

STANFORD BIO-X PHD FELLOWSHIP PROGRAM 2023



2023 Stanford Bio-X Fellows

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 1,100 Stanford Faculty and over 8,500 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 supporting over 60 Ph.D fellows, and Fall 2023 brings 21 new fellows to the program. These remarkable young researchers receive full support (stipend and tuition) from Bio-X for three years of their graduate studies, allowing them to approach exciting research questions as they create connections within the Bio-X community and across campus.

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 385 meritorious 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. Bio-X provides 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.

We are honored to welcome the 2023 Fellows to the Bio-X community, and look forward to supporting them as they pursue their passions and expand their research careers.



Stanford Bio-X Fellows Group Photo 2022

Success at Stanford and beyond...



2007 Stanford Bio-X Bowes Fellow Rebecca Taylor is the ANSYS Career Development Associate Professor of Mechanical Engineering at Carnegie Mellon University. She is a recipient of several awards, including the NSF Faculty Early Career Development Program (CAREER) Award in 2020. Professor Taylor's laboratory recently made an important advance in biomedical engineering when they demonstrated that a synthetic cell armor made of DNA can tunably modulate effective stiffness and protect cells from mechanically challenging environments such as osmotic swelling, high fluid shear and centrifugation. *Nature* has highlighted this work because this breakthrough allows protection of cells while still permitting continued cell-cell interactions.

2014 Stanford Bio-X Bowes Fellow Paola Moreno-Roman is a Strategic Partnerships Consultant at Foldscope Instruments, Inc., where she works on bringing powerful low-cost tools to communities around the world. She is also a Professor at Cayetano Heredia Peruvian University, where she teaches Biology to undergraduates. Paola has spearheaded numerous initiatives to engage underrepresented groups with opportunities in STEM, including founding Yachaq Warmi, an online platform that aims to unite Peruvian women in science and to recognize and celebrate their research accomplishments.



2015 Stanford Bio-X Honorary Fellow Aaron Mayer is the co-founder and chief scientific officer of Enable Medicine, a biopharma company that is building biological maps to guide better medicine. In 2023, they announced the launch of Generative Biological Search (GBS), marking the first integration of large language models (LLMs), biological data, and productionized research workflows in the field. By harnessing LLMs, researchers can now perform sophisticated analyses with natural language rather than code. As the platform is refined, they expect this will make the field more accessible, make the field more productive, and ultimately accelerate the pace of scientific discovery.

2016 Stanford Interdisciplinary Graduate Fellow (Anonymous Donor) and Stanford Bio-X SIGF Fellow Michael Leung is the co-founder of Spect, whose telemedicine platform trains medical assistants and renders a diagnostic report in minutes. They fill a critical healthcare gap for patients and clinics while delivering best-in-class service and financial outcomes. Spect was chosen by CB insights as one of the most promising digital health companies of 2022. The company received the 2022 UCSF Health Hub Digital Health Awards for Rising Stars.



2019 Stanford Bio-X Bowes Fellow Caitlin Maikawa is an assistant professor at the Institute of Biomedical Engineering at the University of Toronto. During her PhD, Caitlin addressed challenges in diabetes management, focusing on the development of next-generation insulin drugs that could lead to fully autonomous insulin delivery as well as enable improved access to medication in resource-poor environments. Caitlin was a 2022 Schmidt Science Fellow, chosen for her work which pivoted from biomedical engineering to materials science and fabrication and for her plans to develop technologies that will allow for improved monitoring of chronic inflammation.

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. Seven of our alumni—Ian Chen, Adam de la Zerda, Andreas Loening, Guillem Pratz, 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 23.

Stanford Bio-X Graduate Fellowships 2023

CARLOS ALDRETE

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

Chemical Engineering

Mentors: Xiaojing Gao (Chemical Engineering) and Ngan Huang (Cardiothoracic Surgery)

Small-Molecule Control of Cytokine Activity Using Human Proteases

Cellular therapeutics promise to tackle complex diseases such as cancer and promote muscle regeneration. However, current therapies lack control post-transplantation leading to poor survival and functional heterogeneity across trials. Synthetic biology offers unique tools to control the expression and secretion of immune signals, such as cytokines and growth factors, that could boost and support these therapies. Despite their promise, current tools are not clinically viable due to their foreign origin (bacterial transcription factors) and the immunogenic risk they pose. Carlos proposes a humanized platform composed of engineered cytokines and human proteases to control cytokine activity via an FDA-approved inhibitor. This platform marks a step towards the humanization of synthetic biology, improving the translational potential for the field in cellular therapeutics.



MEELAD AMOUZGAR

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

Immunology

Mentors: Sean Bendall (Pathology), Robert Tibshirani (Biomedical Data Science, Statistics), Crystal Mackall (Pediatrics - Hematology/Oncology), Jan Skotheim (Biology), and Markus Covert (Bioengineering)

Integrating Experimental and Computational Methods to Understand the Link Between T cell Fate and Cell Cycle Progression

Cell cycle progression and division are tightly linked to cell fate decisions across development of the hematopoietic system. Activated T cells enter the cell cycle and rapidly proliferate into diverse cell states with varied functional capacity that are crucial to establish protective immunity. Despite this tight link, there is a lack of experimental and computational tools that enable the study of T cell state, cell cycle dynamics, and division in tandem. The Bendall lab proposes studying the interplay of these systems by developing integrated experimental and computational single-cell tools, and combining these tools with drug screens targeting cell cycle regulators or T cell receptor signaling to advance our understanding of the patterns of T cell states during cell cycle. This work will give valuable insight into how cell cycle dynamics could be harnessed to reprogram T cell fate for optimizing therapeutic cells for cancer or cell rejuvenation.



“I am very grateful for the Bio-X program, which provided amazing support throughout the last few years of my PhD journey. The program’s emphasis on collaboration, innovation, and cross-disciplinary research created a platform that nurtured my growth as a scientist and pushed me to think beyond my field of expertise.”

— Jolien Sweere, Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF

NAHAL BAGHERI
Stanford Bio-X Bowes Fellow
Electrical Engineering

Mentors: Steven Boxer (Chemistry), Possu Huang (Bioengineering), and Thomas Markland (Chemistry)

Electric Field Contribution to the Enzyme Activity of Trypsin

To investigate how enzymes can accelerate reactions, Nahal will collaborate with her mentors to study the role of electric fields generated by the enzyme during catalysis using techniques such as infrared vibrational spectroscopy, simulations (including molecular dynamics - MD), and artificial intelligence. Firstly, they will perform mutations on the enzyme's active site to create a library of mutants. Subsequently, they will measure the electric field generated by these mutants in the active site of the enzyme. The next step involves utilizing machine learning models to predict the electric field generated in the enzyme's active site based on the sequences of enzyme mutants and vice versa. By understanding and predicting how mutations in the enzyme's structure impact electric fields during catalysis, they aim to gain valuable insights for protein design and drug discovery.



CRYSTAL CHEN
Stanford Bio-X Bowes Fellow
Chemical Engineering

Mentors: Stanley Qi (Bioengineering) and Katherine Ferrara (Radiology)

Autonomous Genetic Switches for mRNA Therapy and Autoimmune Disease

mRNA therapy is a powerful platform for treating disease. However, few technologies can control when and where mRNA therapies exert their therapeutic effects in the body. To improve this control, Crystal is working on creating a new technology that can turn mRNA therapies on or off in T cells. These "switches" will allow T cells to control their own function based on their cell or disease state. Crystal plans to combine these mRNA switches with existing methods for delivering mRNA into the body, with the aim of creating more effective treatments for autoimmune diseases. Her research will not only improve mRNA therapies but also help us better understand how T cells are regulated at the genetic level.



Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Danielle Klinger (see pg. 8 for research details)



BENJAMIN DOUGHTY

William and Lynda Steere Fellow, Stanford Bio-X SIGF Genetics

Mentors: William Greenleaf (Genetics), Jesse Engreitz (Genetics), and Polly Fordyce (Bioengineering, Genetics)

Deciphering the Mechanisms of Non-Coding Genetic Variation in Enhancers

Understanding the genetic architecture of human diseases remains an open problem in human genetics, a task made complicated by the fact that a) most diseases are caused by tens to thousands of different mutations spread across the genome and b) the majority of these variants reside outside of known protein-coding genes in regulatory sequences called enhancers. Ben proposes to combine single-molecule genomics, *in vitro* biochemistry, and high-throughput genome engineering to determine at scale how genetic variation in enhancers controls gene expression and ultimately mediates disease risk. This work will not only uncover basic principles determining how non-coding mutations can fine-tune enhancer function, it will also uncover the mechanisms behind previously identified disease-relevant polymorphisms.



MARK FLECK

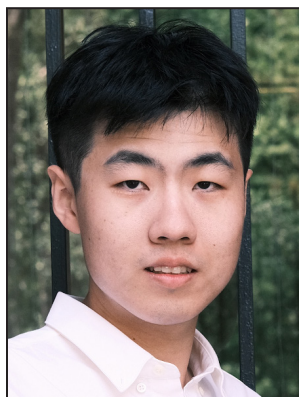
Stanford Bio-X Bowes Fellow

Chemistry

Mentors: Fan Yang (Bioengineering, Orthopaedic Surgery), Michael Lim (Neurosurgery), Ovijit Chaudhuri (Mechanical Engineering), and Charles Chan (Surgery)

A 3D Viscoelastic Model for Investigating Glioblastoma-Tumor Associated Macrophage Crosstalk

Glioblastoma multiforme (GBM) is the most common and aggressive brain cancer. Tumor-associated macrophages (TAMs) are critical components in GBM tumor and have been shown to drive GBM progression and immunosuppression, but the underlying mechanisms remain largely unknown. Mark and the Yang and Lim labs will develop a 3D viscoelastic hydrogel with brain-mimicking niche cues to study how GBM/TAM crosstalk modulates GBM invasiveness, standard of care treatment resistance, and immunosuppression. The outcomes of this work validate the physiological relevance of this 3D model as a promising new tool for future drug screening with reduced cost and time.



KEXIN HUANG

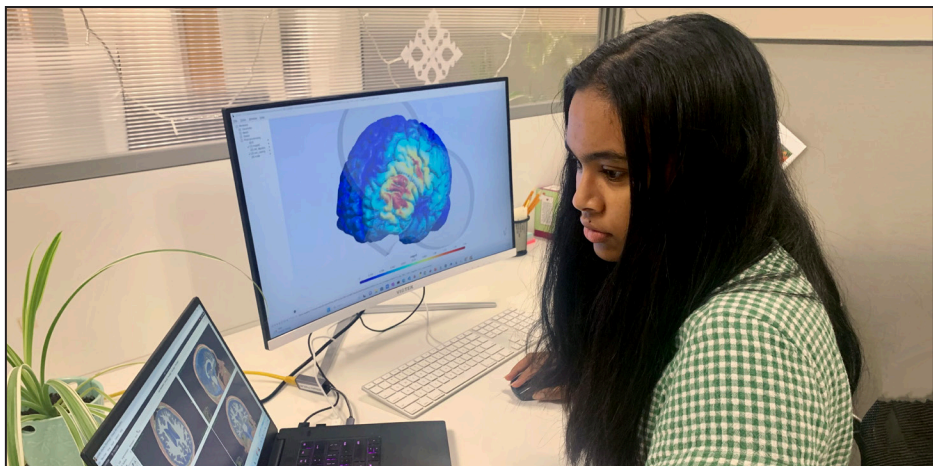
Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF

Computer Science

Mentors: Jure Leskovec (Computer Science), Anshul Kundaje (Genetics), and Jesse Engreitz (Genetics)

Scalable Generation of Disease-Critical Variant-to-Gene-to-Program Maps Using Graph Neural Networks

Understanding how disease-associated variants impact their target genes in cell-type-specific programs enables disease target discovery and effective therapies. However, building a comprehensive map of disease-critical variant-to-gene-to-program links requires testing a vast number of genes and variants across cell types using expensive experimental tools (e.g. CRISPRi-FlowFISH, Perturb-Seq) and is thus highly unscalable. Kexin proposes a novel class of graph neural networks that can predict variants, their target genes, and the cellular programs they disrupt. This framework will significantly reduce the required number of experiments and enable the generation of variant-to-gene-to-program maps for all diseases across all possible cellular contexts.



