Sequencing (exome sequencing) results of 500,000 participants of the UK Biobank study.

Oguzhan Atay (Colella Family Fellow, Stanford Bio-X SIGF 2014) is the co-founder and CEO of BillionToOne, a venture capital-backed molecular diagnostics company. BillionToOne has developed a molecular counter platform that increases the resolution of cfDNA diagnostics by over a thousandfold. This technology unlocks a wide range of diagnostics from single gene noninvasive prenatal testing to quantitative liquid biopsy applications for cancer. BillionToOne has cleared regulatory requirements and launched UNITY, the only noninvasive prenatal test that uses only a sample from the pregnant mother's blood to determine whether the baby has inherited disorders such as cystic fibrosis, spinal muscular atrophy and sickle cell disease.

Aakash Basu (Stanford Bio-X Bowes Fellow 2009) is a postdoctoral fellow in the department of biophysics at Johns Hopkins University School of Medicine.

Eva Gabriela Baylon (Stanford Bio-X Skippy Frank Fellow 2014) is an assistant professor of surgery at UT Southwestern.

Daniel Bechstein (Stanford Bio-X Bowes Fellow 2012) is a Sensor Architect at Apple, Inc.

Elsa Birch (Stanford Bio-X Bowes Fellow 2009) is a software engineer at Pinterest working in Business Intelligence.

Johannes Birgmeier (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2017) is working for Citadel Securities in Chicago.

Jennifer Blundo (Stanford Bio-X Bowes Fellow 2006) is the executive director of the University of California, Los Angeles Biodesign Program. She has a dual appointment at UCLA Anderson School of Management and the UCLA David Geffen School of Medicine's Department of Medicine in the Division of Pulmonology and Critical Care.

Jennifer Brady (Stanford Bio-X Skippy Frank Fellow 2010) is a scientist at 23andMe, working as a project team lead for a therapeutic program.

Relly Brandman (Stanford Bio-X Bowes Fellow 2004) is a project lead at GoogleX.

David Camarillo (Stanford Bio-X Bowes Fellow 2004) is an associate professor in the bioengineering department at Stanford University.

Shengya Cao (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2013) is an associate scientist consulting with Genentech in South San Francisco.

Mindy Chang (Stanford Bio-X Bowes Fellow 2005) is a research consultant at Hopelab.

Binbin Chen (Stanford Bio-X Bowes Fellow 2018) is finishing up the last year of his MD at Stanford. He is currently supported by the Stanford Physician Scientist Training Program. In addition to clinic training, he is studying how our immune system recognizes SARS-CoV-2 infections.

Elizabeth Chen (Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2013) is an Applications Scientist at Tempus Labs. She improves processes in Tempus's platforms of DNA and RNA sequencing of cancer, COVID, and eventually mental health disorders.

Ian Chen (Stanford Bio-X Bowes Fellow 2006) is a staff cardiologist at the VA Palo Alto Health Care System. In 2018, Ian received an American Heart Association Career Development Award.

Jin Chen (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2012) is an assistant professor at UT Southwestern Medical Center.



Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Jack Silberstein, pictured at center in the lab prior to COVID-19 (see pg. 9 for research details)

Junhong Choi (Stanford Bio-X Bowes Fellow 2015) is a postdoctoral fellow in Dr. Jay Shendure's group at the University of Washington.

Fang-Chieh Chou (Stanford Bio-X Fellow 2012) is a tech lead manager at Uber.

Vincent Chu (Stanford Bio-X Pfizer Fellow 2005) is the CTO and co-founder of HomeVision.

Virginia Chu (Stanford Bio-X Bowes Fellow 2005) is an assistant professor of occupational therapy at Virginia Commonwealth University.

Kelsey Clark (Stanford Bio-X Bowes Fellow 2007) is an assistant research professor in the cell biology and neuroscience department at Montana State University.

Roshni Cooper (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2012) is a software engineer at Waymo, Alphabet's self-driving car company. She is developing machine learning and computer vision techniques to enable cars to perceive the world around them.

Jing-yu Cui (Stanford Bio-X Bowes Fellow 2011) is working at Google as a software engineer.

Anna Cunningham (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2015) is a software engineer at Freenome, a mid-size biotech startup developing a blood-based assay for early detection of colorectal cancer.

Sanjay Dastoor (Stanford Bio-X Bowes Fellow 2006) is the CEO and cofounder at Skip, designing a network of lightweight electric vehicles.

Adam de la Zerda (Stanford Bio-X Skippy Frank Fellow 2008) is an assistant professor of structural biology at Stanford University.

Adi de la Zerda (Stanford Bio-X Fellow 2013) is doing business development at the CTO office of Applied Materials. Previously, she was a lecturer of materials science and engineering at Stanford.

Christopher Dembia (Stanford Bio-X Bowes Fellow 2016) is a software engineer developing simulation software for autonomous vehicles at Applied Intuition in Mountain View.

Sarah Denny (Stanford Bio-X Honorary Fellow 2013) is a scientist with Scribe Therapeutics. She leads the Molecular Engineering team to develop new CRISPR tools for therapeutic applications.

Darrel Deo (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2016) is a postdoctoral scholar for BrainGate in the Neural Prosthetics Translation Laboratory (NPTEL) directed by Dr. Krishna Shenoy and Dr. Jaimie Henderson at Stanford University.

Mario Diaz de la Rosa (Stanford Bio-X Bowes Fellow 2008) is a senior data scientist at Deloitte Consulting.

Jasmine Dickinson (Stanford Bio-X Honorary Fellow 2015) is a data analyst at Earnin.

Rebecca DiMarco (Stanford Bio-X Bowes Fellow 2009) is currently focusing on her family.

