

## Letter from Chair

The Genetics Department continues to thrive! We have had a very successful graduate recruiting for next year's class and will welcome 15 new graduate students and 11 new genetic counseling students.

Our faculty are launching exciting new research directions and publishing in top journals. Many have received prestigious awards over the past year. For the fifth year in a row, the department has been ranked first in graduate programs in Genetics, Genomics and Bioinformatics by US News and World Report! Preliminary preparations have begun for a new research building that will house most of the Genetics Department faculty.

In this newsletter we present some of these exciting highlights and developments—enjoy!

### Michael Snyder, Ph.D.

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



## Upcoming Events 2017

2017 Research Colloquium MS in Human Genetics and Genetic Counseling, June 16, LKSC

Genetics Retreat - September 13-15, Monterey

EMBL-Stanford Conference: Personalized Health, November 1-4, Arrillaga Alumni Center, Stanford

Holiday Party, December 14, Stanford Faculty Club

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



# DONATE

Your contributions are valuable for our innovative programs! [Click here](#) how to contribute to departmental activities kindly send checks to:

Stanford University, Department of Genetics Attention: Randy Soares, Alway Building, M326 300 Pasteur Drive, Stanford, CA 94305-5120

## Meet New Faculty

Alice Ting was born in Taiwan, moved to the US at age 3, and grew up in Dallas, Texas.



After undergraduate studies in Chemistry at Harvard, she obtained her PhD in chemical biology working with Peter Schultz at Berkeley. Her postdoc work was with Roger Tsien, and then Alice set up her own lab at MIT in 2002.

In summer of 2016, Alice relocated with her laboratory to Stanford's Clark Center. Her lab develops molecular technologies for studying cells and functional circuits, focusing on mitochondria and the brain.

Outside of work, Alice enjoys classical music (listening, and playing piano), cooking, and acquiring more tech gadgets than is sensible. She also loves hiking and exploring the bay area with her 4 year old daughter.

MaryAnn Campion was raised in Georgia, moved to South Carolina for college and graduate school, and began her career as a pre-natal genetic counselor with Greenwood Genetic Center.



In 2003, she moved to Boston, where she served as the founding Director of the MS Program in Genetic Counseling and Assistant Dean for Graduate Medical Sciences at Boston University School of Medicine. She received a doctorate in Educational Leadership and Policy Studies from BU in 2015, and has a passion for program development and curricular design in genetic counseling education.

She currently serves on the Board of Directors for the National Society of Genetic Counselors, and her research interests include the translation of genomics into public health.

In her spare time, MaryAnn has taken full advantage of all that CA has to offer, including hiking, cycling, running, and exploring the Bay Area with her husband and two wild and woolly sons.

## Genetics faculty elected to National Academy of Sciences

*John Pringle, PhD, professor of genetics, and Anne Villeneuve, PhD, professor of developmental biology and of genetics are now part of an organization designed to advise the nation on issues related to science and technology.*

Dr. Pringle uses yeast genetics to discover general principles of cell-polarity development, cytokinesis and the septin cytoskeleton. He and his group study cell-cycle control, cellular morphogenesis, and cell-division mechanisms in yeast and other simple eukaryotic model organisms.



Dr. Villeneuve investigates the mechanisms underlying the faithful inheritance of eukaryotic chromosomes. Her primary focus is on elucidating the events required for orderly segregation of homologous chromosomes during meiosis, the crucial process that reduces the number of chromosomes in a parent cell by half and produces four gamete cells.



**Come and celebrate John and Anne on Friday June 2 at 5pm, Alway Courtyard!**

## SCGPM Symposium April 28 at Quadrus

Thank you all who participated to SCGPM Symposium!  
We had great turnout of around 200 attendees and wonderful keynotes from Cynthia Kenyon and David Haussler. Thank you to all of our Sponsors!



## Departmental Books & Publications:

### A Handy Guide to Ancestry and Relationship DNA Tests

By Dr. D. Barry Starr



### The Stanford Oral History Program

The program has completed over 300 oral history interviews since its inception in 1978. You can find stories about Stan Cohen, M.D. and Leonore Herzenberg.

Stan Cohen 1995: <http://purl.stanford.edu/vp841bj7956>. Interviews: (SC0932).

Leonore Herzenberg in 2014: <http://purl.stanford.edu/yc836rk6641>. Interviews: (SC0932).