Stanford Bio-X Bowes Fellow Divya Rajasekharan (see pg. 10 for research details)

KARAN KATHURIA

Stanford Bio-X Bowes Fellow

Immunology, Medicine

Mentors: Mark Davis (Microbiology & Immunology), Prasanna Jagannathan (Medicine - Infectious Diseases, Microbiology & Immunology), and Sarah Heilshorn (Materials Science & Engineering)

Modeling Immune Responses to Malaria Infection and Vaccination in Human Spleen Organoids

Mechanistic studies of human-pathogen interactions are limited by lack of accessible disease models but are necessary for dissecting immune responses to infections. Immune organoids generated from human spleens provide the accurate tissue- and species-context to study *Plasmodium falciparum* malaria which, despite its high childhood mortality, lacks an effective vaccine. Karan will use spleen organoids to study the magnitude and antigen specificity of antibody responses to blood-stage *P. falciparum* in infection-naïve individuals. Using these data, he will immunize organoids with mRNA vaccines encoding blood-stage antigens to induce parasite growth-inhibiting antibodies. Karan's proposed work will establish a platform for *P. falciparum* infection and vaccination in human tissue that enables cellular and genetic perturbations to uncover mechanistic insights.



RENNIE KENDRICK

Tusher Family Stanford Interdisciplinary Graduate Fellow,

Stanford Bio-X SIGF

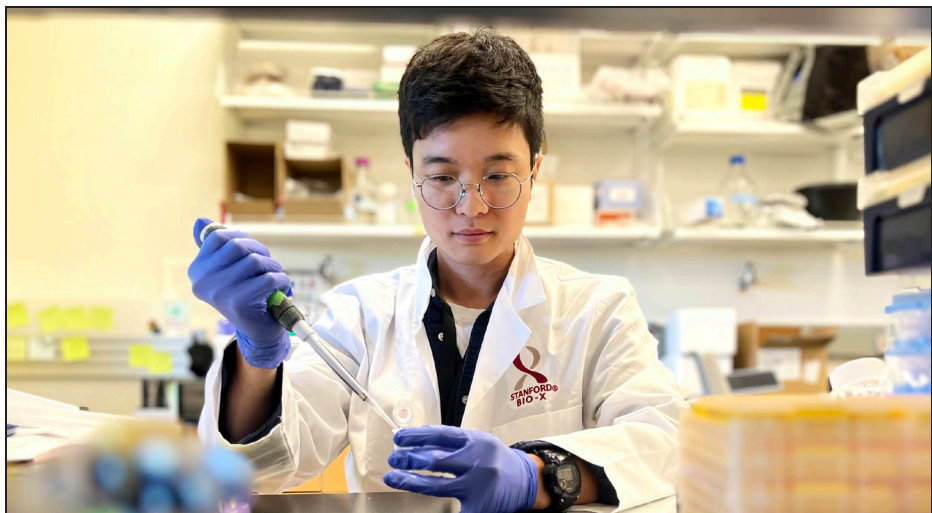
Neurosciences

Mentors: Scott Owen (Neurosurgery), Scott Linderman (Statistics), and Laura Prolo (Neurosurgery)

Elucidating Cellular and Molecular Mechanisms of OCD in the Human Brain

Obsessive-compulsive disorder (OCD) is a prevalent and debilitating psychiatric disorder that affects 1-2% of the population. Alterations in neural activity in several brain regions have been tied to OCD symptoms, but the underlying molecular and cellular mechanisms in the human brain are unresolved. This level of understanding is necessary to develop targeted pharmaceutical treatments, as well as to refine existing interventions. In collaboration with Dr. Scott Owen and Dr. Scott Linderman, Rennie proposes to combine multidimensional computational methods with cutting-edge experimental interventions in living, neurosurgically-resected human brain tissue to unravel cellular and molecular mechanisms of OCD in the human brain.





Stanford Bio-X Bowes Fellow Jun Ho Song (see pg. 11 for research details)

DANIELLE KLINGER

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

Mentors: Kristy Red-Horse (Biology), Mark Skylar-Scott (Bioengineering), Casey Gifford (Pediatrics - Cardiology), and Marlene Rabinovitch (Pediatrics - Cardiology)

Engineering Organoid Models of Early Cardiac Developmental Stages

Congenital heart defects (CHDs) are the most common congenital abnormality in the US, yet their causes remain mostly unknown due to our limited ability to study early embryonic heart development. Cardiac organoids—3D miniaturized version of the heart, derived from human pluripotent stem cells—are a model system that can advance our understanding of early cardiac developmental. Danielle's research is focused on applying fluidic and mechanical stress to cardiac organoids, that play a role in development, to engineer a more realistic cardiac organoid model. She uses a multidisciplinary approach of tissue engineering, 3D printing, and cellular biology methods to create a novel model that could be used for drug testing.



DANIEL LIU

Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF Stem Cell Biology & Regenerative Medicine, Medicine

Mentors: Irving Weissman (Pathology, Developmental Biology) and Laura Prolo (Neurosurgery)

Characterization of the Glial Progenitor Cell in Human Health and Disease

The human brain is built from a pool of neural stem cells, which ultimately give rise to the neurons and glia of the mature brain. Daniel's previous work developed a method to purify many of the distinct cell types found in the developing human brain, from the most primitive stem cells to their progressively more committed progeny. Among these are a newly-isolated cell type called the glial progenitor cell, which may contribute to the dramatic expansion of white matter characteristic of the human brain. Daniel's research now seeks to further explore the glial progenitor cell in fetal and early postnatal brain development, and their potential role in brain tumors known as gliomas.



PRADNYA NARKHEDE

Mona M. Burgess Fellow, Stanford Bio-X SIGF

Chemistry

Mentors: Or Gozani (Biology) and James Chen (Chemical & Systems Biology, Developmental Biology, Chemistry)

Cracking the eEF1A Code: Unraveling the Differential Roles and Disease Relevance of eEF1A Lysine Methylation States in Regulating Proteome-Wide Translation Dynamics

The eukaryotic translation elongation factor 1A (eEF1A) is an essential protein involved in the elongation step of protein translation. eEF1A is subject to extensive and dynamic chemical modification by a number of different enzymes, including those that methylate specific lysine residues within the protein; by modulating eEF1A's activity during translation, these methylation events could alter the output of cellular protein synthesis, thus representing a new layer of gene-expression regulation in human health and in diseases such as cancer. Pradnya proposes an approach that integrates quantitative proteomics, molecular & chemical biology, and cancer physiology to precisely characterize how different eEF1A methylation states influence protein translation and cellular phenotypes in clinically relevant systems. The results will offer key mechanistic insights into the (dys)regulation of protein synthesis in recalcitrant diseases such as aggressive lung and pancreatic cancers.



BABATUNDE OGUNLADE

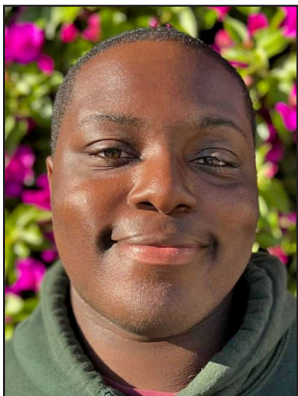
Stanford Bio-X Bowes Fellow

Materials Science & Engineering

Mentors: Jennifer Dionne (Materials Science & Engineering) and Amanda Kirane (Surgery - General Surgery)

Spatially Profiling the Melanoma Tumor Microenvironment Using Metasurface-Enhanced Raman Spectroscopy and Machine Learning

The tumor immune microenvironment (TiME) is a rich cellular ecosystem comprising of the blood vessels, immune cells, and extracellular matrix that surround a tumor, and it plays an integral role in tumor progression and response to immunotherapies. Current methods to accurately profile cell populations in the TiME are costly, time-intensive, and complex. Babatunde and Professors Kirane and Dionne propose a label-free assay which utilizes the unique vibrational scattering spectra of each cell, enhanced by silicon nanostructures, and machine learning algorithms to spatially distinguish the cellular makeup and functional state of melanoma tumors. By combining the fields of cancer biology, nanophotonics/optics, and machine learning, they aim to develop a platform from which meaningful prognostic and therapeutic insights can be derived, such as changes in immune populations in response to immunotherapies.



Stanford Bio-X Fellows Group Photo 2014



JENNIFER PARKER

Stanford Bio-X Bowes Fellow

Stem Cell Biology & Regenerative Medicine

Mentors: Michael Longaker (Surgery) and Eric Appel (Materials Science & Engineering)

Targeting Engrailed-I Positive Fibroblasts and Mechanotransduction Signaling in Foreign Body Response

With a market valued at \$168.3 billion USD by 2027, implantable devices and materials have become an essential aspect of modern medicine. However, any material implanted into the body will cause an inflammatory fibrotic reaction known as foreign body response (FBR) that can often lead to pain, aesthetic changes, and device failure. Jennifer hopes to elucidate the cellular and molecular mechanisms that cause FBR, and to use a novel drug-loaded hydrogel to decrease the reaction that leads to these complications. Combined, Jennifer aims to uncover key insights into developing translational approaches to target FBR in future clinical settings.

DIVYA RAJASEKHARAN

Stanford Bio-X Bowes Fellow

Mechanical Engineering

Mentors: Leanne Williams (Psychiatry & Behavioral Sciences), Ellen Kuhl (Mechanical Engineering), and Laura Hack (Psychiatry & Behavioral Sciences)

An Integrated Continuum Finite Element & Network Neuroscience Method for Understanding Mechanisms of Transcranial Magnetic Stimulation

Transcranial magnetic stimulation (TMS) is a promising emerging treatment for psychiatric disorders that attempts to modulate functional connections in the brain. However, the physical mechanisms by which TMS achieves neuromodulation remain poorly understood. Here, Divya suggests leveraging the finite element method to generate physics-based models of the magnetic induction and propagation of electrical signals over the brain's cortical surface during TMS. She proposes a novel method to interpret the resulting 3D electric fields as a graph network of neural activity in order to map simulated currents to observed changes in functional connectivity measured using fMRI. By investigating the causal link between TMS signal spread, functional connectivity changes, and clinical symptom improvement, this study seeks to establish a mechanistic model of TMS, to be used as a basis for improving treatment efficacy and specificity.



JULIA SCHAEPE

Colella Family Fellow, Stanford Bio-X SIGF

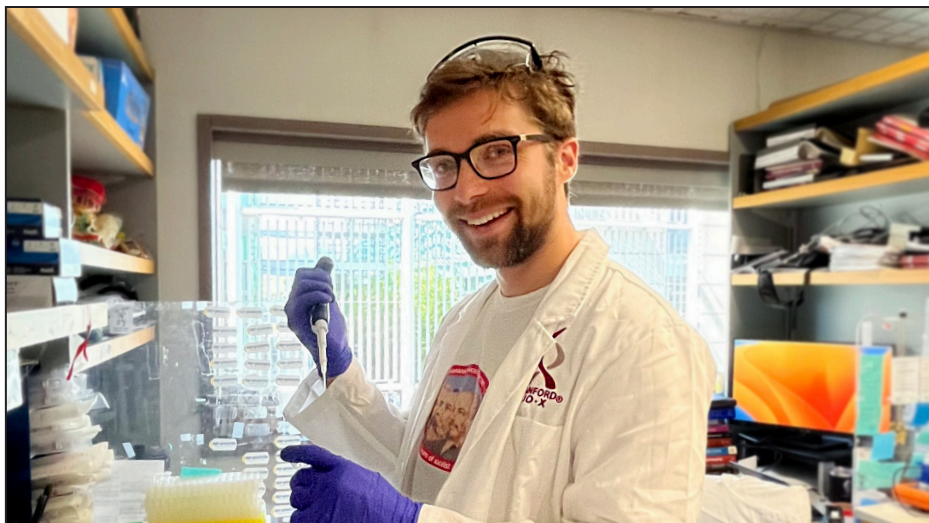
Bioengineering

Mentors: William Greenleaf (Genetics) and Lacramioara Bintu (Bioengineering)

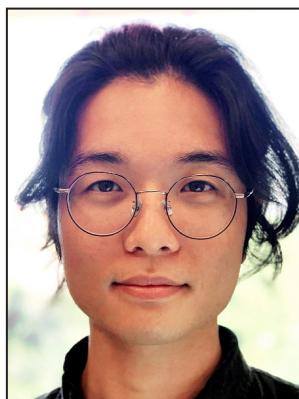
Dissecting Dynamics of Gene Activation by Human Transcription Factors with Single Molecule Footprinting

Transcription factors (TFs) are proteins that control biological processes as diverse as development, memory formation, and antiviral response by binding DNA and regulating gene expression. All of these processes require precise signaling dynamics, whether in initiating a rapid response to fight infection or ensuring proper cellular differentiation. However, current approaches to study TF function are limited in both time and molecular resolution, hindering our understanding of the mechanisms TFs utilize to enact temporal control. In collaboration with the Greenleaf and Bintu labs, Julia will develop a novel platform to quantitatively measure binding of TFs to single molecules of DNA in cells and track their behavior over time. This work will enable construction of predictive models for gene expression dynamics from regulatory DNA sequence and further our understanding of complex biological processes.





