STANFORD BIO-X PHD FELLOWSHIPS 2022

2022 Stanford Bio-X Fellows Group Photo

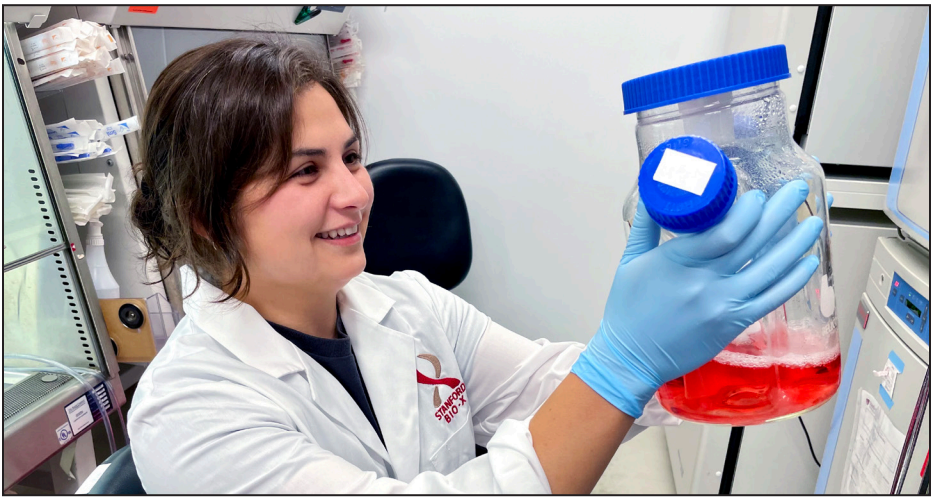
The Stanford Bio-X Graduate Fellowships

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 1,000 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 training at least 60 Ph.D fellows, and Fall 2022 brings 21 new fellows to the program.

The Stanford Bio-X Graduate Fellowship Program was started to answer the need for training a new breed of visionary science leaders capable of crossing the boundaries between disciplines in order to bring novel research endeavors to fruition. Since its inception in 2004, the three-year fellowships, including the Stanford Bio-X Bowes Fellowships and the Bio-X Stanford Interdisciplinary Graduate Fellowships (Bio-X SIGFs), have provided 364 graduate students with awards to pursue interdisciplinary research and to collaborate with multiple mentors, enhancing their potential to generate profound transformative discoveries.

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



Stanford Bio-X Bowes Fellow Raeline Valbuena (see pg. 10 for research details)

Success at Stanford and beyond...

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

2009 Stanford Bio-X Bowes Fellow Aakash Basu is an assistant professor in the Department of Biosciences at Durham University in the United Kingdom. His lab builds on the single-molecule biophysics work he conducted during his Bio-X Fellowship, as well as his postdoctoral work at The Rockefeller University and Johns Hopkins University. His lab creates novel tools and assays to decipher the mechanical code of the genome and epigenome to better understand how DNA transcription can be subverted by development and disease.

2011 Stanford Bio-X Medtronic Fellow Denitsa Milanova is the Founder and CEO of Marble Therapeutics, a gene therapy startup which seeks to deploy adeno-associated viruses (AAV) for gene transfer in the skin to rejuvenate skin at the molecular level and to target genetic skin diseases. Denitsa leverages her interdisciplinary training in applied physics and microfluidics, as well as the M.Sc. in Management Science & Engineering that she pursued at Stanford University Graduate School of Business concurrent with her Ph.D. Using a skin cell-specific, minimally invasive MRBL platform, Marble seeks to create novel therapeutics that can correct dysfunctional skin mutations and reverse skin aging. *(Photo credit: Wyss Institute at Harvard University)*

2012 Stanford Bio-X Bowes Fellow Soah Lee has started her independent career as an assistant professor in the School of Pharmacy at Sungkyunkwan University in South Korea. Thanks to the support of the Bio-X Fellowship, her interdisciplinary training background crossing the boundaries of Biomaterials Engineering, Stem Cell and Developmental Biology has led to starting her own research lab focusing on Personalized Tissue Engineering for next generation therapeutic development. Soah is interested in developing novel stem-cell-based bioink for developing a high-throughput drug screening platform.

2015 Stanford Bio-X Bowes Fellow Tim Schnabel is the founder and CEO of Switch Bioworks, a startup that raised $4.3M in pre-seed funding earlier this year to research and develop sustainable fertilizer, a National Academy of Engineering Grand Challenge. Switch is working on a synbio-driven approach, first developed at Stanford, to reprogram microbes with controlled release of ammonia.

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 Pratx, David Myung, David Camarillo, and Xiaojing Gao—are now faculty members at Stanford University. Additionally, our fellows publish high-impact first-author journal articles, receive grants and fellowships from Fulbright, the National Institutes of Health (NIH), the National Research Service Awards (NRSA), and the National Science Foundation (NSF) among others, file patent applications, and give TEDx talks, exemplifying the importance of interdisciplinary research.

To learn about the successes of our alumni, please see page 24.

Stanford Bio-X Graduate Fellowships 2022

PREKSHA BHAGCHANDANI

Morgridge Family SIGF Fellow, Stanford Bio-X SIGF
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

Pancreatic cell clusters known as islets are essential for production of the hormone insulin. Islet transplantation for diabetes is inhibited by the lack of translatable strategies to 1) expand functional islet mass after isolation from pancreas donors and 2) promote immune tolerance of transplanted islets without chronic systemic immunosuppression. In Aim 1, Preksha proposes to address the first issue with the fabrication of organoid-like archetypes, called 'pseudoislets,' to improve the engraftment, blood vessel growth, and function of islets in a live host and reduce the islet mass required for diabetes reversal. In Aim 2, she proposes to use reduced-intensity bone marrow conditioning protocols to enable hematopoietic stem cell engraftment and islet tolerance in a diabetic mouse model. Success of this work will improve upon pancreatic islet transplantation strategies to develop a more sustainable treatment for diabetes.

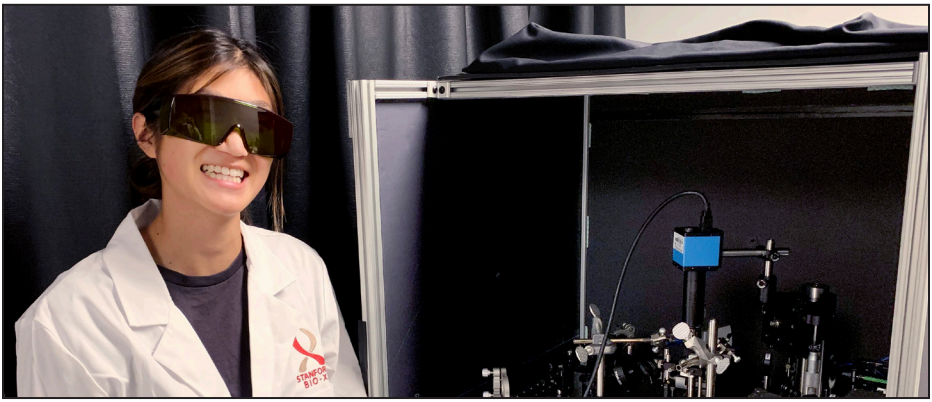
SA CAI

Stanford Bio-X Bowes Fellow
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

Near-infrared (NIR) photothermal effect offers a high precision option for cell therapy by converting deep tissue penetrable NIR light into heat. However, current photothermal biomaterials are often invasive, hard to deliver, and can induce immune rejection. Here, Sa, Dr Qi, and Dr. Hong aim to apply biomolecular engineering to develop a novel genetic photothermal system (GPS) that can efficiently convert NIR to heat inside human cells. Applying photothermal effects to both tumor and CAR T cells, they will characterize remote NIR-mediated precise and non-invasive cell therapy using a brain tumor mouse model. Utilizing the deep penetration of NIR, GPS offers a paradigm shift for safe cell therapy for diseases.



Stanford Bio-X Bowes Fellow Erica Liu (see pg. 6 for research details)

Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF Akshatkumar Nigam
(see pg. 8 for research details)

XINYI CHEN

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

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

Programmable Biomolecule Delivery Through Cell-Cell Communication

Finding cures for monogenic diseases is an area of urgent unmet medical need. The rapid advances in gene editing technology provided promising solutions, but their translation to the clinic is largely hindered by the lack of a safe and efficacious delivery vehicle. Currently existing delivery vehicles such as viral particles or nanoparticles suffer from payload size limitation, non-specificity and lack of external control. To address these limitations, Xinyi proposes to use genetically engineered cells to deliver gene-editing tools in a programmable way to recipient cells by repurposing natural cell-cell communication pathways. Such tools have values for both basic research and clinical applications, particularly in treating diseases related to single genes. This exploratory work will pave the way towards the development of novel strategies to address delivery of therapeutic gene-editing tools to diseased cells.

