2021 NHGRI Research Training and Career Development

April 19–21, 2021

Annual Meeting Report

The NHGRI Research Training and Career Development 6th Annual Meeting was held virtually April 19–21, 2021. The meeting was hosted by the Genomic Analysis T32 Training Program in the David Geffen School of Medicine at UCLA. Each year this Annual Meeting provides a venue for all trainees supported by NHGRI across the United States in the fields of genomic sciences, genomic medicine, and the ethical, legal and social implications (ELSI) of modern genomics to present the trainees' funded research and network with other trainees and established researchers. The meeting includes science and career development topics, invited keynote presentations, panel discussions, peer-reviewed platform and poster presentations, breakout sessions, and networking opportunities.

All members of NHGRI training programs are invited to attend, along with the program directors, program coordinators, NHGRI staff, NHGRI program advisors, and invited speaker and panelists. NHGRI trainees come from Diversity Action Plan (DAP) Programs, Institutional pre- and post-doctoral Training (T32) programs, pre- and post-doctoral Individual Fellowships (F30, F31, and F32), Career Development (K) Awards, and Centers of Excellence in ELSI Research (CEER). From a total of 444 meeting registrants, there were 40 undergraduate students, 27 post-baccalaureate trainees, 150 graduate students, 87 postdoctoral or early career trainees, 87 Training Program Faculty and Staff, 19 Invited Speaker and Panelist, 31 NHGRI staff, and 3 NHGRI advisors. Everyone attends days one and two of the meeting; day three is for the training programs' and NHGRI staff only.

OPENING SESSION (Virtual Attendance: 397)
Introduction: Dr. **Tina Gatlin**, NHGRI
Welcome and Opening Remarks: Dr. **Francis Collins**, NIH Director

Dr. Tina Gatlin, Program Director, Division of Genome Sciences, NHGRI, introduced Dr. Francis Collins, 16th Director of the National Institutes of Health, to open the meeting. In his recorded remarks Dr. Collins welcomed the participants and presented an overview of the importance of the work the trainees are doing. He provided the historical and societal perspective of NHGRI's training program. Dr, Collins also encouraged the trainees to continue their successful careers for the betterment of science and society.

DAY ONE KEYNOTE SESSION: Discussion of Race in Genetics Research (Virtual Attendance: 397)
Moderator: Dr. **Carla Easter**, Smithsonian National Museum of Natural History
Keynote Speaker: **Angela Saini**, Science Journalist & Author
Title: *The Use and Misuse of Race in Genetics*.

Angela Saini is an award-winning British science journalist and thought leader on the bias that persists in science. She gave a provocative and well-received talk on race in science, with an emphasis on genetics. This talk was followed by short presentations by the session panelists, Drs. **Faith Fletcher** of Baylor University, **Ewan Birney** of EMBL-EBI, and **Vence Bonham** of the NHGRI, before the session was open for questions and a panel discussion. In this lively virtual Q&A session, attendees posed questions in the webinar Q&A field, and questions were answered live by the panelists. This session was overwhelmingly cited as an audience favorite in the post-meeting survey.

DAY TWO KEYNOTE SESSION: Genetic Research and Career Development (Virtual Attendance: 258)
Moderator: Dr. **Jeanette Papp**, UCLA
Keynote Speaker: Dr. **Harold Pimentel**, UCLA
Title: *Seq and You Will Find*.

Day two was started with a welcome and keynote speaker introduction by Dr. Jeanette Papp, Co-Director of the UCLA Genomic Analysis T32 Training Program, and one of the two UCLA hosts. The day two keynote speaker was Dr. Harold Pimentel, HHMI Hanna H. Gray Fellow, Assistant Professor of Human Genetics and Computational Medicine at UCLA, and one of the “Rising Stars” of the “2020 100 inspiring Hispanic/Latinx scientists in America” (Cell Press). Dr. Pimentel discussed his research on modelling and technology for studying gene regulation, and also dealt with science training, describing his career trajectory, which many survey respondents found particularly inspiring.