William and Lynda Steere Fellow, Stanford Bio-X SIGF Benjamin Doughty (see pg. 6 for research details)



JUN HO SONG

Stanford Bio-X Bowes Fellow

Biology

Mentors: Liqun Luo (Biology) and Scott Linderman (Statistics)

Deconstructing the Serotonin System: Projectomes, Transcriptomes, and Animal Behavior

Serotonin neurons in the brainstem widely innervate the brain and modulate diverse physiological and behavioral functions. While many previous studies assumed that serotonin neurons form a homogeneous population, it has become apparent that they harbor considerable molecular, anatomical, and functional diversity. Here, Jun Ho aims to reveal how subpopulations of serotonin neurons—defined by their axonal projection targets and molecular identity—differentially modulate brain functions using brain-wide imaging, spatial transcriptomics, and machine-learning-based behavior analysis pipelines. This study will provide a comprehensive anatomical and molecular atlas of the serotonin system, enabling a further understanding of how serotonin orchestrates brain functions.



MICHELLE TAI

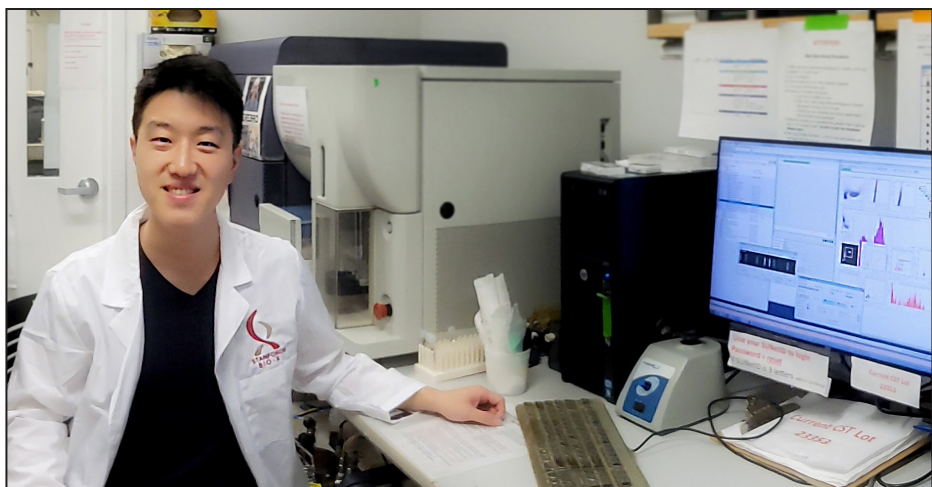
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF

Bioengineering

Mentors: Fan Yang (Bioengineering, Orthopaedic Surgery), Christina Curtis (Medicine - Oncology, Genetics, Biomedical Data Science), and Joy Wu (Medicine - Endocrinology)

Engineering a 3D Model for Mimicking Breast Cancer Metastasis at the Bone Tissue Interface

Cancer metastasis is the leading cause of mortality in cancer patients. Bone is the most common site of metastasis for breast cancer patients, and the underlying mechanisms driving preferential invasion and disruption of bone remodeling remain poorly understood. Michelle's proposed work bridges critical gaps of existing cancer metastasis models by incorporating critical bone-mimicking cues in a 3D spatially patterned *in vitro* model of breast cancer invasion at the bone interface. Such a model can reveal how tissue crosstalk drives cancer metastasis at the bone tissue interface and enable drug screening with reduced time and cost.



Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF Daniel Liu (see pg. 8 for research details)

ABBY THURM

**Stanford Bio-X Bowes Fellow
Biophysics, Medicine**

Mentors: Lacramioara Bintu (Bioengineering), Daniel Herschlag (Biochemistry), and William Greenleaf (Genetics)

High-Throughput Measurements of RNA-Mediated Regulation of Gene Expression

RNA plays an integral role in tuning gene expression and is regulated by thousands of RNA-binding proteins (RBPs). Past studies have identified RNA-binding domains within these proteins and constructed maps of their RNA binding profiles, but little has been done to systematically describe other domains within RBPs that regulate RNA fate and the mechanisms by which they do so. Abby proposes to build and use a high-throughput assay to identify functional 'effector' domains within RBPs, determine their molecular and cellular mechanisms of action, and connect mutations within them to disease phenotypes. This work will create a rich resource for understanding RBP function in human cells and provide tools for synthetic gene control at the RNA level.



AUSTIN WANG

**Stanford Bio-X Bowes Fellow
Computer Science**

Mentors: Anshul Kundaje (Genetics) and Kristy Red-Horse (Biology)

Characterizing the Species-Specific Genetic Basis of Cardiac Development with Deep Learning Models of Regulatory Function

Guinea pigs are evolutionarily adapted to a high-altitude environment, possessing unique traits that confer cardiac tissue resilience. To better understand the developmental basis of these adaptations, Austin is developing novel deep learning methods to link genetic information to regulatory function by predicting chromatin accessibility from genomic sequence with high accuracy across multiple species. Using single-cell multimodal expression and chromatin accessibility samples from mouse and guinea pig, Austin is applying these deep learning models to quantify genomic differences between mice and guinea pigs in a functionally aware manner. This project aims to identify genomic features relevant to species-specific cardiac traits, and to link these differences to the genetic basis of human cardiac function.



THEOYANG

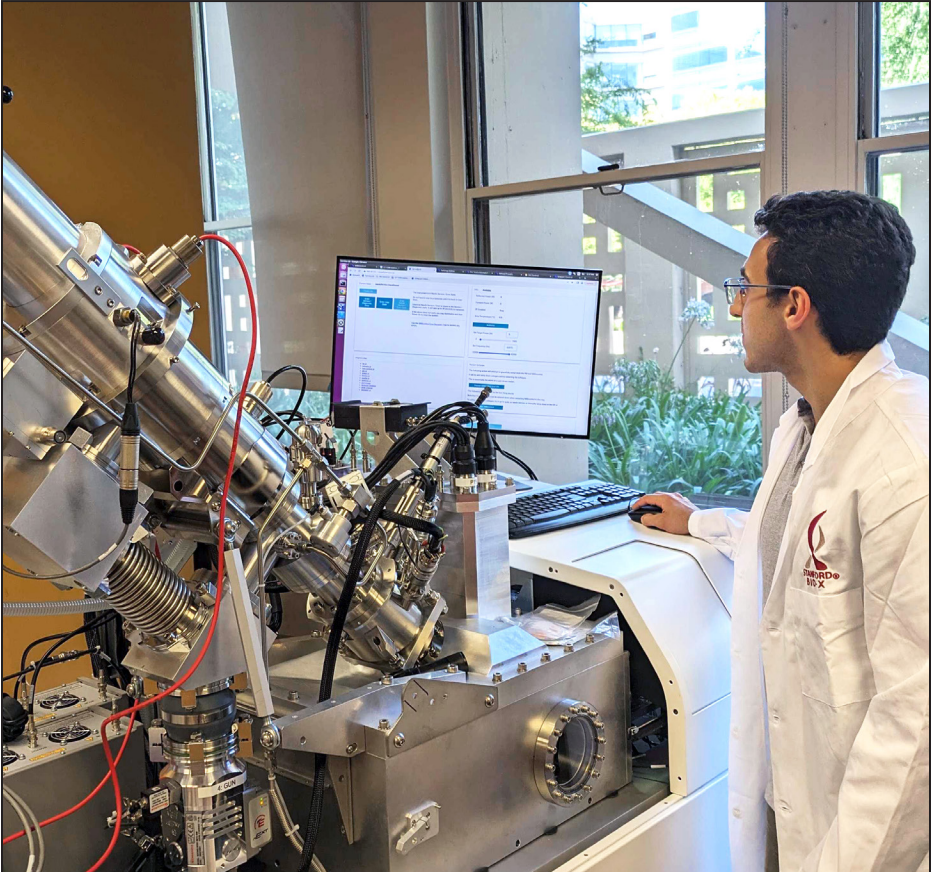
Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF

Chemical Engineering

Mentors: Daniel Jarosz (Chemical & Systems Biology, Developmental Biology) and Jian Qin (Chemical Engineering)

Dissecting the Molecular Grammar of Prion Material States

Prions are self-templating, infectious proteins associated with multiple neurodegenerative diseases. Proteins containing prion-like domains exhibit a spectrum of material states within the cell, ranging from solid fibers to liquid and gel-like droplets. Currently, little is known about how protein sequence determines the formation of and traversal between these material states. To address these questions, Theo proposes to develop an experimental and computational platform for studying the rheology of human prions. Experimentally, Theo will develop a microarray platform for performing linear rheology on prion assemblies. Additionally, he will use coarse-grain polymer simulations to investigate how sequence and folding influence the mechanical response of prion condensates as they age. This project will provide novel insights into how the material properties of prions contribute to their infectivity and resistance to degradation.



Felix and Heather Baker Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF Meelad Amouzgar (see pg. 4 for research details)

Stanford Bio-X Graduate Fellowships 2004-2022 (in alphabetical order)



CARLOS ALVARADO ACOSTA

William and Lynda Steere Fellow, Stanford Bio-X SIGF 2021

Structural Biology

Mentors: Joseph Puglisi (Structural Biology) and Zev Bryant (Bioengineering)
"Uncovering the Kinetic and Mechanochemical Regulation of Scanning"



LAURA AMAYA HERNANDEZ

Stanford Bio-X Bowes Fellow 2020

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"



MANISH AYUSHMAN

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor),

Stanford Bio-X SIGF 2021

Bioengineering

Mentors: Fan Yang (Bioengineering, Orthopaedic Surgery) and Ashby Morrison (Biology)

"Enabling Stem Cells to 'Zipline' in 3D: Enhancing Cartilage Regeneration using Sliding Hydrogels with Tunable Molecular Mobility"



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)"



PREKSHA BHAGCHANDANI

Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2022

Immunology

Mentors: Seung Kim (Developmental Biology), Everett Meyer (Medicine – Blood & Marrow Transplantation and Pediatrics – Stem Cell Transplantation), Judith Shizuru (Medicine – Blood & Marrow Transplantation and Pediatrics – Stem Cell Transplantation), and Kyle Loh (Developmental Biology)

"Pseudoislet Manufacturing and Hematopoietic Stem Cell Transplant to Advance Islet Transplantation"



CECELIA BROWN

Stanford Bio-X Bowes Fellow 2021

Biology

Mentors: Jan Skotheim (Biology), Julien Sage (Pediatrics – Hematology & Oncology and Genetics), and Polly Fordyce (Bioengineering and Genetics)

"Controlling Cell Division by Disrupting the Cyclin D-Rb Interaction"



SA CAI

Stanford Bio-X Bowes Fellow 2022

Materials Science & Engineering

Mentors: Stanley Qi (Bioengineering) and Guosong Hong (Materials Science & Engineering)

