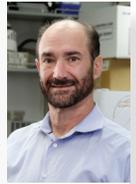


GENETICS NEWS

November 2018

Letter from Chair

It has been another amazing year for the Genetics Department. The department continues to excel in research with numerous scientific accomplishments and high impact papers. Stanford Genetics, Genomics and Bioinformatics was ranked number 1 by US News and World report for the seventh year in a row!



Twelve outstanding graduate students and eleven new Genetic Counseling students matriculated this fall, and our Certificate program continues to enroll participants from all over the world. Our annual Department retreat brought over 350 participants to Monterey to present and discuss their latest Science. This year marked the 60th anniversary of the Department of Genetics. Founded initially in 1958 by Joshua Lederberg with a small handful of faculty, we have now blossomed into a department of 30 faculty and over 300 people! To commemorate the occasion, a two day symposium brought alumni (including all living former chairs) together with current department personnel to both reminisce and present current exciting research. A great time held by all with calls for more of these in the future to continue to engage our alumni.

A new initiative, the Metabolomic Health Center, was launched with the goal of profiling every newborn and child that visits the LCPH and clinics for their metabolic health. Funding for a new Endowed chair was secured—these are sorely needed to support our outstanding faculty—and the recipient will be announced shortly.

Finally, the new BioMedical Innovation (BMI) Building which will house many of the Department faculty is moving beyond a large hole into an enormous and impressive structure—detailed planning of space is underway. We look forward to moving in and making many more impactful discoveries! Thanks to all for making this a terrific year!

Michael Snyder, Ph.D.

Stanford W. Ascherman Professor and Chair, Department of Genetics
Director, Center for Genomics and Personalized Medicine

**Stanford University -
Ranked #1 in Genetics,
Genomics and Bioinformatics
SEVENTH year in a row!**



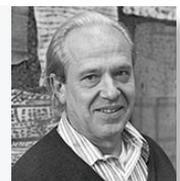
**Our new home is coming
together!**

Move in date: TBC



In Memoriam

Luigi Luca Cavalli-Sforza, MD, professor emeritus of genetics at the Stanford University School of Medicine, died Aug. 31 of natural causes in his home in Belluno, Italy. He was 96.



Save The Dates for 2018

Holiday Party, December 13, Faculty Club at 6pm

The 2018 Winter Closure will be: Monday, Dec 24, 2018 through Friday, Jan 4, 2019.

Save The Dates for 2019

Metabolic Health Center Symposium, January 19

SCGPM Symposium, April 5

Genetics Retreat, September 11-13

The Stanford Genetics and Genomics Certificate

Take online courses in the Stanford Genetics and Genomics Certificate to gain fundamental knowledge and a 'big picture' understanding of the cutting-edge fields of genetics, genomics and personalized medicine.

[MORE INFO HERE..](#)

Genetics Faculty awarded NIH grants for high-risk, high-reward research

Pioneer Award

Christina Curtis, PhD, assistant professor of medicine and of genetics, plans to use her award to study how human tumors develop and to predict their progression. The Pioneer Award provides up to \$3.5 million, dispensed over five years, to investigators at all career levels to pursue new research directions and develop groundbreaking, high-impact approaches to a broad area of biomedical or behavioral science.



Transformative Research Award

Anne Brunet, PhD, professor of genetics and the Michele and Timothy Barakett Endowed Professor and Karl Deisseroth, MD, PhD, professor of bioengineering and of psychiatry and behavior sciences will use their five-year, \$13.75 million award to advance the basic science of how the brain and the aging process control each other.



Alice Ting, PhD, professor of genetics and of biology, develops technologies to map out cells and delineate the signals and circuits that give rise to cell function. Ting's research harnesses a variety of molecular approaches and protein engineering tactics to detect, measure and manipulate specific molecules that could play crucial roles in cell and animal behavior.



[Read more...](#)

Congratulations Christina, Anne and Alice!

Study traces hospital-acquired bloodstream infections to patients' own bodies

A computational tool designed by Stanford scientists makes it easier to identify the source of bloodstream infections and, ideally, rid patients of reservoirs where potentially troublesome microbes reside.