JACOB HORNE

Stanford Bio-X Bowes Fellow
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

Polyelectrolyte complexation (PEC) is a mechanism by which cellular systems control their internal function. This process rapidly forms membrane-less organelles, intracellular bodies that contain elevated or depleted levels of key biomolecules. Recent theoretical advancements have enabled a better understanding of the driving forces for PEC in model experimental systems. However, these theories have not been applied to systems of biological relevance. Jacob proposes to extend recent theories to describe these more complex systems. Then, he will systematically apply this new theory to study PEC in model biological systems. This work will elucidate the factors controlling PEC in living cells.

MINJI KANG

Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF

Computer Science

Mentors: Aaron Newman (Biomedical Data Science), Michael Clarke (Medicine – Oncology), and Emma Lundberg (Bioengineering and Pathology)

Decoding Single Cell Developmental States in Health and Disease

Stem cells play critical roles in physiological and pathological states. Unfortunately, our understanding of stem cells in human tissues is limited by methods that require specialized knowledge or laborious functional experiments. By exploiting novel measures of cellular developmental potential coupled with machine learning deep neural networks, Minji proposes to devise new computational strategies to reliably predict stem cells and their functional states from single-cell sequencing data. Minji's successful completion of the proposed research would constitute a major advance in stem cell biology, with potential for transformative impact in multiple fields, including regenerative medicine and oncology, where improved diagnostics and therapeutic strategies are urgently needed.

ERICA LIU

Stanford Bio-X Bowes Fellow

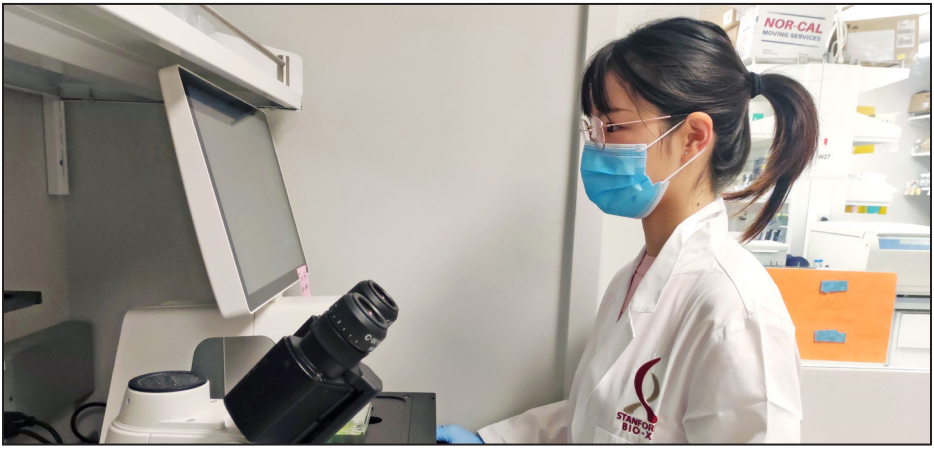
Chemistry

Mentors: Bianxiao Cui (Chemistry) and Jun Ding (Neurosurgery and Neurology & Neurological Sciences)

Optical Electrophysiology Using Electrochromic Materials

Advancing tools to record electrical activity in neurons is fundamental to understanding memory formation and neurological disorders. Here, the Cui lab propose a label-free electrochromic optical recording (ECORE) approach with high-throughput, scanning abilities to study electrical activity in dopaminergic neurons, which are the main source of dopamine in the central nervous system. The death of dopaminergic neurons also plays an important role in Parkinson's disease. By growing neurons on thin films of electrochromic material and building a modified prism-based total internal reflection setup, ECORE is able to detect local color changes induced by electrical activity and record electrical signals using an approach that is non-invasive, spatially flexible, and not limited by photobleaching or phototoxicity. Incorporating scanning abilities would allow the study of dopaminergic neuron circuitry through multi-site recording. Completion of this work would advance the novel ECORE method and allow for further study of electrical activity and circuitry of neurons essential to dopamine production.

Stanford Bio-X Fellows Group Photo 2019



Stanford Bio-X Bowes Fellow Sa Cai (see pg. 4 for research details)

ZHIRU LIU

Stanford Bio-X Bowes Fellow
Applied Physics
Mentors: Benjamin Good (Applied Physics) and Ami Bhatt (Medicine – Hematology and Genetics)

High-Resolution Dynamics of Bacterial Recombination Through Timescale Separation

The horizontal exchange of genetic material within a bacterial species, known as recombination, is universal and impacts many aspects of bacterial evolution. Despite this importance, the mechanisms and dynamics of recombination remain poorly characterized. Existing statistical (parametric) approaches that leverage simple null models that reflect random processes in population genetics often omit key factors like natural selection. Zhiru aims to address this gap by developing new theory and analysis methods that exploit the broad range of timescales available in the human gut microbiome. These approaches will enable Zhiru, in collaboration with the Good and the Bhatt labs to resolve individual recombination events, providing concrete insights into how bacteria recombine and evolve in natural settings.

STEVEN MILLER

Stanford Bio-X Bowes Fellow
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

New tools are needed to understand the molecular and physiological functions of voltage-gated chloride ion channels (CLCs) in the brain. In particular, the function of the CLC-2 channel in the delicate oscillatory networks of the thalamic reticular nucleus is poorly understood. Disfunction of these networks leads to abnormal cortical activity, as seen in absence epilepsy. Steven proposes the development of small molecule imaging probes for the determination of channel localization and ion trafficking across cellular membranes. Additionally, he will develop selective, potent, and reversible activators of CLC-2 and will utilize these agents in electrophysiology and confocal microscopy experiments. Success of this work will elucidate the role of chloride ion channeling in regulating neuronal excitability related to neurological disorders.

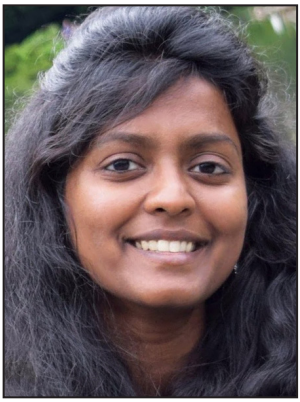
AKSHATKUMAR NIGAM

Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF
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

Deep mutational scanning (DMS) measures the functional impact of thousands of protein versions in a single experiment but is limited by scale and lacks a framework for predicting how variation affects protein function. Recent work in the Bassik and Kundaje labs has enabled high-throughput DMS assays to systematically measure the effect of variation found in the sequence of the molecular building blocks (i.e., amino acids) of regulatory proteins with gene silencing and activation activities. Here, Akshatkumar proposes augmenting DMS experiments with computational deep learning models to study the function of 50 proteins and 120,000 amino acid variants, enabling more efficient experimental design and an improved understanding of protein function.



ANUSRI PAMPARI

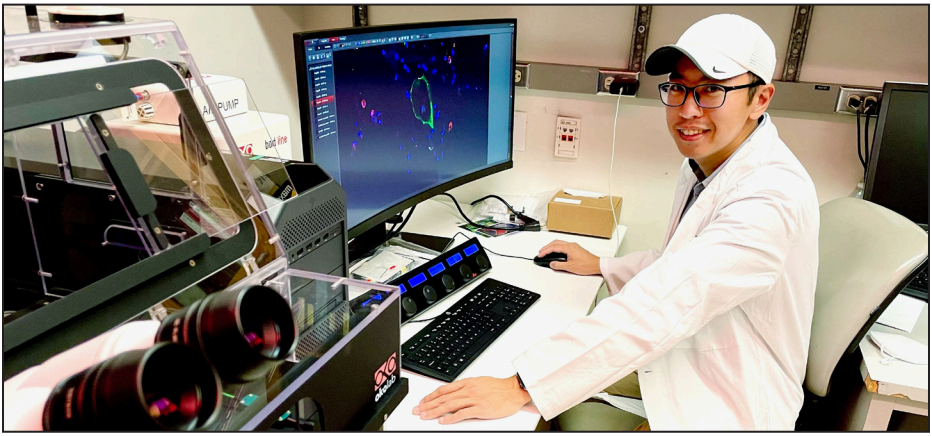
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF
Computer Science

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

Gene expression regulation and dynamics associated with thyroid cancer development remain unexplored. In collaboration with the Kundaje and Kasowski labs, Anusri proposes computational deep learning models to accurately predict regulatory (chromatin accessibility) profiles from multi-omic high-resolution sequence data. Anusri will train models on bulk and single cell multi-omic data collected from diverse cohorts of healthy thyroid, neoplasm, and metastases. Model interpretation will decipher the context-specific regulatory syntax of dynamics across different axes of variation, with a specific focus on developing hypotheses regarding regulatory wiring of the iodine channel in normal thyroid and cancer. Anusri's successful training of deep learning models along with targeted CRISPR experimentation to validate hypotheses will aid in the efforts to understand the regulatory basis of thyroid cancer.