"Developing Genetic Photothermal Systems (GPS) for Non-invasive, High Precision Cell Therapy"



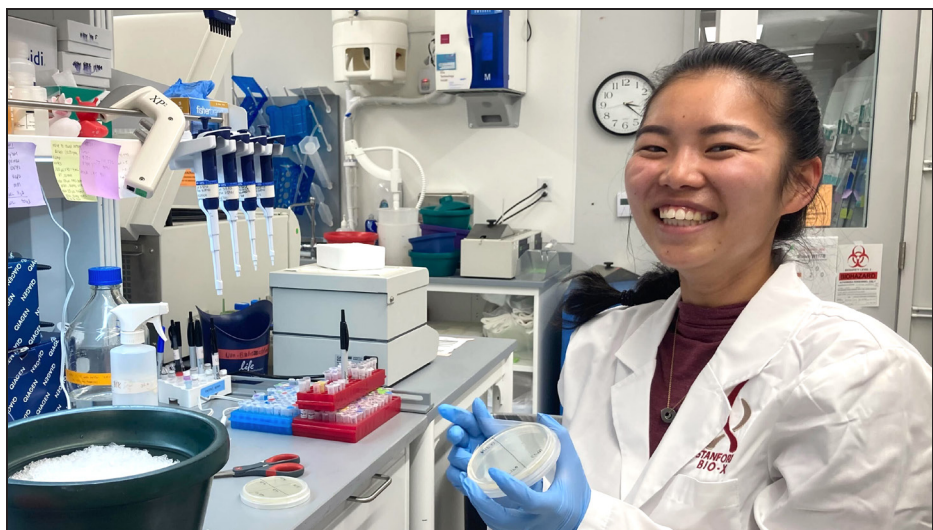
CHIEN-YI CHANG

Stanford Bio-X Bowes Fellow 2020

Electrical Engineering

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

"Cellular in vivo Neurodegeneration Prediction Using Deep Neural Networks"



Stanford Bio-X Bowes Fellow Crystal Chen (see pg. 5 for research details)



JE-RUI (RAY) CHANG

**Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2021
Bioengineering**

Mentors: Manu Prakash (Bioengineering) and Sanjiva Lele (Aeronautics & Astronautics and Mechanical Engineering)

“Extreme Biophysics: How Ultrafast Contractility Shapes Organelle Geometry (Topology) and Mechanics in Giant Cells”



XINYI CHEN

**Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2022
Bioengineering**

Mentors: Stanley Qi (Bioengineering) and Wendy Fantl (Urology)

“Programmable Biomolecule Delivery Through Cell-Cell Communication”



MADLINE COOPER

**Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF 2020
Biophysics, Medicine**

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

“Myelin Loss and Regeneration by Oligodendrocyte Transformation”

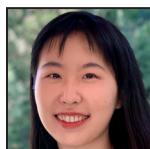


MICHELLE DREWS

**Stanford Bio-X Fellow 2021
Neurosciences, Medicine**

Mentors: Carla Shatz (Biology and Neurobiology), Anca Pasca (Pediatrics – Neonatal and Developmental Medicine), and Catherine Blish (Medicine – Infectious Diseases)

“Interferon Exposure, Major Histocompatibility Class I, and Human Brain Development”



HAOTIAN DU

**Stanford Interdisciplinary Graduate Fellow (Anonymous Donor),
Stanford Bio-X SIGF 2021
Chemistry**

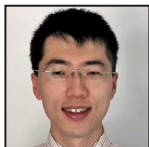
Mentors: Possu Huang (Bioengineering), Edgar Engleman (Pathology and Medicine – Immunology & Rheumatology), and Danny Chou (Pediatrics – Endocrinology & Diabetes)

“Molecular Engineering of T Cell Receptor Functional Mimetics for Intracellular Oncogenic Marker Targeting”



YI SHIOU DUH
Stanford Bio-X Bowes Fellow 2021
Physics

Mentors: Mark Brongersma (Materials Science & Engineering), Bianxiao Cui (Chemistry), and Guosong Hong (Materials Science & Engineering)
“Scalable Electrophysiology Tool Based on Optics”



YUKUN (ALEX) HAO
Stanford Bio-X Bowes Fellow 2020
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”



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”



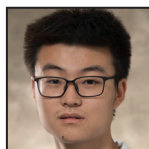
JACOB HORNE
Stanford Bio-X Bowes Fellow 2022
Chemical Engineering

Mentors: Jian Qin (Chemical Engineering) and Daniel Jarosz (Chemical & Systems Biology and Developmental Biology)
“Unraveling the Molecular Drivers Behind LLPS and Coarsening of Biocondensates”



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”



YUAN JIA
Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2021
Chemistry

Mentors: Robert Waymouth (Chemistry) and Ronald Levy (Medicine – Oncology)
“New Synthetic Transporters for Delivery and Release of mRNA”



YOUNGJU JO
Stanford Bio-X Bowes Fellow 2020
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”



MINJI KANG
Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2022
Computer Science

Mentors: Aaron Newman (Biomedical Data Science) and Michael Clarke (Medicine – Oncology)
“Decoding Single Cell Developmental States in Health and Disease”



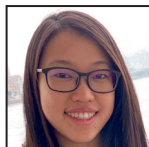
BENJAMIN KNAPP
Colella Family Fellow, Stanford Bio-X SIGF 2020
Biophysics

Mentors: KC Huang (Bioengineering and Microbiology & Immunology) and Elizabeth Sattely (Chemical Engineering)
“Regulation of Bacterial Growth in Fluctuating Temperatures”



RACHAEL KRETSCH
Stanford Bio-X Bowes Fellow 2021
Biophysics

Mentors: Rhiju Das (Biochemistry) and Wah Chiu (Bioengineering, Microbiology & Immunology, Photon Science Directorate)
“Cryo-EM to Visualize Viral RNA”



VERONICA LI
Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2021
Chemistry

Mentors: Jonathan Long (Pathology) and Justin Du Bois (Chemistry)
“Chemical Interrogation of an Exercise-Induced Metabolite Signaling Pathway”



ERICA LIU
Stanford Bio-X Bowes Fellow 2022
Chemistry

Mentors: Bianxiao Cui (Chemistry) and Jun Ding (Neurosurgery and Neurology & Neurological Sciences)
“Optical Electrophysiology Using Electrochromic Materials”



ZHIRU LIU
Stanford Bio-X Bowes Fellow 2022
Applied Physics

Mentors: Benjamin Good (Applied Physics) and Ami Bhatt (Medicine – Hematology and Genetics)
“High-Resolution Dynamics of Bacterial Recombination Through Timescale Separation”



KANG YONG LOH
Stanford Bio-X Bowes Fellow 2021
Chemistry

Mentors: Karl Deisseroth (Bioengineering, Psychiatry & Behavioral Sciences), Carolyn Bertozzi (Chemistry), and Zhenan Bao (Chemical Engineering)
“Genetically Targeted Chemical Assembly and Disassembly of Functional Molecules in Intact Living Systems”



Stanford Bio-X Bowes Fellow Babatunde Ogunlade (see pg. 9 for research details)



Colella Family Fellow, Stanford Bio-X SIGF Julia Schaepe (see pg. 10 for research details)



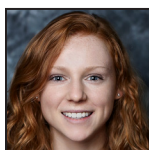
CHRISTOPHER LONG

Stanford Bio-X Fellow 2021

Materials Science & Engineering

Mentors: Sarah Heilshorn (Materials Science & Engineering) and Tony Wyss-Coray (Neurology & Neurological Sciences)

"A Novel Nonlinear Microscopy Platform for Cell-Specific Mapping of Lipid Accumulation in Alzheimer's Disease"



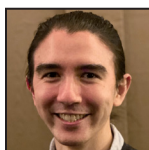
DELANEY MILLER

Stanford Bio-X Bowes Fellow 2021

Mechanical Engineering

Mentors: Steve Collins (Mechanical Engineering), Nicholas Giori (Orthopaedic Surgery), and Scott Delp (Bioengineering and Mechanical Engineering)

"Reducing Muscle Contributions to Knee Joint Loading in Individuals with OA Using a Powered Knee Exoskeleton"



STEVEN MILLER

Stanford Bio-X Bowes Fellow 2022

Chemistry

Mentors: Justin Du Bois (Chemistry), Merritt Maduke (Molecular & Cellular Physiology), Ron Dror (Computer Science), and John Huguenard (Neurology & Neurological Sciences)

"Design and Implementation of Small Molecule Tools to Study Chloride Channels and Epilepsy in the Central Nervous System"



AMR MOHAMED

Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2021

Computer Science

Mentors: Anshul Kundaje (Genetics and Computer Science) and Polly Fordyce (Bioengineering and Genetics)

"Extracting Thermodynamic DNA Sequence Affinities from in vivo Profiles of Transcription Factor Binding Using Deep Learning"

**ADI MUKUND****Tusher Family Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2021****Biophysics, Medicine**

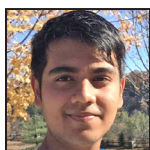
Mentors: Lacramioara Bintu (Bioengineering), Michael Bassik (Genetics), and Anshul Kundaje (Genetics and Computer Science)

"High-Throughput Characterization and Computational Modeling of Interactions Between Effector Domains in Chromatin-Mediated Gene Regulation"**GABRIELLA MUWANGA****Stanford Bio-X Fellow 2021****Neurosciences**

Mentors: Vivianne Tawfik (Anesthesiology) and Raag Airan (Radiology)

"Targeted Delivery of Dexmedetomidine for Pain Relief in a Mouse Model of Complex Regional Pain Syndrome"**DANIA NANES SARFATI****Stanford Bio-X Bowes Fellow 2020****Biology**

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

"Regeneration with Symbiosis: Handling Stress with a Partner"**AKSHATKUMAR NIGAM****Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2022****Computer Science**

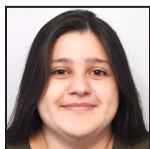
Mentors: Michael Bassik (Genetics) and Anshul Kundaje (Genetics and Computer Science)

"Development of Deep-Learning Guided Mutational Scans to Allow Fast Mapping of Sequence to Function"**ANUSRI PAMPARI****Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2022****Computer Science**

Mentors: Anshul Kundaje (Genetics and Computer Science) and Maya M. Kasowski (Medicine and Pathology)

"Base-Resolution Deep Learning Models of Bulk and Single Cell Multi-Omic Data to Decipher the Regulatory Basis of Thyroid Cancer"**KALANI RATNASIRI****City Hill Foundation Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2022****Immunology**

Mentors: Catherine Blish (Medicine – Infectious Diseases) and Purvesh Khatri (Medicine and Biomedical Data Science)

"Elucidating Conserved and Targetable Severity-Associated Monocyte Responses in Acute RNA Viral Disease"**LUCERO ROGEL-HERNANDEZ****Stanford Bio-X Bowes Fellow 2020****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*"***NICHOLAS ROMMELFANGER****Stanford Bio-X Fellow 2021****Applied Physics**

Mentors: Guosong Hong (Materials Science & Engineering) and Paul Nuyujukian (Bioengineering and Neurosurgery)

"Breaking the Spatial Limitation of Electrical Microstimulation by Electromagnetic Field Focusing"



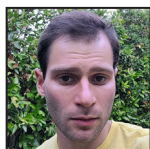
FREDRIK SAMDAL SOLBERG

Pierce Family Goldman Sachs Fellow, Stanford Bio-X SIGF 2022

Mechanical Engineering

Mentors: Mark Skylar-Scott (Bioengineering), Allison Okamura (Mechanical Engineering), and Michael Ma (Cardiothoracic Surgery)

"In Situ In Vivo 3D Bioprinting"



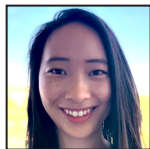
JOSHUA SAMPSON

Stanford Bio-X Bowes Fellow 2021

Bioengineering

Mentors: Mark Skylar-Scott (Bioengineering), Steven Boxer (Chemistry), and Michael Ma (Cardiothoracic Surgery)