Sheng Ding (Stanford Bio-X Bowes Fellow 2007) works at Gilead, one of the world's leaders in the biopharma industry, as a senior scientist focusing on antibody based therapeutics.

Sarah Divel (Stanford Bio-X Bowes Fellow 2016) is a Senior ML Engineer in Clinical Validation at RapidAI.

Graham Dow (Stanford Bio-X Bowes Fellow 2009) is a senior scientist in the department of environmental system sciences at ETH Zurich.

Karen Dubbin (Stanford Bio-X Bowes Fellow 2013) is a postdoc researcher in the Advanced Bio-manufacturing Group at the Lawrence Livermore National Laboratory. She was featured on Forbes's 30 under 30 award list for Industry and Manufacturing in 2018.

Remy Durand (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2010) is the Senior VP of Business Development and Corporate Strategy at Alpine Immune Sciences (NASDAQ:ALPN) and a Principal on the investment team at Alpine BioVentures.

Christopher Emig (Stanford Bio-X Bowes Fellow 2011) is the CEO of Augmenta Bioworks, Inc. and a scientific advisor to Chimera Bio.

Nir Even-Chen (Stanford Bio-X Bowes Fellow 2015) is a research scientist at Lyft.

Gabriela Fragiadakis (Stanford Bio-X Bowes Fellow 2013) began a faculty position at the University of California, San Francisco in systems immunology and data science.

Limor Freifeld (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2010) is a senior lecturer (a position equivalent to assistant professor) at the Faculty of Biomedical Engineering at the Technion, Israel Institute of Technology.

Stephen Fried (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2012) is an assistant professor at Johns Hopkins University in the departments of chemistry and biology. His lab works at the intersection of protein biophysics, proteomics, and synthetic biology, and is interested in elucidating how proteins fold and assemble into complex molecular architectures in their native cellular context, as well as developing approaches to reprogram and exploit these mechanisms to direct the synthesis of protein materials. The goals of these two lines of research are to uncover molecular mechanisms behind genetic diseases and neurodegeneration, and to create the foundation for a sustainable biologically-derived material culture in the future. They also are also interested in the folding of ancient proteins, and how their properties shaped the Origin of Life.

Julia Fukuyama (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2014) is an assistant professor in the department of statistics at Indiana University.

Xiaojing Gao (Enlight Foundation Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2012) is an assistant professor of chemical engineering at Stanford.

Pablo Garcia-Nieto (Stanford Bio-X Bowes Fellow 2017) is working for the Chan Zuckerberg Initiative as a computational biologist on the Human Cell Atlas project.

Courtney Gegg (Stanford Bio-X Bowes Fellow 2016) is the Senior Director of Tissue Engineering at Prellis Biologics, Inc.

David S. Glass (Stanford Bio-X Bowes Fellow 2013) is a postdoc in Uri Alon's lab at the Weizmann Institute with a Zuckerman Postdoctoral Fellowship.

Peyton Greenside (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2015) is the Founder and CSO at BigHat Biosciences.

Viviana Gradinaru (Colella Family Fellow, Stanford Bio-X SIGF 2008) is a professor of neuroscience and biological engineering at the California Institute of Technology (Caltech). She is also an investigator at Heritage Medical Research Institute, and the director of the Center for Molecular and Cellular Neuroscience.

Alex Grant (Stanford Bio-X Bowes Fellow 2010) is currently a software and systems engineering manager at the startup Ceribell, Inc.

Adam Grossman (Stanford Bio-X Bowes Fellow 2004) is a co-founder and VP of Modeling at Praedicat, Inc., a company that brings the world's scientific literature to bear in risk management and product stewardship, enabling a transformation of underwriting and risk management for liability insurance and corporate product stewardship practices by using big data approaches to model and understand the science that drives our understanding of risks to human health and the environment.

Gunsagar Gulati (Stanford Bio-X Bowes Fellow 2018) has defended his thesis and is now doing clinical rotations.

Lisa Gunaydin (Stanford Bio-X Bowes Fellow 2008) is an assistant professor in the department of psychiatry and behavioral sciences and the Institute for Neurodegenerative Diseases at the University of California, San Francisco. She is also a Chan Zuckerberg Biohub Investigator.

Shuo Han (Stanford Bio-X Bowes Fellow 2017) is a postdoctoral researcher in Dr. Philip Beachy's lab at Stanford. He received the Damon Runyon Cancer Foundation Fellowship and the Stanford School of Medicine Dean's Fellowship to support his work.

Kevin Hart (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015) is a scientist at IGM Biosciences.

Fidel Hernandez (Stanford Bio-X Honorary Fellow 2013) is an engagement manager at McKinsey & Company.

Jennifer Hicks (Stanford Bio-X Bowes Fellow 2007) serves as the Director of Data Science of the Mobilize Center at Stanford University, and the associate director of the National Center for Simulation in Rehabilitation Research, an NIH-funded center also at Stanford that brings state-of-the-art engineering tools to rehabilitation scientists. She oversees the center's Visiting Scholar Program, Pilot Projects, workshops, webinars, and online resources, and is the research and development manager for the OpenSim software platform.

Tyler Hillman (Stanford Bio-X Bowes Fellow 2008) is an assistant professor of gynecologic oncology & reproductive medicine at the University of Texas MD Anderson Cancer Center. He is starting his own lab that will focus on the genetics of rare gynecologic malignancies.

Zahid Hossain (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2014) is an applied research scientist and tech lead manager at Facebook AR/VR.

Eva Huang (Stanford Bio-X Bowes Fellow 2014) is a scientist at PACT Pharma.

Jacob Hughey (Stanford Bio-X Bowes Fellow 2007) is an assistant professor of biomedical informatics and biological sciences at Vanderbilt University.