Stanford Bio-X Fellows Group Photo 2011



Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Tsing-Hsuan (Timothy) Wu (see pg. 12 for research details)

KALANI RATNASIRI

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

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

The 21st century has seen a multitude of virus-driven pandemics. Despite emerging viruses constantly threatening global health, we remain largely unprepared for the next pandemic. Previous pan-virus multi-cohort analyses of blood cells from virally-infected patients have found that emergency myelopoiesis and monocyte dysregulation correlate with severe disease; however, shared features and therapeutic targets of these severity-associated monocytes remain unexplored. Here, Kalani, the Blish and Khatri labs will leverage (1) proteomic, transcriptional, and epigenetic single-cell profiling and (2) diverse host-pathogen and drug-target interaction data to identify conserved mechanisms of pathological monocyte activation and broad-spectrum antivirals across acute RNA viral diseases. This work aims to develop diagnostics and therapeutics across multiple viruses to enhance pandemic preparedness.

FREDRIK SAMDAL SOLBERG

Pierce Family Goldman Sachs Fellow, Stanford Bio-X SIGF

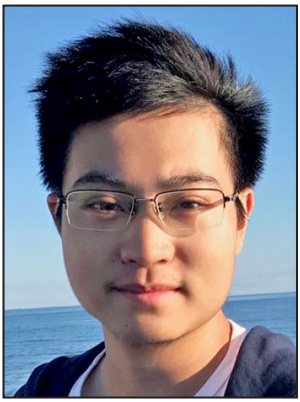
Mechanical Engineering

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

In Situ In Vivo 3D Bioprinting

Three-dimensional (3D) bioprinting is advancing the field of regenerative medicine. However, technological solutions for bioprinting in inaccessible and occluded regions inside the body are scarce, limiting the potential for futuristic non-invasive bioprinting procedures within the patient. Concentric tube robots (CTRs) are surgical robots that are ideally poised for material deposition at difficult-to-reach sites due to their slender, tubular structure and inherently compliant nature. In this work, Fredrik proposes to develop an improved CTR-like system to print a bicuspid valve that subsequently will be sustained and validated in a bioreactor and, later, within the body of a porcine model. Successful completion of this work will lead to further developments in 3D bioprinting pushing the boundaries of non-invasive regenerative medicine.

Stanford Bio-X Bowes Fellow Yan Wu (see pg. 13 for research details)



JIAWEI SUN

Rosenberg Ach Family Fellow, Stanford Bio-X SIGF
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

The rapid rise in antibiotic-resistant bacteria poses a global health challenge, with the Gram-negative outer membrane (OM) of the bacterial cell wall representing an especially tough barrier. The recently discovered unique physical properties of the OM offer emerging opportunities to manipulate membrane permeability and destabilize pathogens. Jiawei will screen libraries of bacterial genes whose expression has been repressed using the gene editing tool (CRISPR interference) for essential proteins affecting OM permeability and mechanical integrity, and he will determine the molecular mechanisms linking OM permeability to physical properties including stiffness and fluidity. Finally, he will characterize the impact of diverse cell-surface layers on mechanics and antibiotic sensitivity. These studies will provide novel insights into the structural basis of antibiotic sensitivity and potential targets for antibiotic development to help combat antibiotic resistance diseases.

RAELINE VALBUENA

Stanford Bio-X Bowes Fellow
Genetics

Mentors: Michael Bassik (Genetics), Lacramioara Bintu (Bioengineering), and Polly Fordyce (Bioengineering and Genetics)

Integrative Approaches for Deciphering the Functional Roles of Intrinsic Disorder

Due to the difficulty of predicting function from lack of 3-D structure, intrinsically disordered proteins (IDPs) and protein regions (IDRs) remain poorly characterized. Yet Raeline and the Bassik and Sanulli labs propose that the unique physico-chemical features of IDPs and IDRs help certain proteins mediate gene regulation and genome organization by conferring a propensity to undergo membrane-less compartmentalization. To test this hypothesis, they will use well-characterized IDPs and IDRs as model systems to develop 1) unbiased, high-throughput screening approaches to quantify how intrinsic disorder influences the regulatory functions of transcriptional effectors, and 2) microfluidics tools to evaluate how intrinsic disorder affects compartmentalization in biologically relevant contexts. Collectively, they will demonstrate how to generate holistic insights into the complex cellular functions directed by intrinsically disordered proteins and regions.

Stanford Bio-X Bowes Fellow Javier Weddington (see pg. 12 for research details)

CASSANDRA VILLICANA

Stanford Bio-X Bowes Fellow
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

Biomaterial scaffolds have been widely used for bone tissue engineering by targeting stem cell differentiation. Immune cells are the early responders to bone injury, and recent studies suggest biomaterials can also modulate tissue regeneration via modulation of the immune system. Natural extracellular matrix (ECM)-derived materials have been shown to favor pro-regenerative immune response. However, previous studies have been limited to soft tissue regeneration using nanoporous hydrogels. Success of Cassandra's proposed work will shed light on the interface between the immune system and stem cells in cranial bone healing, and guide design of tissue ECM-derived macroporous scaffolds as new therapies for treating cranial bone defects.

"Bio-X is more than just a fellowship to me: it's also a community... As a Bio-X Fellow, we have access to all the faculty on campus and also to support from the Bio-X team... I'm very grateful to Bio-X for all their support these past few years."

— Paola Moreno-Roman, Stanford Bio-X Bowes Fellow

JAVIER WEDDINGTON

Stanford Bio-X Bowes Fellow
Neurosciences

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

Rapid Perceptual Learning in Rewarded Tasks – The Efficient Learning Hypothesis

Historically, reinforcement learning (RL)—a machine learning approach for task-based problem solving, and visual neuroscience experiments have relied heavily on artificial stimuli to study decision-making. Because current models of RL fail to capture the rapid learning of animals in natural contexts, it remains unclear how biological and RL agents can learn in naturalistic environments. Javier will bridge neurophysiology, naturalistic virtual reality, and deep reinforcement learning to investigate decision-making and cortical plasticity of rodents in natural environments. He will test the hypothesis that efficient visual coding in the primary visual cortex combined with optimal learning strategies support rapid task-based visual decision-making. Success of this work will aid in investigating behavior and neural plasticity by combining biological experimentation with computational modeling methods and interactive deep learning techniques.

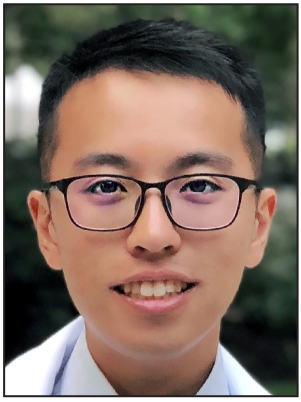
ERIC WU

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

Mentors: James Zou (Biomedical Data Science) and Daniel Ho (Law and Political Science)

How Should We Evaluate and Regulate Medical AI Algorithms?

Despite the rapid proliferation of medical AI research, regulatory standards in the US have still lagged behind the pace of technological development. This creates the risk of disparate outcomes for underrepresented populations as well as unintended harm on all patients. Through this fellowship, Eric aims to address this gap by 1) studying how medical AI algorithms may exhibit performance disparities on different patient populations, 2) developing methods to help regulators evaluate model biases, and 3) studying AI governance across various public agencies for guidance on medical AI regulation. The success of this work will help advance safe and effective use of medical AI.



TING-HSUAN (TIMOTHY) WU

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

Alveoli are the functional units of respiration and the sites of the most prominent and ineffectively treated diseases, including COVID-19 pneumonia. How disease initiation alters the dozens of diverse cell-types of the human lung to destroy the gas-exchange barrier remains unanswered. Timothy will develop a culture of human lung slices and apply single-cell labeling, deep-tissue imaging, and single-cell RNA-seq to define the three-dimensional structure of alveoli and dissect SARS-CoV-2 cell targets, elucidate the viral life cycle, and evaluate therapeutic efficacy at single cell resolution. He proposes this approach of systematic cellular and molecular dissection of disease pathogenesis as a general solution for studying human respiratory physiology and pathology.

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Jonathan Yang
(see pg. 14 for research details)

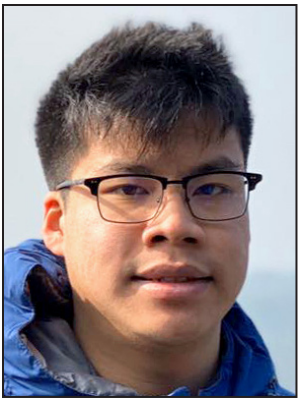
YAN WU

Stanford Bio-X Bowes Fellow
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

Aberrant kinase enzyme activity drives tumorigenesis; however, evaluating the efficacy of kinase-targeting drugs *in vivo* (within the patient) remains a severe bottleneck. Therefore, Yan proposes to develop a non-invasive method based on bioluminescent imaging to visualize the efficacy of kinase-targeting drugs. Specifically, she plans to engineer a Kinase-Modulated Bioluminescent Indicator (KiMBI) for extracellular signal-regulated kinases (ERKs) and compare the efficacy of PROTAC degraders, an innovative kinase-targeting method, and inhibitors *in vivo*. The design will also be generalized to other kinases including AKT, that play key roles in multiple cellular processes. This project will establish a revolutionary approach to *in vivo* visualization of the efficacy of kinase-targeting drugs and greatly aid cancer therapy.