"Optical Coagulation for 3D Bioprinting in vitro and Directed Hemostasis in vivo"



SOPHIA SHI

Stanford Bio-X Bowes Fellow 2021

Chemistry

Mentors: Tony Wyss-Coray (Neurology & Neurological Sciences) and Carolyn Bertozzi (Chemistry)

"Decoding the Blood-Brain Barrier Glycocalyx in Aging and Neurodegenerative Disease"



JON STINGEL

Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2020

Mechanical Engineering

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

"Elucidating Energy Expenditure During Human Movement"



AJAY SUBRAMANIAN

Rosenberg Ach Family Fellow, Stanford Bio-X SIGF 2019

Materials Science & Engineering

Mentors: Corey Keller (Psychiatry) and Guosong Hong (Materials Science & Engineering)

"Determining Biomarkers for Depression Through Correlating Invasive and Noninvasive Electrophysiological Signals"



Stanford Bio-X Bowes Fellow Nahal Bagheri (see pg. 5 for research details)

**JIawei SUN****Rosenberg Ach Family Fellow, Stanford Bio-X SIGF 2022****Bioengineering**Mentors: Kerwyn Casey Huang (Bioengineering and Microbiology & Immunology), Denise Monack (Microbiology & Immunology), and Naima Sharaf (Biology)
“Exploiting the Physical Properties of the Bacterial Cell Envelope to Combat Antibiotic Resistance”**PETER SUZUKI****Stanford Bio-X Bowes Fellow 2021****Bioengineering**

Mentors: Polly Fordyce (Bioengineering and Genetics) and Lacramioara Bintu (Bioengineering)

“Understanding Sequence-Function Relationships in Human Transcription Factors by Probing Cofactor Binding in vitro and Gene Regulation in vivo”**RAELINE VALBUENA****Stanford Bio-X Bowes Fellow 2022****Genetics**

Mentors: Michael Bassik (Genetics), Lacramioara Bintu (Bioengineering), and Anshul Kundaje (Genetics and Computer Science)

“Using Deep Mutational Scanning and Deep Learning Models to Understand, Predict, and Design Transcriptional Repressors”**RAMANDEEP VILKHUR****Stanford Bio-X Bowes Fellow 2021****Electrical Engineering**

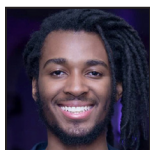
Mentors: Subhashish Mitra (Electrical Engineering and Computer Science) and E.J. Chichilnisky (Neurosurgery and Ophthalmology)

“Optimization and Biophysical Modeling of Electrical Stimulation Strategies for Brain-Computer Interfaces to Enhance Stimulation at Cellular-Resolution”**CASSANDRA VILLICANA****Stanford Bio-X Bowes Fellow 2022****Bioengineering**

Mentors: Fan Yang (Orthopaedic Surgery and Bioengineering), Stuart Goodman (Orthopaedic Surgery), and Charles Kwok Fai Chan (Surgery – Plastic & Reconstructive Surgery)

“Tissue Extracellular Matrix-Derived Microribbon Scaffolds to Enhance Bone Regeneration Through Immunomodulation”**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”**JAVIER WEDDINGTON****Stanford Bio-X Bowes Fellow 2022****Neurosciences**

Mentors: Stephen Baccus (Neurobiology) and Nick Haber (Education and Computer Science)

“Rapid Perceptual Learning in Rewarded Tasks – The Efficient Learning Hypothesis”**JONATHAN WEISS****Stanford Bio-X Fellow 2021****Bioengineering**

Mentors: Mark Skylar-Scott (Bioengineering) and Joseph Woo (Cardiothoracic Surgery)

“Organ-Scale Biofabrication: 3D Bioprinting of Engineered Pluripotent Stem Cells to Form a Mature Human Ventricle”



JOHN WEN

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

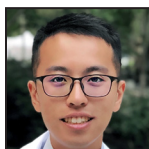
Mentors: Thomas Clandinin (Neurobiology) and Lisa Giocomo (Neurobiology)
“Bridging the Computational Gap between Vision and Navigation”



ERIC WU

**Stanford Interdisciplinary Graduate Fellow (Anonymous Donor),
Stanford Bio-X SIGF 2022
Electrical Engineering**

Mentors: James Zou (Biomedical Data Science) and Daniel Ho (Law and Political Science)
“How Should We Evaluate and Regulate Medical AI Algorithms?”



TING-HSUAN (TIMOTHY) WU

**Stanford Interdisciplinary Graduate Fellow (Anonymous Donor),
Stanford Bio-X SIGF 2022
Biochemistry, Medicine**

Mentors: Mark Krasnow (Biochemistry), Peter S. Kim (Biochemistry), and Catherine Blish (Medicine – Infectious Diseases)
“Dissecting Human Respiratory Disease Initiation and Therapeutic Efficacy at Single Cell Resolution”



YAN WU

**Stanford Bio-X Bowes Fellow 2022
Bioengineering**

Mentors: Michael Lin (Neurobiology and Bioengineering), Nathanael Gray (Chemical & Systems Biology), and Michelle Monje (Neurology & Neurological Sciences)
“Non-Invasive Bioluminescent Imaging for In Vivo Visualization of the Efficacy of Kinase-Targeting Drugs”



PUMIAO YAN

**Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF 2020
Electrical Engineering**

Mentors: Boris Murmann (Electrical Engineering) and Tsachy Weissman (Electrical Engineering)
“Efficient Hardware Implementations for Compressive Acquisition of Neural Action Potential”



JONATHAN YANG

**Stanford Interdisciplinary Graduate Fellow (Anonymous Donor),
Stanford Bio-X SIGF 2022
Chemistry**

Mentors: Carolyn Bertozzi (Chemistry) and Alice Ting (Genetics and Biology)
“Cell Delivered Targeting Chimeras for Precision Oncology”



MAXIM ZASLAVSKY

**Stanford Bio-X Bowes Fellow 2022
Computer Science**

Mentors: Anshul Kundaje (Genetics and Computer Science), Scott Boyd (Pathology), Robert Tibshirani (Biomedical Data Science and Statistics), and Benjamin Pinsky (Pathology and Medicine – Infectious Diseases)
“Universal Disease Diagnostics with Immune Repertoire Sequencing and Machine Learning”

“With the Bio-X fellowship, I was able to pursue a lot of collaborations with very different labs and different departments that have really set me up and were...instrumental in helping me get ready for my current role as a co-founder at Big Hat.”

**— Peyton Greenside, Morgridge Family SIGF Fellow,
Stanford Bio-X SIGF**

Where are they now?

305 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) is a Clinical Fellow in Hematology & Oncology at Dana-Farber Cancer Institute.

Namiko Abe (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2006) is the Associate Director of Medical Communications at Exelixis.

Shelley Ackerman (Stanford Bio-X Bowes Fellow 2014) is a director and program team lead at Bolt Biotherapeutics, 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) is Chief of Staff, VP Corporate Strategy, at Clarify Health.

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.

Atish Agarwala (Stanford Bio-X Bowes Fellow 2015) is a research scientist at Google, where he is studying the connections between physics, evolution, and machine learning.

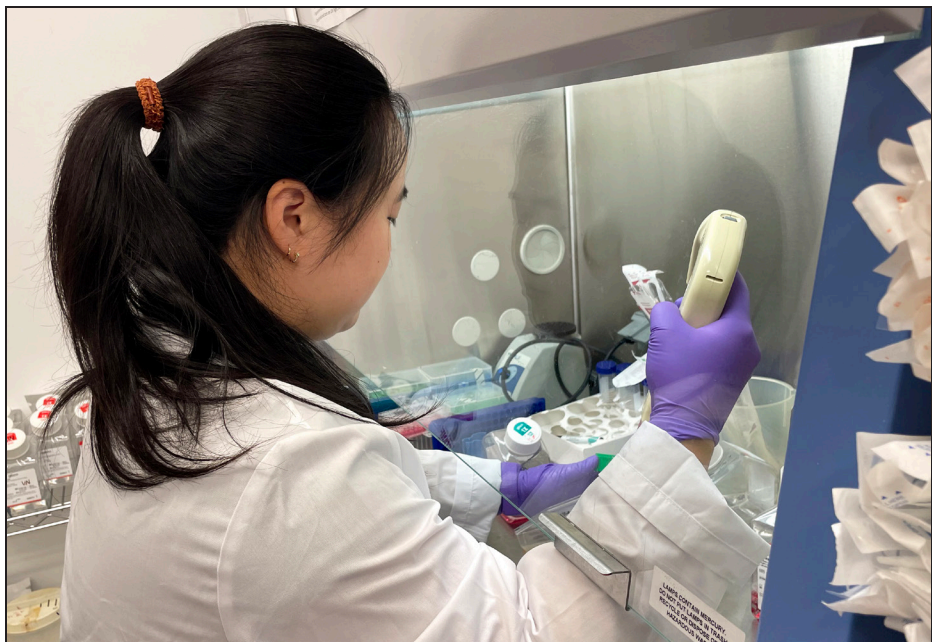
Rachel Agoglia (Stanford Bio-X Honorary Fellow 2016) is a Field Application Scientist at Mission Bio.

Ron Alfa (Stanford Bio-X Bowes Fellow 2011) is the CEO and co-founder of Noetik, an AI-native biotechnology company. Their mission is to leverage advanced machine learning methods to discover and develop cancer immunotherapies.

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



Stanford Bio-X Bowes Fellow Abby Thurm (see pg. 12 for research details)



Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Michelle Tai (see pg. 11 for research details)

Suhaas Anbazhakan (Stanford Bio-X Bowes Fellow 2018) is a data scientist at Physcade, a med-tech startup.

Andrés Aranda-Díaz (Stanford Bio-X Bowes Fellow 2016) is a Researcher with the EPPCenter at UCSF. He's empowering Sub-Saharan African scientists and public health personnel to conduct malaria genomic epidemiology in the continent.

Edith Arnold (Stanford Bio-X Bowes Fellow 2006) is working at Apple Inc. as a Senior Engineering Manager leading a biomechanics research team for product design.

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.

Oguzhan Atay (Colella Family Fellow, Stanford Bio-X SIGF 2014) is the co-founder and CEO of BillionToOne, a next-generation molecular diagnostics company. BillionToOne's proprietary Quantitative Counting Templates (QCT) platform unlocks transformative improvements in prenatal screening and liquid biopsy for cancers.

Lawrence Bai (Stanford Bio-X Bowes Fellow 2019) is a Life Sciences Consultant at L.E.K. Consulting, where he has worked on strategy and due diligence projects across the life sciences industry, including biopharma, pharma services, diagnostics, and medical devices.

Aakash Basu (Stanford Bio-X Bowes Fellow 2009) is an assistant professor in the Department of Biosciences at Durham University.

Eva Gabriela Baylon (Stanford Bio-X Skippy Frank Fellow 2014) is a Staff Systems Engineer with Abbott.

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

Salil Bhat (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016) is a postdoctoral researcher at the Broad Institute of Harvard and MIT, working on scaling up the machine learning and conceptual tools for analyzing tissues that he developed in his thesis.

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 Zurich.

Jennifer Brady (Stanford Bio-X Skippy Frank Fellow 2010) is a senior scientist at 23andMe, working as a project team lead for a therapeutic program and serving as principal investigator for genetics-driven recruitment studies.

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

Matthew Bull (Stanford Bio-X Honorary Fellow 2015) has been selected for a fellowship at the Allen Institute's neurosciences program.

Pamela Cai (Stanford Bio-X Honorary Fellow 2019) is a postdoc in the University of Chicago Pritzker School of Molecular Engineering working in the lab of Matthew Tirrell.

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 a Principal Scientist heading up the Receptor Discovery Group at Genentech in South San Francisco.

Mindy Chang (Stanford Bio-X Bowes Fellow 2005) is a researcher contracting at Meta.

Binbin Chen (Stanford Bio-X Bowes Fellow 2018) is co-founder and CEO of Vcreate, Inc. focusing on computationally linking T-cell receptors and antigen targets for immunotherapies.

