Stanford Bio-X PhD Fellowships 2018

Stanford Bio-X Fellows

The Stanford Bio-X Graduate Fellowships

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

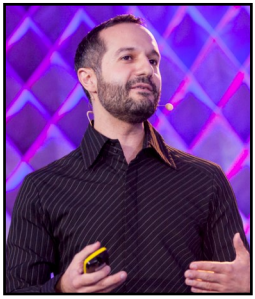
Since it was established in 1998, Stanford Bio-X has charted a new approach to life science research by bringing together clinical experts, life scientists, engineers, and others to tackle the complexity of the human body. Currently over 950 Stanford Faculty and over 8,000 students, postdocs, researchers, etc. are affiliated with Stanford Bio-X. The generous support from donors, including the Bowes Foundation, enables the program to remain successful—at any given time, Stanford Bio-X is training approximately 60 PhD fellows, and Fall 2018 brings 22 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 270 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 Fellows 2016 group photo

Success at Stanford and beyond…



2005 Stanford Bio-X Bowes Fellow Georgios Asimenos 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 received the FDA Commissioner's Special Citation Award for superior achievement of the Agency's mission through teamwork, partnership, shared responsibility, and fostering collaboration to achieve the FDA goals.

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

2013 Mona M. Burgess Fellow and Stanford Bio-X SIGF Bo Zhang is the VP of chemistry and cofounder of Apostle. Apostle, Inc. is a biotechnology company in Sunnyvale, California, which has just 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 and other cutting-edge products and services. Bo also now has an Associate Professor position at Southern University of Science and Technology of China.

Graduates of the program have transitioned to promising post-doctoral positions or medical training and to successful careers in academia and industry, while others have established their own start-up companies. Five of our alumni—David Camarillo, Adam de la Zerda, Andreas Loening, Guillem Pratx, and David Myung—are now faculty members at Stanford University. Additionally, our fellows publish high-impact first-author journal articles, receive grants and fellowships from Fulbright, NIH, NRSA, and 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 27.

Stanford Bio-X Graduate Fellowships 2018

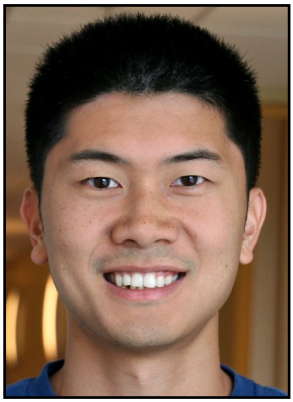
Suhaas Anbazhakan

Stanford Bio-X Bowes Fellow
Bioengineering

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

Computational investigations of coronary artery growth mechanisms during embryonic heart development

Understanding arterial regeneration may provide novel therapeutic approaches to perfuse ischemic tissue caused by coronary artery disease. By combining the expertise of computational blood flow simulations from the Marsden lab and experimental imaging in animal models from the Red-Horse lab, Suhaas will tackle important outstanding questions in cardiovascular biology, including quantifying the interplay of hemodynamic forces and transcription factors that are involved in coronary artery growth during embryonic development in the mouse model. The results from this project will provide novel scientific contributions to the field of cardiovascular development and disease.



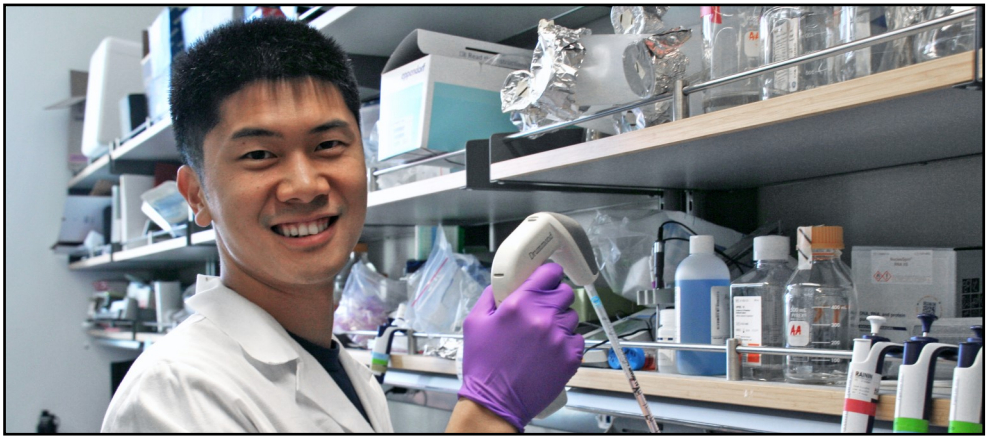
Binbin Chen

Stanford Bio-X Bowes Fellow
Genetics, Medicine

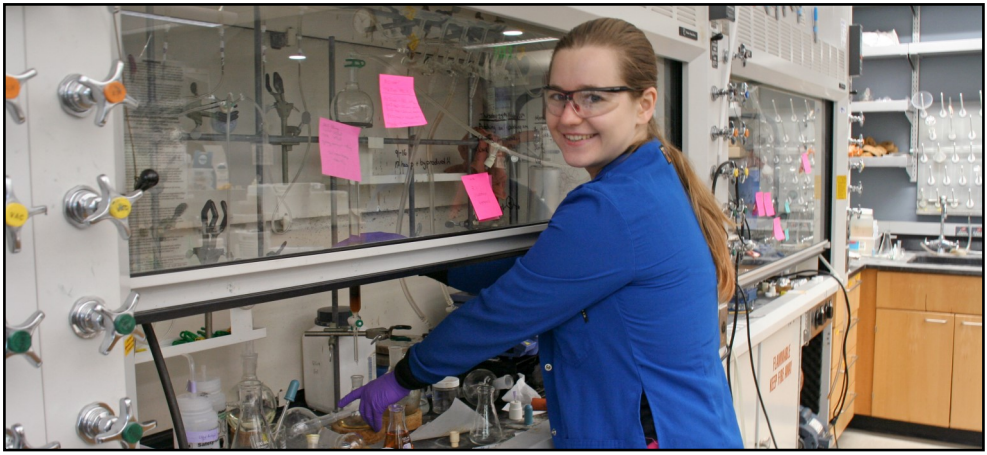
Mentors: Ash Alizadeh (Medicine—Oncology) and Russ Altman (Bioengineering, Genetics, Medicine—BMIR, and Biomedical Data Science)

Deep learning for personalized cancer vaccine design

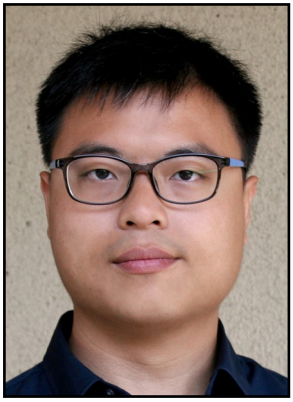
Personalized cancer vaccines provide a promising approach to prolonging patient survival. Current cancer vaccine design strategies have limited accuracy, as they ignore many features that may play a role in patient immune response. Binbin will develop T-REx (T-cell Response Estimator), a more reliable deep learning model, to predict T-cell responses to a foreign peptide/neoantigen, which will then be applied to 3 cancer vaccine trials with 330+ patients along with other relevant models to determine important predictors for patient responses. By combining the fields of cancer immunology, machine learning, and clinical oncology, Binbin will provide a reliable computational algorithm to predict peptide immunogenicity as well as patient response predictors that will guide the design of future cancer vaccines.



Stanford Bio-X Bowes Fellow Binbin Chen (see above for research details)



Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF Anna Elleman (see pg. 6 for research details)



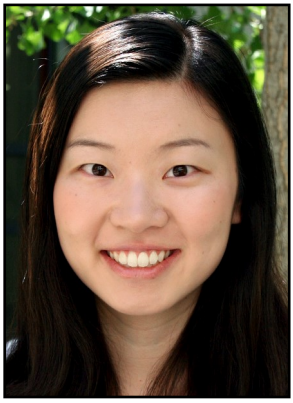
Shi-An Chen

Morgridge Family SIGF Fellow, Stanford Bio-X SIGF
Biology

Mentors: Hunter Fraser (Biology) and Michael Bassik (Genetics)

Direct measurement of gene-environment interactions by high-throughput precision genome editing

Phenotypic variation among individuals is what makes us unique, and is attributed to genetic variation, environmental effects, or a combination of both. Understanding these genotype-by-environment (GxE) interactions can shed light on which causal variants can predict disease prevention and treatment outcomes. However, current methods to genetically map these variants have limited resolution and throughput. By combining population genetics and genome editing techniques, Shi-An will apply a transformative technology for high-throughput precision gene editing that can functionally test tens of thousands of genetic variants in a single experiment between two diverged yeast populations. This will help elucidate the genetic basis of adaptive traits that can lead to natural selection and genetic divergence.



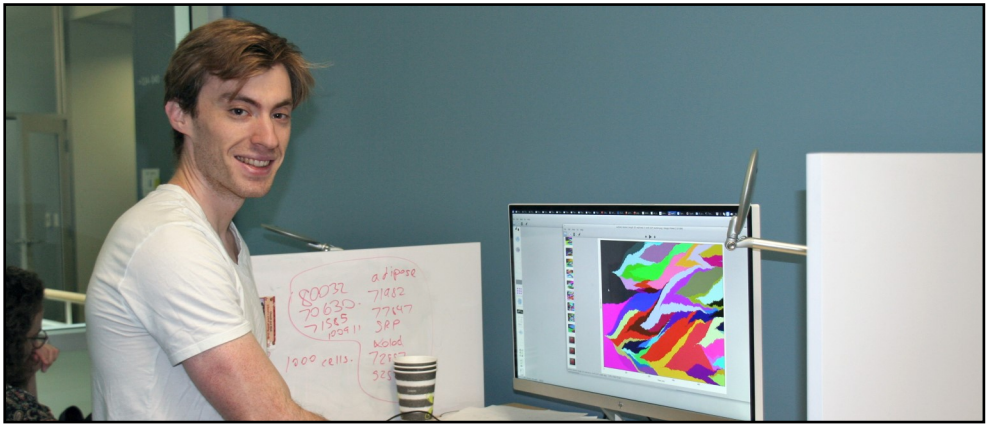
Kiara Cui

Stanford Bio-X Bowes Fellow
Chemical Engineering

Mentors: Alexander Dunn (Chemical Engineering) and Vittorio Sebastiano (Obstetrics & Gynecology—Reproductive Biology)

Investigation of murine embryo implantation and development* in vitro *using microfluidics

Implantation is a key but poorly understood step in mammalian development. Current *in vitro* methods provide a limited observational window and fail to capture biochemical signaling dynamics crucial for successful implantation *in vivo*. To address these issues, Kiara has engineered a novel fluidic perfusion culture device that can mimic *in utero* biochemical, physical, and extracellular matrix (ECM) cues and is compatible with live imaging. By integrating knowledge from chemical engineering and embryology, this project aims to test the hypotheses that temporally varying microenvironmental elements are sufficient to reproduce essential implantation features in *vitro*. This work will help elucidate mechanisms behind diseases of pregnancy and improve processes such as *in vitro* fertilization.



Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF Alexander Tarashansky
(see pg. 13 for research details)

Anna Elleman

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

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

Understanding the role of voltage-gated sodium channels in neural hyperexcitability

Management of neuropathic pain (NP)—a condition characterized by hypersensitivity and neural hyperexcitability—costs upward of $100 billion yearly in the US. Anna intends to elucidate the regulatory pathways responsible for NP by developing neurotoxin tools that target the cellular membrane ion channels related to NP. This project combines the tools of synthetic chemistry, electrophysiology, imaging, and neurobiology to potentially reveal new pharmaceutical targets for modulating neuronal activity and inform future efforts in the development of NP treatments.

David Glass

Morgridge Family SIGF Fellow, Stanford Bio-X SIGF
Immunology

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

Integrated phenotypic and clonal analysis of functionally-distinct human B cell subsets

To protect against infectious disease, humans have evolved a class of antibody-producing white blood cells called B cells. Different subclasses of B cells work together in a network to achieve this protection—some mount a robust, short-term response to clear a current infection, while others form a memory of previous microbial encounters to prevent reinfection years later. Many facets of this complex system have never been measured, limiting our understanding of the key determinants of an effective immune response. Consequently, this lack of knowledge severely compromises our ability to generate effective vaccines and therapies. By combining quantitative single cell genomic and proteomic technologies with machine learning, David will interrogate the dynamics of the immune response to vaccination and viral infection to gain a holistic understanding of the system. This comprehensive map of effective immunity can guide the design of the next generation of vaccines and therapies.

Emma del Carmen Gonzalez Gonzalez

Stanford Bio-X Bowes Fellow
Chemical Engineering

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

Spherically confined colloidal suspensions: a model for intracellular transport

Living cells synthesize, host, incubate, and organize macromolecules via an astonishing ballet of chemical and physical activity. While a decades-long focus on genetics and biochemistry has produced astounding achievements for human health, there is emergent recognition that the physics of cell function play as central a role as biochemical activity. Computational modeling of such processes is essential to understanding these processes, but current models are limited. Emma will leverage on the expertise of 2 different fields—suspension mechanics and computational modeling of solvent-suspended particles—to produce full-scale computational models of intracellular transport that could be key for advances in disease treatment.

Gunsagar Gulati

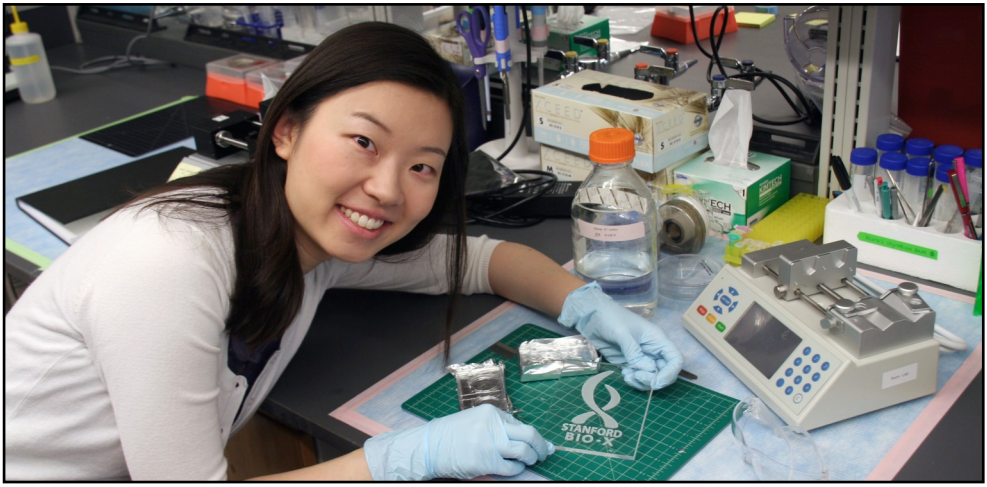
Stanford Bio-X Bowes Fellow
Cancer Biology, Medicine

Mentors: Aaron Newman (Biomedical Data Science) and Michael Clarke (Medicine—Oncology)

Genomic Dissection of Tumor Initiating Cells by* In Silico *Cytometry

Tumors are driven by subpopulations of tumor-initiating cells (TICs) that self-renew, sustain growth, and are resistant to therapy. However, little is understood about the identity of TICs, their interplay with other tumor subpopulations, and the influence of somatic mutations on their activity. Gunsagar proposes to use single-cell RNA-sequencing to profile the cellular heterogeneity of human breast cancers and understand how tumor microenvironment and somatic mutations influence TIC function and patient outcomes. This work involves the combination of computational modeling with traditional biological assays, resulting in the development of CIBERSORT as a favorable modeling method to integrate with the single-cell RNA sequencing. This will help progress the work in developing TIC-directed therapies.

Stanford Bio-X Bowes Fellow Jorge Meraz (see pg. 10 for research details)



Stanford Bio-X Bowes Fellow Kiara Cui (see pg. 5 for research details)

Mary Hall

Stanford Bio-X Bowes Fellow
Mechanical Engineering
Mentors: Marc Levenston (Mechanical Engineering) and Garry Gold (Radiology)

Contrast Agent Diffusion as a Computed Tomography Biomarker for Early Osteoarthritis Detection

Osteoarthritis is a debilitating joint disease that affects over 12% of the adult US population and costs $136B annually to treat, and development of effective treatments for OA is hindered due to the disease's slow progression. Mary aims to develop better biomarkers for early detection of osteoarthritis by combining the expertise of mechanical engineers, radiologists, and computer scientists to develop and test a computational model of contrast agent diffusion into cartilage for computed tomography (CT). This will help determine if the method can better distinguish between healthy and diseased human knee joints *in vivo* and compare its sensitivity to other early OA biomarkers in development such as quantitative MRI.

Elgin Korkmazhan

Stanford Bio-X Bowes Fellow
Biophysics
Mentors: Alexander Dunn (Chemical Engineering) and William Weis (Structural Biology, Photon Science Directorate, and Molecular & Cellular Physiology)

Spatiotemporal Dynamics of Beta-Catenin at Single Molecule Level in Cells Under Strain

Beta-catenin is a highly conserved protein instrumental in the origin of multicellularity. It lies at the heart of multiple signaling pathways in mechanotransduction and developmental processes, and dysfunctions with this protein are highly associated with pathologies such as cancers and heart disease. Recent experiments have shown that there is crosstalk of different beta-catenin dependent pathways related to cell junctions and proliferative behavior. By combining biophysical tools with biochemistry and genetics, Elgin will work on better understanding the details of beta-catenin spatiotemporal dynamics at the single molecule level to shed light on the intricacies of cell-cell adhesion and cellular signaling pathways.

Bauer LeSavage

Stanford Bio-X Bowes Fellow
Bioengineering

Mentors: Sarah Heilshorn (Materials Science & Engineering) and Theo Palmer (Neurosurgery)

Robust and Efficient Expansion of Human Neural Stem Cells for Clinical Translation

Neural stem cells (NSCs) have immense clinical potential to treat a wide range of injuries and diseases. The lack of a robust *in vitro* NSC expansion platform has resulted in clinical trial failures and precluded their use in life-saving therapies. Bauer's proposal aims to design 3D, scalable hydrogels with tunable matrix properties for the culture, maintenance, and expansion of human NSCs. Specifically, his hydrogel platform exploits both biophysical and biochemical strategies to encourage cell-cell signaling for enhanced stem cell proliferation, while also providing an efficient mechanism for safe release of NSCs from the hydrogel.

Catherine Liou

Stanford Bio-X Bowes Fellow
Chemical Engineering

Mentors: Elizabeth Sattely (Chemical Engineering) and Justin Sonnenburg (Microbiology & Immunology)

Plant metabolic engineering to quantify the impact of individual dietary nutrients on host biology

Numerous metabolites from dietary plants have been implicated in disease prevention; however, our ability to quantify their impact and determine their mechanism of action is lacking. A systematic approach that simultaneously controls for food context, plant metabolism, and the gut microbiome is a critical unmet need. Catherine proposes a general platform that relies on the model plant *Arabadiopsis thaliana* as a metabolic chassis to cleanly isolate the effects of individual nutrients from any dietary plant by integrating plant metabolic engineering approaches with advances made in microbiome research. Catherine anticipates that this work will help quantify the impact of dietary molecules on disease and guide future engineering efforts to optimize crop nutrient content.

Stanford Bio-X Bowes Fellow Gunsagar Gulati (see pg. 7 for research details)

Jorge Meraz

Stanford Bio-X Bowes Fellow
Civil & Environmental Engineering

Mentors: Craig Criddle (Civil & Environmental Engineering) and Eric Appel (Materials Science & Engineering)

Transformation of Greenhouse Gases into Sustainable, Biodegradable Microbial Plastics

Reducing adverse effects of plastic pollution and climate change requires transitioning away from our global fossil fuel-based economy. Safe and effective utilization of greenhouse gases (GHGs) such as carbon dioxide (CO_2) and methane (CH_4) is increasingly important, as they are ubiquitous and reliable sources of feedstock for bioplastic production. Type II methane oxidizing bacteria (MOB) can use CO_2 and CH_4 to produce environmentally-safe bioplastics. While growth substrates are widely available, current designs limit growth efficiency and pose explosion risks from mixing combustible gases. Jorge will combine the fields of environmental biotechnology and materials science to develop the innovative reactor design and process engineering required to increase safety and maximize biomaterial yield and reduce climate change effects.

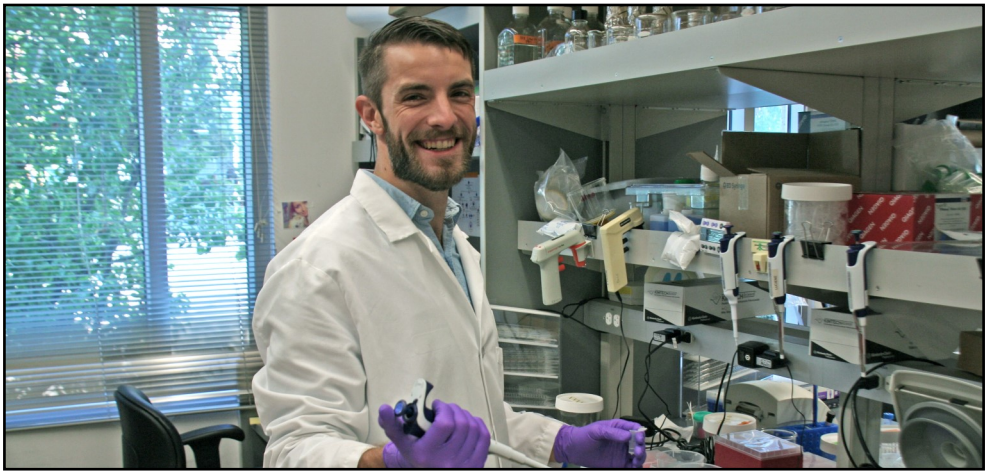
Mira Moufarrej

Stanford Bio-X Bowes Fellow
Bioengineering

Mentors: Stephen Quake (Bioengineering and Applied Physics) and David Stevenson (Pediatrics)

Using cell-free RNA (cfRNA) and single cell transcriptomic sequencing to identify biomarkers and drivers of spontaneous preterm birth

Understanding the causes behind prenatal complications like spontaneous preterm birth, the leading cause of infant death, remains critical for improving prenatal care. Mira aims to test hypotheses regarding the causes of spontaneous preterm birth. Specifically, by working with clinicians, statisticians, and biotechnologists, she will explore which genes from which tissues in the mother or fetus are implicated in prenatal complications over the course of gestation. Together, the aims proposed will identify possible causes of spontaneous preterm delivery, laying the foundation for future treatment.