JONATHAN YANG

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

Chemistry

Mentors: Carolyn Bertozzi (Chemistry) and Alice Ting (Genetics and Biology)

The Selective Degradation of Essential Proteins on Cancer Cells: Adding New Orders of Selectivity to Chemotherapy

Cancer remains a leading cause of death in the United States behind only that of heat diseases (CDC). Here Jonathan outlines a proposal for a cell-based therapeutic that induces the degradation of essential proteins on cancer cells. This therapy is designed to be highly specific as it is gated by a customizable antigen sensor. The expected outcome is the death of cancer cells while leaving healthy tissues unharmed. This work will contribute to the development of cell-based cancer therapeutics.

MAXIM ZASLAVSKY

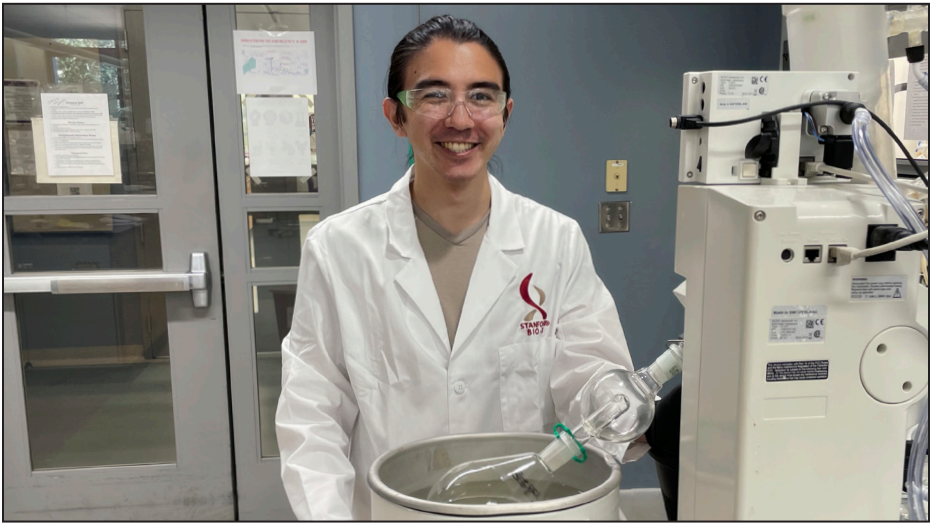
Stanford Bio-X Bowes Fellow

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

The Kundaje, Boyd, Tibshirani, and Pinsky labs and Maxim introduce a method to find the target pathogens that human immune receptors can pattern match, using deep learning language models of immune sequence patterns. In a proof of concept, their strategy distinguished five immune states spanning a wide range of diseases—from acute to chronic infections, to autoimmune and immunodeficiency disorders — with a high level of accuracy. This interpretable model of immune receptor sequences independently recapitulates known SARS-CoV-2 biology and enables tracking immune response changes during disease progression. The proposed research plan will develop this proof of concept of deciphering disease exposures into a pan-disease diagnostic, gleaning medically useful information from immune cell populations.



Stanford Bio-X Bowes Fellow Steven Miller (see pg. 7 for research details)

Stanford Bio-X Graduate Fellowships 2004-2021 (in alphabetical order)

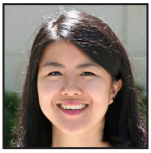
Carlos Alvarado Acosta
William and Lynda Steere Fellow, Stanford Bio-X SIGF 2021
Structural Biology
Mentors: Joseph Puglisi (Structural Biology) and Zev Bryant (Bioengineering)
"Uncovering the Kinetic and Mechanochemical Regulation of Scanning"

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), Ashby Morrison (Biology), Ovijit Chaudhuri (Mechanical Engineering), Yan Xia (Chemistry), and Constance Chu (Orthopedic Surgery)
"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)"

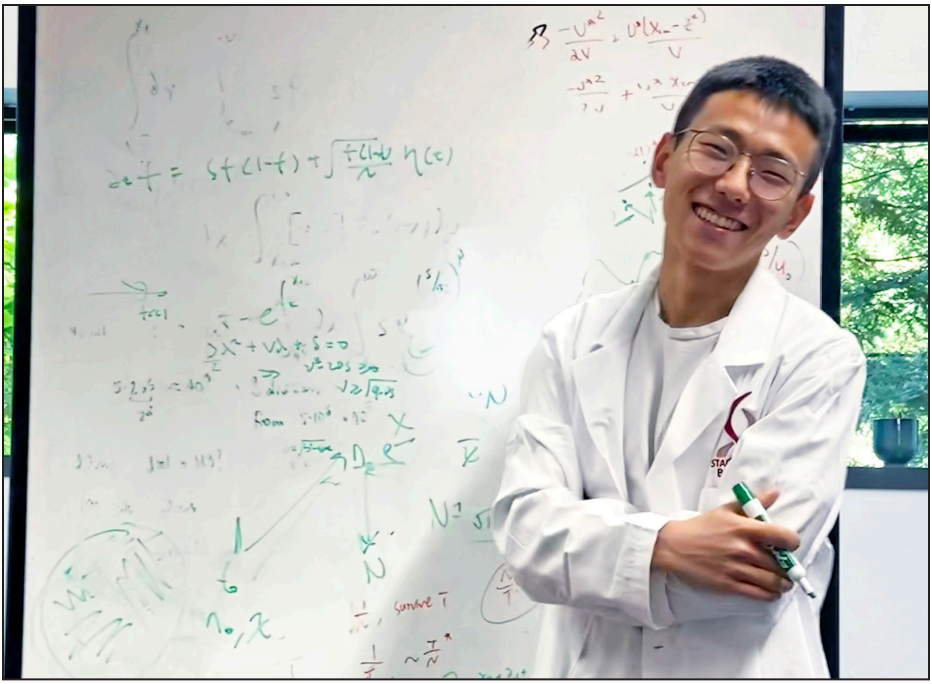
Cecelia Brown
Stanford Bio-X Bowes Fellow 2021
Biology
Mentors: Jan Skotheim (Biology), Julien Sage (Pediatrics – Hematology & Oncology and Genetics), and Polly Fordyce (Bioengineering and Genetics)
"Controlling Cell Division by Disrupting the Cyclin D-Rb Interaction"



Pamela Cai
Stanford Bio-X Honorary Fellow 2019
Chemical Engineering
Mentors: Andrew Spakowitz (Chemical Engineering and Materials Science & Engineering) and Sarah Heilshorn (Materials Science & Engineering)
"Characterization and Modeling of Intestinal Mucus as an Anti-Microbial Barrier"

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"*

Je-Rui (Ray) Chang
Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2021
Bioengineering
Mentors: Manu Prakash (Bioengineering) and Sanjiva Lele (Aeronatics & Astronautics and Mechanical Engineering)
"Extreme Biophysics: How Ultrafast Contractility Shapes Organelle Geometry (Topology) and Mechanics in Giant Cells"

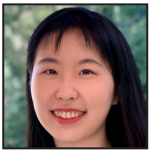


Stanford Bio-X Bowes Fellow Zhiru Liu (see pg. 7 for research details)

Madeline Cooper
Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF 2020
Biophysics, Medicine
Mentors: Brad Zuchero (Neurosurgery) and Alex Dunn (Chemical Engineering)
"Oligodendrocyte Regulation of the Axon Cytoskeleton During Myelination"

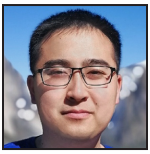
Ana Sofia de Olazarra
Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2021
Electrical Engineering
Mentors: Shan Wang (Materials Science & Engineering and Electrical Engineering) and Paul (PJ) Utz (Medicine – Immunology & Rheumatology)
"Point-of-Care Giant MagnetoResistive Biosensors for Automated Nucleic Acid Amplification and Detection"

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"



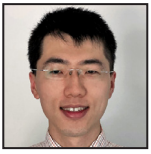
Haotian Du
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2021
Chemistry
Mentors: Possu Huang (Bioengineering), Edgar Engleman (Pathology and Medicine – Immunology & Rheumatology), and Danny Chou (Pediatrics – Endocrinology & Diabetes)
"Molecular Engineering of T Cell Receptor Functional Mimetics for Intracellular Oncogenic Marker Targeting"

Yi Shiou Duh
Stanford Bio-X Bowes Fellow 2021
Physics
Mentors: Mark Brongersma (Materials Science & Engineering), Xiaoke Chen (Biology), and Guosong Hong (Materials Science & Engineering)
"Multi-Depth Brain-Wide Imaging with Metasurfaces"