Elizabeth Chen (Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2013) is a research investigator at MD Anderson Cancer Center in Houston, doing computational biology work, analyzing different drug responses of patient derived xenograft models, and also create data visualizations so biologists can analyze their own data (sequencing, protein, and clinical data).

Ian Chen (Stanford Bio-X Bowes Fellow 2006) is an assistant professor of medicine and radiology at Stanford University.

Jin Chen (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2012) is a Principal Investigator at Altos Labs.

Shi-An Chen (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2018) is a scientist at Altos Labs, a start-up working on cellular rejuvenation.

Junhong Choi (Stanford Bio-X Bowes Fellow 2015) received the K99/R00 grant from NHGRI, NIH. In 2024, he will be moving to Memorial Sloan-Kettering Cancer Center to be an assistant member of the Sloan-Kettering Institute.

Fang-Chieh Chou (Stanford Bio-X Fellow 2012) is a software engineer at DoorDash.



Stanford Bio-X Fellows Group Photo 2018

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.

Zonghe Chua (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2020) is an assistant professor at Case Western Reserve University in the Department of Electrical, Computer & Systems Engineering.

Kelsey Clark (Stanford Bio-X Bowes Fellow 2007) is an instructor at Montana State University.

Roshni Cooper (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2012) is a staff software engineer/technical lead manager 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.

Robert Coukos (Stanford Bio-X Skippy Frank Fellow 2019) is a postdoctoral fellow in the lab of Professor Dimitri Krainc, MD, PhD, Chair of the Department of the Neurology in the Feinberg School of Medicine at Northwestern University.

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

Kiara Cui (Stanford Bio-X Bowes Fellow 2018) is a research scientist in Formulation and Process Development at Gilead Sciences, a biopharmaceutical company focusing on the development of therapeutics for HIV, viral hepatitis, emerging viruses, oncology, and inflammatory diseases.

Rebecca Culver (Stanford Bio-X Honorary Fellow 2019) is a scientist at Hexagon Bio.

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) recently sold Skip, a company he co-founded that designs a network of lightweight electric vehicles. He is currently working on a new project.

Olivia de Goede (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019) is a data scientist at AbCellera.

Adam de la Zerda (Stanford Bio-X Skippy Frank Fellow 2008) is an associate professor of structural biology at Stanford University and the Founder of Visby Medical.

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

Ana Sofia de Olazarra (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2021) is a Bioinformatics Scientist at Tempus Labs, a company focused on bringing the power of data and artificial intelligence to healthcare.

Christopher Dembia (Stanford Bio-X Bowes Fellow 2016) is a Vehicle Dynamics Simulation Engineer at Zoox.

Sarah Denny (Stanford Bio-X Honorary Fellow 2013) is a director 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 (NPTL) 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.

Rebecca DiMarco (Stanford Bio-X Bowes Fellow 2009) is working on earning a master's degree in counseling.

Sheng Ding (Stanford Bio-X Bowes Fellow 2007) works at Gilead, one of the world's leaders in the biopharma industry, as a Director of Protein Therapeutics.



Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Carlos Aldrete (see pg. 4 for research details)

Sarah Divel (Stanford Bio-X Bowes Fellow 2016) is a Senior Innovation Engineer at RapidAI.

Melody Dong (Stanford Bio-X Honorary Fellow 2017) is a Clinical Scientist at Abbott.

Graham Dow (Stanford Bio-X Bowes Fellow 2009) is a group leader at NIAB (National Institute of Agricultural Botany) in Cambridge, UK.

Karen Dubbin (Stanford Bio-X Bowes Fellow 2013) is a Principal Engineer at Stryker.

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

Stephan Eismann (Stanford Bio-X Bowes Fellow 2019) is leading the machine learning team at Atomic AI, Inc. located in South San Francisco.

Anna Elleman (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2018) is a postdoctoral fellow in the molecular and cell biology department at the University of California, Berkeley.

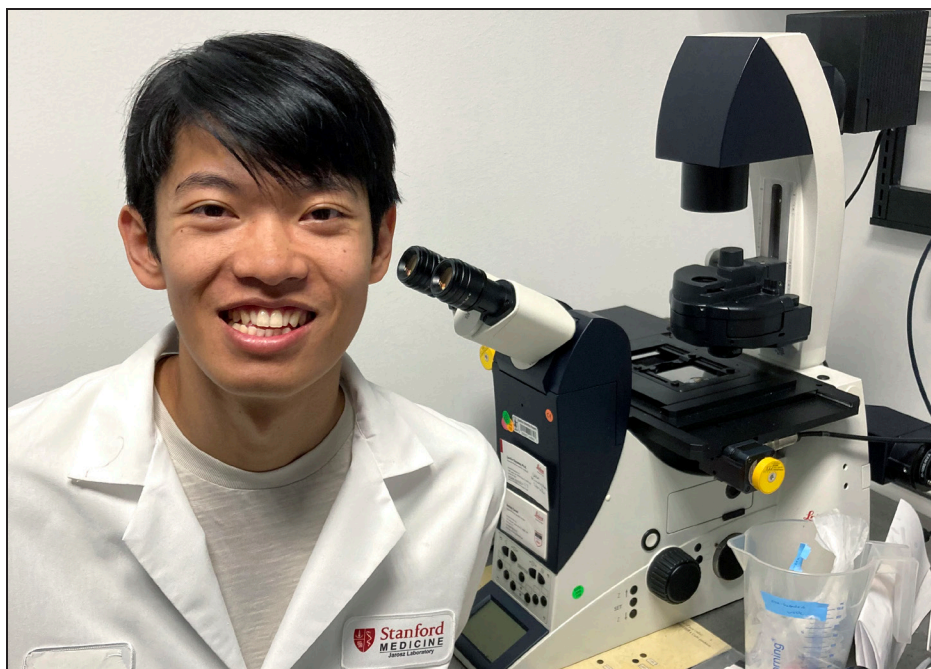
Christopher Emig (Stanford Bio-X Bowes Fellow 2011) is the co-founder and CEO of Augmenta Bioworks, Inc. and a scientific advisor to Chimera Bio and CytoKind, Inc.

Nir Even-Chen (Stanford Bio-X Bowes Fellow 2015) is a neuroengineer at Neuralink.

Yuhang Fan (Enlight Foundation Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2020) is a postdoctoral scholar at University of Chicago.

Corey Fernandez (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2019) is an assistant professor of psychology at Nevada State University.

Jonas Fowler (Stanford Bio-X Honorary Fellow 2019) is an Associate Director of Research at Walking Fish Therapeutics, a start-up developing engineered B Cell therapies to treat various serious diseases.



Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF Theo Yang (see pg. 13 for research details)

Gabriela Fragiadakis (Stanford Bio-X Bowes Fellow 2013) is an assistant professor 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 biophysics. His lab develops new approaches to explore protein folding globally, sensitively, and *in vivo* using mass spectrometry proteomics.

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.

Courtney Gegg (Stanford Bio-X Bowes Fellow 2016) is an engagement manager at Headland Strategy Group.

Tony Ginart (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019) is the co-founder of Dialect, an AI software company backed by YCombinator.

David R. Glass (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2018) is a postdoc in the Fred Hutchinson Cancer Center.

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.

Caleb Glassman (Stanford Bio-X Honorary Fellow 2017) is a postdoc in Steve Elledge's lab at Harvard Medical School.

Emma del Carmen Gonzalez Gonzalez (Stanford Bio-X Bowes Fellow 2018) is a Senior Research Specialist at Dow.

Peyton Greenside (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2015) is the co-founder and CSO of 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 the director of the Molecular & Cellular Neuroscience Center of the Tianqiao and Chrissy Chen Institute for Neuroscience.

Alex Grant (Stanford Bio-X Bowes Fellow 2010) is the Senior Director of Engineering at the startup Ceribell, Inc.

Adam Grossman (Stanford Bio-X Bowes Fellow 2004) is a co-founder and VP of Emerging Risk at Praedict, 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.

Gunsagar Gulati (Stanford Bio-X Bowes Fellow 2018) is a clinical fellow in hematology/oncology at Dana-Farber Cancer Institute.

Lisa Gunaydin (Stanford Bio-X Bowes Fellow 2008) is an adjunct professor in the counseling department at Palo Alto University.

Amalia Hadjitheodorou (Stanford Bio-X Bowes Fellow 2014) is a consultant with the Boston Consulting Group.

Mary Hall (Stanford Bio-X Bowes Fellow 2018) is a postdoctoral scholar in the JOINT group at Stanford.

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 biomarker scientist at IGM Biosciences.

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

Jennifer Hicks (Stanford Bio-X Bowes Fellow 2007) is Executive Director of the Wu Tsai Human Performance Alliance at Stanford, with a focus on collaborative research projects and programs to advance our understanding of the biological principles underlying human performance. Dr. Hicks also serves as the Director of Research for the Mobilize Center, an NIH Biomedical Technology Resource Center at Stanford University and the Restore Center, an NIH-funded center that brings state-of-the-art engineering tools to rehabilitation scientists.

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. His lab focuses on the genetics of rare gynecologic malignancies.

Nina Horowitz (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2019) is the Head of Research - NK Therapeutics at ImmuneBridge, a start-up with the unique capacity to expand stem cells from cord blood for inexpensive manufacturing of cancer immunotherapies.

Timothy Horton (City Hill Foundation Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2017) is a postdoctoral fellow in the radiation oncology department at the University of Miami Miller School of Medicine.

Zahid Hossain (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2014) is a perception systems architect at Meta.

Brian Hsueh (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2015) is a resident physician in neurosurgery at the Massachusetts General Hospital.

Eva Huang (Stanford Bio-X Bowes Fellow 2014) is a Principal Scientist at Bristol Myers Squibb.

Jacob Hughey (Stanford Bio-X Bowes Fellow 2007) is an adjunct assistant professor of biomedical informatics and biological sciences at Vanderbilt University. He works as a Core Team Member of the Agency Fund, a new philanthropic initiative whose mission is to invest in ideas and organizations that expand human agency.

Sarah Hull (Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2019) is a research scientist at Gilead Sciences.

Haisam Islam (Stanford Bio-X Bowes Fellow 2010) is a software development engineer at Amazon.

Johnny Israeli (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016) is a senior manager 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 the Head of Data Products and Services at Biogen.

Mihalis Kariolis (Stanford Bio-X Bowes Fellow 2008) is the Director of Antibody Discovery and Protein Engineering at Denali Therapeutics.

Kristjan Eerik Kaseniit (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2021) has started a therapeutics company after graduating in Fall 2022, around a part of his Bio-X research project creating mRNAs whose expression can be targeted to specific cell types and states. mRNA therapeutics could be created with this technology to go after cells that are in a diseased state.

Jasmine Kaslow (Stanford Bio-X Honorary Fellow 2015) is a product analyst at Google.

Catie Meis Kasse (William and Lynda Steere Fellow, Stanford Bio-X SIGF 2020) is a senior scientist at Donaldson Company, Inc.

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.



Stanford Bio-X Fellows Group Photo 2011

Hannah Kempton (Stanford Bio-X Honorary Fellow 2017) is a scientist at Aera Therapeutics.

Margarita Khariton (Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF 2017) is developing platforms for next-generation enzymatic DNA synthesis as a Systems Integration scientist at Ansa Biotechnologies

Carolyn Kim (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2017) is a research scientist at Genesis Therapeutics.

Daniel Kim (Stanford Bio-X Bowes Fellow 2015) is a Hematology/Oncology fellow at Memorial Sloan Kettering Cancer Center.

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 senior research scientist at Gilead Sciences.

Yoon Seok Kim (Stanford Bio-X Bowes Fellow 2016) is a postdoctoral research fellow in the Neurology & Neurological Sciences department at Stanford.

Daniel Kimmel (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2006) is an Assistant Professor of Clinical Psychiatry at Columbia University, where he studies the neural basis of abstraction and generalization in humans using a combination of human behavior, functional brain imaging, and computational modeling.

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

Fikunwa Kolawole (Felix and Heather Baker Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2021) is a medical student at Stanford University. As an aspiring physician-scientist, he aims to focus on improving management of cardiovascular diseases by combining engineering and medicine.