Sierra Expeditionary Learning School visited Genetics Department and described their visit to Stanford as “highlight of our fieldwork and the school year”



Thank you Wendy & Co for arrangements!

Many students and faculty participated in the March for Science in San Francisco and San Jose. Crowd estimates were up to 50K!



### 2017 Research Colloquium, MS in Human Genetics and Genetic Counseling

Friday, June 16, 2017, 1:00pm – 4:45pm  
Stanford University, LKSC 120  
Reception to follow in Alway Courtyard

RSVP to [tacy@stanford.edu](mailto:tacy@stanford.edu)

## The Stanford MS Program in Human Genetics and Genetic Counseling

The Stanford MS Program in Human Genetics and Genetic Counseling began in 2008 and is fully accredited by the Accreditation Council for Genetic Counseling (ACGC).



The program emphasizes critical thinking skills that will be increasingly needed as genetics and genomics are translated into new clinical settings. The curriculum provides a balance of foundational genetics, cutting-edge technology, psychosocial counseling skills, bioethics, and research training.

Students complete six 10-week rotations in areas such as prenatal, pediatrics, oncology, metabolism, cardiology, infertility, neurology, research, lab, and industry. In addition, they complete a research project that results in oral and poster presentations, abstract submission, and a manuscript-ready paper (with a 50% publication rate within two years of graduation). Students also participate in Medical Genetics Grand Rounds, Human Genetics Journal Club, and a variety of advocacy, disability, education, and other outreach activities.

This year we received 145 applications, from which we interviewed 40 candidates for 11 spots. In the past five years, our alumni accomplishments include 100% on-time graduation rate, 100% job placement by graduation date, and 88% first-time board pass rate (with 100% for the classes of 2015 and 2016).

## MS Human Genetics and Genetic Counseling Research Projects: Class of 2017

**Alyssa Armsby:** International Attitudes of Genetics Professionals Toward Human Gene Editing

**Stephanie Bivona:** The Experience of Parents Receiving Whole Exome Sequencing Results for Their Children

**Danielle Dondanville:** “This could be me”: Exploring the impact of genetic risk for Huntington’s disease young caregivers

**Ellie Harrington:** Multifaceted care and compliance for individuals living with methylmalonic acidemia (MMA) and propionic acidemia (PA), the caregivers’ perspective

**Jessica Kianmahd:** Practice patterns regarding the use of clinical genetics services for autism: a survey of primary care and specialist physicians

**Karina Liker:** Personal and Professional Challenges of Infertility Genetic Counselors

**Aiste Narkeviciute:** Emotional and Decision Making Responses to All Aneuploid Results in Preimplantation Genetic Screening (PGS)

**Megan Nathan:** Genetic Counselors’ and Genetic Counseling Students’ Implicit and Explicit Attitudes Toward Homosexuality

**Julia Silver:** Practices and Implications of Mindfulness for Genetic Counselors

## Steinmetz Lab

The Steinmetz lab operates across sites at the European Molecular Biology Laboratory in Heidelberg, Germany and Stanford University. They are also part of the Stanford Genome Technology Center, which brings together researchers from the Departments of Genetics, Biochemistry, Medicine, and Electrical Engineering.



The lab develops and applies interdisciplinary, genome-wide technologies to study genome regulation, the genetic basis of complex phenotypes, and the molecular systems underpinning disease. One of their primary aims is to identify causal intervention points from multi-omic datasets that can modulate phenotypes of interest. The Steinmetz Lab applies these approaches to a rare childhood disorder as part of the international Grace Science Foundation consortium, and to dilated cardiomyopathy. They also investigate the functional consequences of complex transcriptome architecture, including its contributions to single-cell heterogeneity and its role in fundamental biology, immunity, and development.

Ultimately, by integrating genomic technologies, biomedical engineering, and computational modelling, the Steinmetz Lab aims to elucidate the molecular features of disease and establish novel approaches for precision health.

## Study of Wearable sensors received notable national and international news coverage



“Digital Health: Tracking Physiomes and Activity Using Wearable Biosensors Reveals Useful Health-Related Information” article which was published online Jan. 12 in PLOS Biology received tremendous publicity with almost 55 000 views.

**Snyder** is the senior author of the study, Postdoctoral scholars **Xiao Li**, PhD, and **Jessilyn Dunn**, PhD, and software engineer **Denis Salins** share lead authorship.