Haisam Islam (Stanford Bio-X Bowes Fellow 2010) is an MRI software engineer at HeartVista, Inc.

Johnny Israeli (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016) is a manager of Genomics and Proteomics at NVIDIA.

Ivan Ivanov (Tusher Family Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2015) is a research and development engineer at the Chan Zuckerberg Biohub.

Xiaofan Jin (Stanford Bio-X Bowes Fellow 2014) is a postdoc in Dr. Katie Pollard's lab at the Gladstone Institute at the University of California, San Francisco.

Rachel Kalmar (Stanford Bio-X Bowes Fellow 2005) is a Data Scientist and Product Management Director at Tableau Software.

Mihalix Kariolis (Stanford Bio-X Bowes Fellow 2008) is an antibody and protein engineering scientist at Denali Therapeutics.

Katy Keenan (Stanford Bio-X Bowes Fellow 2006) is the Project Leader in Quantitative MRI at the National Institute of Standards and Technology (NIST) in Boulder, Colorado.

Jongmin Kim (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2011) is a postdoctoral fellow in Professor Robert Kingston's lab at Massachusetts General Hospital.

Jun Woo Kim (Stanford Bio-X Bowes Fellow 2013) is a postdoc with Dr. Julien Sage at Stanford.

Samuel Kim (Stanford Bio-X Bowes Fellow 2004) is a biomarker scientist at Gilead Sciences.

Yoon Seok Kim (Stanford Bio-X Bowes Fellow 2016) is a postdoctoral research fellow in the lab of Dr. Karl Deisseroth at Stanford.

“Bio-X is this amazing group of people that want to change the world and actually have the capacity to do that through innovative research. The connections I have made through this award with other fellows have already affected my research tremendously and made it so fun! I can't imagine a better, more eclectic group of people to be affiliated with and do fun stuff with. Thank you, Bio-X, for welcoming me into this amazing family!”

— Stanford Bio-X Honorary Fellow Adi de la Zerda

Daniel Kimmel (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2006) recently received a K-award grant from The National Institute of Mental Health (NIMH) to study the neural basis of abstract reasoning in humans at Columbia University, where he is an assistant professor of clinical psychiatry. In addition to research and teaching, he continues to practice psychiatry.

Ryosuke Kita (Stanford Bio-X Bowes Fellow 2013) is a data scientist at Notable Labs.

Benjamin Kotopka (Stanford Bio-X Bowes Fellow 2015) is a co-founder at BrainKey, a startup working to make brain MRI images more accessible and interpretable.

Brad Krajina (Stanford Bio-X Bowes Fellow 2015) is a postdoctoral researcher in Dr. Kevin Cheung's lab at the Fred Hutchinson Cancer Research Center in Seattle.

Gaurav Krishnamurthy (Stanford Bio-X Medtronic Fellow 2008) is the VP of Engineering and Operations at Half Moon Medical (the newest startup out of the Foundry, a preeminent medical device incubator in the Bay Area).

Thomas Lampo (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2013) is a data scientist at Uber.

Frances Lau (Stanford Bio-X Bowes Fellow 2007) is a manager of Systems Engineering at Facebook, working on brain-computer interfaces.

Melinda Cromie Lear (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2008) is a Senior Systems Engineer in Robotics and Digital Solutions at Johnson & Johnson (formerly Auris Robotics). She is working on research and development for a new product in the Urology market.

Paul Lebel (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2011) is a senior R&D engineer at the Chan Zuckerberg Biohub.

Andrew Lee (Stanford Bio-X Bowes Fellow 2010) is the founder and managing director of the StartX-QB3 joint technology venture, a co-founder of StartX Med, and also a co-founder of the biotech spin-out startup, Stem Cell Theranostics.

Austin Lee (Stanford Bio-X Bowes Fellow 2011) is a Project Leader with the Chicago office of the Boston Consulting Group. He is a core member of the firm's Health Care Practice Area, serving clients on topics ranging from commercial strategy to M&A.

Hong-Pyo Lee (Stanford Bio-X Bowes Fellow 2017) is a founder and CTO at MEDiC Life Sciences.

Soah Lee (Stanford Bio-X Bowes Fellow 2012) is a postdoctoral student in Dr. Sean Wu's lab at Stanford Cardiovascular Institute. Her postdoctoral research focuses on studying molecular mechanisms of abnormal heart rhythm in patients with devastating heart muscle diseases (e.g. hypertrophic cardiomyopathy) using patient-derived stem cells and bioengineering tools. After her postdoctoral training, Soah aims to become an independent multi-disciplinary researcher in the cardiovascular field with her solid knowledge base and skills in stem cell biology, cardiac development, and bioengineering. She received a NIH F-32 postdoctoral fellowship to support her work until 2021.



Stanford Bio-X Fellows Group Photo 2010

Stephen Lee (Stanford Bio-X Bowes Fellow 2005) is the VP of Portfolio Strategy & Innovation for the EMEA region at Discovery, Inc., based in London.

Michael Leung (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2016) is a founding engineer at a stealth startup company in Palo Alto with the goal of preventing blindness by converting primary care nurses into ophthalmologists using a telemedicine-enabled camera.

Ye (Henry) Li (William and Lynda Steere Fellow, Stanford Bio-X SIGF 2013) joined Toro Data Labs, Inc. as a Senior Data Scientist working on Intelligent Infrastructure and Large Scale Big Data Monitoring problems. He is utilizing his skills in Forecasting, Anomaly Detection, and Scalable Data Science to help build more intelligent digital infrastructures for businesses.

Liang Liang (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2009) is an assistant professor of neuroscience at Yale University.

Orly Liba (Stanford Bio-X Bowes Fellow 2014) works at Google as a research scientist developing computational photography algorithms.