Elgin Korkmazhan (Stanford Bio-X Bowes Fellow 2018) is a postdoctoral scholar at the Ruggero lab at UCSF, working on translational control and cancer research.

Benjamin Kotopka (Stanford Bio-X Bowes Fellow 2015) is the Head of Data Science at Antheia, a startup enabling the discovery and production of plant-inspired drugs through a pioneering approach to bioengineering and fermentation.

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.

Deepak Krishnamurthy (Stanford Bio-X Bowes Fellow 2015) is a postdoctoral Schmidt Science Fellow at UC Berkeley.

Gaurav Krishnamurthy (Stanford Bio-X Medtronic Fellow 2008) is the Chief Operating Officer at Half Moon Medical (a 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 an Applied Science Manager at Uber.

Frances Lau (Stanford Bio-X Bowes Fellow 2007) is an R&D manager at Facebook, working on human-computer interaction for AR/VR.

Melinda Cromie Lear (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2008) is a Senior Staff Systems Engineer at Johnson & Johnson.

Paul Lebel (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2011) is a staff 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 Senior Director of Strategy and Business Development with ResMed in San Diego, CA. He serves as the strategy lead for the Sleep and Respiratory Care business unit. He was previously a Principal with the health care practice of the Boston Consulting Group.

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) has started her independent career as an assistant professor in the School of Pharmacy at Sungkyunkwan University in South Korea.

Stephen Lee (Stanford Bio-X Bowes Fellow 2005) is the VP of Strategic Initiatives for Global Streaming Content & Poland at Warner Bros. Discovery based in London.

Bauer LeSavage (Stanford Bio-X Bowes Fellow 2018) is a scientist at ImmuneBridge in San Francisco developing natural killer cell immunotherapies for cancer.

Michael Leung (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2016) is the co-founder of Spect. Spect enables Eyecare, Anywhere. Their telemedicine platform trains medical assistants and renders a diagnostic report in minutes.

Steven Leung (Stanford Bio-X Bowes Fellow 2013) is a development engineer at Orchard Ultrasound Innovation.

Hongquan Li (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2017) is a co-founder and CEO of Cephla, a startup building open and versatile microscope platforms and solutions with the goal of accelerating discoveries and solutions.

Ye (Henry) Li (William and Lynda Steere Fellow, Stanford Bio-X SIGF 2013) is a senior data scientist at Bigeye.

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 YouTube as a staff research scientist developing video generation algorithms.

Prasheel Lillaney (Stanford Bio-X Bowes Fellow 2005) is Director of Global Insights and Analytics, Respiratory and Immunology at Astrazeneca.

Catherine Liou (Stanford Bio-X Bowes Fellow 2018) is continuing in the Sattely Lab at Stanford to finish up work investigating the impact of gut microbial metabolism on dietary plant compounds.

MOTIVATION

- Guinea pigs are adapted to a high-altitude, hypoxic environment. They have unique cardiac phenotypes such as collateralized arteries.
- What regulatory processes underpin the development of these phenotypes? How does this regulation manifest as sequences?
- Specifically: How can we compare genomic elements between species in a functionally aware manner?

DATA

• We look at single-cell multiome RNA-seq and ATAC-seq data from mouse and guinea pig developing hearts at three roughly-matched developmental timepoints.

• We construct a unified single-cell atlas with matched cell types between species.

METHODS

IN SILICO GENOME TRANSFER

• Comparison of mouse vs. guinea pig model predictions for each cell type in our sequences.

• Top: Model predictions on mouse peaks. Horizontal axis is predicted log counts from vertical axis is predicted log counts from the guinea pig models. Color quantifies contribution scores between the two sets of models. Table shows the Spearman correlation between the two sets of models.

• Right: Model predictions on guinea pig peaks. Horizontal axis is predicted log counts from vertical axis is predicted log counts from the mouse models.

DIFFERENTIAL MOTIF DISCOVERY

• Mouse-motif discovered with differential TF motif atlas.

• TF motif discovered with differential TF motif atlas.

Stanford Bio-X Bowes Fellow Austin Wang (see pg. 12 for research details)

Sungwon Lim (Stanford Bio-X Bowes Fellow 2011) is the Founder and CEO of ImpriMed, Inc., a start-up that develops an AI-driven precision medicine service for pets with cancer.

Chao Liu (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015) is a staff scientist at the Lawrence Livermore National Lab.

Chunzi Liu (Stanford Bio-X Bowes Fellow 2019) is a NSF-Simons postdoctoral fellow at Harvard University, studying the biophysical principles of morphogenesis under the advice of Professor L. Mahadevan.

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 Chief Technology Officer at Sirona Medical, where he is helping to build a next generation AI-powered radiologist workstation.

Molly Lucas (Stanford Bio-X Bowes Fellow 2019) is a Data Scientist at Janssen Pharmaceuticals (within Johnson & Johnson). Her work focuses on using machine learning and digital health strategies to improve patient tracking and pharmacological development. Additionally, Molly is a Lecturer at Columbia University, where she teaches graduate-level AI & Ethics.

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 a professor of statistical science at Duke University.

Niruh Maheswaranathan (Stanford Bio-X Honorary Fellow 2013) is a research scientist at Facebook Reality Labs working on neural interfaces.

Caitlin Maikawa (Stanford Bio-X Bowes Fellow 2019) is an assistant professor at the Institute of Biomedical Engineering at the University of Toronto. Her group works on developing dynamic polymer materials for drug delivery and biosensing.

Amanda Malone (Stanford Bio-X Bowes Fellow 2004) is the Chief Scientific Officer of Eupraxia Pharmaceuticals Inc. which announced positive topline data for its 300-patient Phase 2b trial in Osteoarthritis in June 2023.

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) is completing his residency in anesthesiology at Stanford.

Trevor Martin (Stanford Bio-X Bowes Fellow 2012) is the CEO and a co-founder of Mammoth Biosciences. They have raised over \$260M to build the next generation of CRISPR products in diagnostics and therapeutics.

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 Director of Product Management at Twist Bioscience.

Joanna Mattis (Stanford Bio-X Bowes Fellow 2010) completed her neurology residency and epilepsy fellowship at the University of Pennsylvania. She is now a tenure track assistant professor at the University of Michigan.

“The Bio-X fellowship was instrumental in giving me the freedom to establish my research and academic career in medical robotics. Thank you to...the Bio-X team for their support, I would not be where I am today without them and the Bio-X program.”

— Michael Yip, Stanford Bio-X Bowes Fellow

Aaron Mayer (Stanford Bio-X Honorary Fellow 2015) is co-founder and chief scientific officer of Enable Medicine, a biopharma company that is building biological maps to guide better medicine.

Jennifer McCaney (Stanford Bio-X Bowes Fellow 2006) is the co-executive director of the University of California, Los Angeles Biodesign Program. She has a dual appointment as an adjunct assistant professor at the 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.

Kelly McGill (Stanford Bio-X Bowes Fellow 2017) is a scientific program analyst at the National Center for Complementary and Integrative Health.

Allister McGuire (Stanford Bio-X Bowes Fellow 2013) is a technical lead and hardware engineer at Twenty Twenty Therapeutics in South San Francisco.

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

Arek Melkonian (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2016) is a resident in clinical pathology at Brigham and Women's Hospital in Boston, MA.

Leslie Meltzer (Stanford Bio-X Bowes Fellow 2004) is the Chief Medical Officer at Orchard Therapeutics.

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.

Jorge Meraz (Stanford Bio-X Bowes Fellow 2018) is an analyst at PG&E, where he conducts research and analysis on emerging technologies to plan for California's transition to clean energy.

Amanda Miguel (Stanford Bio-X Honorary Fellow 2013) is a senior data scientist for the consultant company Hitachi Solutions.

Denitsa Milanova (Stanford Bio-X Medtronic Fellow 2011) is the founder and CEO of Marble Therapeutics.

Caitlyn Miller (Stanford Bio-X Honorary Fellow 2017) is a Postdoctoral Entrepreneur-In-Residence, Innovative Medicines Accelerator (IMA), at Stanford University.

Murtaza Mogri (Stanford Bio-X Bowes Fellow 2006) is a Delivery Science/Clinical Informatics Fellow at Kaiser Permanente developing predictive models to support clinical decision making.

Kate Montgomery (Stanford Bio-X Bowes Fellow 2009 and William and Lynda Steere Fellow, Stanford Bio-X SIGF 2012) is the director of scientific 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 a Strategic Partnerships Consultant at Foldscope Instruments, Inc., where she works on bringing powerful low-cost tools to communities around the world. She is also a Professor at Cayetano Heredia Peruvian University, where she teaches Biology to undergraduates.

Mira Moufarrej (Stanford Bio-X Bowes Fellow 2018) is a Stanford Science Fellow working with Kristy Red-Horse. She was previously an associate at The Column Group, a science-driven venture capital firm, where she is focused on early-stage drug discovery company creation.

Sedona Murphy (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2020) is part of the inaugural Yale School of Medicine Science Fellows program.

David Myung (Stanford Bio-X Bowes Fellow 2005) is currently an associate professor of ophthalmology at the Bypass 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.



Stanford Bio-X Fellows Group Photo 2013

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 the chief scientific officer and a co-founder of Magic Lifescience.

Wendy Ni (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2012) is a data science manager at Reddit in Safety.

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

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.

Johanna O'Day (Stanford Bio-X Bowes Fellow 2017) is a scientific program manager at the Wu Tsai Human Performance Alliance, a collaborative center working to discover the unknown principles of peak performance and translate them to enable optimal health and well-being for all.

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 a principal at First Spark Ventures, a deep tech venture fund in Menlo Park investing in breakthrough technologies that make the world healthier, safer, and more productive.

Carmichael Ong (Stanford Bio-X Bowes Fellow 2011) is a research engineer with the Mobilize Center, Restore Center, and the Wu Tsai Human Performance Alliance 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 director of chemistry at the biotech company Kinnate Biopharma.

Sung Jin Park (Stanford Bio-X Bowes Fellow 2013) is a senior manager, value and access insights, at Amgen.

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

Christine McLeavey Payne (Stanford Bio-X Bowes Fellow 2009) is a researcher and multimodal team lead at OpenAI. 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 Senior Vice President of Data at VillageMD and an adjunct assistant professor at Mount Sinai.

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 Research Scientist in Dr. Lee Hood's laboratory at The Institute for Systems Biology where she is using multiomics placental data to understand the mechanism of pregnancy-related disorders including preterm birth, preeclampsia, and fetal growth restriction.

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

Arjun Prabhakar (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2016) is a Senior Scientist in R&D at Pacific Biosciences.

Guillem Pratz (Stanford Bio-X Bowes Fellow 2006) is an associate 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 a neurosurgeon, developmental neurobiologist, and 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 10,000 stores nation-wide.

Jeffrey Quinn (Stanford Bio-X Bowes Fellow 2012) is an Associate Director for Off-Target Biology at Beam Therapeutics.

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.

Ashwin Ramachandran (Stanford Bio-X Bowes Fellow 2017) is a postdoctoral researcher at Princeton University, where he studies mechanosensing in bacteria.

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 affiliate 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, the Moncrief Grand Challenge Award, the NSF Career Award, and the Cockrell School of Engineering Award for Outstanding Engineering Teaching by an Assistant Professor.

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 and co-director of the UCSF Center for Intelligent Imaging.

Heather Rogan (Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2016) is an Engagement Manager 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 Helen Hay Whitney Foundation Postdoctoral Fellow at the Broad Institute in the labs of Dr. Aviv Regev and Dr. Alex Shalek.

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.

Joel Sadler (Stanford Bio-X Bowes Fellow 2012) is the co-founder and head of AI creator tools at Patch XR.

Rachel Hagey Saluti (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2014) currently serves as a Concierge Research Strategist for clients with complex biomedical, research, and individualized health strategy needs with a special focus on aggressive, orphan diseases. She is also co-founder of a biopharmaceutical company based on her research in Dr. Jeffrey Glenn's laboratory that utilizes their programmable antiviral technology to develop new agents against novel, universal targets for severe viral infections.