Morgridge Family SIGF Fellow, Stanford Bio-X SIGF David Glass (see pg. 6 for research details)

Stanford Bio-X Bowes Fellow Mary Hall (see pg. 8 for research details)

Abdulmalik Obaid

Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF
Materials Science & Engineering

Mentors: Nicholas Melosh (Materials Science & Engineering and Photon Science Directorate) and Jun Ding (Neurosurgery and Neurology & Neurological Sciences)

A Scalable Approach to Neural Recording and Stimulation for Deep Brain Stimulation

Microelectrodes implanted into the brain are a critical component of new neuroprosthetic applications in brain-machine interfaces (BMIs). In this project, Abdulmalik proposes bringing together materials science and microfabrication techniques with electrophysiology to create the highest lateral density neuroprosthetic ever made to study the mechanistic and therapeutic effects of deep brain stimulation (DBS) for Parkinson's disease. This will be accomplished by utilizing the scalability and processing power of modern microelectronics with a low-tissue damage, three-dimensional neural interface. This tool will provide significant clinical benefits for movements disorders, such as Parkinson's disease (PD), as well as insights into the fundamental effects of DBS.

Samantha Piekos

Tusher Family Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF
Stem Cell Biology & Regenerative Medicine

Mentors: Anthony Oro (Dermatology) and Joanna Wysocka (Chemical & Systems Biology and Developmental Biology)

Chromatin dynamics during keratinocyte differentiation

Using pluripotent stem cells for regenerative medicine, such as tissue engineering skin grafts, requires a mechanistic understanding of the production process. The Oro Lab has developed a protocol to manufacture certain skin cells called basal keratinocytes from human pluripotent cells, but increased efficiency in manufacturing the cells is needed prior to clinical trials. Understanding how keratinocytes are made will allow for early purification of cells capable of becoming keratinocytes, thereby increasing efficiency. Samantha has previously shown that critical developmental factors are sequentially and synergistically required in initiating keratinocyte differentiation. She will further investigate the mechanism of keratinocyte maturation in this project by combining a bioinformatics approach with molecular biology, genetics, and bioengineering. This can lead to the improved production of graftable human skin.

Stanford Bio-X Bowes Fellow Mira Moufarrej (see pg. 10 for research details)

Annina Sartor

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

Mentors: W.E. Moerner (Chemistry) and Wah Chiu (Photon Science Directorate, Bioengineering, and Microbiology & Immunology)

Developing Correlative Cryogenic Superresolution Light and Electron Microscopy with Applications to the Study of Protein Aggregates in Neurological Disease

Although the genetic cause of aggregation of misfolded protein species in Huntington's disease (HD) has been identified, the exact mechanism of this aggregation and its impact on disease states is still unknown. Annina will develop a new technique combining super-resolution microscopy with cryogenic electron tomography (cryoET). This correlative technique will enable her to study structural information on samples such as protein aggregates found in HD pathogenesis in their native state without chemical fixation artifacts. This project integrates the fields of single-molecule optical super-resolution microscopy with cryo-electron microscopy and biological expertise on protein aggregation in HD.

Lyndsay Stapleton

Affymetrix Bio-X Fellow, Stanford Bio-X SIGF
Bioengineering

Mentors: Joseph Woo (Cardiothoracic Surgery) and Eric Appel (Materials Science & Engineering)

Post-Operative Adhesion Prevention Using Polymer Nanoparticle Hydrogels

Adhesions are fibrous bands of scar tissue forming between internal organs and tissues following any type of surgery in any part of the body, with incidence rates approaching 95%. These adhesions have numerous side effects ranging from extreme pain to increased risks during secondary and tertiary operations. Current adhesion barrier technologies are only indicated for use in the abdomen. Moreover, they are used in less than 10% of abdominal surgeries due to rapid degradation, difficulty handling during surgery, and becoming dislodged in the body. Lyndsay's goal is to develop a transformational approach to prevent adhesions that result from cardiothoracic surgery by bringing together materials science, bioengineering, and cardiovascular medicine to treat post-operative adhesions.

Alexander Tarashansky

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

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

Predicting Competition Outcomes between Stem Cell Lineages in Tissues

Competition between cell lineages in somatic homeostatic tissues contributes to a variety of biomedical problems including cancer and aging. The difficulty of acquiring longitudinal data on the evolution in this competition has limited our ability to quantify and predict the outcome of such dynamics. A small flatworm called the planarian, with its ceaseless cellular turnover and regeneration capabilities, allows us to address this challenge. In this project, Alec is collaborating between a lab with expertise in computational modeling and another lab that specializes in population genetics and experimental evolutionary biology, to theoretically and experimentally explore the mechanisms of interactions underlying clonal dynamics and somatic evolution using the planarian as a model. This will provide broad biomedical significance in the progression of cancer and aging.

Jiarui Wang

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

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

***Molecular Cinematography: Single-Molecule Imaging of Heterogeneous Protein Behaviors for Understanding Asymmetric Cell Division in* Caulobacter crescentus**

Asymmetric cell division leads to cellular diversity in eukaryotic developmental programs, which is especially critical for stem cells. The process of generating different progeny requires dynamic positioning of certain proteins at opposite ends of a cell, but a particular subset of these proteins perform asymmetric functions despite being symmetrically organized in a cell. Jiarui will be combining molecular genetics, physical chemistry, and novel single-molecule imaging to quantify a particular protein, PopA, in the bacteria *Caulobacter crescentus*, to provide clarity and insight into the fundamental mechanisms that drive asymmetric cell division.

Xu Family Foundation Fellow, Stanford Bio-X SIGF Yuan Xue (see pg. 14 for research details)

Cosmos (Yuqi) Wang

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

Neurosciences

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

C1ql3 in Synapse Specification, from Molecular Structure to Olfactory Behavior

The high fidelity of information transformation and processing by the brain requires high specificity of neural circuits, formed by precise synaptic connections between neurons. The formation and specification of synapses are mediated by trans-synaptic molecules. Neurodevelopmental and psychiatric disorders are often manifestations of neural circuit malfunction, but are always associated with some molecular defects. To overcome these diseases, we have to understand the biological functions of these molecules, as well as their downstream circuit effect on information processing and behaviors. Cosmos's long-term goal is to combine genetics and structural biology to generate a conceptual framework to understand molecules, circuits, and behaviors holistically, and make contributions to the knowledge of brain functions and disorders from molecules to behaviors.

Yuan Xue

Xu Family Foundation Fellow, Stanford Bio-X SIGF

Bioengineering

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

Single-cell co-transcriptomic analysis of* Toxoplasma gondii *asexual life cycle and host interactions

Toxoplasma gondii is a harmful and widespread intracellular human parasite that transitions between virulent and dormant stages. Understanding the effect of *Toxoplasma* infection on the human brain requires measurement of dynamical changes in both the host cells and the parasite. Single-cell transcriptome sequencing offers a powerful approach to investigate the transcriptional response of infected neurons over the course of *Toxoplasma* stage conversion. Yuan will apply single-cell sequencing to determine a co-transcriptomic map of host-parasite interactions and answer key questions about the neurological effects of *Toxoplasma* infection. This multidisciplinary project of high-throughput measurements, bioinformatics, and microbiology and immunology will facilitate the means to combat *Toxoplasma* infection.

Stanford Bio-X Bowes Fellow Suhaas Anbazhakan (see pg. 4 for research details)

Stanford Bio-X Graduate Fellowships 2004-2017 (in alphabetical order)

Amin Aalipour
Stanford Bio-X Fellow 2017
Bioengineering, MSTP
Mentors: Sanjiv Sam Gambhir (Radiology) and Crystal Mackall (Pediatrics—Hematology/Oncology, Medicine)
"Tumor Selective Antigen Induction for Targeted CAR T-Cell Therapy"

Eliza Adams
Stanford Bio-X Bowes Fellow 2017
Neurosciences
Mentors: Marc Tessier-Lavigne (Biology) and Liqun Luo (Biology)
"Investigating the structural and molecular basis of functional plasticity in activity-defined circuits of the intact adult brain"

Atish Agarwala
Stanford Bio-X Bowes Fellow 2015
Physics
Mentors: Daniel Fisher (Applied Physics) and Gavin Sherlock (Genetics)
"Modeling the evolutionary consequences of interacting genes"

Rachel Agoglia
Stanford Bio-X Honorary Fellow 2016
Genetics
Mentors: Hunter Fraser (Biology) and Sergiu Pasca (Psychiatry & Behavioral Sciences)
"Exploring gene regulatory evolution in the human brain"

Andrés Aranda-Díaz
Stanford Bio-X Bowes Fellow 2016
Bioengineering
Mentors: KC Huang (Bioengineering, Microbiology & Immunology) and Justin Sonnenburg (Microbiology & Immunology)
"A multiscale approach to antibiotic resistance in the gut"

Salil Bhate
Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016
Bioengineering
Mentors: Garry Nolan (Microbiology & Immunology) and Stanley Lei Qi (Bioengineering, Chemical & Systems Biology)
"Data-driven engineering of spatial cellular phenotypes for cancer immunotherapy using imaging-based CRISPR screening"

Johannes Birgmeier
Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2017
Computer Science
Mentors: Gill Bejerano (Developmental Biology, Computer Science, Pediatrics, Biomedical Data Science) and Jonathan Bernstein (Pediatrics—Medical Genetics)
"Continuous Reanalysis of Undiagnosed Patients with Mendelian Diseases"

Matthew Bull

Stanford Bio-X Honorary Fellow 2015
Applied Physics
Mentors: Manu Prakash (Bioengineering), Jan Skotheim (Biology), and Tim Stearns (Biology)
"Collective ciliary modes govern organism-scale behavior – Decision making in the world's simplest animal"

Shengya Cao

Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2013
Biochemistry
Mentors: Aaron Straight (Biochemistry) and Andrew Spakowitz (Chemical Engineering)
"What makes an extremely stable chromosome associated protein stable?"