Prasheel Lillaney (Stanford Bio-X Bowes Fellow 2005) is an associate director of customer journey innovation at Jazz Pharmaceuticals.

Sungwon Lim (Stanford Bio-X Bowes Fellow 2011) is the founder and CEO of ImpriMed, Inc., a start-up that develops a personalized drug test service for pet cancer patients.

Chao Liu (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015) is a postdoc at Stanford in Dr. Jim Spudich's lab.

Andreas Loening (Stanford Bio-X Bowes Fellow 2004) is an assistant professor in the department of radiology at Stanford University.

Mark D. Longo (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2011) is the VP of R&D at Sirona Medical, where he is helping to build a next generation AI-powered radiologist workstation.

Bertrand Lui (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2006) is a co-founder and the Chief Product Officer at SetSail.

Li Ma (Larry Yung Fellow, Stanford Bio-X SIGF 2009) is an associate professor of statistical science at Duke University. Li received an NSF Career Award in 2018.

Niru Maheswaranathan (Stanford Bio-X Honorary Fellow 2013) is an engineer on the Google Brain team doing machine learning research.

Amanda Malone (Stanford Bio-X Bowes Fellow 2004) is the CSO for Eupraxia Pharmaceuticals, Inc.

Ian Marshall (Stanford Bio-X Bowes Fellow 2008) is an assistant professor (tenure track) at the Section for Microbiology, Department of Biology, at Aarhus University in Denmark.

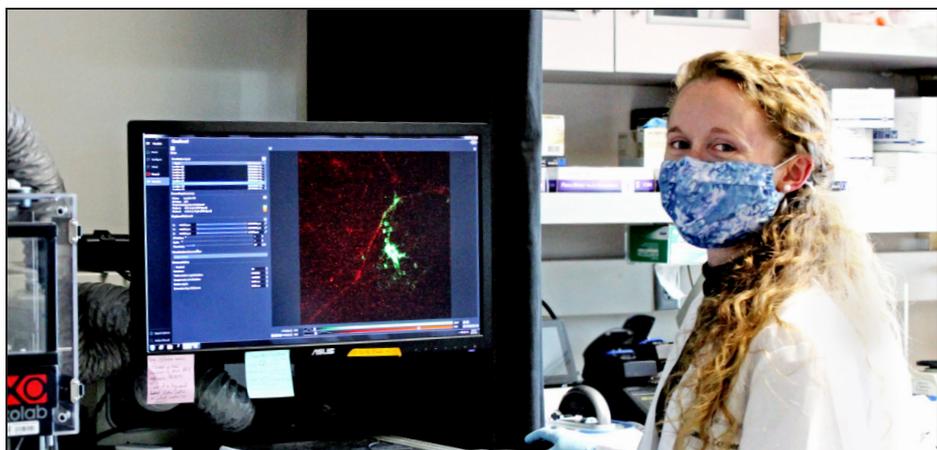
Payton Marshall (Stanford Bio-X Bowes Fellow 2017) defended his PhD in Immunology in the summer of 2020 and transitioned back to clerkship years of medical school at Stanford, with an expected MD graduation year of 2022.

Trevor Martin (Stanford Bio-X Bowes Fellow 2012) is the CEO and a co-founder of Mammoth Biosciences. They have raised over \$70M to build the next generation of CRISPR products in diagnostics and therapeutics. Trevor has been honored with a variety of awards for his entrepreneurial and scientific work including Forbes's 30 Under 30 and Fortune's 40 Under 40 lists.

Rebecca Marton (Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF 2017) is a senior scientific researcher at Genentech.

Melina Mathur (Stanford Bio-X Bowes Fellow 2010) is the Product Manager for Biopharma at Twist Bioscience.

Joanna Mattis (Stanford Bio-X Bowes Fellow 2010) completed her neurology residency at the University of Pennsylvania. She is now an epilepsy fellow in the department of neurology.



Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF Madeline Cooper
(see pg. 5 for research details)

Aaron Mayer (Stanford Bio-X Honorary Fellow 2015) recently graduated and is pursuing translational research opportunities in molecular imaging and machine learning.

Allister McGuire (Stanford Bio-X Bowes Fellow 2013) is a scientist at Verily Life Sciences in South San Francisco.

Cory McLean (Stanford Bio-X Bowes Fellow 2007) leads the genomics team in Google Health, located in Cambridge, Massachusetts.

Arek Melkonian (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2016) is finishing his M.D. at Stanford.

Leslie Meltzer (Stanford Bio-X Bowes Fellow 2004) is the Vice President, Head of Global Medical Affairs at Orchard Therapeutics in Boston, Massachusetts.

Samir Menon (Colella Family Fellow, Stanford Bio-X SIGF 2011) is the founder and CEO of Dexterity, Inc., a start-up focused on robotics solutions for logistics, warehousing, and supply chain operations.

Amanda Miguel (Stanford Bio-X Honorary Fellow 2013) works for the application company Steady as a senior data scientist.

Denitsa Milanova (Stanford Bio-X Medtronic Fellow 2011) is a technology development fellow at Harvard's Wyss Institute.

Murtaza Mogri (Stanford Bio-X Bowes Fellow 2006) is the Director of Business Development and Market Access for V-Wave, a start-up developing minimally-invasive implantable devices for treating patients with chronic heart failure. V-Wave has received strategic investments from Johnson & Johnson and Edwards Lifesciences, and raised \$70M in Series C funding to support a pivotal study of their heart failure therapy.

Kate Montgomery (Stanford Bio-X Bowes Fellow 2009 and William and Lynda Steere Fellow, Stanford Bio-X SIGF 2012) is the manager of clinical and medical affairs at Enspectra Health. The company's technology, minimally invasive cellular imaging, was supported as an academic project by a Stanford Bio-X grant when it was early stage and high-risk, and is now being commercialized to improve human health.