Other Stanford-affiliated co-authors of the study are researcher **Gao Zhou**; postdoctoral scholars **Wenyu Zhou**, PhD, and **Sophia Miryam Schüssler-Fiorenza Rose**, MD, PhD; research dietician **Dalia Perelman**; undergraduate summer intern **Ryan Runge**; genetic counselor **Shannon Rego**; high school student **Ria Sonecha**; **Somalee Datta**, PhD, director of the Genetics Bioinformatics Service Center; and **Tracey McLaughlin**, MD, associate professor of medicine. Researcher **Elizabeth Colbert**, of the Veterans Affairs Palo Alto Health Care System, is also a co-author.

## Meet our Staff - Ada

Originally from Hong Kong, Ada joined the Genetics Department in November 2012 as the Sr. Finance Manager and was promoted to Associate Director of Finance in November 2016. Ada manages Dr. Snyder's grant portfolio and takes care of all financial matters related to the Snyder lab.



In addition, she oversees 3 accountants who manage all of Genetics faculty's grant portfolio. She also assists the Director of Finance and Administration on special projects and is usually the point of contact on all departmental audit related queries. Ada has an accounting/auditing background, a CPA and enjoys educating staff and students on various accounting and compliance issues.

When not working, Ada enjoys cross-stitching, watching movies, playing match 3 and hidden object games and spending time with her family. She also enjoys helping peers and students answer accounting related questions! Feel free to ask her anything!

## Grad Story - Keyla

Keyla Badillo is a fourth year PhD student and an NSF fellow. She is developing her research in Julie Baker's lab working on placental development and placental abnormalities in humans and mice.



For two years, Keyla was the financial officer for the Biosciences Association for the Interest of Minority Students (BioAIMS), and is currently a member of Hermanas in STEM.

In her free time, her main hobby is salsa dancing. She is a member of the Salseros de Stanford team, and teaches a weekly salsa class for the Stanford community. Additionally, Keyla is committed to promoting gender equality and spreading knowledge about women's issues. She had a radio show about this back in UPRM, her undergrad institution.

Now at Stanford she joined the Geneticists for Diversity in Science (GDS), a new group that promotes gender equity in academia. She also organized and lead a Diversity in Feminism discussion series at Stanford, funded by the Standord OpenXChange's Build It, Lead It grant.

**Do you know of a story that we should publish at Genetics Newsletter?**

**If you have a tip or story you would like to share with us, please contact "News Desk": [kinnamaa@stanford.edu](mailto:kinnamaa@stanford.edu)**

## Where are they now? - Matt Anderson

John Boothroyd's lab, graduated 2009



**Who do you work for now ?**

I am currently an assistant professor at Ohio State finishing my first year. I have a split appointment between Microbiology in the College of Arts and Sciences and Microbial Infection and Immunity in the Medical School.

**What was the most challenging aspect of transitioning from graduate student life into "the real world"?**

The biggest challenge transitioning to my postdoc was the lack of support that existed to help me support my family. With three children from graduate school and a spouse lacking any college education, it required extraordinary effort to stay financially afloat afterwards.

**What do you wish you would have taken more advantage of while a grad student?**

I would have passed up less opportunities for afternoon coffee. This is where some of the cool ideas come from and the 20 minutes in lab wouldn't have changed the day's outlook much.

**Did you take advantage of any opportunities at Stanford outside of the Med School that were highly beneficial to what you are doing right now, or what you did right after Stanford?**

I was actively involved in the Native American community on campus. Being involved with grad students and undergrads there has ultimately led to many opportunities to network people into places they and the field they are in benefit. For me, it developed a lot of friendships, a large circle of support, and some collaborative research opportunities we are now starting to pursue more actively.

**Looking back what was one of the best things about grad school?**

Grad school at Stanford allowed me to explore exciting biological ideas in this world unconstrained by concerns of capacity, lack of expertise, or funding. You could try anything.

**What do you enjoy most about what you do now?**

This positions allows me to decide what to investigate. I get to set the research agenda and pursue important questions in medicine and biology that remain unanswered and that will impact communities often at the margins.

**What attributes helped you the most in getting a new job?**

Persistence and fearlessness. Almost nothing works the first time and I failed a lot as a student, which helped me prepare for this. Stepping into new territory is risky but the rewards are often worth it.

**What is the hidden gem of the Stanford campus?**

One is the Roble gym. Often empty, very close, and a great place to read or work out.