Elizabeth Chen

Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2013
Stem Cell Biology and Regenerative Medicine
Mentors: Michael Clarke (Medicine) and Stephen Quake (Bioeng. and Applied Physics)
"Epigenetic regulation of self-renewal processes in stem cell populations"

Junhong Choi

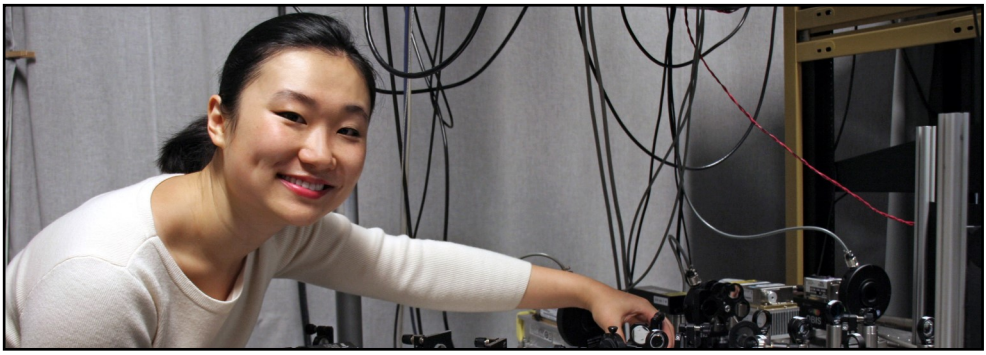
Stanford Bio-X Bowes Fellow 2015
Applied Physics
Mentors: Joseph Puglisi (Structural Biology) and Zev Bryant (Bioengineering)
"Understanding modulation in translation elongation dynamics that changes decoding of the genetic code"

Christopher Dembia

Stanford Bio-X Bowes Fellow 2016
Mechanical Engineering
Mentors: Scott Delp (Bioengineering, Mechanical Engineering), Stephen Boyd (Electrical Engineering), John Day (Neurology, Pediatrics—Genetics), Paul Nuyujukian (Bioengineering), Allison Okamura (Mechanical Engineering), and Walter Murray (Management Science & Engineering)
"Optimizing wearable robots for walking"

Darrel Deo

Mona M. Burgess Fellow, Stanford Bio-X SIGF 2016
Mechanical Engineering
Mentors: Allison Okamura (Mechanical Engineering), Krishna Shenoy (Electrical Engineering), and Paul Nuyujukian (Bioengineering)
"The role of haptic feedback in brain-computer interface systems"



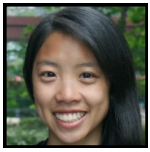
Mona M. Burgess Fellow, Stanford Bio-X SIGF Jiarui Wang (see pg. 13 for research details)

Jasmine Dickinson

Stanford Bio-X Honorary Fellow 2015
Biology
Mentors: Gregory Scherrer (Anesthesiology, Perioperative & Pain Medicine, Neurosurgery) and Mark Schnitzer (Biology, Applied Physics)
"The Anterior Cingulate Cortex projection neuron pathway to the dorsal Periaqueductal Gray modulates pain behavior"

Sarah Divel

Stanford Bio-X Bowes Fellow 2016
Electrical Engineering
Mentors: Norbert Pelc (Bioengineering, Radiology), Maarten Lansberg (Neurology), Max Wintermark (Radiology), and Sanjiva Lele (Aeronautics & Astronautics, Mechanical Engineering)
"Optimization of x-ray computed tomography for stroke assessment"



Melody Dong

Stanford Bio-X Honorary Fellow 2017
Bioengineering
Mentors: Alison Marsden (Pediatrics—Cardiology, Bioengineering) and Marlene Rabinovitch (Pediatrics—Cardiology)
"Computational modeling of pulmonary arterial hypertension to determine abnormal hemodynamic effects on endothelial gene expression"

Nir Even-Chen

Stanford Bio-X Bowes Fellow 2015
Electrical Engineering
Mentors: Krishna Shenoy (Electrical Engineering) and Kwabena Boahen (Bioengineering)
"Neural control of a robotic arm using an adaptive brain-machine interface enabled by error detection feedback"

Pablo García-Nieto

Stanford Bio-X Bowes Fellow 2017
Biology
Mentors: Hunter Fraser (Biology) and Ashby Morrison (Biology)
"Population genomics of UV-induced mutations"

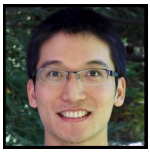
Courtney Gegg

Stanford Bio-X Bowes Fellow 2016
Bioengineering
Mentors: Fan Yang (Orthopaedic Surgery, Bioengineering) and Stuart Goodman (Orthopaedic Surgery)
"Regenerating cartilage with zonal organization using injectable, macroporous hydrogels with spatially patterned cues"

Caleb Glassman

Stanford Bio-X Honorary Fellow 2017
Immunology
Mentors: K. Chris Garcia (Molecular & Cellular Physiology, Structural Biology) and Michael Bassik (Genetics)
"Functional and biophysical investigation of coevolved receptor-ligand interactions using yeast and mammalian surface display"

Amalia Hadjitheodorou
Stanford Bio-X Bowes Fellow 2014
Bioengineering
Mentors: Julie Theriot (Biochemistry, Microbiology & Immunology), Polly Fordyce (Bioengineering, Genetics), and Robert Tibshirani (Statistics, Biomedical Data Science)
"The cytoskeletal circuitry underlying directional decisions during neutrophil migration"



Shuo Han
Stanford Bio-X Bowes Fellow 2017
Chemistry
Mentors: Alice Ting (Genetics, Biology) and Howard Chang (Dermatology)
"Proximity biotinylation for spatially resolved RNA sequencing in living cells"

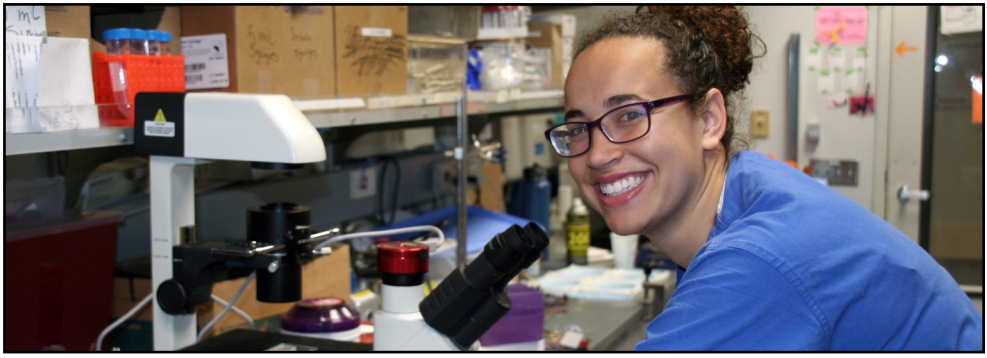
Timothy Horton
City Hill Foundation Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2017
Chemistry
Mentors: Justin Annes (Medicine—Endocrinology, Gerontology, Metabolism) and Jennifer Cochran (Bioengineering)
"Confronting the Central Challenge to Developing a Regenerative Medicine: Lineage-Specific Drug Activity"

Brian Hsueh
Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2015
Neurosciences, MSTP
Mentors: Karl Deisseroth (Bioengineering, Psychiatry & Behavioral Sciences), Seung Kim (Developmental Biology), Krishna Shenoy (Electrical Engineering), and David Lyons (Psychiatry & Behavioral Sciences)
"Pathways to clinical CLARITY: methodologies for transparent-volume quantitative analysis of irregular, soft, and heterogeneous tissues in development and disease"

Kwang Eun Jang
Stanford Bio-X Bowes Fellow 2014
Bioengineering
Mentors: Dwight Nishimura (Electrical Engineering) and Shreyas Vasanawala (Radiology)
"Multichannel 3D cone trajectory development for MR abdominal/cardiac imaging"

Hannah Kempton
Stanford Bio-X Honorary Fellow 2017
Bioengineering
Mentors: Stanley Lei Qi (Bioengineering, Chemical & Systems Biology) and Garry Nolan (Microbiology & Immunology)
"Dissecting the role of macrophage polarization in the tumor microenvironment"

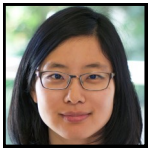
"Bio-X is this amazing group of people that want to change the world and actually have the capacity to do that through innovative research. The connections I have made through this award with other fellows have already affected my research tremendously and made it so fun! I can't imagine a better, more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



Affymetrix Bio-X Fellow, Stanford Bio-X SIGF Lyndsay Stapleton (see pg. 12 for research details)

Margarita Khariton

Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF 2017
Bioengineering
Mentors: Bo Wang (Bioengineering) and William Talbot (Developmental Biology)
"Glial and Immunological Regulators of Neuronal Regeneration"



Carolyn Kim

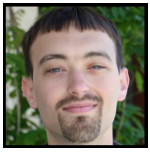
Mona M. Burgess Fellow, Stanford Bio-X SIGF 2017
Computer Science
Mentors: Mohsen Bayati (Operations, Information, and Technology) and Michael Baiocchi (Medicine—Stanford Prevention Research Center)
"Adaptive Experimental Designs for Clinical Trials"

Daniel Kim

Stanford Bio-X Bowes Fellow 2015
Biomedical Informatics, Medicine
Mentors: Anshul Kundaje (Genetics, Computer Science), Paul Khavari (Dermatology), William Greenleaf (Genetics), Howard Chang (Dermatology), and Michael Snyder (Genetics)
"An integrative machine learning framework applied to epidermal differentiation"

Yoon Seok Kim

Stanford Bio-X Bowes Fellow 2016
Bioengineering
Mentors: Karl Deisseroth (Bioengineering, Psychiatry & Behavioral Sciences) and Brian Kobilka (Medicine—Cardiovascular, Molecular & Cellular Physiology)
"Structure-guided expansion of inhibitory optogenetic tools"



Benjamin Kotopka

Stanford Bio-X Bowes Fellow 2015
Bioengineering
Mentors: Christina Smolke (Bioengineering) and Rhiju Das (Biochemistry)
"Designing new promoters for gene expression control in yeast"

Brad Krajina

Stanford Bio-X Bowes Fellow 2015
Chemical Engineering
Mentors: Andrew Spakowitz (Chemical Engineering), Sarah Heilshorn (Materials Science & Engineering), Sebastian Doniach (Applied Physics, Physics, Photon Science), and Joseph Wu (Cardiovascular Medicine, Radiology)
"Topological control of DNA organization"

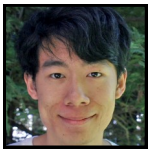
Stanford Bio-X Fellows 2014 group photo

DEEPAK KRISHNAMURTHY
Stanford Bio-X Bowes Fellow 2015
Mechanical Engineering
Mentors: Manu Prakash (Bioengineering) and Giulio de Leo (Biology)
"Biophysics of swimming and host-seeking in Schistosomiasis cercariae*"*

HONG-PYO LEE
Stanford Bio-X Bowes Fellow 2017
Mechanical Engineering
Mentors: Ovijit Chaudhuri (Mechanical Engineering) and Nidhi Bhutani (Orthopaedic Surgery)
"Utilizing Hydrogels with Fast Stress Relaxation for Induction and Expansion of iPSCs"

MICHAEL LEUNG
Xu Family Foundation Fellow, Stanford Bio-X SIGF 2016
Electrical Engineering
Mentors: Audrey Bowden (Electrical Engineering), Barry Behr (Obstetrics & Gynecology), and Sindy Tang (Mechanical Engineering)
"Clinical classification methods for in vitro fertilization (IVF) embryos in order to increase the rate of singleton births"