Sergio Moreno (Stanford Bio-X Bowes Fellow 2004) is currently searching for job opportunities.

Paola Moreno-Roman (Stanford Bio-X Bowes Fellow 2014) is currently the Director of Strategic Partnerships at Foldscope Instruments, Inc., where she works on bringing powerful low-cost tools to communities around the world.

David Myung (Stanford Bio-X Bowes Fellow 2005) is currently an assistant professor of ophthalmology at the Byers Eye Institute (BEIS) and the VA Palo Alto Health Care System, and, by courtesy, of chemical engineering at Stanford. He is also a Director of the Ophthalmic Innovation Program and the Director of the Stanford Automated Teleophthalmology and Universal Screening (STATUS) Program, which oversees a Bay Area-wide remote diabetic retinopathy testing program. David's laboratory is focused on ophthalmic regenerative medicine and drug delivery, specifically directed at the treatment of severe corneal and ocular surface injury and disease, as well as digital health and telemedicine in ophthalmology. He is the recipient of grants from the Matilda Ziegler Foundation for the Blind, the Department of Veterans Affairs, and the SPARK program at Stanford, as well as Career Development Awards from the National Eye Institute at the NIH and Research to Prevent Blindness.

Daniel Newburger (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2011) works as a software engineer at Google.

Elaine Ng (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016) is a postdoctoral fellow in Dr. Shan X. Wang's lab, co-mentored by Dr. Jianghong Rao, working on *in vivo* and *in vitro* therapy monitoring in advanced stage lung cancer patients.

Wendy Ni (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2012) is a data scientist at Facebook working on site integrity. Her product area covers malware, phishing, spam, and more.

William Noderer (Stanford Bio-X Bowes Fellow 2010) is working for the Boston Consulting Group as a principal.

James Notwell (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2013) is the head of informatics at MapLight Therapeutics, which was founded by Stanford Bio-X faculty members Dr. Karl Deisseroth and Dr. Robert Malenka.

Abdulmalik Obaid (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2018) is working at a stealth startup developing microelectronic devices in the Bay Area.

Peter Olcott (Presidential Fellow, Stanford Bio-X SIGF 2009) is working as a fellow at Reflexion Medical, developing the next generation of radiotherapy devices for the treatment of cancer.

Carmichael Ong (Stanford Bio-X Bowes Fellow 2011) is a postdoctoral fellow in the Neuromuscular Biomechanics Laboratory at Stanford University, and a consultant for applying simulation and machine learning methods in biomechanical applications.

Shawn Ouyang (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2009) is a principal scientist at the biotech startup SUMO Biosciences and a Principal Investigator of three NIH SBIR grants.

Sung Jin Park (Stanford Bio-X Bowes Fellow 2013) is a manager at Amgen, working on business analytics for pharmaceutical products.

William Parsons (Presidential Fellow, Stanford Bio-X SIGF 2010) is an assistant professor of chemistry and biochemistry at Oberlin College.

Christine McLeavey Payne (Stanford Bio-X Bowes Fellow 2009) is a research scientist and team lead at OpenAI, an AI research company focused on developing a path to safe artificial general intelligence. After Stanford, she worked for six years as a classical pianist, and co-founded Ensemble SF with members of the SF Symphony and Ballet.

Bethany Percha (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2013) is an assistant professor of medicine and of genetics at the Icahn School of Medicine at Mount Sinai, and the CTO of the Precision Health Enterprise at the Mt. Sinai Health System. She received the AMIA Doctoral Dissertation Award for her PhD thesis dissertation, "Biomedical text mining in context", which was funded by the Bio-X fellowship.

Petar Petrov (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2017) is a postdoctoral scholar in the physics department at the University of California, Berkeley.

Steven Petsche (Stanford Bio-X Bowes Fellow 2011) works as a software engineer for Google in Irvine, California.

Samantha Piekos (Tusher Family Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2018) is a postdoctoral scholar in Dr. Lee Hood's and Dr. Nathan Price's laboratory at The Institute of System Biology. She is identifying novel biomarkers to predict negative pregnancy outcomes like preterm birth.

Benjamin Poole (Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF 2014) is a research scientist at Google Brain.

Arjun Prabhakar (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2016) is a scientist at Pacific Biosciences.

Guillem Pratx (Stanford Bio-X Bowes Fellow 2006) is an assistant professor in radiation oncology at Stanford University. His research focus is on biomedical imaging for radiotherapy.

Teresa Purzner (Felix and Heather Baker Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2015) is completing the final years of her neurosurgery residency. She is also the co-PI on a NIH-funded clinical trial run by the Pediatric Brain Tumor Consortium, which is investigating the role of CK2 inhibitors in the treatment of SHH medulloblastoma. This trial was a direct result from her Stanford Bio-X funded thesis studies. Teresa is also co-founder and CSO of Cerebely, a brain-focused nutritious baby food line that she started while at Stanford, which can now be found in over 4,500 stores nation-wide.

Jeffrey Quinn (Stanford Bio-X Bowes Fellow 2012) is a Ruth L. Kirschstein Postdoctoral Fellow in Dr. Jonathan Weissman's Lab at the University of California, San Francisco.

Amanda Rabe (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2016) is a scientist in the Bay Area, currently exploring employment opportunities in local BioTech and start-up industries.

Alexander Ratner (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2017) is the co-founder and CEO at Snorkel AI, a startup supporting and commercializing the open source Snorkel framework (snorkel.org) for programmatically building and managing training data for machine learning, which he developed as part of his thesis work. He is an assistant professor in computer science at the University of Washington in Seattle.

