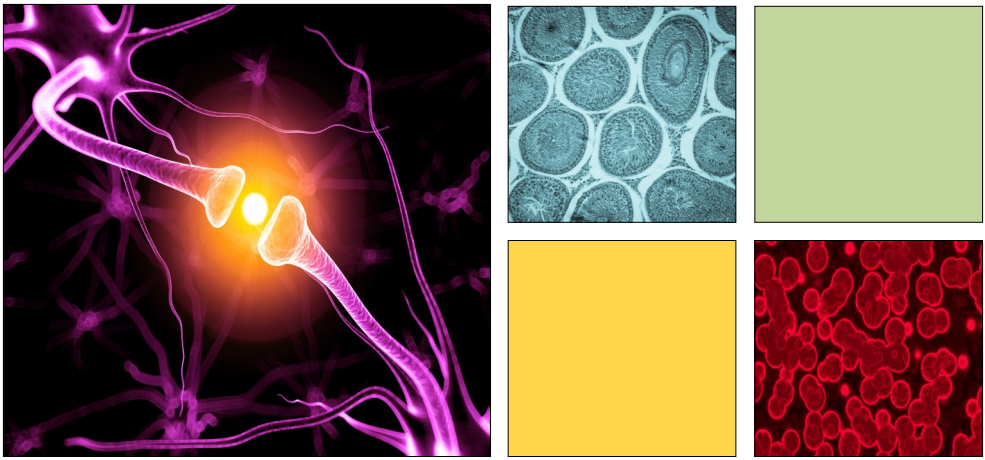
STANFORD BIO-X

Fellowships 2014

"Bio-X has been my guide and resource to leading world experts and big-bet disruptive research across various disciplines. Not only has Bio-X expressed confidence and belief in my abilities, they have encouraged me to try new things, helped me find my true passion, and set meaningful professional goals. I am very fortunate to be part of the Bio-X family."

– Denitsa Milanova, Bio-X Fellow 2011



The mission of the Stanford Bio-X institute 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, Bio-X has charted a new approach to life science research by bringing together the combination of experts—doctors, scientists, engineers, and others—needed to tackle the complexity of the human body.

Recognizing that a new breed of visionary science leaders is integral to bringing novel research endeavors to fruition, the Bio-X Graduate Fellowship Program was started in 2004, making Bio-X one of the few places in the world where graduate students can pursue research that does not fit within a single discipline. The program's fellowships, including the Bowes Graduate Fellowships and Stanford Interdisciplinary Graduate Fellowships (SIGF), offer funding independent of any one lab or grant, freeing recipients to work with multiple mentors and to pursue the research they dream to do.

Graduate students are the future of science and the legacy of the university. The best graduate students attract the best faculty, provide fresh and innovative ideas, and comprise the populations of most Stanford laboratories. Because Bio-X Fellows work on the cutting edge at the intersection of disciplines, their potential to generate transformative discoveries for the benefit of human health is profound. Generous support

from donors, including the Bowes Foundation, and the President's Office enables Bio-X to train and support exceptional graduate students performing interdisciplinary research. Upon graduation, our fellows take the Bio-X approach to careers in industry, academia, and the public sector.

The program has grown over the years and, at present, Bio-X accepts a cohort of 15 to 20 new fellowship students annually (for a three-year program) from a highly competitive pool of over 100 PhD student applicants. At any given time, Bio-X is training approximately 50 PhD fellows. Since 2004, we have awarded 173 PhD students from across 24 departments with fellowships. By the end of 2014, 90 will have graduated and gone on to prestigious positions in the corporate, academic and governmental sectors. 21 new students have recently been selected as Bio-X Fellows to start training in September of 2014.

Bio-X Fellows 2013 group photo

Shelley Ackerman
Bio-X Bowes Fellow
Bioengineering

Profs. Jennifer Cochran (Bioengineering), Matthew Scott (Developmental Biology), Mehrdad Shamloo (Neurosurgery), Gerald Grant (Neurosurgery), and Edward Graves (Radiation Oncology)
A major obstacle hindering the development of brain-targeted therapeutics is the presence of the blood-brain barrier (BBB), which prevents foreign particles and molecules from entering the central nervous system (CNS). Knottins, a class of highly stable peptides, offer great promise in targeting the brain, and there is evidence that knottins can access brain tissue in murine tumor models. Shelley plans to measure the efficiency and mechanism by which knottin scaffolds enter the CNS and engineer a knottin for the treatment of a rare neurodegenerative disorder. This interdisciplinary research bridges understanding the biology of BBB penetration and engineering efforts for developing targeted molecules for brain-related disease.

Oguzhan Atay
Colella Family Fellow
Bio-X SIGF
Biology

Profs. Jan Skotheim (Biology), Daniel Fisher (Applied Physics), and Marcus Feldman (Biology)
Cells, including those that make up our body, combine various signals from their environment to execute cellular decisions such as the decision to divide. These decisions are complex outputs of many interacting genes and proteins within these cells. In this work, the Skotheim lab shows how to partition these interacting proteins into functional sub-groups, or modules, whose properties can be studied in isolation. They further develop an experimental framework to investigate whether these complicated cellular decisions can be vastly simplified and predicted by measurement of a few appropriately chosen proteins. They combine mathematical modeling, genetics, and single-cell assays to test their framework and to understand how the dynamics of different proteins determines a cell's decision to divide.

Eva Gabriela Baylon
Bio-X Skippy Frank Fellow
Mechanical Engineering

Profs. Marc Levenston (Mechanical Engineering) and Garry Gold (Radiology)
Determining the structure-function relationship of the meniscus is important to understanding the onset and progression of osteoarthritis (OA). Osmotic swelling is the mechanism by which the meniscus effectively transmits loads through the joint because it is responsible for its compressive stiffness; in OA, the degenerated tissue has a diminished ability to carry out this role. In this project, the role of osmotic swelling in mechanical behavior will be characterized by creating a finite element model and validating it using an experimental swelling model; the relationship between osmotic swelling and non-invasive, quantitative MRI-based measures of T2 relaxation time will also be assessed.

Baris Ungun (see pg. 8 for research details)

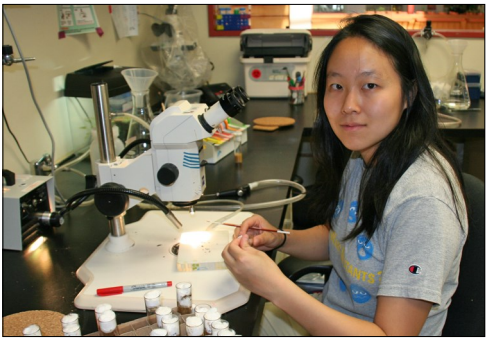
Rachel Braun-Hagey
Mona M. Burgess Fellow
Bio-X SIGF
Microbiology & Immunology

Profs. Jeffrey Glenn (Microbiology & Immunology) and Rhiju Das (Physics)
Influenza A virus causes major morbidity and mortality worldwide. Current antiviral therapies focus on viral proteins, but frequent gene reassortment events render such therapeutics largely inadequate. Just as many antibiotics target RNA secondary structure, Rachel envisages a new category of antivirals that will similarly target RNA structures within viral genomes. Using novel chemical mapping technologies, her research recently discovered a highly conserved RNA structural element essential for influenza genome packaging. Rachel's future work aims to further characterize this RNA structure-function relationship and develop a high-throughput, small molecule-RNA structure screen to identify inhibitors for a new class of influenza therapeutics.