STEVEN LEUNG
Stanford Bio-X Bowes Fellow 2013
Bioengineering
Mentors: Kim Butts Pauly (Radiology) and Pejman Ghanouni (Radiology)
"Computational modeling of high intensity focused ultrasound therapies"



HONGQUAN LI
Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2017
Electrical Engineering
Mentors: Manu Prakash (Bioengineering), Fabian Pease (Electrical Engineering), and Leo Hollberg (Physics)
"Low-cost automated microscopes for malaria diagnosis and beyond"

PAYTON MARSHALL
Stanford Bio-X Bowes Fellow 2017
Immunology, Medicine
Mentors: Paul Bollyky (Medicine—Infectious Diseases, Microbiology & Immunology) and Carolyn Bertozzi (Chemistry)
"Engineering Dendritic Cells for Immune Tolerance"

Rebecca Marton
Seth A. Ritch Graduate Fellow, Stanford Bio-X SIGF 2017
Stem Cell Biology & Regenerative Medicine
Mentors: Sergiu Pasca (Psychiatry & Behavioral Sciences) and Bianxiao Cui (Chemistry)
"Capturing astrocyte and oligodendrocyte interaction in Vanishing White Matter Disease-derived neural spheroids"

Aaron Mayer
Stanford Bio-X Honorary Fellow 2015
Bioengineering
Mentors: Sam Sanjiv Gambhir (Radiology), Irving Weissman (Pathology, Developmental Biology), William Greenleaf (Genetics), and Ron Levy (Medicine—Oncology)
"A molecular imaging toolbox for monitoring cancer immunotherapies"

Kelly McGill
Stanford Bio-X Bowes Fellow 2017
Immunology
Mentors: PJ Utz (Medicine - Immunology & Rheumatology) and Purvesh Khatri (Medicine—Biomedical Informatics, Biomedical Data Science)
"Sex affects immune system aging"

Allister McGuire
Stanford Bio-X Bowes Fellow 2013
Chemistry
Mentors: Bianxiao Cui (Chemistry), Yi Cui (Materials Science & Engineering), and Zhenan Bao (Chemical Engineering)
"Engineering a nanoelectrode to measure cardiac response to drugs"

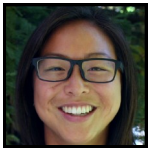
Arek Melkonian
Xu Family Foundation Fellow, Stanford Bio-X SIGF 2016
Chemical Engineering, Medicine
Mentors: Chaitan Khosla (Chemical Engineering, Chemistry), Calvin Kuo (Hematology), Joshua Elias (Chemical & Systems Biology), and Elizabeth Mellins (Pediatrics)
"Antigen presentation in coeliac disease"

Caitlyn Miller
Stanford Bio-X Honorary Fellow 2017
Bioengineering
Mentors: Jennifer Cochran (Bioengineering) and Carolyn Bertozzi (Chemistry)
"Targeted immunotherapy for treatment of pancreatic cancer"

Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF Abdulmalik Obaid (see pg. 11 for research details)

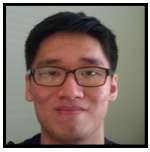
Paola Moreno-Roman
Stanford Bio-X Bowes Fellow 2014
Biology
Mentors: Lucy O'Brien (Molecular & Cellular Physiology) and Matthew Scott (Developmental Biology)
"Investigating a novel link between tissue structure and cell differentiation during organ self-renewal"

Elaine Ng
Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016
Bioengineering
Mentors: Shan Wang (Materials Science & Engineering, Electrical Engineering), Paul Utz (Immunology, Rheumatology), and Samuel So (Surgery—General Surgery)
"High-throughput biomarker detection of early hepatocellular carcinoma in high-risk Hepatitis B Virus-infected patients using automated point-of-care giant magnetoresistive sensor array platform"



Johanna O'Day
Stanford Bio-X Bowes Fellow 2017
Bioengineering
Mentors: Scott Delp (Bioengineering, Mechanical Engineering) and Helen Bronte-Stewart (Neurology & Neurological Sciences)
"Developing a novel measurement system to understand the neural and biomechanical signatures of pathological gait in Parkinson's disease"

Carmichael Ong
Stanford Bio-X Bowes Fellow 2011
Bioengineering
Mentor: Scott Delp (Bioengineering and Mechanical Engineering)
"Using optimal control theory to understand and improve human movement"



Sung Jin Park
Stanford Bio-X Bowes Fellow 2013
Bioengineering
Mentor: Jennifer Cochran (Bioengineering)
"Engineering protein scaffolds for targeted therapeutics"

Petar Petrov
Xu Family Foundation Fellow, Stanford Bio-X SIGF 2017
Chemistry
Mentors: W.E. Moerner (Chemistry) and Jan Liphardt (Bioengineering)
"Development and Application of a Light Sheet Microscope for 3D Single-Particle Tracking of Chromatin Loci in Thick, Live Mammalian Cells"

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

— Pankaj Sharma, Stanford Bio-X Bowes Fellow

Arjun Prabhakar

Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2016
Biophysics
Mentors: Joseph Puglisi (Structural Biology) and Peter Sarnow (Microbiology & Immunology)
"Probing the dynamics of translation termination and recycling"

Amanda Rabe

Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2016
Cancer Biology
Mentors: Jennifer Cochran (Bioengineering), Edward Graves (Radiation Oncology), Edgar Engleman (Pathology, Medicine—Immunology and Rheumatology), and Amato Giaccia (Radiation Oncology)
"Combining radiation and targeted immunotherapy for metastatic cancer"

Ashwin Ramachandran

Stanford Bio-X Bowes Fellow 2017
Aeronautics & Astronautics
Mentors: Juan Santiago (Mechanical Engineering) and Sanjiva Lele (Aeronautics & Astronautics, Mechanical Engineering)
"Electrokinetic microfluidics for rapid and automated clinical diagnostics"

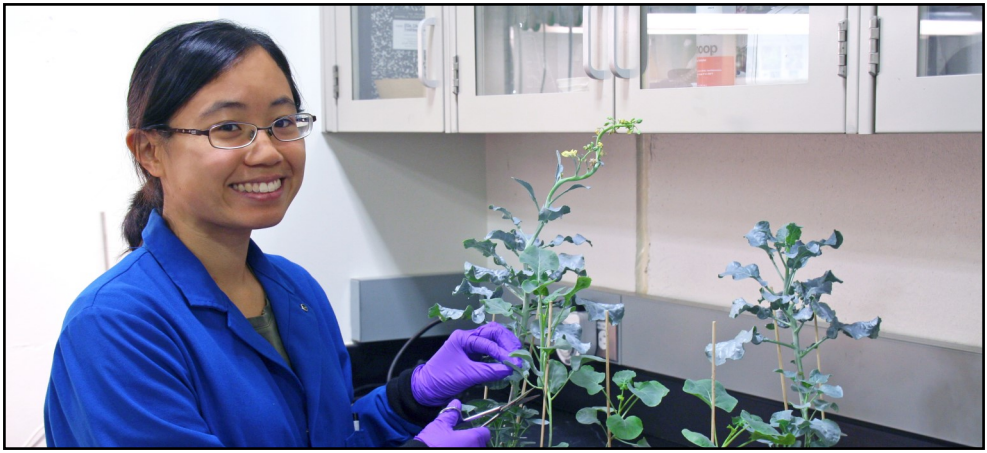
Alexander Ratner

Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2017
Computer Science
Mentors: Christopher Ré (Computer Science) and Daniel Rubin (Biomedical Data Science, Radiology, Medicine—Biomedical Informatics Research)
"Alleviating the Labeling Bottleneck with Weak Supervision"

Heather Rogan

Rogers Family Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2016
Bioengineering
Mentors: Fan Yang (Orthopaedic Surgery, Bioengineering), Constance Chu (Orthopaedic Surgery), and Bo Wang (Bioengineering)
"Harnessing stem cells to catalyze cartilage regeneration"

Tusher Family Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF Samantha Piekos
(see pg. 11 for research details)



Stanford Bio-X Bowes Fellow Catherine Liou (see pg. 9 for research details)

Tim Schnabel

Stanford Bio-X Bowes Fellow 2015
Bioengineering
Mentors: Elizabeth Sattely (Chemical Engineering), Drew Endy (Bioengineering), Sharon Long (Biology, Chemistry), James Swartz (Chemical Engineering, Bioengineering), and Virgina Walbot (Biology)
"Plant and rhizosphere pathway discovery and engineering towards improved crop performance including stress tolerance and growth promotion"

Anna Shcherbina

Stanford Bio-X Bowes Fellow 2017
Mechanical Engineering
Mentors: Anshul Kundaje (Genetics, Computer Science) and Euan Ashley (Medicine—Cardiovascular Medicine, Genetics, and Biomedical Data Science)
"Deep learning approaches for functional variant prioritization"

Jake Sganga

Stanford Bio-X Bowes Fellow 2014
Bioengineering
Mentors: David Camarillo (Bioengineering), Paul J. Wang (Cardiovascular Medicine), and Allison Okamura (Mechanical Engineering)
"Flexible surgical robotics"

Handuo Shi

Rosenberg Ach Family Fellow, Stanford Bio-X SIGF 2016
Bioengineering
Mentors: KC Huang (Bioengineering, Microbiology & Immunology) and Justin Sonnenburg (Microbiology & Immunology)
"Systems physiology of stress: How bacteria respond to environmental changes"

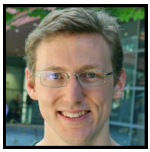
Avanti Shrikumar

Stanford Bio-X Bowes Fellow 2016
Computer Science
Mentors: Anshul Kundaje (Computer Science, Genetics) and Helen Blau (Microbiology & Immunology)
"Interpretable deep learning approaches for regulatory genomics"

Steven Shuken
Xu Family Foundation Fellow, Stanford Bio-X SIGF 2017
Chemistry
Mentors: Tony Wyss-Coray (Neurology & Neurological Sciences) and Joshua Elias (Chemical & Systems Biology)
"Proteomics of Brain Aging, Disease, and Rejuvenation in the CSF"

Herbert Silva
Stanford Bio-X Bowes Fellow 2013
Mechanical Engineering
Mentors: Drew Nelson (Mechanical Engineering), Jason T. Lee (Vascular & Endovascular Surgery), and Staff Scientist Chris Tassone (SLAC)
"A novel approach for studying the mechanical behavior of atherosclerotic plaque"

Alice Stanton
Stanford Bio-X Bowes Fellow 2017
Bioengineering
Mentors: Fan Yang (Orthopaedic Surgery, Bioengineering) and Ovijit Chaudhuri (Mechanical Engineering)
"Uncovering the Role of Biochemical Cues on Modulating Stem Cell Mechanotransduction and Differentiation: A Biomaterials-based Approach"