Manuel Rausch (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2012) is an assistant professor in the department of aerospace engineering & engineering mechanics at University of Texas at Austin. Manuel has received the American Heart Association Career Development Award and the Moncrief Grand Challenge Award.

Andreas Rauschecker (Stanford Bio-X Bowes Fellow 2008) is an assistant professor in neuroradiology (Department of Radiology & Biomedical Imaging) at the University of California, San Francisco.

Heather Rogan (Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2016) is an associate at Headland Strategy Group, a biotech consulting firm focused on assisting healthcare companies with commercial, corporate (BD/M&A), and portfolio and R&D strategy.

Adam Rubin (William and Lynda Steere Fellow, Stanford Bio-X SIGF 2015) is a postdoc at the Broad Institute in the lab of Dr. Aviv Regev.

Sanaz Saatchi (Stanford Bio-X Amgen Fellow 2009) is the Director of New Business Development at Intuitive Surgical, the pioneer and leader of robotic surgery. Collaborating with the internal Strategy, Venture, and Research organizations, she is focused on leading Intuitive's corporate development efforts by identifying and developing opportunities for new technology initiatives at Intuitive. Prior to Intuitive Surgical, Sanaz was the Director of Product Strategy at Arterys, which has developed a cloud-based medical imaging software that uses AI to facilitate medical imaging analysis. She led a team focused on defining the product pipeline and developing strategic partnerships for technology development. Prior to Arterys, Sanaz was the Co-Founder and President of CrownPoint Medical, LLC (CPM), which provides strategic services that accelerate healthcare innovation and commercialization, working at the intersection of R&D and Marketing to help clients understand the product-customer interface and product-market fit. Previously, at Medtronic, Sanaz was an engineering program manager and marketing product manager and led a cross-functional and multi-company team through needs finding, product development, and commercial global launch of two cardiovascular medical devices. Sanaz also participated in Medtronic's Global Innovation Fellowship program, with a project focused on improving diabetes awareness and detection in South Africa.

Joel Sadler (Stanford Bio-X Bowes Fellow 2012) has co-founded and is president of a creative computing startup, Piper Inc., which aims to inspire kids to make electronic devices that “spark every child’s inner inventor” in education. Joel’s company was inspired by his Stanford Bio-X research and PhD thesis on the “Anatomy of Creative Computing”.

Rachel Hagey Saluti (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2014) has just graduated and is continuing in Jeffrey Glenn’s lab at Stanford as a staff scientist, to work towards bringing a therapeutic that she designed and patented into the clinic.

Jayodita Sanghvi (Stanford Bio-X Bowes Fellow 2007) is the director of data science for Grand Rounds, a start-up in San Francisco aiming to navigate patients to more relevant and high-quality healthcare.

Andrew Savinov (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2014) is a postdoctoral fellow in Dr. Stanley Fields’s lab at the University of Washington in Seattle.

Alia Schoen (Stanford Bio-X Bowes Fellow 2009) has most recently worked as a public policy manager at Bloom Energy, a stationary fuel cell manufacturer whose vision is to make clean, reliable energy affordable for everyone in the world. Dr. Schoen has leveraged both her interdisciplinary education as well as her time in the California State Assembly as a CCST Science Policy Fellow in her career in policy.

Mark Sellmyer (Stanford Bio-X Bowes Fellow 2008) is an assistant professor of radiology with a secondary appointment in biochemistry and biophysics at the University of Pennsylvania. His lab focuses on molecular and chemical tool development for applications in cancer biology and infectious disease. Clinically, Mark is an attending physician in nuclear radiology. He was recently awarded the Burroughs Wellcome Fund Career Award for Medical Scientists (CAMS) and the NIH Director’s Early Independence Award (DP5).

Jake Sganga (Stanford Bio-X Bowes Fellow 2014) co-founded a surgical robotics startup that recently closed its seed financing round.

Pankaj Sharma (Stanford Bio-X Bowes Fellow 2012) is a R&D staff engineer at Stryker Corporation.

Anna Shcherbina (Stanford Bio-X Bowes Fellow 2017) is a machine learning engineer at insitro, a start-up focused on high throughput drug target discovery and development.

Handuo Shi (Rosenberg Ach Family Fellow, Stanford Bio-X SIGF 2016) is a postdoctoral scholar in Dr. Justin Sonnenburg’s lab at Stanford. Her research focuses on the biophysical modeling of human gut bacterial communities.

Avanti Shrikumar (Stanford Bio-X Bowes Fellow 2016) is a Stanford Data Science postdoctoral fellow applying machine learning to study oceanic nutrient cycling with Professor Karen Casciotti.

Herbert Silva (Stanford Bio-X Bowes Fellow 2013) is working at Johnson Space Center (NASA) as a structural dynamics analyst.

Joo Yong Sim (Stanford Bio-X Bowes Fellow 2010) works in the biomedical IT convergence research department of the Electronics and Telecommunications Research Institute, a Korean national laboratory.

Steven Sloan (Stanford Bio-X Bowes Fellow 2014) has just started his own lab at Emory University as an assistant professor in the department of human genetics.

Ruth Sommese (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2011) is a principal scientist at Pfizer.

Min-Sun Son (Stanford Bio-X Bowes Fellow 2007) is an R&D manager at Abbott Laboratories.

Ryan Squire (Stanford Bio-X Bowes Fellow 2010) is a product and data scientist at SafeGraph, a startup that builds accurate point-of-interest and geospatial datasets to power advanced analytics, machine learning and AI. SafeGraph has raised \$20M in Series A fundraising.

Alice Stanton (Stanford Bio-X Bowes Fellow 2017) is a postdoctoral associate at MIT in Robert Langer’s laboratory.