Yuhang Fan
Enlight Foundation Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2020
Bioengineering
Mentors: Bo Wang (Bioengineering) and James Ferrell (Chemical & Systems Biology and Biochemistry)
"Wound-Induced Trigger Waves to Coordinate Tissue- Wide Regeneration Response"

Jonas Fowler
Stanford Bio-X Honorary Fellow 2019
Stem Cell Biology & Regenerative Medicine
Mentors: Kyle Loh (Developmental Biology) and Hiromitsu Nakauchi (Genetics)
"Combining Developmental Biology and Immunology to Efficiently Generate Human T Cells in vitro *from Pluripotent Stem Cells"*



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"

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"

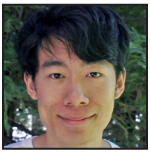
Yuan Jia
Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2021
Chemistry
Mentors: Robert Waymouth (Chemistry) and Ronald Levy (Medicine – Oncology)
"New Synthetic Transporters for Delivery and Release of mRNA"

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"

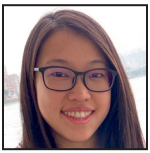
Benjamin Knapp
Colella Family Fellow, Stanford Bio-X SIGF 2020
Biophysics
Mentors: KC Huang (Bioengineering and Microbiology & Immunology) and Elizabeth Sattely (Chemical Engineering)
"Regulation of Bacterial Growth in Fluctuating Temperatures"

Fikunwa Kolawole
Felix and Heather Baker Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2021
Mechanical Engineering
Mentors: Daniel Ennis (Radiology) and Ellen Kuhl (Mechanical Engineering)
"Measuring Myocardial Stiffness of the Failing Heart"

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"

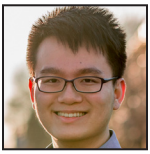


Hongquan Li
Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2017
Electrical Engineering
Mentors: Manu Prakash (Bioengineering), Fabian Pease (Electrical Engineering), and Leo Hollberg (Physics)
"Open, Configurable High-Throughput Imaging Platform for Diagnostics and Research"

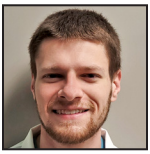


Veronica Li
Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2021
Chemistry
Mentors: Jonathan Long (Pathology) and Justin Du Bois (Chemistry)
"Chemical Interrogation of an Exercise-Induced Metabolite Signaling Pathway"

Stanford Bio-X Bowes Fellow Jacob Horne (see pg. 5 for research details)



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"



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 Studying Microglial Subtypes in Alzheimer's Disease"

Jorge Meraz
Stanford Bio-X Bowes Fellow 2018
Civil & Environmental Engineering
Mentors: Craig Criddle (Civil & Environmental Engineering) and Eric Appel (Materials Science & Engineering)
"Transformation of Greenhouse Gases into Sustainable, Biodegradable Microbial Plastics"

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"

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"

Sedona Murphy
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2020
Genetics
Mentors: Alistair Boettiger (Developmental Biology) and Andrew Spakowitz (Chemical Engineering and Materials Science & Engineering)
"Linking Structure to Function: How Polycomb-Mediated DNA Folding Acts as a Novel Layer of Transcription Regulation"

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"

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*"*

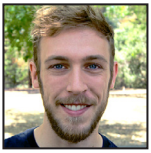
Nicholas Rommelfanger
Stanford Bio-X Fellow 2021
Applied Physics
Mentors: Guosong Hong (Materials Science & Engineering) and Paul Nuyujukian (Bioengineering and Neurosurgery)
"Breaking the Spatial Limitation of Electrical Microstimulation by Electromagnetic Field Focusing"

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*"*

Annina Sartor
William and Lynda Steere Fellow, Stanford Bio-X SIGF 2018
Chemistry
Mentors: W. E. Moerner (Chemistry) and Wah Chiu (Photon Science Directorate, Bioengineering, Microbiology & Immunology)
"Developing Correlative Cryogenic Superresolution Light and Electron Microscopy with Applications to the Study of Protein Aggregates in Neurological Disease"

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"

Jack Silberstein
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2020
Immunology
Mentors: Jennifer Cochran (Bioengineering) and Ronald Levy (Medicine – Oncology)
"Engineering a Designer Immune Checkpoint Inhibitor as a Novel Cancer Therapeutic"



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"

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*"*

Ella Thomson
Stanford Bio-X Bowes Fellow 2020
Electrical Engineering
Mentors: Ada Poon (Electrical Engineering), Justin Annes (Medicine – Endocrinology, Gerontology, & Metabolism), and Joseph Wu (Medicine – Cardiovascular Medicine and Radiology)
"An Implantable Artificial Pancreas Using Direct Electrical Depolarization of Beta Cells to Control Insulin Release"

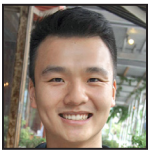
Victor Tieu
Stanford Bio-X Bowes Fellow 2020
Bioengineering
Mentors: Lei Stanley Qi (Bioengineering and Chemical & Systems Biology) and Crystal Mackall (Pediatrics – Hematology & Oncology and Medicine – Blood & Marrow Transplantation)
"Reprogramming CAR-T Cells to Deliver CRISPR Payloads for Targeted Gene Therapy"

City Hill Foundation Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF
Kalani Ratnasiri (see pg. 9 for research details)

Avin Veerakumar
Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2017
Bioengineering, Medicine
Mentors: Mark Krasnow (Biochemistry) and David Kingsley (Developmental Biology)
"Genetic Identification of Brainstem Circuits Controlling Vocalization and Cardiac Electrophysiology"

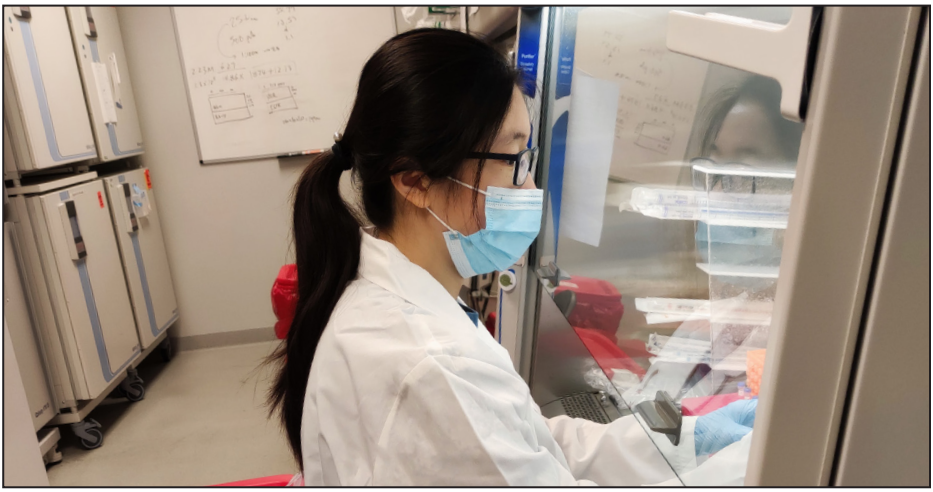
Ramandeep Vilkhu
Stanford Bio-X Bowes Fellow 2021
Electrical Engineering
Mentors: Subhasish Mitra (Electrical Engineering and Computer Science) and E.J. Chichilnisky (Neurosurgery and Ophthalmology)
"Optimization and Biophysical Modeling of Electrical Stimulation Strategies for Brain-Computer Interfaces to Enhance Stimulation at Cellular-Resolution"

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*"*



David Wang
Stanford Bio-X Bowes Fellow 2020
Biology, Medicine
Mentors: Liqun Luo (Biology) and Jun Ding (Neurosurgery and Neurology & Neurological Sciences)
"The Role of Embryonic Neuronal Activity in the Development of Neural Circuits and Behavior"

Lucy Wang
Stanford Bio-X Bowes Fellow 2020
Mechanical Engineering
Mentors: Ellen Kuhl (Mechanical Engineering) and Miriam Goodman (Molecular & Cellular Physiology)
"Predicting Failure Thresholds in Traumatic Brain Injury Using Anatomically Accurate, Ultra-high Resolution Axon Models"



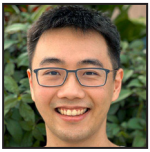
Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF Xinyi Chen
(see pg. 5 for research details)

Stanford Bio-X Fellows Group Photo 2016

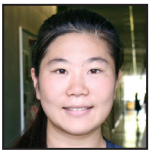
Jonathan Weiss
Stanford Bio-X Fellow 2021
Bioengineering
Mentors: Mark Skylar-Scott (Bioengineering) and Joseph Woo (Cardiothoracic Surgery)
"Organ-Scale Biofabrication: 3D Bioprinting of Engineered Pluripotent Stem Cells to Form a Mature Human Ventricle"

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"

Pumiao Yan
Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF 2020
Electrical Engineering
Mentors: Boris Murmann (Electrical Engineering), Krishna Shenoy (Electrical Engineering), and Jaimie Henderson (Neurosurgery)
"Efficient Machine Learning Implementations for Implantable Brain-Computer Interfaces"



Eric Zhao
Donna Schweers and Thomas Geiser Fellow, Stanford Bio-X SIGF 2020
Chemical Engineering
Mentors: Nicholas Melosh (Materials Science & Engineering) and Geoffrey Gurtner (Surgery – Plastic & Reconstructive Surgery)
"Development of Next Generation Peripheral Nerve Interfaces"



Xinzhi Zou
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019
Bioengineering
Mentors: Michael Lin (Neurobiology and Bioengineering) and Julien Sage (Genetics and Pediatrics – Hematology/Oncology)
"A Programmable System for Rewiring Aberrant Cancer Signaling to Therapeutic Effector Release"

Where are they now?