Terence Theisen
Colella Family Fellow, Stanford Bio-X SIGF 2017
Microbiology & Immunology
Mentors: John Boothroyd (Microbiology & Immunology) and Polly Fordyce (Genetics, Bioengineering)
"Microfluidics as a novel means to discover the function of an extremely large family of paralogous surface proteins in the ubiquitous pathogen Toxoplasma gondii*"*

Avin Veerakumar
Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2017
Bioengineering, Medicine
Mentors: Mark Krasnow (Biochemistry) and David Kingsley (Developmental Biology)
"Identifying genetic and cellular events underlying the evolution of the human speech circuit"

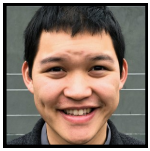
Mathias Voges
Stanford Bio-X Bowes Fellow 2013
Bioengineering
Mentor: Elizabeth Sattely (Chemical Engineering)
"Engineering interactions between plants and plant growth-promoting microbes"

Michael Wainberg
Stanford Bio-X Bowes Fellow 2016
Computer Science
Mentors: Anshul Kundaje (Computer Science, Genetics) and Michael Bassik (Genetics)
"Finding the genetic drivers of cancer with CRISPR/Cas9 genome editing"

Wanxin Wang
Stanford Bio-X Bowes Fellow 2015
Bioengineering
Mentors: Stephen Quake (Bioengineering, Applied Physics), Carlos Simon (OB-GYN/ Reproductive, Perinatal & Stem Cell Biology Research), and Barry Behr (OB/GYN)
"Developing a high-resolution and minimally invasive approach to diagnose endometrium receptivity"

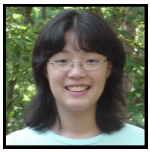
Andrew Weitz
Stanford Bio-X Bowes Fellow 2012
Bioengineering
Mentor: Jin Hyung Lee (Neurology and Bioengineering)
"Dissection of large-scale brain networks using optogenetic fMRI"

Yonatan Winetraub
Stanford Bio-X Bowes Fellow 2016
Biophysics
Mentors: Adam de la Zerda (Structural Biology) and Steven Chu (Physics, Molecular & Cellular Physiology)
"Trying to reveal cancer cell communication: Creating a molecular acoustic Optical Coherence Tomography (OCT) imaging device"



Andrew Yang
Stanford Bio-X Honorary Fellow 2015
Bioengineering
Mentors: Tony Wyss-Coray (Neurology) and Carolyn Bertozzi (Chemistry)
"Tagging proteins in our blood to understand how we age"

Renzhi Yang
Stanford Bio-X Bowes Fellow 2016
Biology
Mentors: Jun Ding (Neurosurgery) and Michael Lin (Neurobiology, Bioengineering)
"Dissecting the neural network underlying motor control"



Anne Ye
Stanford Bio-X Bowes Fellow 2012
Bioengineering
Mentor: Jennifer Cochran (Bioengineering)
"Engineering a new enzyme for precise protein labeling"

Patrick Ye
Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2013
Bioengineering
Mentors: Kim Pauly (Radiology) and Stephen Baccus (Neurobiology)
"Elucidating the mechanisms of in vivo *ultrasound neuromodulation"*

Alexander Yoshikawa
Stanford Bio-X Bowes Fellow 2017
Chemical Engineering
Mentors: Tom Soh (Radiology, Electrical Engineering) and Carolyn Bertozzi (Chemistry)
"Development of highly specific xeno-nucleic acid (XNA) aptamers to modulate the innate immune system"

Noah Young
Stanford Bio-X Bowes Fellow 2012
Bioengineering
Mentors: Karl Deisseroth (Bioeng. and Psychiatry) and Surya Ganguli (Applied Physics)
"Light field imaging for high speed volumetric calcium activity recording in the larval zebrafish"

Where are they now?

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

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

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

Jaimie Adelson (Stanford Bio-X Honorary Fellow 2010) is working on her Master of Science at the London School of Hygiene and Tropical Medicine, University of London.

Afsheen Afshar (Stanford Bio-X Bowes Fellow 2005) is chief artificial intelligence officer and senior managing director of Cerberus Capital Management. In this role, he's responsible for designing, building and leading the creation of a full-scale front-to-back data and advanced analytics capability that can be leveraged by all businesses and portfolio companies touched by the entire firm.

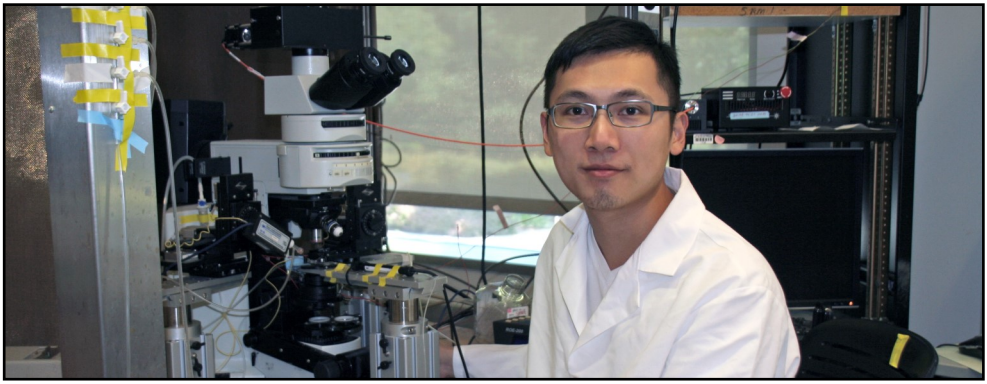
Ron Alfa (Stanford Bio-X Bowes Fellow 2011) is the VP of Discovery and Product at Recursion Pharmaceuticals.

Katherine Amberg-Johnson (William and Lynda Steere Fellow, Stanford Bio-X SIGF 2016) is a scientist at a small biotech startup.

Edith Arnold (Stanford Bio-X Bowes Fellow 2006) is working at Apple, Inc. as an engineering manager. In 2018, she was selected as a Mentor for the Grace Hopper Celebration of Women in Computing.

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. DNAnexus received the FDA Commissioner's Special Citation Award for superior achievement of the Agency's mission through teamwork, partnership, shared responsibility, and fostering collaboration to achieve the FDA goals.

Oguzhan Atay (Colella Family Fellow, Stanford Bio-X SIGF 2014) is the co-founder and CEO of BillionToOne, a YC company that is focusing on prenatal genetic testing for every expecting mother. The company has raised $2.5M from prominent institutional investors and VC firms, as well as received an SBIR grant from the NIH, and will soon be completing clinical trials.



Felix and Heather Baker Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF Cosmos (Yuqi) Wang
(see pg. 14 for research details)

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

Eva Gabriela Baylon (Stanford Bio-X Skippy Frank Fellow 2014) is a postdoc in Dr. Tamara Alliston's lab in orthopaedic surgery at University of California-San Francisco, studying how osteocyte tension and the mechanical environment of osteocytes are coupled to control perilacular/canalicular remodeling in the bone.

Daniel Bechstein (Stanford Bio-X Bowes Fellow 2012) is a sensor design engineer at Apple, Inc.

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

Jennifer Blundo (Stanford Bio-X Bowes Fellow 2006) is an adjunct assistant professor at the UCLA David Geffen School of Medicine and a lecturer at the Anderson School of Management. She oversees the UCLA Biodesign Program for innovation and entrepreneurship in healthcare and teaches classes on medical device development, digital health, and entrepreneurship. Jennifer also serves as the Director of the MedTech Innovator Accelerator & Competition, a non-profit industry-driven platform for medtech and digital health start-ups that is supported by J&J, Baxter, Amgen, and other leading manufacturers.

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 product manager at GoogleX.

Craig Buckley (Stanford Bio-X Bowes Fellow 2011) is a postdoc in Alex Dunn's lab at Stanford.

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

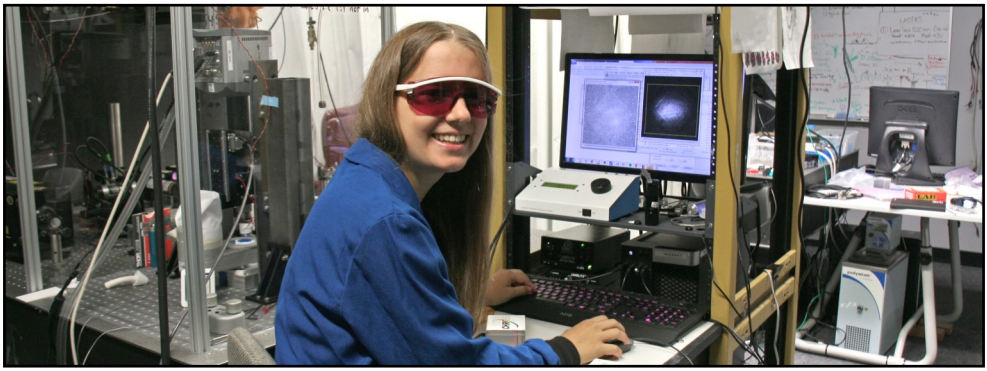
Mindy Chang (Stanford Bio-X Bowes Fellow 2005) is a developer at ScienceVR.

Ian Chen (Stanford Bio-X Bowes Fellow 2006) is an instructor at the Stanford Cardiovascular Institute. In 2017, Ian received a Stanford Translational Research and Applied Medicine Pilot Grant, and in 2018, he received an American Heart Association Career Development Award.

Jin Chen (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2012) is a postdoctoral fellow in Jonathan Weissman's lab at University of California-San Francisco.

Fang-Chieh Chou (Stanford Bio-X Fellow 2012) is a senior machine learning engineer at Uber.

Vincent Chu (Stanford Bio-X Pfizer Fellow 2005) is an operating partner in the engineering division of Initialized Capital in San Francisco.



William and Lynda Steere Fellow, Stanford Bio-X SIGF Annina Sartor (see pg. 12 for research details)

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

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

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

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

Anna Cunningham (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2015) is a computational biologist at Driver, a consumer technology company building a treatment access platform for cancer patients based on their medical records and biological data.

Sanjay Dastoor (Stanford Bio-X Bowes Fellow 2006) is currently the co-founder and CEO of Skip, and co-founder and former CEO at Boosted. Both companies focus on designing fun, fast, and simple electric transportation vehicles.

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

Adi de la Zerda (Stanford Bio-X Fellow 2013) has just defended and is figuring out her next steps while raising her family.

Sarah Denny (Stanford Bio-X Honorary Fellow 2013) is a postdoc in the department of Biology and Biological Engineering at the California Institute of Technology in the lab of Dr. Michel Elowitz, working on understanding how cells perceive their surroundings.

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

Rebecca DiMarco (Stanford Bio-X Bowes Fellow 2009) is a Senior Quality and Development Engineer at Cytovale.

Sheng Ding (Stanford Bio-X Bowes Fellow 2007) works for Pfizer-Rinat, one of the world's leaders in biopharma industry, as a Senior Scientist focusing on antibody engineering.

Graham Dow (Stanford Bio-X Bowes Fellow 2009) is a research assistant professor in the department of biology at Boston University.

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

Remy Durand (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2010) is a VP at Frazier Healthcare Partners, where he focuses on investment identification, due diligence, and deal closing.