Julia Fukuyama
Stanford Interdisciplinary Graduate Fellow (Anonymous)
Bio-X SIGF
Statistics

Profs. Susan Holmes (Statistics), David Relman (Microbiology & Immunology), and Catherine Blish (Infectious Diseases)
Ecologists have long used statistical methods to see how communities function. However, these methods were developed when ecologists would measure a few dozen species at a time, thus giving uninterpretable results when used to investigate larger communities. Julia will develop analogous methods that will be more stable and interpretable and will use them to find predictors of resiliency in the gut microbiome and to find sub-populations of natural killer cells that are good at clearing infections. The first will let us predict whether a person's microbiome will be damaged if they take antibiotics, and the second will help us develop better vaccines.

"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, Bio-X Bowes Fellow 2012*



Helen Yang (see pg. 9 for research details)

Amalia Hadjitheodorou
Bio-X Bowes Fellow
Bioengineering
currently in rotation

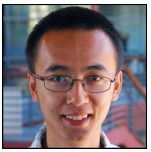
Mindful that improved disease diagnostics can increase treatment efficiency and minimize the currently devastating financial and personal cost to the patient, Amalia aspires to contribute to the development of novel, rapid and comprehensible methods of disease diagnosis, prevention, and therapy by investigating novel biomarkers through single-cell genome sequencing and transcriptome analysis. Driven by a commitment to improve human lives and a passion for science, she looks forward to applying her diversified theoretical, experimental, and computational background towards identifying epigenetic factors potentially implicated in the onset and progression of disease.

Zahid Hossain
Morgridge Family SIGF Fellow
Bio-X SIGF
Computer Science

Profs. Ingmar Riedel-Kruse (Bioengineering) and David Dill (Computer Science)
Biomedical equipment has advanced greatly due to high-throughput computing, yet many scientists have little access to such equipment due to high cost and maintenance. It is also hard for a single scientist to gather exhaustive data to observe patterns. To alleviate these shortcomings, Zahid proposes a "cloud experimentation" platform whereby many users can share an array of high-throughput equipment to run real biology experiments over the web in a scalable manner. This will enable collaboration on critical biology research problems as well as provide a real wet lab interface to online education, e.g. MOOCs (massive open online courses).

Eva Huang
Bio-X Bowes Fellow
Chemical Engineering

Profs. Alexander Dunn (Chemical Engineering) and Vittorio Sebastiano (Obstetrics & Gynecology)
The growth of a human embryonic stem cell (hESC) is critically dependent on its mechanical environment and its contact with its neighbors. However, the molecular mechanisms that connect environmental cues to downstream gene regulation are unknown, both in hESCs and other cell types. The Dunn lab has engineered a single-molecule E-cadherin tension sensing module and a transcriptional coactivator YAP (yes-associated protein) fusion protein to help unravel this mystery. With these tools, they aim to provide a molecular explanation for how mechanical signaling at cell-cell junctions regulates cell proliferation, which will transform the field of developmental and cancer biology.



Xiaofan Jin
Bio-X Bowes Fellow
Bioengineering

Profs. Ingmar Riedel-Kruse (Bioengineering) and Alfred Spormann (Civil & Environmental Engineering)
Bacteria are typically considered single-celled organisms, but the majority of terrestrial bacteria actually live in complex surface-attached communities known as biofilms. Within biofilms, one can find intricate spatial structures consisting of multiple microbial sub-populations. Such spatial organization is required for bacterial communities to achieve cooperative behaviors such as metabolic division-of-labor. Using optogenetic tools from synthetic biology, Xiaofan proposes to build a biofilm platform that can generate spatially patterned microbial communities. This can be used to study how biofilms are seeded and to engineer synthetic microbial consortia capable of complex tasks such as biosynthesis.

Kwang Eun Jang
Bio-X Bowes Fellow
Bioengineering
currently in rotation

Kwang Eun's research interests involve the combination of mathematics, electronics, and biology for healthcare applications. He aims to develop novel systems and algorithms for biomedical imaging related to x-ray computed tomography (CT). He plans to develop a new CT scanner capable of energy discrimination for incident x-ray photons. Finally, he hopes to tackle the biggest challenge in cardiac imaging: how to obtain accurate results while accounting for the motion of the beating heart.

Orly Liba
Bio-X Bowes Fellow
Electrical Engineering

Profs. Adam de la Zerda (Structural Biology) and Sanjiv Sam Gambhir (Radiology)
Orly is developing a new molecular imaging technology that will enable visualizing cell-to-cell interactions and the cell microenvironment in living subjects. The project, named MOZART, is based on optical coherence tomography, nanoparticles, and novel reconstruction algorithms that together will allow molecular characterization of every cell in real-time. As an example, this technology can be used to study tumor heterogeneity and drug resistance of cancer.

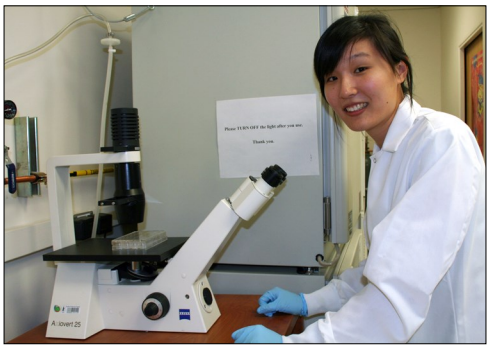
Bio-X Fellows 2012 group photo

Paola Moreno-Roman
Bio-X Bowes Fellow
Biology

Prof. Lucy O'Brien (Molecular & Cellular Physiology)
Adult stem cells maintain homeostasis by balancing the generation of new cells with loss of differentiated cells. This task is achieved through the regulation of asymmetric and symmetric division fates. Understanding how different fate outcomes are controlled is a crucial step toward understanding how tissue homeostasis is achieved. Paola will explore the role of tissue structure in regulating division fates in the epithelial lining of the *Drosophila* midgut.

Benjamin Poole
The Seth A. Ritch Graduate Fellow
Bio-X SIGF
Computer Science

Profs. Surya Ganguli (Applied Physics) and Thomas Clandinin (Neurobiology)
How computations emerge from the dynamical interactions of neurons embedded within a complex neural circuit remains one of the most striking conundrums in modern neuroscience. To address this question, it is essential to measure and understand the simultaneous activity of individual neurons across entire circuits. Ben is working on developing techniques to extract and interpret the activity of neurons from calcium imaging of dense neural circuits, and applying these techniques to identify the canonical algorithm underlying motion computation in the fly visual system. These computational tools will extend the applicability and interpretive power of calcium imaging to diverse neural systems.



Christine Wang (see pg. 8 for research details)

"I have had an amazing experience with Bio-X. The program has introduced me to students, faculty, and industry leaders in departments with names I could barely recognize; it exposed me to cutting edge research and ideas that seem almost magical in their complexity; and, most importantly, it has enabled me to apply my expertise and passions in engineering to meaningful research in neuroscience. I am incredibly grateful for this opportunity provided to me by Bio-X."
- Roshni Cooper, Morgridge Family SIGF Fellow (Bio-X SIGF) 2012

Andrew Savinov
Paul Berg Interdisciplinary Biomedical Graduate Fellow
Bio-X SIGF
Biophysics Program

Profs. Steven Block (Biology and Applied Physics) and William Greenleaf (Genetics)
An important open problem in biology is how structured RNAs achieve active conformations and how these conformations produce biological function. Andrew is investigating this problem in the glmS ribozyme riboswitch, which must fold and cleave itself to regulate gene expression. He is applying two complementary techniques: optical trapping to investigate single-molecule folding and catalysis and high-throughput RNA array experiments to systematically dissect mutational effects on self-cleavage activity. These techniques will reveal the energy landscape and trajectories of folding and the mutational landscape of catalysis. This approach promises to provide deep mechanistic understanding of how structured RNAs function in biological processes.