287 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 resident in internal medicine at Brigham and Women's Hospital.

Namiko Abe (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2006) is a lead medical writer at Fishawack Health.

Shelley Ackerman (Stanford Bio-X Bowes Fellow 2014) is 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 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. He is a senior business executive and deep technical/AI expert who has extensive experience across a variety of industries and enterprises driving large-scale technological transformation associated with hundreds of millions in value. In addition, he regularly advises start-ups, universities, investors, enterprises, and others across the globe on how best to leverage modern technology. His current appointments include Technical Advisor to Lokavant, Inc., Aginity, Inc., and DotAlign, Inc.

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

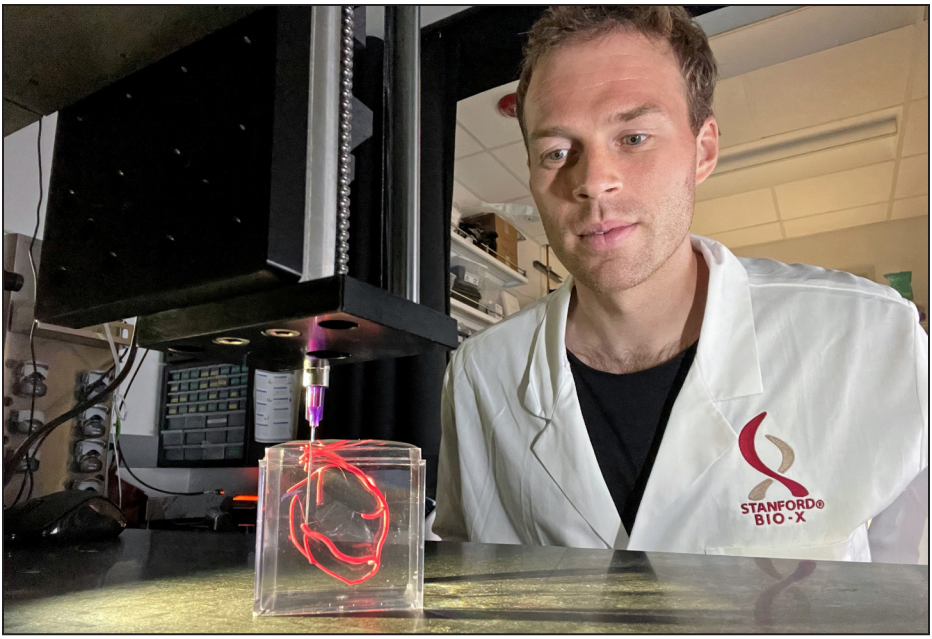
Rachel Agoglia (Stanford Bio-X Honorary Fellow 2016) is a Field Application Scientist at Mission Bio.

Ron Alfa (Stanford Bio-X Bowes Fellow 2011) is the CEO and co-founder of Stealth Oncology New Company.

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.

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

Stanford Bio-X Fellows Group Photo 2018



Pierce Family Goldman Sachs Fellow, Stanford Bio-X SIGF Fredrik Samdal Solberg
(see pg. 9 for research details)

Andrés Aranda-Díaz (Stanford Bio-X Bowes Fellow 2016) is a joint Postdoctoral Fellow with the EPPIcenter at UCSF and the Rapid Response Team at Biohub, where he is developing and implementing next generation techniques to study the genomic epidemiology of malaria.

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. DNAnexus powers all things genomics, including next-generation diagnostic tests, large research consortia studies, and pharmaceutical discovery. Most recently, DNAnexus has been involved in a groundbreaking project to create the UK Biobank Research Analysis Platform, an environment where thousands of researchers around the world can access and analyze phenotypic, medical, imaging, fitness and genomic data from 500,000 volunteer participants in the UK Biobank.

Oguzhan Atay (Colella Family Fellow, Stanford Bio-X SIGF 2014) is the co-founder and CEO of BillionToOne, a molecular diagnostics company with a mission to make molecular diagnostics more powerful, accurate, and accessible for all. BillionToOne's proprietary Quantitative Counting Templates (QCT) platform unlocks transformative improvements in prenatal screening and liquid biopsy for cancers. This technology quantifies molecules at the single base-pair level. Unity Screen, BillionToOne's commercially available non-invasive prenatal test (NIPT), is the only NIPT that can assess fetal risk for both recessive conditions and aneuploidies from maternal blood. UNITY Screen continues to grow 300%+ year over year and may become the next standard-of-care, with an increasing number of publications showing its accuracy and advantages over other screening methods. BillionToOne has also recently used its QCT technology to develop therapy selection and therapy monitoring products for cancer, Northstar Select and Northstar Response, currently available for research use and expected to be available commercially early next year. BilionToOne has raised more than $200 million in funding, with their most recent Series C funding round of $125 million closing in March 2022. The company's prominent investors have previously invested in companies such as SpaceX, Uber, Spotify, Palantir, Braintree, WebMD, and DexCom.

Lawrence Bai (Stanford Bio-X Bowes Fellow 2019) is a Life Sciences Specialist at LEK Consulting, where he is working on a variety of strategy-focused projects in the life sciences industry.

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 Bhate (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 scientist at 23andMe, working as a project team lead for a therapeutic program.

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

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

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

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

Binbin Chen (Stanford Bio-X Bowes Fellow 2018) finished his MD/PhD training in 2021. He is now a 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).

Stanford Bio-X Bowes Fellow Cassandra Villicana (see pg. 11 for research details)

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) was an assistant professor at UT Southwestern Medical Center. He recently moved to Altos Labs in Redwood City, CA as a Principal Investigator.

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) is a postdoctoral fellow in Dr. Jay Shendure's group at the University of Washington.

Fang-Chieh Chou (Stanford Bio-X Fellow 2012) is a senior staff tech lead manager at Perception, Aurora.

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) will be taking a position at a biotech company after she graduates in Fall 2022.

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 science policy fellow at the British Columbia Ministry of Health.

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.

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

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

Stanford Bio-X Fellows Group Photo 2014

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 senior scientist focusing on antibody based therapeutics.

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 senior scientist at Boston Scientific.

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.

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

Corey Fernandez (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2019) is teaching in the psychology department at San Jose State University.

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 on the Human Cell Atlas project.

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

Tony Ginart (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2019) is the co-founder of a stealth start-up.

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

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 an investigator at Heritage Medical Research Institute, and the director of the Center for Molecular and Cellular Neuroscience.

Alex Grant (Stanford Bio-X Bowes Fellow 2010) is 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 Praedicat, Inc., a company that brings the world's scientific literature to bear in risk management and product stewardship, enabling a transformation of underwriting and risk management for liability insurance and corporate product stewardship practices by using big data approaches to model and understand the science that drives our understanding of risks to human health and the environment.

Gunsagar Gulati (Stanford Bio-X Bowes Fellow 2018) is a resident in the Internal Medicine program at Brigham and Women's Hospital.

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

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) serves as a Deputy Director of the Wu Tsai Human Performance Alliance At Stanford University, Director of Data Science of the Mobilize Center at Stanford University, and the associate director of the Restore Center, an NIH-funded center also at Stanford that brings state-of-the-art engineering tools to rehabilitation scientists. She oversees the center's Visiting Scholar Program, Pilot Projects, workshops, webinars, and online resources, and is the research and development manager for the OpenSim software platform.

Tyler Hillman (Stanford Bio-X Bowes Fellow 2008) is an assistant professor of gynecologic oncology & reproductive medicine at the University of Texas MD Anderson Cancer Center. 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 an applied research scientist and manager 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 assistant professor of biomedical informatics and biological sciences at Vanderbilt University.

Sarah Hull (Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2019) has recently graduated and is currently looking for her next role.

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 of drug discovery at NVIDIA.

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

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

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

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

Kristjan Eerik Kaseniit (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2021) is starting a therapeutics company after he graduates 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) recently graduated and is in the job market.

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 Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Eric Wu
(see pg. 12 for research details)

Hannah Kempton (Stanford Bio-X Honorary Fellow 2017) is working at a biotech startup in Boston.

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 in Genesis Therapeutics.

Daniel Kim (Stanford Bio-X Bowes Fellow 2015) is an Internal Medicine resident at Stanford Health Care.