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

Gabriela Fragiadakis (Stanford Bio-X Bowes Fellow 2013) is working with Professor Justin Sonnenburg as a postdoc in the microbiology & immunology department at Stanford University.

Limor Freifeld (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2010) is a Senior Lecturer (a position equivalent to assistant professor) 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 in the department of Chemistry. His lab's goals are to understand how proteins fold and assemble into complex assemblies in their native cellular context, and to exploit the protein synthesis machinery to direct the construction of novel protein-based materials. In the long term, the lab hopes to apply their discoveries to better understand protein-based human diseases and enable sustainable alternatives to plastics and other consumer materials.

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 working as a postdoc with Professor Michael Elowitz in the department of biology at Caltech,

David S. Glass (Stanford Bio-X Bowes Fellow 2013) is starting a postdoc position in Uri Alon's lab at the Weizmann Institute with a Zuckerman Postdoctoral Fellowship. A paper on the research supported by Bio-X during David's PhD was recently published in *Cell*.

Peyton Greenside (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2015) received a Schmidt Science Fellows program award to conduct postdoctoral research with Dr. Emma Brunskill's group at Stanford.

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

Alex Grant (Stanford Bio-X Bowes Fellow 2010) is currently working as a principal R&D engineer at the startup Ceribell, Inc.

Adam Grossman (Stanford Bio-X Bowes Fellow 2004) is a co-founder and VP of Modeling at Praedicat, Inc., a company transforming the underwriting and risk management of liability insurance by using big data approaches to model and understand the science that drives products liability.

Lisa Gunaydin (Stanford Bio-X Bowes Fellow 2008) is an Assistant Professor in the Department of Psychiatry and the Institute for Neurodegenerative Diseases at University of California-San Francisco. She is also a Chan-Zuckerberg Biohub Investigator.

Kevin Hart (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015) is a senior research associate at Calico Life Sciences.

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

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

Tyler Hillman (Stanford Bio-X Bowes Fellow 2008) is a gynecologic oncology fellow at the University of Texas MD Anderson Cancer Center.

Zahid Hossain (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2014) is Team Lead of Tracking (Computer Vision) and Rendering at Meta Co.

Eva Huang (Stanford Bio-X Bowes Fellow 2014) is a scientist at the biotech startup System1 Biosciences, focused on revolutionizing drug discovery for brain disorders.

Jacob Hughey (Stanford Bio-X Bowes Fellow 2007) is an assistant professor of Biomedical Informatics and Biological Sciences at Vanderbilt University.

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

Johnny Israeli (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2016) serves as the manager of Deep Learning Genomics at Nvidia.

Ivan Ivanov (Tusher Family Stanford Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2015) has just defended and is starting a new position as a Research and Development Engineer at the Chan Zuckerberg Biohub.

Xiaofan Jin (Stanford Bio-X Bowes Fellow 2014) graduated in 2018 and is continuing as a postdoc in Dr. Ingmar Riedel-Kruse's lab at Stanford.

Rachel Kalmar (Stanford Bio-X Bowes Fellow 2005) is a Fellow at the Berkman Klein Center for Internet and Society at Harvard University, and a staff software engineer at Tableau Software. Rachel is also one of the founders of Dr. Brainlove, a science education non-profit and giant climbable brain jungle gym. She is an alumna of Rock Health, Misfit Wearables, and Empirical Systems.

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

Katy Keenan (Stanford Bio-X Bowes Fellow 2006) is the Acting Group Leader of Magnetic Imaging at the National Institute of Standards and Technology (NIST) in Boulder, Colorado.

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

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

Samuel Kim (Stanford Bio-X Bowes Fellow 2004) is a postdoctoral researcher in Professor Adam Abate's group at the University of California-San Francisco.

Daniel Kimmel (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2006) recently completed his residency in psychiatry and neuroscience at Columbia University. He continues his research on the neural basis of emotion and decision-making as a Leon Levy Neuroscience Fellow and T32 Fellow in Affective Disorders at Columbia, while practicing psychiatry.

Ryosuke Kita (Stanford Bio-X Bowes Fellow 2013) is a Product Scientist at 23andMe.

Gaurav Krishnamurthy (Stanford Bio-X Medtronic Fellow 2008) is the director of R&D at Half Moon Medical, the newest startup out of The Foundry (a preeminent medical device incubator in the Bay Area).

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

Stanford Bio-X Fellows 2012 group photo

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

Melinda Cromie Lear (Paul Berg Interdisciplinary Biomedical Graduate Fellow, Stanford Bio-X SIGF 2008) is a Principal Biomechanical Engineer at Seismic in Menlo Park, California. Seismic is introducing Powered Clothing™, a fusion of apparel and discreet robotics, designed to help everyone move better by adding strength, stability, and power.

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

Andrew Lee (Stanford Bio-X Bowes Fellow 2010) is finishing his MD at Stanford University, and 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.

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

Stephen Lee (Stanford Bio-X Bowes Fellow 2005) is a Senior Director of Product Strategy and Innovation of the EMEA region at Discovery Communications, based in London.

Austin Lee-Richerson (Stanford Bio-X Bowes Fellow 2011) is a consultant with the Chicago office of the Boston Consulting Group. He is a member of the firm's Health Care Practice Area and serves clients on a number of topics ranging from organizational design to commercial strategy.

Jonathan Leong (Stanford Bio-X Bowes Fellow 2010) is pursuing an internship in internal medicine at Brigham and Women's Hospital, followed by a residency in radiology at Massachusetts General Hospital,

Ye (Henry) Li (William and Lynda Steere Fellow, Stanford Bio-X SIGF 2013) is a data scientist at Uber working on intelligent decision systems.

Liang Liang (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2009) is in Chinfei Chen's and Mark Andermann's labs at Boston Children's Hospital as a postdoctoral fellow.

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

Prasheel Lillaney (Stanford Bio-X Bowes Fellow 2005) is a senior manager on the Business Intelligence & Analytics Team at Jazz Pharmaceuticals.

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

Chao Liu (Stanford Interdisciplinary Graduate Fellow (Anonymous Donor), Stanford Bio-X SIGF 2015) recently defended and is figuring out the next steps in her career.

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 head of Data Science at Quid, Inc., an analytics start-up in San Francisco.

Bertrand Lui (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2006) is a co-founder of a start-up that focuses in the area of machine learning and sales.

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

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

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

Ian Marshall (Stanford Bio-X Bowes Fellow 2008) is a postdoctoral fellow in the Center for Geomicrobiology at Aarhus University in Denmark.

Trevor Martin (Stanford Bio-X Bowes Fellow 2012) is CEO and co-founder, with another recent Stanford PhD, of Mammoth Diagnostics. They have received seed funding to move this venture forward.

Melina Mathur (Stanford Bio-X Bowes Fellow 2010) is a principal at Asset Management Ventures.

Joanna Mattis (Stanford Bio-X Bowes Fellow 2010) is a neurology resident at the University of Pennsylvania. This is her last year of residency, and then she'll be returning to do research in epilepsy circuitry as well as a clinical epilepsy fellowship. She recently received an NIH R25 award and a private research grant from the Children's Hospital of Philadelphia Women's Committee.

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

Christine McLeavey (Stanford Bio-X Bowes Fellow 2009) is a Fellow at OpenAI, a non-profit AI research company researching and enacting 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.

Leslie Meltzer (Stanford Bio-X Bowes Fellow 2004) is the vice president of medical affairs at Orchard Therapeutics in Boston, Massachusetts.

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

Amanda Miguel (Stanford Bio-X Honorary Fellow 2013) has just defended and is planning on going into industry soon.

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

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

Kate Montgomery (Stanford Bio-X Bowes Fellow 2009 and William and Lynda Steere Fellow, Stanford Bio-X SIGF 2012) is the manager of science and market development at Zebra Medical Technologies. The company's technology, minimally invasive sarcomere imaging, was supported as an academic project by a 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.

David Myung (Stanford Bio-X Bowes Fellow 2005) is an Assistant Professor of Ophthalmology at the Byers Eye Institute and the VA Palo Alto Health Care System, and is Co-Director of the Ophthalmic Innovation Program at Stanford. 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. He is the recipient of a Stanford SPARK Translational Research Grant and a Career Development Award from the National Eye Institute at the NIH. The technology he co-developed as a Bio-X Fellow was licensed out of Stanford and is the focus of a venture-backed orthopaedics-focused biomaterials company that he co-founded that is currently in pre-clinical development. During his ophthalmology residency, he led the invention of a smartphone-based eye imaging system that is FDA registered as a 510(k) Class II ophthalmic camera, and is being used worldwide, notably in collaboration with the Himalayan Cataract Project in rural Nepal.

Daniel Newburger (Morgridge Family Fellow, Stanford Bio-X SIGF 2011) is a senior software engineer at Coursera.

Wendy Ni (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2012) is a data scientist at Facebook working on product analytics in ads measurement.

William Noderer (Stanford Bio-X Bowes Fellow 2010) is working for the Boston Consulting Group as a Project Leader in Johannesburg, South Africa.

James Notwell (Affymetrix Bio-X Fellow, Stanford Bio-X SIGF 2013) is a computational scientist at Circuit Therapeutics, Inc.

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

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

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

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

Steven Petsche (Stanford Bio-X Bowes Fellow 2011) works as a Development Engineer for MSC Software in Newport Beach, California.

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

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

Teresa Purzner (Felix and Heather Baker Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2015) is completing the final years of her neurosurgery residency. She is also the co-PI on a NIH-funded clinical trial run by the Pediatric Brain Tumor Consortium, which is investigating the role of CK2 inhibitors in the treatment of SHH medulloblastoma. This trial is expected to begin this winter and was a direct result from her Stanford Bio-X funded thesis studies. Teresa also serves as CSO of Cerebelly, a nutritious baby food line she co-founded while at Stanford.

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

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-Austin. He recently received the American Heart Association Career Development Award.

Andreas Rauschecker (Stanford Bio-X Bowes Fellow 2008) is a neuroradiology fellow at UCSF, and received a 2018 Radiological Society of North America Roentgen Resident Research Award.

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

Sanaz Saatchi (Stanford Bio-X Amgen Fellow 2009) is the 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 device. 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 cofounded and is CTO 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 Bio-X research and PhD thesis on the "Anatomy of Creative Computing".

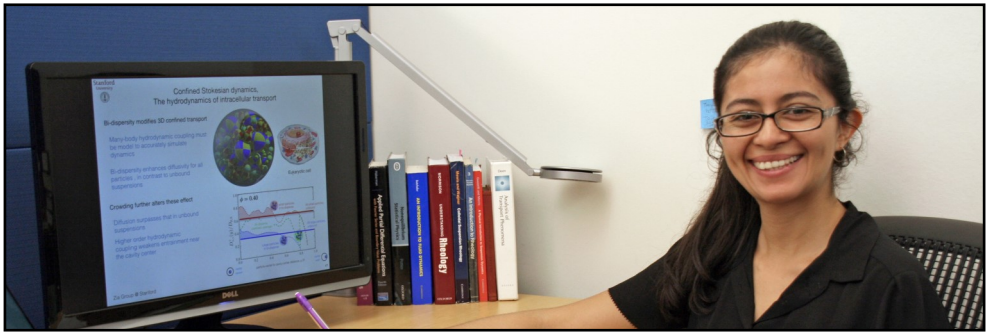
Rachel Hagey Saluti (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2014) has just graduated and is continuing in Jeffrey Glenn's lab at Stanford as a staff scientist, to work towards bringing a therapeutic she designed and patented into the clinic.