Jake Sganga
Bio-X Bowes Fellow
Bioengineering
currently in rotation

Jake plans to focus on understanding the mechanisms of neurological diseases and applying engineering principles to cure or prevent the diseases. He hopes to create new techniques to target disease states at the level of specific neural circuits since targeted solutions have the potential to eliminate devastating symptoms without the side effects of pharmaceutical therapies. His goal is to improve the quality of life for people with neurological disorders by creating new technology made possible by the interdisciplinary scope of bioengineering.

Steven Sloan
Bio-X Bowes Fellow
Neurobiology, Medicine

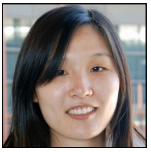
Profs. Ben Barres (Neurobiology), Sergiu Pasca (Psychiatry), Gerald Grant (Neurosurgery), and Melanie Hayden-Gephart (Neurosurgery)
Astrocytes comprise over half the cells of the adult brain and contribute to the development and function of the nervous system. Recent work suggests that neurodevelopmental disorders like autism result from aberrant circuit formation during development. Considering the role that astrocytes play in establishing normal neural circuits during development, the Barres lab would like to better understand the nature and function of human astrocytes. Furthermore, they are developing novel techniques for generating astrocytes that are derived from patient fibroblasts so that they can study how patient-derived astrocytes might contribute to aberrant neural circuit formation *in vitro.*

Jiongyi Tan
Enlight Foundation Interdisciplinary Graduate Fellow
Bio-X SIGF
Biophysics Program

Profs. W James Nelson (Biology), Alexander Dunn (Chemical Engineering), and William Weis (Structural Biology)
Tissue functions require that protein complexes at cell-cell junctions are connected to the cytoskeleton, a network of filamentous proteins which fulfill structural and signalling roles. How cadherin-catenin complexes at adherens junctions are connected to actin filaments is not understood. Experiments using purified complexes showed that they do not bind actin filaments, yet experiments in whole cells and organisms showed this binding should occur. Craig Buckley (Dunn group) and Jiongyi have demonstrated that connections between cadherin-catenin complexes and actin filaments do form but only when stabilized by applied tension, which would normally be generated by molecular motors in cells. They are currently studying how other proteins and spatio-temporal cues may regulate the dynamics of this connection.

Baris Ungun
Bio-X Bowes Fellow
Bioengineering, Medicine

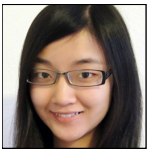
Profs. Lei Xing (Radiation Oncology), Nikolas Blevins (Otolaryngology), and Allison Okamura (Mechanical Engineering)
Radiation therapy is one of the primary treatment modalities for cancer: about two-thirds of cancer patients are treated by a radiation oncologist. Advances in radiation beam hardware have led to treatment systems with high control over the shape of the dose delivered to the patient, but optimizing this shape to minimize damage to healthy tissue remains a large, computationally challenging problem. Baris proposes to apply state-of-the-art techniques from the field of mathematical optimization, guided by analysis of previously delivered treatment plans, to develop algorithms that will generate clinically superior treatment plans that harness the full capability of modern treatment systems.



Christine Wang
Bruce and Elizabeth Dunlevie Fellow
Bio-X SIGF
Bioengineering

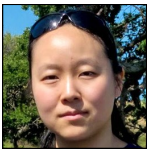
Profs. Fan Yang (Bioengineering and Orthopaedic Surgery), Gerald Grant (Neurosurgery), and Michelle Monje (Neurology)
Glioblastoma (GBM) is the most common and aggressive form of primary brain tumor, and median patient survival is only 10-12 months. A major challenge in treating GBM is the extreme invasiveness of tumor cells, which precludes complete surgical removal and may be responsible for eventual tumor recurrence. The goal of Christine's project is to develop a novel 3D *in vitro* model that recapitulates the multi-factorial cancer microenvironment, which would allow better prediction of brain tumor cell behavior *in vivo*. Such a model would enable researchers to test novel hypotheses of tumor progression and accelerate the discovery of new therapeutics.

"I was lucky to become part of the Bio-X community when I became a Bio-X interdisciplinary graduate fellow in 2012. This award had deep and meaningful effects on my latter two years of [graduate] school. I was able to pursue research fairly independent[ly], and ultimately my dissertational work brought together expertise from several different labs and professors. The Bio-X imprimatur gave me the confidence to make my own connections, follow through on my own ideas, and[…] helped me land a research fellowship at Cambridge."
- Stephen Fried, Stanford Interdisciplinary Graduate Fellow (Anonymous Donor) (Bio-X SIGF) 2012



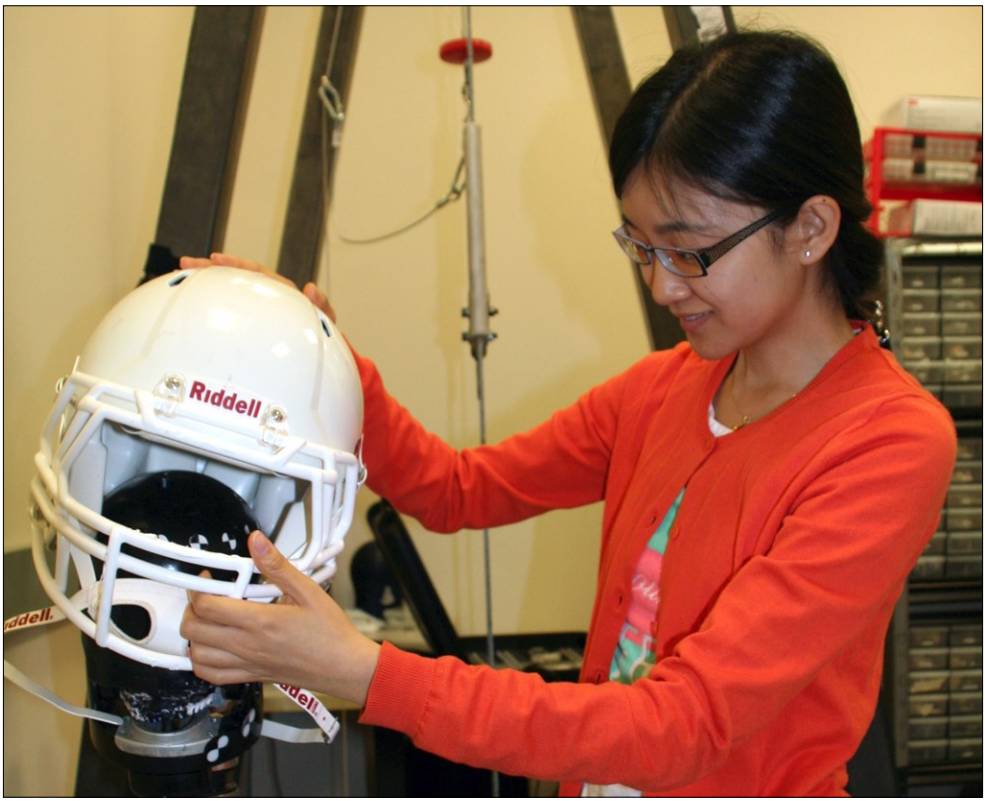
Lyndia Wu
Bio-X Bowes Fellow
Bioengineering

Profs. David Camarillo (Bioengineering), Gerald Grant (Neurosurgery), and Joyce Liao (Ophthalmology)
Approximately 3 million sports-related concussions occur in the US annually. Although symptoms such as dizziness subside within a few days, repeated concussions may cause permanent brain damage. To prevent repeated injuries, legislations require removal from play if an athlete sustains head trauma. However, such legislations cannot be enforced due to severe under-reporting of injuries. Lyndia proposes using an instrumented mouthguard for real-time screening of head trauma. Preliminary studies demonstrated accurate detection of head impacts and found promising correlation between mouthguard measurements and brain deficits. She will further develop this technology to allow more reliable and timely diagnosis of mTBI (mild traumatic brain injury).