Stanford Bio-X Fellows Group Photo 2012

Lyndsay Stapleton (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2018) is a Manager of Strategy and Operations at Calcilytix, a BridgeBio Company.

Pakpoom Subsoontorn (Stanford Bio-X Bowes Fellow 2008) is a lecturer in the department of biochemistry, faculty of medical science, at Naresuan University in Thailand.

Patricia Suma (Stanford Bio-X Bowes and Stanford Bio-X Amgen Fellow 2011) is a health educator at Health Connected: Sex Ed Starts Here, a non-profit that teaches age appropriate and comprehensive sexual and reproductive health.

Jong Min Sung (Stanford Bio-X Bowes Fellow 2009) is a principal data scientist at Roche Sequencing Solutions, Santa Clara.

Johanna Sweere (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2015) graduated in January of 2019. The main body of her research was published in *Science* in March of 2019, and was highlighted in the June edition of the microbiology podcast "This Week in Microbiology", for which Johanna was interviewed by the president of the American Society for Microbiology. Johanna has since also authored additional work appearing in *Science Translational Medicine*, *Advances in Wound Care*, and other publications. She currently works as a consultant at a life sciences consulting firm in San Francisco.

Jiongyi Tan (Enlight Foundation Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2014) has a postdoctoral position with Dr. Dyche Mullins at University of California, San Francisco.

Grace Tang (Stanford Bio-X Bowes Fellow 2008) is a senior staff machine learning engineer (anti-abuse) at LinkedIn.

Noureddine Tayebi (Stanford Bio-X Bowes Fellow 2009) is a senior research scientist and team lead at Intel Research Labs, Intel Inc.

Rebecca Taylor (Stanford Bio-X Bowes Fellow 2007) is an assistant professor of mechanical engineering at Carnegie Mellon University. She received a 2018 Air Force Office of Scientific Research VIP award.

Matthew Titchenal (Stanford Bio-X Bowes Fellow 2015) is continuing his post-graduate career as a technical consultant at InSciTech in Los Altos, California. Matt is working with the team at InSci-Tech to provide rigorous, accurate, and reliable analyses of technical problems involving injury biomechanics and accident reconstruction. Matt is also continuing to stay involved with the research being done by his advisers at Stanford, Dr. Constance Chu of Orthopaedic Surgery and Dr. Tom Andriacchi of Mechanical Engineering, by assisting in the analysis and preparation of manuscripts for publication.

Carolina Tropini (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2011) is an assistant professor in the school of biomedical engineering and the department of microbiology and immunology at the University of British Columbia.

Baris Ungun (Stanford Bio-X Bowes Fellow 2014) is a lead Machine Learning Engineer at insitro.

Jules VanDersarl (Stanford Bio-X Bowes Fellow 2005) works at Meso Scale Diagnostics as a Senior Director of Engineering.

Mathias Voges (Stanford Bio-X Bowes Fellow 2013) is a machine learning engineer at Google X.

Michael Wainberg (Stanford Bio-X Bowes Fellow 2016) started a postdoc with Dr. Shreejoy Tripathy at the Centre for Addiction and Mental Health.

Graham Walmsley (Stanford Bio-X Fellow 2015) is a co-founder and Managing Partner of Logos Capital, a fundamental biotechnology-focused investment fund that seeks to combine in-house data analytics with scientific and clinical expertise to identify transformative therapies in healthcare.

Aaron Wang (Stanford Bio-X Bowes Fellow 2006) is part of a private practice in Pittsburgh, Pennsylvania, as a corneal specialist. He is working on commercializing a new ophthalmic imaging device, for which he recently obtained a patent.

Christine Wang (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2014) is currently working in consulting at IQVIA.

Jack Wang (Stanford Bio-X Bowes Fellow 2011) is a neurocritical care physician at the Stanford University Medical Center.

Larry Wang (Stanford Bio-X Bowes Fellow 2007) is a launch program manager at Pebble Technology.

Wanxin Wang (Stanford Bio-X Bowes Fellow 2015) is a postdoctoral fellow at the University of California, San Francisco in Linda Giudice's lab in the department of obstetrics and gynecology.

Yen-Hsiang Wang (Stanford Bio-X Bowes Fellow 2009) is the Head of Strategy and BD at Antheia.

Aaron Wenger (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2010) is a bioinformatics research scientist at Pacific Biosciences, developing applications of long-read genome sequencing.

Lucien Weiss (Stanford Bio-X Bowes Fellow 2012) is a postdoc in Dr. Yoav Shechtman's lab at the Technion, Israel Institute of Technology.

Andrew Weitz (Stanford Bio-X Bowes Fellow 2012) is a data scientist at Edge Analytics, a boutique technical consulting firm that partners with startups and Fortune 500 companies to turn ideas into products.

Kitchener Wilson (Stanford Bio-X Bowes Fellow 2007) is a biomedical consultant (self-employed) for G4S Capital and Iktigai Accelerator.

Brian Wilt (Stanford Bio-X Bowes Fellow 2008) is a senior manager in Data Science at Facebook.

Katrina Wisdom (Stanford Bio-X Honorary Fellow 2016) is a Bioengineering Investigator of Complex *In Vitro* Models at GlaxoSmithKline.

Remus Wong (Stanford Bio-X Bowes Fellow 2010) is a senior scientist at Nkarta Therapeutics, where he performs IND-enabling research and process development activities on engineered NK cells.