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

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

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

Mark Sellmyer (Stanford Bio-X Bowes Fellow 2008) is an assistant professor of Radiology with a secondary appointment in Biochemistry and Biophysics at the University of Pennsylvania. His lab focuses on molecular and chemical tool development for applications in cancer biology and infectious disease. Clinically, Mark is an attending physician in Nuclear Radiology. He recently was awarded the Burroughs Wellcome Fund Career Award for Medical Scientists (CAMS).



Stanford Bio-X Bowes Fellow Emma del Carmen Gonzalez Gonzalez (see pg. 7 for research details)

Pankaj Sharma (Stanford Bio-X Bowes Fellow 2012) is a senior design engineer at Stryker Corporation.

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

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

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

Min-Sun Son (Stanford Bio-X Bowes Fellow 2007) is working as an R&D Staff Engineer at Abbott.

Ryan Squire (Stanford Bio-X Bowes Fellow 2010) is a product and data scientist at SafeGraph, a start-up that builds truth sets to power machine learning and AI by working with companies to securely manage, enhance, and monetize data. SafeGraph has raised $16M in Series A fundraising.

Johanna Sweere (Lubert Stryer Interdisciplinary Graduate Fellow, Stanford Bio-X SIGF 2015) just defended. She is finishing up her publications from her PhD work as a research associate at Stanford University while interviewing for the next step in her career.

Pakpoom Subsoontorn (Stanford Bio-X Bowes Fellow 2008) a lecturer and the deputy director of the Lower Northern Science Park at Naresuan University in Thailand.

Patricia Suma (Stanford Bio-X Bowes and Stanford Bio-X Amgen Fellow 2011) is currently making a decision on her next professional endeavor.

Jong Min Sung (Stanford Bio-X Bowes Fellow 2009) has a postdoctoral position with Ron Vale's lab at University of California-San Francisco.

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

Grace Tang (Stanford Bio-X Bowes Fellow 2008) is a staff data scientist at LinkedIn.

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

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

Matthew Titchenal (Stanford Bio-X Bowes Fellow 2015) is beginning his post-graduate career as a technical consultant at InSciTech in Los Altos, California. Matt will be working with the team at InSciTech to provide rigorous, accurate, and reliable analyses of technical problems involving injury biomechanics and accident reconstruction.

Carolina Tropini (Bruce and Elizabeth Dunlevie Fellow, Stanford Bio-X SIGF 2011) will be starting a new position as assistant professor in the Department of Microbiology and Immunology at the University of British Columbia in 2019.

Baris Ungun (Stanford Bio-X Bowes Fellow 2014) just defended his PhD and is now finishing his MD.

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

Graham Walmsley (Stanford Bio-X Fellow 2015) is an Investment Professional at Versant Ventures focused on the creation and development of biotechnology and healthcare companies. Since joining Versant in 2016, Graham helped build and launch BlueRock Therapeutics, a regenerative medicine company formed in partnership with Bayer through one of the largest Series A investments in biotech history. Graham has been actively involved in several other Versant portfolio companies, including Jecure Therapeutics, a first-in-class NASH and fibrosis company, where he currently leads business development. Graham also recently became a board director of Akero Therapeutics.

Aaron Wang (Stanford Bio-X Bowes Fellow 2006) has his own private practice in Pittsburgh, Pennsylvania, as a corneal specialist. He received a Heed Ophthalmic Foundation Fellowship during his postgraduate studies.

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

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

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

Yen-Hsiang Wang (Stanford Bio-X Bowes Fellow 2009) is the Director of Strategy for the Center of AI Healthcare of Tencent in China.

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

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

Kitchener Wilson (Stanford Bio-X Bowes Fellow 2007) is an Instructor in Pathology at Stanford with a clinical specialization in molecular genetic pathology. When not in the clinic, in his research he is merging next generation sequencing with primate iPS cell models of development in order to discover novel genes and processes that have enabled humans to evolve over millennia. Kitch's research is supported by an NIH K08 career development grant, the Stanford Cardiovascular Institute, and the Department of Pathology. In the next year, he expects to set up his own lab as an assistant professor.

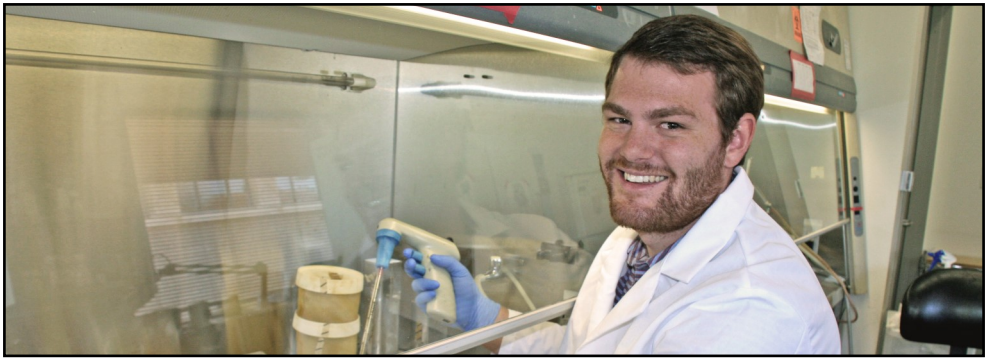
Brian Wilt (Stanford Bio-X Bowes Fellow 2008) is a senior manager in Data Science at Facebook.

Katrina Wisdom (Stanford Bio-X Honorary Fellow 2016) is a postdoctoral fellow in the Bioengineering department at the University of Pennsylvania.

Remus Wong (Stanford Bio-X Bowes Fellow 2010) is a scientist at Senti Biosciences. He established and launched this startup at JLABS SSF while designing and performing scientific research on early stage pre-clinical projects relating to synthetic biology, cell engineering, and immuno-oncology.

Angela Wu (Stanford Bio-X Bowes Fellow 2006) is an assistant professor in the division of life science and department of chemical and biological engineering at Hong Kong University of Science and Technology (HKUST). Angela is passionate about creating new technology platforms for translational research. Her research group is using single-cell genomics and other engineering tools to study complex biological systems and diseases such as liver cancer and nasopharyngeal cancer. In 2015, Angela also co-founded Agenovir, a genome-editing based anti-viral therapeutics start-up company currently based in South San Francisco. At Agenovir, in addition to managing R&D, she worked directly with the CEO on business development strategies and fund-raising to successfully raise Series A financing. Recently, Angela was named one of ten MIT Technology Review's Innovators under 35 in Asia.

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.



Stanford Bio-X Bowes Fellow Bauer LeSavage (see pg. 9 for research details)

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

Helen Yang (Lavidge and McKinley Interdisciplinary Fellow, Stanford Bio-X SIGF 2014) is a postdoctoral scholar at Harvard Medical School with Dr. Rachel Wilson. Helen recently received a postdoctoral fellowship from The Jane Coffin Childs Memorial Fund for Medical Research.

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 a research scientist at Facebook working on machine learning.

Sara Z. Yao (Stanford Bio-X Bowes Fellow 2004) founded DeviceDebut, LLC after exploring medical device R&D for over 5 years. DeviceDebut helps US medical device manufacturers register with CFDA, enter the Chinese market, and receive funding from the Chinese investors. She is also a Mandarin Specialist at the Khan Lab School to help each student find the answer to why, what and how of Mandarin learning.

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

Jennifer Yong (Morgridge Family SIGF Fellow, Stanford Bio-X SIGF 2012) has just defended and is finishing writing her thesis dissertation while figuring out the next steps in her career.

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

Bo Zhang (Mona M. Burgess Fellow, Stanford Bio-X SIGF 2013) is the VP of chemistry and cofounder of Apostle. Apostle, Inc. is a biotechnology company in Sunnyvale, California, which has just 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 also now has an Associate Professor position at Southern University of Science and Technology of China.

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

Danqing Zhu (Xu Family Foundation Fellow, Stanford Bio-X SIGF 2015) has just defended and is figuring out the next steps in her career.

Stanford Bio-X Postdocs

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

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

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

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

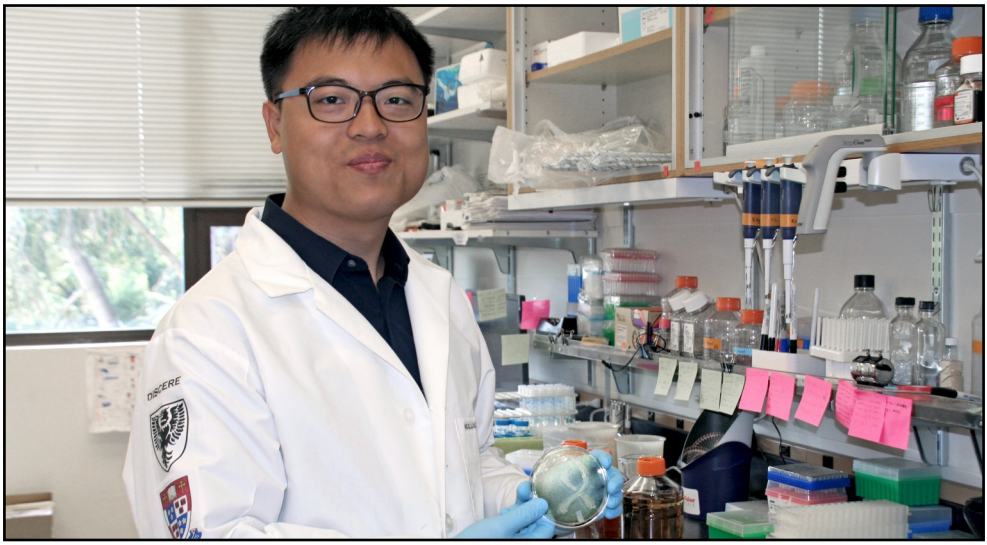
Yu-Shan Lin (Stanford Bio-X Postdoctoral Fellow 2009) is an associate professor of chemistry at Tufts University.

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

Shilpa Sambashivan (Stanford Bio-X Genentech Postdoctoral Fellow 2007) is a senior scientist at Amgen, Inc.

Sergey Solomatin (Stanford Bio-X Postdoctoral Fellow 2005) is the director of research at Impossible Foods, a company that was founded by Stanford biochemistry professor emeritus, Pat Brown, and has raised over $250M. Its goal is to revolutionize the food industry and to roll back the adverse effects that factory farming of animals has on the environment and on us.

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



Morgridge Family SIGF Fellow, Stanford Bio-X SIGF Shi-An Chen (see pg. 5 for research details)

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contact-biox@stanford.edu