Helen Yang
The Lavidge and McKinley Interdisciplinary Fellow
Bio-X SIGF
Neurobiology

Profs. Thomas Clandinin (Neurobiology), Michael Lin (Pediatrics and Bioengineering), and Stephen Baccus (Neurobiology)
Nervous systems process and transform information to guide behaviors essential for the survival of the organism. Helen is interested in how the brain uses its biological building blocks to implement these computations. To address this open question, she is collaborating with Michael Lin's lab to develop the *in vivo* use of genetically encoded voltage indicators—protein tools that report neuronal responses—and use them to study the elementary computation of how a neural circuit computes derivatives. Taken together, this project will advance the use of voltage indicators in intact functional circuits and begin to address the open question of how nervous systems perform the computations that they do.



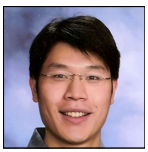
Lyndia Wu (see above for research details)

Daniel Bechstein
Bio-X Bowes Fellow 2012
Mechanical Engineering
Profs. Shan Wang (Materials Science & Engineering and Electrical Engineering) and Juan Santiago (Mechanical Engineering)
"High sensitivity multiplexed protein and antibody bioassays using microfluidic integration of solid state magnetic biosensors"

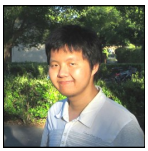
Craig Buckley
Bio-X Bowes Fellow 2011
Chemical Engineering
Profs. Alex Dunn (Chemical Engineering), James Nelson (Molecular & Cellular Physiology), and William Weis (Structural Biology)
"The minimal cadherin-catenin complex binds to F-actin under force"

Shengya Cao
Morgridge Family SIGF Fellow - Bio-X SIGF 2013
Biochemistry
Profs. Aaron Straight (Biochemistry) and Andrew Spakowitz (Chemical Engineering)
"Visualization of mitotic condensation in fission yeast"

Elizabeth Chen
Rogers Family Interdisciplinary Graduate Fellow - Bio-X SIGF 2013
Stem Cell Biology and Regenerative Medicine
Profs. Michael Clarke (Medicine) and Stephen Quake (Bioengineering and Applied Physics)
"Developing a small-scale chIP-seq method to probe epigenetic regulation of self-renewal processes in mammary stem cells"



Jin Chen
Lubert Stryer Interdisciplinary Graduate Fellow - Bio-X SIGF 2012
Applied Physics
Profs. Joseph Puglisi (Structural Biology) and Michael Levitt (Structural Biology)
"Single molecule ribosome profiling of translational phenomena"



Fang-Chieh Chou
Bio-X Fellow 2012
Biochemistry
Profs. Rhiju Das (Biochemistry) and William J. Greenleaf (Genetics)
"Towards atomic-accuracy structure modeling of protein-RNA complexes"

Roshni Cooper
Morgridge Family SIGF Fellow - Bio-X SIGF 2012
Electrical Engineering
Profs. Kang Shen (Biology) and Mark Horowitz (Electrical Engineering)
"Exploring the nervous system more effectively with electrical engineering"

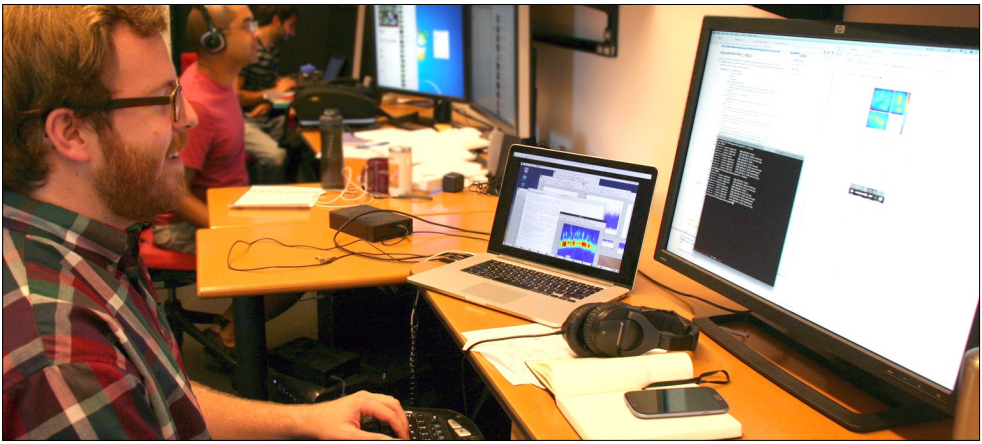
Adi de la Zerda
Bio-X Honorary Fellow 2013
Materials Science & Engineering
Profs. Manish Butte (Pediatrics), Sarah Heilshorn (Materials Science & Engineering), and Paul Bollyky (Medicine)
"*3D biomimetic structure to test the nano-mechanical and molecular cues for T cells activation in diabetes*"

Sarah Denny
Bio-X Honorary Fellow 2013
Biophysics
Profs. William J. Greenleaf (Genetics), Rhiju Das (Biochemistry), and Aaron Straight (Biochemistry)
"*Unraveling chromatin secondary structure* in vivo"

Karen Dubbin
Bio-X Bowes Fellow 2013
Materials Science & Engineering
Profs. Sarah Heilshorn (Materials Science & Engineering), Giles Plant (Neurosurgery), and Andrew Spakowitz (Chemical Engineering)
"*Protein-engineered matrix for controlled delivery of bioactive cargo*"

Christopher Emig
Bio-X Bowes Fellow 2011
Bioengineering
Prof. Stephen Quake (Bioengineering and Applied Physics)
"*Immune repertoire analysis, cloning and engineering*"

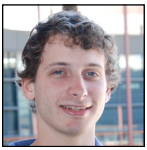
Paola Moreno-Roman (see pg. 7 for research details)



Benjamin Poole (see pg. 7 for research details)

Gabriela Fragiadakis
Bio-X Bowes Fellow 2013
Microbiology & Immunology
Profs. Garry Nolan (Microbiology & Immunology), Martin Angst (Anesthesia), Robert Tibshirani (Biostatistics and Statistics), and Mark Davis (Microbiology & Immunology)
"Single-cell profiling to refine the framework of immune system dynamics and structure"

Xiaojing Gao
Enlight Foundation Interdisciplinary Graduate Fellow - Bio-X SIGF 2012
Biology
Profs. Liqun Luo (Biology) and Thomas Clandinin (Neurobiology)
"Building and applying genetic tools to dissect the neural circuits underlying behavior"



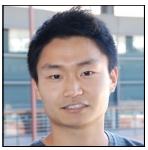
David Glass
Bio-X Bowes Fellow 2013
Bioengineering
Profs. Ingmar Riedel-Kruse (Bioengineering) and KC Huang (Bioengineering)
"Engineering emergent multicellular behavior through synthetic adhesion programs"

Alex Grant
Bio-X Bowes Fellow 2010
Bioengineering
Profs. Craig Levin (Radiology) and Norbert Pelc (Bioengineering and Radiology)
"Applications of optical technologies in positron emission tomography"