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

Annina Sartor (William and Lynda Steere Fellow, Stanford Bio-X SIGF 2018) recently graduated and is in the job market.

Andrew Savinov (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2014) is a K99 postdoctoral fellow in Dr. Gene-Wei Li's lab at the Massachusetts Institute of Technology.

Nicole Schiavone (Stanford Bio-X Bowes Fellow 2019) is a scientific reviewer at the FDA in the Division of Circulatory Support, Structural and Vascular Devices in the Office of Cardiovascular Devices.

Tim Schnabel (Stanford Bio-X Bowes Fellow 2015) is the founder and CEO of Switch Bioworks, an R&D-stage biotech startup based on research started at Stanford. Switch's mission is to feed the world sustainably by engineering microbes to produce climate-smart nitrogen "biofertilizer," directly at the roots of plants.



Stanford Bio-X Bowes Fellow Austin Karan Kathuria (see pg. 7 for research details)

Alia Schoen (Stanford Bio-X Bowes Fellow 2009) is a Research Development Specialist in Stanford's Research Development Office, where she supports faculty teams from across the University with a focus on large, collaborative research proposals in the STEM fields and with emphasis on climate and sustainability research.

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.

Jake Sganga (Stanford Bio-X Bowes Fellow 2014) is a co-founder and CTO of Remedy Robotics, a surgical robotics startup.

Pankaj Sharma (Stanford Bio-X Bowes Fellow 2012) is a Pre-Silicon Verification Engineer at Intel 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.

Liyue Shen (Stanford Bio-X Bowes Fellow 2019) is an assistant professor in the Department of Electrical Engineering & Computer Science (EECS) at the University of Michigan.

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) will be starting as a postdoctoral researcher at the University of Sydney's Imaging and Phenotyping laboratory in the fall.

Steven Shuken (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2017) is a postdoctoral research fellow in the Gygi Laboratory in the Department of Cell Biology at Harvard Medical School in Boston, MA. The Gygi Lab develops novel methodologies in mass spectrometry-based proteomics

Jack Silberstein (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2020) is working at a stealth biotech startup in Cambridge, MA.

Herbert Silva (Stanford Bio-X Bowes Fellow 2013) is working at Johnson Space Center (NASA) as a Structural Dynamics Subject Matter Expert.

Joo Yong Sim (Stanford Bio-X Bowes Fellow 2010) is an assistant professor at Sookmyung Women's University, South Korea.

Steven Sloan (Stanford Bio-X Bowes Fellow 2014) is an assistant professor in the department of human genetics at Emory University.

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

Min-Sun Son (Stanford Bio-X Bowes Fellow 2007) is a director of clinical engineering at Triton Medical Robotics.

Ryan Squire (Stanford Bio-X Bowes Fellow 2010) is the owner of Lembas Data Science, a consulting practice focused on statistics and geospatial data science for internet technology companies.

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

“The Bio-X program enabled me to jump-start interdisciplinary research at Stanford. Through the annual symposium and meetings, I was able to easily connect with other Bio-X fellows as well as great established scientists with different expertise. Bio-X... really helped me do research across materials science, bioengineering, and developmental biology and shape my identity as an interdisciplinary tissue engineer.”
— Soah Lee, Stanford Bio-X Bowes Fellow



Stanford Bio-X Fellows Group Photo 2019

Lyndsay Stapleton (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2018) is an Associate Director of Corporate Development at Calcilytix Therapeutics, a BridgeBio company.

Jaimie Steinmetz (Stanford Bio-X Honorary Fellow 2010) is a Lead Research Scientist at the Institute for Health Metrics and Evaluation.

Pakpoom Subsoontorn (Stanford Bio-X Bowes Fellow 2008) is an assistant professor at 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 an 8th grade living environment teacher at Washington Heights Expeditionary Learning School (WHEELS) in Washington Heights in New York City.

Lakshman Sundaram (Stanford Bio-X Bowes Fellow 2019) works at Illumina, Inc. as a Manager of Deep Learning research.

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) is an Associate Director of Clinical Development at Teiko Bio.

Jiongyi Tan (Enlight Foundation Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2014) is a senior scientist at Eikon Therapeutics.

Grace Tang (Stanford Bio-X Bowes Fellow 2008) is a principal staff machine learning engineer (trust and fairness AI) at LinkedIn.

Alexander Tarashansky (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2018) is a senior software engineer at the Chan Zuckerberg Initiative.

Noureddine Tayebi (Stanford Bio-X Bowes Fellow 2009) is a founder/investor of Yassir as well as investor and advisor of Punchword. He is also a research engineer and team lead at Intel.

Rebecca Taylor (Stanford Bio-X Bowes Fellow 2007) is the ANSYS Career Development Associate Professor of Mechanical Engineering at Carnegie Mellon University.

Terence Theisen (Colella Family Fellow, Stanford Bio-X SIGF 2017) is “pursuing being their best self” and also a scientist at Nanostrng Technologies in Seattle, WA.

Ella Thomson (Stanford Bio-X Bowes Fellow 2020) is an electrical engineer at Microsoft.

Victor Tieu (Stanford Bio-X Bowes Fellow 2020) is a postdoc in the lab of Dr. Stanley Qi at Stanford.

Matthew Titchenal (Stanford Bio-X Bowes Fellow 2015) is continuing his post-graduate career as a technical consultant at InSciTech in Mountain View, California.

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 Staff Machine Learning & Optimization Engineer at TheraPanacea.

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

Kimberly Vasquez (Stanford Bio-X Bowes Fellow 2019) is an industry postdoc at Gilead, studying regulatory T cells.

Avin Veerakumar (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2017) has started his Psychiatry Residency (research-intensive track) at Harvard Medical School / Brigham and Women's Hospital in Boston.

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

Michael Wainberg (Stanford Bio-X Bowes Fellow 2016) is a PI at Mount Sinai Hospital's Lunenfeld-Tanenbaum Research Institute in Toronto.

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. He is also developing new surgical instruments.

Christine Wang (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2014) is a software engineer at Flatiron Health.

Cosmos (Yuqi) Wang (Felix and Heather Baker Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2018) is a postdoctoral fellow in Xiaowei Zhuang's lab at Harvard University, where he is applying spatially resolved single-cell multi-omics technologies to the brain.

David Wang (Stanford Bio-X Bowes Fellow 2020) is an MD-PhD student currently in his last two years of medical school at Stanford, and is interested in pursuing an academic medical career in pediatric neurology or psychiatry.

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

Jiarui Wang (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2018) is currently a clinical applications manager at Miltenyi Biotec.

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

Lucy Wang (Stanford Bio-X Bowes Fellow 2020) recently graduated and is looking for opportunities in data science.

Wanxin Wang (Stanford Bio-X Bowes Fellow 2015) is a senior scientist at Curio Bioscience in Palo Alto, CA.

Yen-Hsiang Wang (Stanford Bio-X Bowes Fellow 2009) is the VP of Strategy & Partnerships at Anthea.

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

Lucien Weiss (Stanford Bio-X Bowes Fellow 2012) is an assistant professor of engineering physics at Polytechnique Montreal.

Andrew Weitz (Stanford Bio-X Bowes Fellow 2012) is a co-founder of Infinity AI, a venture-backed startup company that provides synthetic data as a service.

Aaron Wilk (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019) is completing his last two years of medical school at Stanford and hopes to continue on his path to become a physician-scientist working at the intersection of infectious disease immunology and bioinformatics.

Kitchener Wilson (Stanford Bio-X Bowes Fellow 2007) is the co-founder and CEO of Rosebud Biosciences.

Brian Wilt (Stanford Bio-X Bowes Fellow 2008) is a staff software engineer at Waymo.

Yonatan Winetraub (Stanford Bio-X Bowes Fellow 2016) won the NIH Director's Early Independence Award in 2021 and started his lab in structural biology department at Stanford. His lab explores how to detect cancer non-invasively by combining optical coherence tomography and machine learning.

Katrina Wisdom (Stanford Bio-X Honorary Fellow 2016) is an Associate Director of Genomic Sciences at GlaxoSmithKline.

Remus Wong (Stanford Bio-X Bowes Fellow 2010) is a Principal Scientist at Nkarta, where he performs cell therapy research and process development activities on Nkarta's engineered NK cells.

Angela Wu (Stanford Bio-X Bowes Fellow 2006) is an Associate Professor in the Division of Life Science and the Department of Chemical and Biological Engineering at Hong Kong University of Science and Technology (HKUST).

Lyndia Wu (Stanford Bio-X Bowes Fellow 2014) is an assistant professor 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.

Adele Xu (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2019) is currently completing the clinical portion of her MD training as part of Stanford's Medical Scientist Training Program.

Yuan Xue (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2018) is a bioinformatics scientist that leads process optimization at ClearNote Health.

Andrew Yang (Stanford Bio-X Honorary Fellow 2015) started his lab at University of California, San Francisco as a Sandler Faculty Fellow.

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

Renzhi Yang (Stanford Bio-X Bowes Fellow 2016) is a postdoctoral researcher in Nirao Shah's lab at Stanford.

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

"I still feel connected to many of the Bio-X fellows from my time, and we help each other still to this day... These are relationships you are building and can [utilize] after you leave. These are also relationships that will help you finish your PhD... There are a lot of alumni whose networks you can use."

— Kathryn Keenan, Stanford Bio-X Bowes Fellow



Stanford Bio-X Fellows Group Photo 2012

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. and EU medical device manufacturers register with CFDA, enter the Chinese market, and receive funding from the Chinese investors.

Anne Ye (Stanford Bio-X Bowes Fellow 2012) is working in Atreca's Target Biochemistry team in San Carlos.

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

Michael Yip (Stanford Bio-X Bowes Fellow 2013) is an associate professor in the department of electrical and computer engineering and Director of Medical Robotics Collaboratory at the Contextual Robotics Institute in the 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 scientist at Arcadia.

Alexander Yoshikawa (Stanford Bio-X Bowes Fellow 2017) is the co-founder and CSO of a stealth biotech startup located in Menlo Park.

Noah Young (Stanford Bio-X Bowes Fellow 2012) is a senior machine learning engineer at IndustrialNext.

Bo Zhang (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2013) is the VP of chemistry and co-founder of Apostle, Inc. Apostle is a biotechnology company in Sunnyvale, California, which has been accepted by the Stanford StartX accelerator. Bo is also an associate professor at Southern University of Science and Technology of China.

Eric Zhao (Donna Schweers and Thomas Geiser Fellow, Stanford Bio-X SIGF 2020) will be a post-doctoral researcher at Stanford University with Professor Zhenan Bao in Winter 2024.

Xiaoxue Zhou (Larry Yung Fellow, Stanford Bio-X SIGF 2010) is an incoming assistant professor at NYU Biology in 2024.

Danqing Zhu (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015) is an assistant professor at Hong Kong University of Science & Technology in the department of Chemical & Biological Engineering.

Biyao Zou (City Hill Foundation Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2020) is an Associate at McKinsey & Company, a global management consulting firm that advises top management of Fortune 500 and other leading companies and institutions as well as governments and nonprofit organizations on issues of strategy, organization, technology, and operations.

Xinzhì Zou (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019) begins a postdoc position in Dr. Michael Lin's lab in January 2024.

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, all of whom are now making an impact in academia and industry.

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 an instructor in the department of neurology and neurological sciences at Stanford University.

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 Meta leading the marketing analytics solutions team.

Shilpa Sambashivan (Stanford Bio-X Genentech Postdoctoral Fellow 2007) is a member of the founding scientific team at Nura Bio and serves as Chief Scientific Officer.

Sergey Solomatin (Stanford Bio-X Postdoctoral Fellow 2005) is the VP of Food Science and Product Development at Nobell Foods.

Tristan Ursell (Stanford Bio-X Genentech Postdoctoral Fellow 2009) is a Principal Research Scientist at Pumpkinseed Technologies, Inc.



Stanford Bio-X Fellows Group Photo 2015

Stanford Bio-X PhD Fellowship Program 2023



Stanford Bio-X Fellows Group Photo 2016



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