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

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

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

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

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

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

Elgin Korkmazhan (Stanford Bio-X Bowes Fellow 2018) has recently graduated and is in the process of interviewing for a postdoctoral role.

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 a staff applied scientist 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 Staff Systems Engineer in Robotics and Digital Solutions at Johnson & Johnson (formerly Auris Robotics). She is the systems engineering team lead for the robotic bronchoscopy and biopsy product currently in the market.

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. Thanks to the support of the Bio-X program, her interdisciplinary training background crossing the boundaries of Biomaterials Engineering, Stem Cell and Developmental Biology has led to starting her own research lab focusing on Personalized Tissue Engineering for next generation therapeutic development. Soah is interested in developing novel iPSC-based bioink for developing a high-throughput drug screening platform.

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

Bauer LeSavage (Stanford Bio-X Bowes Fellow 2018) is a postdoc in Sarah Heilshorn's lab at Stanford developing *in vitro* models of the tumor microenvironment to study cancer organoid biology.

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. They fill a critical healthcare gap for patients and clinics while delivering best-in-class service and financial outcomes.

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

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 Google as a staff research scientist developing computational photography algorithms.

Prasheel Lillaney (Stanford Bio-X Bowes Fellow 2005) is an Associate Director of Customer Journey Innovation at Jazz Pharmaceuticals.

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

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.

Chao Liu (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015) is a postdoc 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.

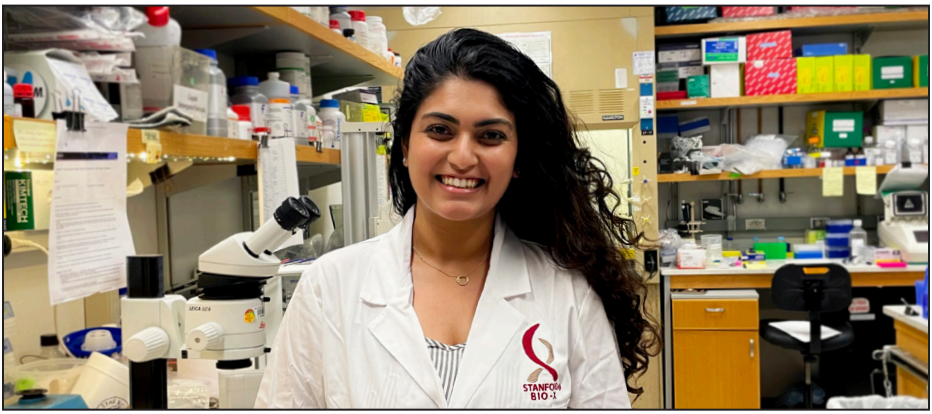
Bertrand Lui (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2006) is a co-founder and the Chief Product Officer at SetSail.

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

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

Caitlin Maikawa (Stanford Bio-X Bowes Fellow 2019) is a postdoctoral fellow at the Brigham and Women's Hospital in the labs of Jeffrey Karp and Yuhan Lee, where she works on designing materials for drug delivery.

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



Morgridge Family SIGF Fellow, Stanford Bio-X SIGF Preksha Bhagchandani
(see pg. 4 for research details)

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 currently doing an internship in internal medicine at St. Mary's Medical Center in San Francisco and will afterwards return to Stanford to complete his residency in anesthesiology.

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. Trevor has been honored with a variety of awards for his entrepreneurial and scientific work including Forbes's 30 Under 30, Fortune's 40 Under 40 lists, and EY's Entrepreneur of the Year.

Rebecca Marton (Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF 2017) is a Principal Scientific Researcher at Genentech.

Melina Mathur (Stanford Bio-X Bowes Fellow 2010) is the Director of Product Management for Synthetic Biology & Biopharma 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.

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.

Allister McGuire (Stanford Bio-X Bowes Fellow 2013) is a lead 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, located in Cambridge, Massachusetts.

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.

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

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

Caitlyn Miller (Stanford Bio-X Honorary Fellow 2017) is a postdoc in the labs of Carolyn Bertozzi and Jennifer Cochran 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 the Director of Strategic Partnerships at Foldscope Instruments, Inc., where she works on bringing powerful low-cost tools to communities around the world.

Mira Moufarrej (Stanford Bio-X Bowes Fellow 2018) is a Swanson Fellow at The Column Group, a science-driven venture capital firm, where she is focused on early-stage drug discovery company creation.

David Myung (Stanford Bio-X Bowes Fellow 2005) is currently an associate professor of ophthalmology at the Byers Eye Institute (BEIS) and the VA Palo Alto Health Care System, and, by courtesy, of chemical engineering at Stanford. He is also a Director of the Ophthalmic Innovation Program and the Director of the Stanford Automated Teleophthalmology and Universal Screening (STATUS) Program, which oversees a Bay Area-wide remote diabetic retinopathy testing program. David's laboratory is focused on ophthalmic regenerative medicine and drug delivery, specifically directed at the treatment of severe corneal and ocular surface injury and disease, as well as digital health and telemedicine in ophthalmology. He was recent selected as a recipient of a 2022 Harrington Scholar-Innovator Award and has received Career Development Awards from the National Eye Institute and Research to Prevent Blindness.

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

Elaine Ng (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016) is the chief scientific officer and a co-founder at a molecular diagnostic startup.

Wendy Ni (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2012) is a data scientist at Reddit in trust and safety. Her work focuses on strategic insights, product improvements, and better enforcement against bad content and bad behavior.

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 and Restore Centers at Stanford University, and a consultant for applying simulation and machine learning methods in biomechanical applications.

Shawn Ouyang (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2009) is a principal investigator 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 assistant professor of chemistry and biochemistry at Oberlin College.

"The Bowes fellowship has been wonderful. It's provided the level of support and connections that I think are really necessary for what modern science has become... This level of collaboration is extremely necessary, because it leads to projects that otherwise just would've never existed."

— Payton Marshall, Stanford Bio-X Bowes Fellow

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

Bethany Percha (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2013) is the Chief Data Officer at Summit Health, a health system based in New Jersey, 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 postdoctoral scholar in Dr. Lee Hood's laboratory at The Institute for Systems Biology where she is identifying novel biomarkers to predict negative pregnancy outcomes like preterm birth. She also works part-time at Google as a Visiting Research Faculty to build Biomedical Data Commons, a free searchable knowledge graph of publicly available biomedical data.

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

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

Guillem Pratx (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 Cerebelly, a brain-focused nutritious baby food line that she started while at Stanford, which can now be found in over 4,500 stores nation-wide.

Jeffrey Quinn (Stanford Bio-X Bowes Fellow 2012) is a Senior Scientist II at Inscripta, Inc. in Boulder, Colorado.

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.

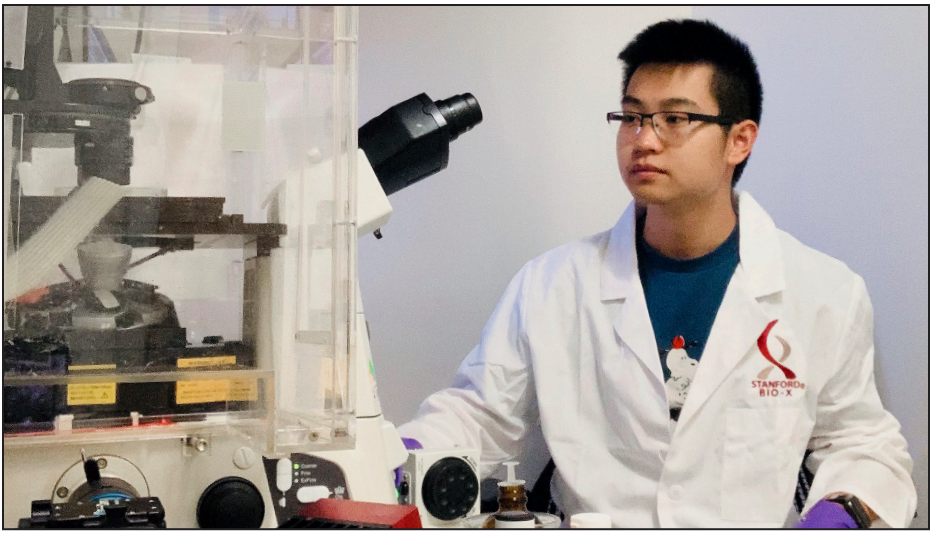
Ashwin Ramachandran (Stanford Bio-X Bowes Fellow 2017) is a postdoctoral researcher at Princeton University, where he studies mechanosensing in bacteria.

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 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 recently been awarded 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.

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.