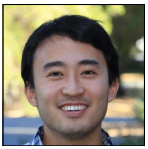
Fidel Hernandez
Bio-X Honorary Fellow 2013
Mechanical Engineering
Profs. David Camarillo (Bioengineering) and Gerald Grant (Neurosurgery)
"The biomechanics of mild traumatic brain injury: measurement, modeling, and prevention"

Haisam Islam
Bio-X Bowes Fellow 2010
Bioengineering
Prof. Gary Glover (Radiology)
"Reduced FOV imaging methods for functional MRI applications"

Jongmin Kim
Bruce and Elizabeth Dunlevie Fellow - Bio-X SIGF 2011
Chemical & Systems Biology
Profs. Margaret Fuller (Developmental Biology) and Paul Khavari (Dermatology)
"Regulation of gene expression in an adult stem cell lineage by transcriptional repression"



Jun Woo Kim
Bio-X Bowes Fellow 2013
Bioengineering
Profs. Jennifer Cochran (Bioengineering), Alejandro Sweet-Cordero (Pediatrics), and Calvin Kuo (Medicine)
"Development of a novel therapy for lung cancer using CLCF1 trap as a CLCF1 inhibitor that targets cytokine signaling in the tumor microenvironment"

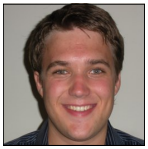


Ryosuke Kita
Bio-X Bowes Fellow 2013
Biology, MSTP
Profs. Hunter Fraser (Biology) and David Stevens (Medicine)
"Genetic basis of S. cerevisiae *pathogenicity"*

Thomas Lampo
Stanford Interdisciplinary Graduate Fellow (Anonymous) - Bio-X SIGF 2013
Chemical Engineering
Profs. Andrew Spakowitz (Chemical Engineering) and Aaron Straight (Biochemistry)
"Physical modeling of chromosome dynamics"

Paul Lebel
Stanford Interdisciplinary Graduate Fellow (Anonymous) - Bio-X SIGF 2011
Applied Physics
Profs. Zev Bryant (Bioengineering) and Hideo Mabuchi (Applied Physics)
"Highspeed multimodal microscopy for studying structural dynamics of molecular motors"

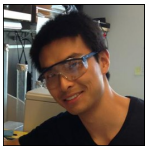
Soah Lee
Bio-X Bowes Fellow 2012
Materials Science & Engineering
Profs. Fan Yang (Bioengineering) and Renee Pera (Obstetrics & Gynecology)
"Biophysical regulation of human pluripotent stem cells"



Austin Lee-Richerson
Bio-X Bowes Fellow 2011
Bioengineering
Prof. Michael Lin (Pediatrics)
(Austin is currently on university-approved leave of absence.)

Jonathan Leong
Bio-X Bowes Fellow 2010
Neurosciences, MSTP
Profs.Thomas Clandinin (Neurobiology) and Steven Boxer (Chemistry)
"*Functional imaging in the visual system of* Drosophila melanogaster"

Steven Leung
Bio-X Bowes Fellow 2013
Bioengineering
(currently in rotation)
"*Localization of low intensity focused ultrasound in the patient brain*"



Ye (Henry) Li
William and Lynda Steere Fellow - Bio-X SIGF 2013
Structural Biology
Profs. Wing Wong (Statistics and Biostatistics), Michael Levitt (Structural Biology), and Garry Nolan (Microbiology & Immunology)
"*High-dimensional single-cell expression study of perturbed stem cell states*" and "*5hmC acquisition during bone development*"

Sungwon Lim
Bio-X Bowes Fellow 2011
Bioengineering
Prof. Jennifer Cochran (Bioengineering)
"*Development of protein-based therapeutics targeting c-Met overexpressing cancers*"

Niru Maheswaranathan
Bio-X Honorary Fellow 2013
Neurosciences
Profs. Surya Ganguli (Applied Physics) and Stephen Baccus (Neurobiology)
"*Understanding retinal computations in response to natural scenes*"

Trevor Martin
Bio-X Bowes Fellow 2012
Biology
Profs. Hunter Fraser (Biology) and Susan Holmes (Statistics)
"*Connecting genotype to phenotype through novel statistical methods that leverage gene expression*"

Eva Huang (see pg. 6 for research details)

Melina Mathur
Bio-X Bowes Fellow 2010
Bioengineering
Prof. Christina Smolke (Bioengineering)
"A RNA-based control platform for dynamically programming protein function"

Allister McGuire
Bio-X Bowes Fellow 2013
Chemistry
Profs. Bianxiao Cui (Chemistry), Yi Cui (Materials Science & Engineering), and Zhenan Bao (Chemical Engineering)
"Development of nanostructured electrodes for sensitive, non-invasive electrophysiology"

Samir Menon
Colella Family Fellow - Bio-X SIGF 2011
Computer Science
Profs. Oussama Khatib (Computer Science) and Kwabena Boahen (Bioengineering)
"Elucidating how the brain coordinates the musculoskelal system"

Amanda Miguel
Bio-X Honorary Fellow 2013
Bioengineering
Profs. KC Huang (Bioengineering) and Russ Altman (Bioengineering)
"Binding pocket variation of an inhibitor of the bacterial division protein FtsZ"

Denitsa Milanova
Bio-X Medtronic Fellow 2011
Mechanical Engineering
Profs. Juan Santiago (Mechanical Engineering), Annelise Barron (Bioengineering), and Mark Holodniy (Infectious Diseases)
"Integrative transcriptome cell analysis using enzymatic isotachophoresis for diagnostics and monitoring of disease state"

Orly Liba (see pg. 6 for research details)

Kathryn Montgomery
Bio-X Bowes Fellow 2009 and William and Lynda Steere Fellow - Bio-X SIGF 2012
Bioengineering
Profs. Scott Delp (Bioengineering and Mechanical Engineering) and Karl Deisseroth (Bioengineering and Psychiatry)
"*Implantable light delivery for optical inhibition of muscle activity*"

Daniel Newburger
Morgridge Family SIGF Fellow - Bio-X SIGF 2011
Biomedical Informatics
Profs. Serafim Batzoglou (Computer Science), Arend Sidow (Pathology and Genetics), and Robert West (Pathology)
"*Computational methods for studying genomic health*"

Wendy Ni
Bruce and Elizabeth Dunlevie Fellow - Bio-X SIGF 2012
Electrical Engineering
Profs. Greg Zaharchuk (Radiology), Dwight Nishimura (Electrical Engineering), and Michael Moseley (Radiology)
"*High-resolution brain oxygenation measurement with magnetic resonance imaging*"

James Notwell
Affymetrix Bio-X Fellow - Bio-X SIGF 2013
Computer Science
Profs. Gill Bejerano (Developmental Biology and Computer Science), Susan McConnell (Biology), and Philippe Mourrain (Psychiatry & Behavioral Sciences)
"*The genomics of neurodevelopment: transcriptional networks underlying the developing neocortex*"

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

Patricia Ortiz-Tello
Bio-X Bowes and Amgen Fellow 2011
Genetics
Profs. Carlos D. Bustamante (Genetics) and Julie Baker (Genetics)
"*Genetic basis of preeclampsia in populations adapted to high altitude*"

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

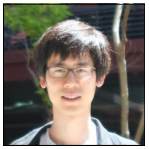
Bethany Percha
Morgridge Family SIGF Fellow -Bio-X SIGF 2013
Biomedical Informatics
Profs. Russ Altman (Bioengineering), Chris Potts (Linguistics), and Daniel Rubin (Radiology)
"*Learning the structure of biomedical relationships from unstructured text*"