Ami Bhatt and her colleagues used a computational tool to identify the source of bloodstream infections in a group of hospitalized patients, and found that the source of more than half the infections came from inside the patients themselves.

[Read more...](#)

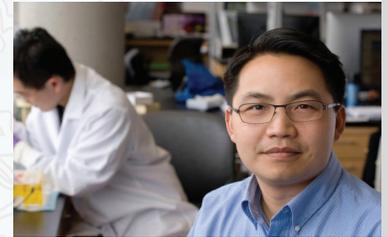
Study identifies link between DNA-protein binding, cancer onset

Understanding when and where proteins bind to DNA may be the ticket to identifying cancer at the cellular level, according to researchers at Stanford

Researchers at the Stanford University School of Medicine and their collaborators at other institutions have identified a link between how proteins bind to our DNA and how cancer develops. This finding may allow researchers to predict cancer pathways and long-term patient outcomes.

A paper detailing the research was published Oct. 26 in *Science*. The senior authors are Howard Chang, MD, PhD, professor of dermatology and of genetics, and William Greenleaf, PhD, associate professor of genetics. Postdoctoral scholar Ryan Corces, PhD, and graduate student Jeffrey Granja share lead authorship.

[Read More...](#)



Michael Snyder, PhD, professor and chair of genetics, and Garry Nolan, PhD, professor of microbiology and immunology, will lead the Stanford Tissue Mapping Center, which is being funded by \$4.9 million from the National Institutes of Health.

Congratulations!

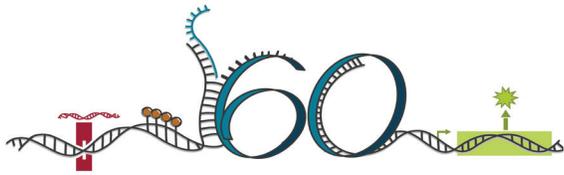
DONATE

Your contributions are valuable for our innovative programs!

[Click here](#) how to contribute to departmental activities or kindly send checks to:
Stanford University, Department of Genetics
Attention: Randy Soares, Alway Building, M326
300 Pasteur Drive, Stanford, CA 94305-5120



GENETICS FOCUS



Genetics 60th Anniversary Celebrations at Arrillaga Alumni Center on July 26-27, 2018!



Four Chairs of Genetics Department (left to right):
Stan Cohen, David Botstein,
Michael Snyder and Rick Myers

Genomics Research Internship Program at Stanford:GRIPS (formerly known as GeneCamp)

A summer internship program at SCGPM was held again this year in August and led by Priya Desai. GRIPS brings summer internship opportunity in laboratory and computational side of genetics and genomics to Bay Area High School students and community colleges.

“Through the GRIPS Program, the possibilities are endless. Not just in your research and learning, but also in your experiences.”

“Although I expected to learn about genomics, GRIPS was really all about building bridges. Through the invaluable guidance of Priya, Dr. Sowmi, and all the interns, I learned to connect the seemingly separate worlds of biology and computer science.”

“I came into my computational biology internship at Cherry Lab with essentially no coding experience. One exhilarating summer later, I can not only work with Python and WDL but am so much more confident in myself and excited for a career in biology.”

“I wouldn’t say the summer was easy in any means. I was consistently challenged in exploring new methodologies, learning all about the complexities splicing, and putting my Python and R skills to practice was harder than it had seemed; however, every step was a learning experience and I’m grateful for the failures I had because it made the small victories that much more worth it.”



“The thing is: for me, GRIPS was a synonym to having fun and I cannot imagine having spent this summer doing anything else.”

- GRIPS CLASS OF 2018

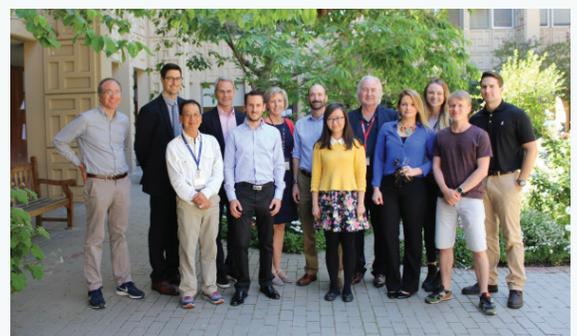
Metabolic Health Center launched on June 1st!