Rosenberg Ach Family Fellow, Stanford Bio-X SIGF Jiawei Sun (see pg. 10 for research details)

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. Prior to Intuitive Surgical, Sanaz was the Director of Product Strategy at Arterys, which has developed a cloud-based medical imaging software that uses AI to facilitate medical imaging analysis. She led a team focused on defining the product pipeline and developing strategic partnerships for technology development. Prior to Arterys, Sanaz was the co-founder and president of CrownPoint Medical, LLC (CPM), which provides strategic services that accelerate healthcare innovation and commercialization, working at the intersection of R&D and Marketing to help clients understand the product-customer interface and product-market fit. Previously, at Medtronic, Sanaz was an engineering program manager and marketing product manager and led a cross-functional and multi-company team through needs finding, product development, and commercial global launch of two cardiovascular medical devices. Sanaz also participated in Medtronic's Global Innovation Fellowship program, with a project focused on improving diabetes awareness and detection in South Africa.

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

Rachel Hagey Saluti (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2014) is a staff scientist in Jeffrey Glenn's lab at Stanford, working towards bringing novel antiviral therapeutics against influenza and SARS-CoV-2 that she designed and patented into the clinic.

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.

Andrew Savinov (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2014) is an NIH F32 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, a startup that raised $4.3M in pre-seed funding earlier this year to research and develop sustainable fertilizer, a National Academy of Engineering Grand Challenge. Switch is working on a synbio-driven approach, first developed at Stanford, to reprogram microbes with controlled release of ammonia.

Alia Schoen (Stanford Bio-X Bowes Fellow 2009) recently joined Stanford's Research Development Office, where she will support 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. Prior to this new position, she worked as a public policy manager at Bloom Energy, a stationary fuel cell manufacturer whose vision is to make clean, reliable energy affordable for everyone in the world. Dr. Schoen leveraged both her interdisciplinary education as well as her time in the California State Assembly as a CCST Science Policy Fellow in her career in policy and will continue to do so in her new role at Stanford.

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

Jake Sganga (Stanford Bio-X Bowes Fellow 2014) 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 a postdoctoral research fellow in the Department of Biomedical Informatics at Harvard University. In Fall 2023, Liyue will be joining the Department of Electrical Engineering & Computer Science (EECS) at the University of Michigan as an assistant professor.

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

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

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

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.

"Being part of this community and having this really awesome fellowship has meant a lot to me. It's meant that I'm able to collaborate with people all over the university. It's meant I've been able to learn lots of different perspectives as well as have translational impact."

— Johanna O'Day, Stanford Bio-X Bowes Fellow

Min-Sun Son (Stanford Bio-X Bowes Fellow 2007) is a senior manager at Abbott Laboratories.

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.

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 Managing Research Scientist on the Global Burden of Disease Study at the University of Washington Institute for Health Metrics and Evaluation.

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

Patricia Suma (Stanford Bio-X Bowes and Stanford Bio-X Amgen Fellow 2011) is an 8th grade living environment teacher at Washington Heights Expeditionary Learning School (WHEELS) in Washington Heights in New York City. She is creating an inquiry-based and expeditionary curriculum that is rooted in social justice and culturally responsive teaching. Patricia transitioned from a career in academic science and medicine to a career in health education and worked for three years as a health educator in the Bay Area. She is the primary author of a comprehensive sexual health curriculum that incorporates a healing-centered framework that acknowledges systemic barriers and honors the wisdom and lived experiences that youth bring to these conversations.

Laksshman 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 a Senior Scientist, Medical Strategy, at an immune profiling startup called Teiko.bio.

Jiongyi Tan (Enlight Foundation Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2014) is a research scientist at Nautilus Biotechnology.

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 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 an associate professor of mechanical engineering at Carnegie Mellon University. She received the Air Force Office of Scientific Research Young Investigator Program Award in 2018 and the NSF Faculty Early Career Development Program (CAREER) Award in 2020. In 2021 she was named a CMU CIT Dean's Early Career Fellow.

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

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

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

Baris Ungun (Stanford Bio-X Bowes Fellow 2014) is a senior machine learning engineer at insitro.

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.

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

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

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

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

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) has joined Berkeley Lights as an R&D scientist.

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

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

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

Aaron Wenger (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2010) is a 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. Previously, he was a co-founder and data scientist at Edge Analytics, a boutique technical consulting firm that partners with startups and Fortune 500 companies to turn ideas into products.

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 a Bioengineering Investigator of Complex *In Vitro* Models 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.

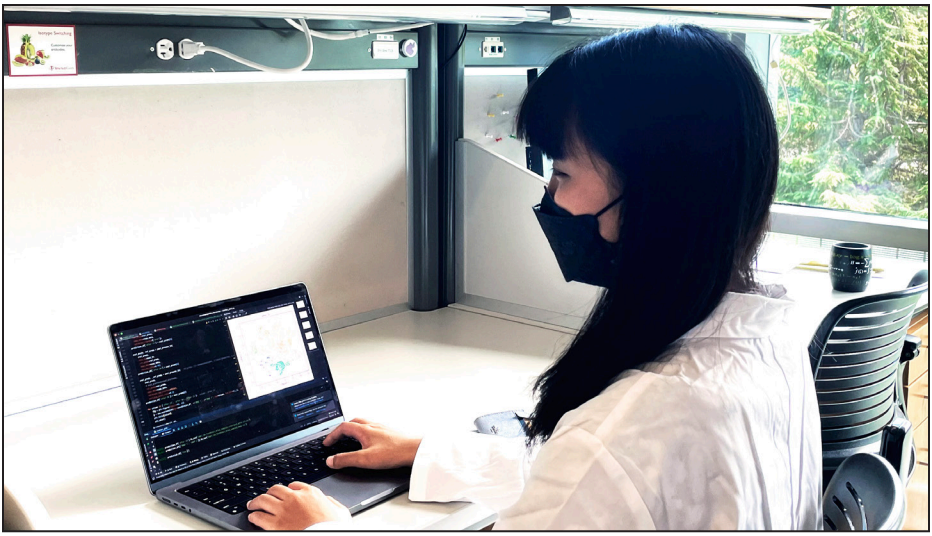
Angela Wu (Stanford Bio-X Bowes Fellow 2006) is an Associate Professor in the Division of Life Science and the Department of Chemical and Biological Engineering at Hong Kong University of Science and Technology (HKUST). Angela is passionate about the development of new technologies at the interface of basic biology and engineering, and using these interdisciplinary approaches to investigate biological mechanisms and human diseases. While at Stanford, Angela was named a Siebel Scholar in 2010, and was also awarded a Bio-X Bowes Fellowship. Shortly after graduation from her PhD, Angela also co-founded Agenovir Corporation, a CRISPR-based therapeutics company targeting infectious diseases for a complete cure. While at Agenovir, she helped to successfully raise Series A venture capital funding of US$10.6M. Agenovir was acquired by Vir Biotechnology (VIR). As recognition of her achievements in technology and innovation, Angela was named one of MIT Technology Review Innovators under 35 Asia in 2016, and a World Economic Forum Young Scientist in 2018. In 2018, she received the IEEE EMBS Micro & Nanotechnology in Medicine Conference Outstanding Young Faculty Award.

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

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

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 Bluestar Genomics, a start-up whose mission is to develop non-invasive epigenomic tests that can detect cancer during the early stage when it is still treatable.



Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF Minji Kang
(see pg. 6 for research details)

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 postdoctoral scholar at Harvard Medical School with Dr. Rachel Wilson. She will be going on the academic job market in the fall.

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

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

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

Sara Z. Yao (Stanford Bio-X Bowes Fellow 2004) founded DeviceDebut, LLC after exploring medical device R&D for over 5 years. DeviceDebut helped U.S. and EU medical device manufacturers register with CFDA, enter the Chinese market, and receive funding from the Chinese investors. Since late 2020, Sara has shifted her career focus to the local Bay Area, and has been a Realtor serving the local communities. Coupled with her project management and critical thinking skills, Sara's international business background provides a distinct edge in a competitive housing market.

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 principal scientist at BillionToOne, 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 machine learning scientist at Herophilus, Inc.

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

Xiaoxue Zhou (Larry Yung Fellow, Stanford Bio-X SIGF 2010) is a postdoctoral associate in Stephen Bell's lab at MIT. She received a K99 pathway to independence award to support her work.

Danqing Zhu (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015)works in Dr. David Schaffer's group at University of California, Berkeley as a postdoctoral scholar. In 2023, she will be starting an academic lab as 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.

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 Facebook leading marketing analytics solutions team.

Shilpa Sambashivan (Stanford Bio-X Genentech Postdoctoral Fellow 2007) is the CSO at Nura Bio, Inc.

Sergey Solomatin (Stanford Bio-X Postdoctoral Fellow 2005) is the VP of Research, Materials & Texture at Impossible Foods Inc., a company that was founded by Stanford biochemistry professor emeritus, Pat Brown. Its goal is to revolutionize the food industry and to roll back the adverse effects that industrial scale animal farming has on the environment and on us.

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

Stanford Bio-X Fellows Group Photo 2015

Stanford Bio-X PhD Fellowships 2022

Stanford Bio-X Fellows Group Photo 2013

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