Jeffrey Quinn
Bio-X Bowes Fellow 2012
Bioengineering
Profs. Howard Chang (Dermatology) and Asifa Akhtar (Epigenetics and Max Planck Institute)
"*Decoding the sequence-structure-function relationship of lncRNAs*"

Joel Sadler
Bio-X Bowes Fellow 2012
Mechanical Engineering
Profs. Sakti Srivastava (Surgery), Larry Leifer (Mechanical Engineering), and Kenneth Salisbury (Computer Science and Surgery)
"*A medical telerobotic haptic training platform designed for extreme affordability*"

Pankaj Sharma
Bio-X Bowes Fellow 2012
Electrical Engineering
Profs. Sakti Srivastava (Surgery), Krishna Shenoy (Electrical Engineering), and Kenneth Salisbury (Computer Science and Surgery)
"*Objective assessment of manual dexterity for surgeons*"

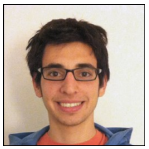
Herbert Silva
Bio-X Bowes Fellow 2013
Mechanical Engineering
Profs. Drew Nelson (Mechanical Engineering), Jason T. Lee (Vascular & Endovascular Surgery), and Staff Scientist Apurva Mehta (SLAC)
"*A novel approach for studying the mechanical behavior of atherosclerotic plaque*"



Joo Yong Sim
Bio-X Bowes Fellow 2010
Mechanical Engineering
Profs. Beth Pruitt (Mechanical Engineering), W. James Nelson (Biology), and Alex Dunn (Chemical Engineering)
"*Development of microsystems to study the mechanotransduction of cell-cell adhesions*"

Mathias Voges
Bio-X Bowes Fellow 2013
Bioengineering
(currently in rotation)
"Controlling the growth rate of Escherichia coli *using CRISPRi"*

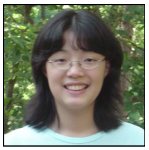
Yen-Hsiang Wang
Bio-X Bowes Fellow 2009
Bioengineering
Prof. Christina Smolke (Bioengineering)
"*A generalizable synthetic genetic system for dynamic control in metabolic engineering*"



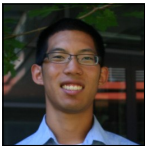
Lucien Weiss
Bio-X Bowes Fellow 2012
Chemistry
Profs. W. E. Moerner (Chemistry) and Matthew Scott (Developmental Biology)
"*Intracellular transport and trafficking in hedgehog signal transduction*"

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

Remus Wong
Bio-X Bowes Fellow 2010
Bioengineering
Profs. Christina Smolke (Bioengineering) and Michele Calos (Genetics)
"*Genetic engineering of T cells using RNA regulatory elements*"



Anne Ye
Bio-X Bowes Fellow 2012
Bioengineering
Prof. Jennifer Cochran (Bioengineering)
"*Engineering and characterization of VEGF mutants for modulation of angiogenesis*"



Patrick Ye
Bruce and Elizabeth Dunlevie Fellow - Bio-X SIGF 2013
Bioengineering
Profs. Kim Pauly (Radiology), William Newsome (Neurobiology), and Pierre Khuri-Yakub (Electrical Engineering)
"*Elucidating the mechanisms of* in vivo *ultrasound neuromodulation*"

Michael Yip
Bio-X Bowes Fellow 2013
Bioengineering
Profs. David Camarillo (Bioengineering), Paul Wang (Medicine), and Kenneth Salisbury (Computer Science and Surgery)
"*Robotic control of flexible ablation catheters for treating atrial fibrillation*"

Jennifer Yong
Morgridge Family SIGF Fellow - Bio-X SIGF 2012
Mechanical Engineering
Profs. Scott Delp (Bioengineering and Mechanical Engineering) and Michael Fredericson (Orthopaedic Surgery)
"*Barefoot running: changes in injury mechanisms between forefoot and rearfoot strikers*"

Ryan York
Bio-X Bowes Fellow 2013
Biology
Profs. Hunter Fraser (Biology) and Russell Fernald (Biology)
"*Castles made of sand: gene expression evolution and behavior in cichlid fish*"

Noah Young
Bio-X Bowes Fellow 2012
Bioengineering
Prof. Karl Deisseroth (Bioengineering and Psychiatry)
"*Observing and perturbing dynamics with calcium imaging, optogenetics, and virtual reality in zebrafish*"

Bo Zhang
Mona M. Burgess Fellow - Bio-X SIGF 2013
Chemistry
Profs. Hongjie Dai (Chemistry), Brian Feldman (Pediatrics), Paul Utz (Medicine), and Samuel Strober (Medicine)
"*A plasmonic chip for biomarker discovery and diagnosis of Type-1 diabetes*"

Xiaoxue Zhou
Larry Yung Fellow - Bio-X SIGF 2010
Chemistry
Prof. Julie Theriot (Biochemistry and Microbiology & Immunology)
"*Role of mechanical forces and cell wall hydrolases in* S. aureus *daughter cell separation*"

Many of our 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 - Bio-X SGF 2006) is a postdoctoral scholar at Columbia University in the biochemistry and molecular biophysics department.

Jaimie Adelson (Bio-X Honorary Fellow 2006) was awarded a Fulbright Scholarship, which began in Fall 2014.

Afsheen Afshar (Bio-X Bowes Fellow 2005) is a managing director at the Goldman Sachs Group, leading multiple teams that centralize, analyze, and present large financial data sets in order to reduce cost, mitigate risk, improve client service, and maximize profitability.

Ron Alfa (Bio-X Bowes Fellow 2011) returned to medical school to complete the MD portion of the MD/PhD program.

Edith Arnold (Bio-X Bowes Fellow 2006) is working at St. Jude Medical as a staff scientist doing research in the Implantable Electronic Systems division.

Georgios Asimenos (Bio-X Bowes Fellow 2005) is director of science and clinical solutions at DNAnexus, a startup company originally founded by two Stanford faculty members (Serafim Batzoglou and Arend Sidow) and a former student of Serafim Batzoglou's, Andreas Sundquist.

Aakash Basu (Bio-X Bowes Fellow 2009) is a postdoctoral associate in the Laboratory of Sensory Neuroscience at the Rockefeller University.

Elsa Birch (Bio-X Bowes Fellow 2009) is currently an associate at Exponent Failure Analysis Associates in the Thermal Sciences practice.

Jennifer Brady (Bio-X Skippy Frank Fellow 2010) started a postdoctoral position at Stanford University with Monte Winslow (Genetics). She is working on mechanisms of tumor progression to metastasis using mouse models of lung cancer.

Relly Brandman (Bio-X Bowes Fellow 2004) is a product manager at Google.

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

Mindy Chang (Bio-X Bowes Fellow 2005) is working at Intel Corporation in the Perceptual Computing Group.

Ian Chen (Bio-X Bowes Fellow 2006) is a cardiology fellow at Stanford University.

Vincent Chu (Bio-X Pfizer Fellow 2005) is a staff engineer at Twitter, Inc. in San Francisco.

Virginia Chu (Bio-X Bowes Fellow 2005) is a postdoctoral fellow at the Rehabilitation Institute of Chicago (RIC) working with Brian Schmit and George Hornby. She is completing a degree in occupational therapy.

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

Melinda Cromie (Paul Berg Interdisciplinary Biomedical Graduate Fellow - Bio-X SIGF 2008) has a postdoctoral position in the neurology department at Stanford and the VA in Palo Alto with Thomas Rando. She is working on tissue engineering of human skeletal muscle to repair large wounds that result in loss of significant amounts of muscle tissue.