The Stanford Department of Genetics has partnered with the Departments of Pediatrics and Pathology, the Stanford GenePool project, and Lucile Packard Children’s Hospital to establish the Metabolic Health Center, Maternal and Child Health with the goal to improve the metabolic health of neonates and children. The Center will ultimately profile every child that is born or admitted to Lucile Packard Children’s Hospital and Stanford Children’s Health clinics.

Our research will improve metabolic disease prediction, prevention, and treatment for neonates and children. Metabolic profiling has the potential to detect health problems earlier than ever before possible and with a greater level of precision thanks to modern technologies. We believe metabolic phenotyping will provide mechanistic insight into human development and disease and suggest treatment strategies. Our aim is to keep children healthy, rather than treat them after they get a disease.

The Metabolic Health Center is led by Michael Snyder, PhD, David Stevenson, MD, Karl Sylvester, MD, and Tina Cowan, MD. Kevin Contrepois is the Scientific Director and Casandra Trowbridge the Project Manager for the center. The Stanford-based team is focused on acting locally and thinking globally about metabolic health with the aim of “curing through prevention.”

<http://med.stanford.edu/metabolichealthcenter.html>



Metabolic Health Center team at the launch party on June 1st, 2018

GENETICS STORIES

Postdoc Story- Sara Ahadi, Snyder Lab

Sara started her postdoc at Mike Snyder lab in 2015. After finishing her PhD in chemistry, she was ready to start learning new fields and switch gears in her research. She even applied to pharmacy program at UCSF to start working in medical field. It was only a month after she joined Snyder lab that she got accepted to the pharmacy program but she already liked her postdoc research enough to turn down the pharmacy school.



Coming from chemical biology research, she found precision medicine and working with big data fascinating and got involved in proteomics and developing high throughput methods for profiling proteins. She spent her first year of her postdoc on developing and optimizing mass spec proteomics pipelines that can handle the large sample sizes of the cohorts that have been studied in lab. She then applied her method in analysis of 1000 samples and generated the biggest discovery proteomics data set. Several thousand other samples have been measured in lab using her high throughput method for large studies.

She's also started a crowd-based project on healthy individuals with diverse ethnicities, age and life habits called Human Personal Omics Profiling (hPOP). Starting the project from scratch, she started learning about IRB regulations, sample collection, data management and all of these in different countries around the world, as samples were collected yearly in different parts of the worlds. As impossible it sounds, Sara and hPOP team were able to successfully execute the project in Boston, Taiwan, Ireland and Orlando.

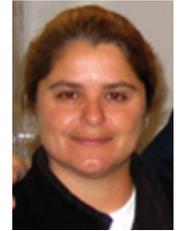
She's grateful of the opportunity that she got to work in Snyder lab and start learning something new and get to know the new technologies in the field of proteomics. Now almost four years in her postdoc, she's working on variation of biological molecules in hPOP cohort of several hundreds of healthy individuals from all around the world. Looking forward to publish her results by end of her postdoc!

- Do you know of a story that we should publish at
- Genetics Newsletter? Please contact "News Desk"
- kinnamaa@stanford.edu

Meet our Staff - Jackie Butterfield

Lab Manager, Brunet Lab

Jackie Butterfield is a Lab Manager for the Brunet lab. She joined the Genetics department six years ago after working in the Psychiatry Department for seven years in the Down Syndrome Center. She graduated from Cal State East Bay with a degree in Molecular Biology.



Outside of work, she enjoys caring for her horse, photography, biking, ice skating, cooking, and hanging out with friends. Jackie has lived in the Bay Area for 23 years and is originally from Vancouver, B.C. Canada.

Another successful, productive and fun Genetics Retreat this year at Monterey, until next year!