Angela Wu (Stanford Bio-X Bowes Fellow 2006) is an assistant professor in the division of life science and the department of chemical and biological engineering at Hong Kong University of Science and Technology (HKUST). Angela is passionate about the development of new technologies at the interface of basic biology and engineering, and using these interdisciplinary approaches to investigate biological mechanisms and human diseases. Early in her scientific career, she was named a Siebel Scholar in 2010, and was also awarded a Bio-X Bowes Fellowship for her research. In 2015, Angela also co-founded Agenovir Corporation, a CRISPR-based therapeutics company targeting infectious diseases for a complete cure. While at Agenovir, she helped to successfully raise Series A venture capital funding of US\$10.6M. Agenovir was recently acquired. As recognition of her achievements in technology and innovation, Dr. Wu was named one of MIT Technology Review Innovators under 35 Asia in 2016, and a World Economic Forum Young Scientist in 2018.

Lyndia Wu (Stanford Bio-X Bowes Fellow 2014) has started a tenure-track assistant professor position in the mechanical engineering department at the University of British Columbia in Vancouver, Canada.

Nan Xiao (Stanford Bio-X Bowes Fellow 2007) works for Heartflow, Inc. in Redwood City as a computational scientist.

Helen Yang (Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF 2014) is a postdoctoral scholar at Harvard Medical School with Dr. Rachel Wilson.

Yufeng Yang (Stanford Bio-X Bowes Fellow 2005) is a professor/investigator in the Institute of Life Sciences at Fuzhou University.

Peggy Yao (Stanford Bio-X Bowes Fellow 2006) is an Engineering Manager of a machine learning team at Facebook.

Sara Z. Yao (Stanford Bio-X Bowes Fellow 2004) founded DeviceDebut, LLC after exploring medical device R&D for over 5 years. DeviceDebut helped U.S. medical device manufacturers register with CFDA, enter the Chinese market, and receive funding from the Chinese investors. In the past three years, Sara also served as Mandarin Specialist at the Khan Lab School. Currently, Sara works as an independent consultant in the medical device field.

Anne Ye (Stanford Bio-X Bowes Fellow 2012) is a scientist in the Discovery Biology department at Atreca in South San Francisco.

Patrick Ye (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2013) is a principal scientist at BillionToOne, a molecular diagnostics startup in Menlo Park, CA.

Michael Yip (Stanford Bio-X Bowes Fellow 2013) is an assistant professor in the department of electrical and computer engineering at University of California, San Diego.

Jennifer Yong (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2012) is a Human Factors Researcher at Google.

Ryan York (Stanford Bio-X Bowes Fellow 2013) is a postdoc in Dr. Tom Clandinin's lab at Stanford.

Bo Zhang (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2013) is the VP of chemistry and cofounder of Apostle, Inc. Apostle is a biotechnology company in Sunnyvale, California, which has been accepted by the Stanford StartX accelerator. It's in the business of the research, development, licensing, and sales of novel MiniMax magnetic nanoparticle technology, Triton cancer genome deep learning technology, AI-enabled nanoDiagnostics (AID) technology, and the related intellectual properties, products, and services for diagnosis and treatment of human diseases, to fundamentally improve the accuracy of cancer diagnosis at early stage. Bo is also an associate professor at Southern University of Science and Technology of China.

Xiaoxue Zhou (Larry Yung Fellow, Stanford Bio-X SIGF 2010) is a postdoctoral associate in Angelika Amon's lab at MIT. She received a Helen Hay Whitney Postdoctoral Fellowship to support her work.

Danqing Zhu (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015) works in Dr. David Schaffer's group at University of California, Berkeley as a postdoctoral scholar.

“Being a Bio-X fellow, I got the opportunity to interact and effectively share my work with fellow researchers through poster presentations and symposia. I cannot imagine doing my research without the support [of] the Bio-X graduate fellowship. I would like to thank Bio-X... and hope that they will continue to help students aspiring to do translational research at the juncture of science, medicine and engineering.”

— Stanford Bio-X Bowes Fellow Pankaj Sharma

Stanford Bio-X Postdocs

The Stanford Bio-X Postdoctoral Fellowships are made possible through the support of our industry contacts. To date, eight students have been postdoctoral fellows, and those who ended their appointments have transitioned to successful careers.

Tiffany Chung (Stanford Bio-X Postdoctoral Fellow 2005) is a chemist for the Hong Kong government.

Anna Geraghty (Stanford Bio-X Genentech Postdoctoral Fellow 2015) is a postdoctoral fellow in the neurology and neurological sciences department. With the guidance of Michelle Monje-Deisseroth (Neurology), she is working on her research entitled, "Neurotrophin regulation of adaptive gliogenesis and remyelination post pediatric chemotherapy."

Subhaneil Lahiri (Stanford Bio-X Genentech Postdoctoral Fellow 2012) is a research associate in Surya Ganguli's group in the applied physics department at Stanford University.

Yu-Shan Lin (Stanford Bio-X Postdoctoral Fellow 2009) is an associate professor of chemistry at Tufts University.

Elena Rykhlevskaia (Stanford Bio-X Lubert Stryer Interdisciplinary Postdoctoral Fellow 2008) is a decision science manager at Facebook working on product marketing analytics for Facebook media products, including Facebook Watch.

Shilpa Sambashivan (Stanford Bio-X Genentech Postdoctoral Fellow 2007) is the Vice President of Biology at Nura Bio, Inc.

Sergey Solomatin (Stanford Bio-X Postdoctoral Fellow 2005) is the Director of Research, Materials & Texture at Impossible Foods Inc., a company that was founded by Stanford biochemistry professor emeritus, Pat Brown, and has raised over \$700 M. Its goal is to revolutionize the food industry and to roll back the adverse effects that factory farming of animals has on the environment and on us.

Tristan Ursell (Stanford Bio-X Genentech Postdoctoral Fellow 2009) is an assistant professor of physics at the University of Oregon working on microbial community biophysics.



Stanford Bio-X Fellows Group Photo 2011

Stanford Bio-X PhD Fellowships 2020



Stanford Bio-X Fellows Group Photo 2013

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