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

Sanjay Dastoor (Bio-X Bowes Fellow 2006) is co-founder of Boosted, which designs and builds the world's lightest electric vehicles.

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

Mario Diaz de la Rosa (Bio-X Bowes Fellow 2008) is an adjunct professor at Le Cordon Bleu College in San Francisco.

Rebecca DiMarco (Bio-X Bowes Fellow 2009) is an associate in the Biomedical Engineering Practice at Exponent, in their Menlo Park office.

Sheng Ding (Bio-X Bowes Fellow 2007) works for Amunix, a biotech start-up company, as a research scientist focusing on developing protein therapeutic drugs with extended half-life.

Graham Dow (Bio-X Bowes Fellow 2009) is a NOAA Climate and Global Change Postdoctoral Fellow in Andrew Richardson's lab at Harvard University.

Remy Durand (Bruce and Elizabeth Dunlevie Fellow - Bio-X SIGF 2010) works for General Electric (GE) Ventures where he focuses on portfolio management, investment identification, and due diligence of healthcare start-up companies.

Limor Freifeld (Bruce and Elizabeth Dunlevie Fellow - Bio-X SIGF 2010) is a postdoctoral associate in Mehmet Fatih Yanik's High-Throughput Neurotechnology group, in the Research Laboratory of Electronics at MIT, and a Simons Fellow co-advised by Ed Boyden.

Stephen Fried (Stanford Interdisciplinary Graduate Fellow (Anonymous) - Bio-X SIGF 2012) is currently a junior research fellow at the University of Cambridge (King's College). Stephen focuses on chemical and synthetic biology in the research group of Jason Chin at the MRC laboratory of molecular biology.

Eva Gabriela Baylon (see pg. 4 for research details)

Rachel Braun-Hagey (see pg. 5 for research details)

Viviana Gradinaru (Colella Family Fellow - Bio-X SIGF 2008) is an assistant professor of biology at California Institute of Technology (Caltech).

Adam Grossman (Bio-X Bowes Fellow 2004) is co-founder and metainformation scientist at Praedicat, Inc., a company dedicated to improving the underwriting and management of liability catastrophe risk.

Lisa Gunaydin (Bio-X Bowes Fellow 2008) is a postdoctoral fellow in the Gladstone Institute of Neurological Disease at UCSF.

Jennifer Hicks (Bio-X Bowes Fellow 2007) currently serves as the associate director of the National Center for Simulation in Rehabilitation Research, an NIH-funded center 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 (Bio-X Bowes Fellow 2008) is a resident in obstetrics/gynecology at University of California-San Diego and plans to eventually pursue specialty training in gynecologic oncology.

Jacob Hughey (Bio-X Bowes Fellow 2007) is a postdoctoral fellow in Atul Butte's lab in the department of systems medicine at Stanford.

Rachel Kalmar (Bio-X Bowes Fellow 2005) is a data scientist at Misfit Wearables, a company that is developing highly wearable sensor products and services for wellness and medical applications.

Mihalis Kariolis (Bio-X Bowes Fellow 2008) is a postdoctoral student in Amato Giaccia's lab at Stanford University.

Katy Keenan (Bio-X Bowes Fellow 2006) has an NRC postdoctoral scholar position at the National Institute of Standards and Technology (NIST) in Boulder, Colorado.

Samuel Kim (Bio-X Bowes Fellow 2004) is a postdoctoral scholar in Richard Zare's lab at Stanford.

Daniel Kimmel (Affymetrix Bio-X Fellow - Bio-X SGF 2006) is a resident in psychiatry and research fellow at Columbia University where he aims to combine his interest in the neural basis of decision-making with the treatment of psychiatric disease.

Gaurav Krishnamurthy (Bio-X Medtronic Fellow 2008) is a senior R&D engineer at Altura Medical in Menlo Park, CA.

Frances Lau (Bio-X Bowes Fellow 2007) is an engineer at Apple Inc.

Andrew Lee (Bio-X Bowes Fellow 2010) is currently on leave from the Stanford MD program and is working on Stem Cell Theranostics, a biotech spin out startup.

Stephen Lee (Bio-X Bowes Fellow 2005) works for a telecommunications firm working on mobile financial services in Africa.

Liang Liang (Lubert Stryer Interdisciplinary Graduate Fellow - Bio-X SIGF 2009) is joining Chinfei Chen's and Mark Andermann's labs in Harvard Medical School as a postdoctoral fellow.

Prasheel Lillaney (Bio-X Bowes Fellow 2005) is a postdoctoral fellow at the University of California-San Francisco's department of radiology, Interventional Radiology Lab China Basin.

Andreas Loening (Bio-X Bowes Fellow 2004) is a clinical instructor in the radiation department at Stanford University.

Mark Longo (Morgridge Family SIGF Fellow - Bio-X SIGF 2011) is in the job interview process.

Bertrand Lui (Lubert Stryer Interdisciplinary Graduate Fellow - Bio-X SGF 2006) is a member of the SMB Revenue Innovations team at Google.

Li Ma (Larry Yung Fellow - Bio-X SIGF 2009) is an assistant professor in the department of statistical science at Duke University.

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

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

Joanna Mattis (Bio-X Bowes Fellow 2010) successfully defended her PhD in 2013 and is now in clinics completing her MD.

Jennifer McCaney (Bio-X Bowes Fellow 2006) is a senior fellow at the University of California-Los Angeles Business of Science Center (BSC), which sponsors the Advancing Bioengineering Innovations (ABI) Program for entrepreneurship in medical device design as well as assists university faculty and physicians in commercializing their research through an annual Venture Team Competition.

Cory McLean (Bio-X Bowes Fellow 2007) is a senior computational biologist at 23andMe, working on whole-genome sequencing analysis and population genetics.

Christine McLeavey (Bio-X Bowes Fellow 2008) is a pianist and co-founder of Ensemble SF.

Leslie Meltzer (Bio-X Bowes Fellow 2004) is currently Director of US Medical Affairs - Multiple Sclerosis Franchise at Biogen Idec in Cambridge, Massachusetts.

Murtaza Mogri (Bio-X Bowes Fellow 2006) is the director of product management at Stanson Health, a health care IT start-up building next-generation clinical decision support software that is designed to safely reduce the cost and potential for harm from unnecessary care.

Sergio Moreno (Bio-X Bowes Fellow 2004) is working in Michael Levitt's lab while he is in the process of interviewing.

David Myung (Bio-X Bowes Fellow 2005) co-founded Biomimedica, a biomaterials-focused orthopaedic startup company after finishing his Stanford Bio-X fellowship and is doing his ophthalmology residency at the Byers Eye Institute at Stanford.

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

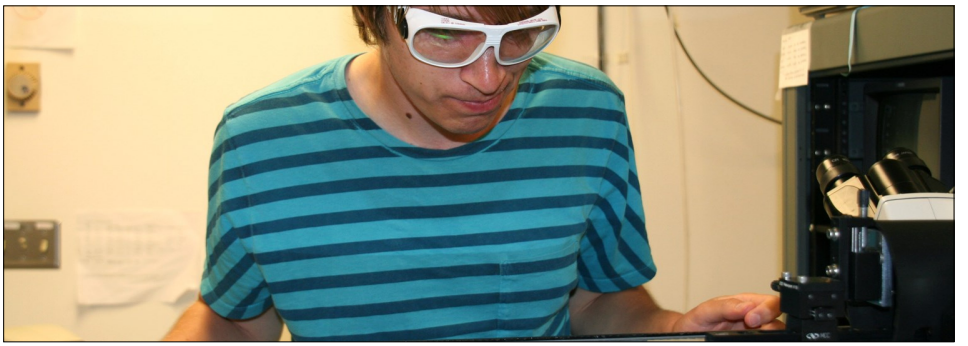
Peter Olcott (SIGF Presidential Fellow - Bio-X SIGF 2009) recently graduated and is currently applying for jobs.

Shawn Ouyang (Affymetrix Bio-X Fellow - Bio-X SIGF 2009) is a postdoctoral fellow with Jack Taunton at University of California-San Francisco.

William Parsons (SIGF Presidential Fellow - Bio-X SIGF 2010) is a postdoctoral fellow at the Scripps Research Institute, working in the lab of Benjamin Cravatt.

Steven Petsche (Bio-X Bowes Fellow 2011) works for MSC Software in Newport Beach.

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



Andrew Savinov (see pg. 7 for research details)

Manuel Rausch (Affymetrix Bio-X Fellow - Bio-X SIGF 2012) joined Micro Interventional Devices, a start-up on the East Coast that is developing minimally invasive technologies for the treatment of structural heart disease.

Andreas Rauschecker (Bio-X Bowes Fellow 2008) has begun his residency in radiology at the University of Pennsylvania.

Sanaz Saatchi (Bio-X Amgen Fellow 2009) is an R&D engineering manager in the CardioVascular group at Medtronic. After leading a global research effort and opportunity assessment to identify new areas for cardiovascular medical device innovation, she has been the technical lead on a cross-functional team driving these product concepts towards commercialization. Sanaz also recently participated in Medtronic's Global Innovation Fellowship program. This selective program focuses on expanding healthcare to underserved populations. Her project focused on improving diabetes awareness and detection in South Africa.

Julia Fukuyama (see pg. 5 for research details)

Jayodita Sanghvi (Bio-X Bowes Fellow 2007) is a data scientist for Grand Rounds, a health start-up in San Francisco.

Alia Schoen (Bio-X Bowes Fellow 2009) accepted a Science and Technology Policy Fellowship from the California Council on Science and Technology (CCST). She is working in the State Assembly for Assemblymember Das Williams. Her primary areas of interest are energy and environmental policy, but she also has the opportunity to work on a broad range of topics in and out of scientific areas.

Mark Sellmyer (Bio-X Bowes Fellow 2008) has graduated from the Stanford MD/PhD program and is a 1st year research track resident in radiology at the University of Pennsylvania. His research focus is on small molecule tools for disease diagnosis and treatment.

Ruth Sommese (Paul Berg Interdisciplinary Biomedical Graduate Fellow - Bio-X SIGF 2011) is a postdoctoral student with Sivaraj Sivaramakrishnan at the University of Michigan.

Min-Sun Son (Bio-X Bowes Fellow 2007) is working for Exponent, Inc., an engineering and scientific consulting company.

Ryan Squire (Bio-X Bowes Fellow 2010) is working for Prophecy Sciences as a data scientist.

Pakpoom Subsoontorn (Bio-X Bowes Fellow 2008) is in the process of applying for postdoctoral positions.

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

Grace Tang (Bio-X Bowes Fellow 2008) is a security data analyst for LinkedIn.

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

Rebecca Taylor (Bio-X Bowes Fellow 2007) is a biochemistry postdoctoral fellow in James Spudich's lab at Stanford University.

Carolina Tropini (Bruce and Elizabeth Dunlevie Fellow - Bio-X SIGF 2011) has a postdoctoral position with Justin Sonnenburg at Stanford funded by the McDonnell postdoctoral fellowship on complex systems.

Jules Vandersarl (Bio-X Bowes Fellow 2005) works at Meso Scale Diagnostics as an engineer.

Aaron Wang (Bio-X Bowes Fellow 2006) is currently attending Johns Hopkins University for his residency in ophthalmology.

Jack Wang (Bio-X Bowes Fellow 2011) began a medical internship at Kaiser Permanente Santa Clara in fall 2014 and will begin a neurology residency at UC-Los Angeles in fall 2015.

Larry Wang (Bio-X Bowes Fellow 2007) is a senior administrator at Young Green Energy Co.

Aaron Wenger (Morgridge Family SIGF Fellow - Bio-X SIGF 2010) is a research associate at Stanford University, developing clinical applications for human genomics.

Kitchener Wilson (Bio-X Bowes Fellow 2007) is an instructor in pathology at Stanford with a specialization in molecular genetic pathology. He plans to one day direct a clinical genome sequencing laboratory while continuing his basic science research on human iPS cells and DNA/RNA biology as an NIH-funded Investigator. iPS cells present an opportunity to rapidly phenotype the genome, and have revolutionized biomedicine by giving scientists a relatively quick and cheap method for discovering patient-specific therapies. Kitch's ultimate goal is therefore "Precision" Medicine that takes advantage of these 21st century technologies: "-omic" data and knowledge gained from patient-specific and disease-specific iPS cells.

Brian Wilt (Bio-X Bowes Fellow 2008) is a senior data scientist for Jawbone in San Francisco. There, he incubates new data products around his passions of health, fitness, and coaching.

Angela Wu (Bio-X Bowes Fellow 2006) is a postdoctoral fellow in Stephen Quake's lab, where she is developing new DNA sequencing methods to study cancer genomics. At the same time, she is also a lab manager, writing grant proposals and managing day-to-day lab operations and funds.

Nan Xiao (Bio-X Bowes Fellow 2007) is working as postdoc at King's College London with C. Alberto Figueroa.

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

Peggy Yao (Bio-X Bowes Fellow 2006) is working on supply chain management optimization for Oracle Corporation.

Sara Z. Yao (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.

Bio-X Fellows 2011 group photo

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

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

Subhaneil Lahiri (Bio-X Genentech Postdoctoral Fellow 2013) is in his second year of his Bio-X Fellowship in the applied physics department. With the guidance of Surya Ganguli (Applied Physics) he is working on his research entitled, *"Learning and memory with complex synaptic plasticity"*.

Yu-Shan Lin (Bio-X Postdoctoral Fellow 2009) has a faculty position in the chemistry department at Tufts University.

Elena Rhykhlevskaia (Bio-X Lubert Stryer Interdisciplinary Postdoctoral Fellow 2008) is a lead data analyst at ComScore, Inc.

Shilpa Sambashivan (Bio-X Genentech Postdoctoral Fellow 2008) is a senior scientist at Amgen, Inc.

Sergey Solomatin (Bio-X Postdoctoral Fellow 2005) currently works as a scientist in Maraxi, Inc., a recent start-up founded by Stanford biochemistry professor, Pat Brown. The company's 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 (Bio-X Genentech Postdoctoral Fellow 2009) is an assistant professor of physics at the University of Oregon working on microbial community biophysics.

Bio-X Fellows 2009 group photo

Stanford Bio-X Fellowships

Professor Carla Shatz

Director
of Stanford Bio-X

James H. Clark Center
318 Campus Drive, W157
cshatz@stanford.edu

Heideh Fattaey, Ph.D.

Executive Director of
Operations & Programs
of Stanford Bio-X

James H. Clark Center
318 Campus Drive, S135
hfattaey@stanford.edu

Gabriella
Martelino-Herman

Stanford Bio-X
Education and
Fellowship Coordinator

James H. Clark Center
318 Campus Drive, S131
gfsm@stanford.edu

Stanford Bio-X Institute

To learn more about the Bio-X Institute at Stanford, please visit the Bio-X website at:

http://biox.stanford.edu