CONCURRENT CAREER DEVELOPMENT SESSIONS (Virtual Attendance: 309)
After the Keynote talks, the meeting broke into three concurrent Career Development Panel Sessions. Each of these three sessions was repeated on days one and two of the meeting, to allow participants to visit more than one topic.

Session 1: Engaging with Your Mental and Emotional Health.
This panel hosted by UCLA. The moderator was Dr. **Eric Sobel**, Co-Director of the UCLA Genomic Analysis T32 Training Program, and one of the two UCLA hosts. The panelists were Dr. **JD Barton**, a clinical psychology fellow at UCLA Counseling and Psychological services, whose research explores techniques for implementing culturally-affirming practices within therapy and institutional settings; **Jermaine Bean**, Doctoral Intern at UCLA Counseling and Psychological Services, whose research explores racial stereotypes in athletics; and **Tina Del Carpio**, UCLA Genomic Analysis Training Program alumni and PhD candidate in Ecology and Evolutionary Biology at UCLA whose research includes evolution of recombination rates and the impact of UCLA's Competitive Edge bridge program for new doctoral students from underrepresented minority (URM) backgrounds, to improve URM student experiences and retention. This session provided an open and honest dialog on the mental health challenges of trainees, and practical guides for dealing with them. 62% of the post-meeting survey respondents found this session *Excellent*, and an additional 25% rated it *Good*, and many would like to see this topic addressed again at the 2022 meeting.

Session 2: Navigating the NIH Grant Application Process
This session was led by experts from the NHGRI: Dr. **Lisa Chadwick** and Ms. **Heather Colley**. The moderators led trainees through the complexities of grant application, with many useful tips and insights. This session was popular and well-received, with 60% of survey respondents rating it *Excellent*, and 37% rating it *Good*.

Session 3: COVID-19 Town Hall
This session was led by NHGRI program and division directors: Drs. **Elise Feingold** and **Teri Manolio** on day one, and Drs. **Lucia Hindorff** and **Carolyn Hutter** on day two. This topic received approximately 60 participants over the two days. The NHGRI personnel gave practical advice on how to navigate the challenges the pandemic posed to research careers. The session leaders also made sure that the participants had opportunities to speak about how they were affected. In this smaller breakout session, participants were able to unmute themselves and speak to the group, providing a more intimate exchange.

TRAINEE SCIENTIFIC PRESENTATIONS
All registered trainees were invited to submit abstracts on their research. Of the 304 trainees who registered for the meeting, 199 submitted abstracts. (Some trainees were early in their research and did not submit abstracts, and some trainees in summer research experiences for undergraduates were prevented from making substantial research progress by campus closures due to COVID-19.) All abstracts were evaluated by the NHGRI team, with input from the training program directors and coordinators. Standout abstracts were selected for ten-minute Platform Scientific Talks or one-minute Lightning Talks, and all other abstracts were presented as 4-6 slide Posters Talks. Career Development Awardees acted as session moderators for the talks. All moderators did an impressive job keeping the speakers to their brief allotted time, and the meeting on schedule.

Trainee Scientific Talks
Three different trainees presented 10-minute Scientific Talks on days one and two. On day one the Trainee Scientific Talk session moderator was Dr. **Anandi Krishnan** of Stanford University, and on day two the moderator was Dr. **PingHsun Hsieh** of University of Washington.

<u>Day One: Trainee Scientific 10-minute Talks</u>

Jazlyn Mooney, Stanford postdoctoral fellow
On the number of genealogical ancestors tracing to the source groups of an admixed population

Juan Gudino, University of Iowa ELSI graduate student
Regulating desirability: immigration and eugenics in California's state eugenics law

Elizabeth Jasper, Vanderbilt postdoctoral fellow
Association of genetically-predicted placental gene expression with birth weight.

Day Two: Trainee Scientific 10-minute Talks

Elias Awad, University of Alabama at Birmingham postdoctoral fellow
Rescue of NF1 cryptic splice site in exon 13 mRNA with antisense morpholino treatment

Lana Harshman, UCSF graduate student
Functional characterization of gene regulatory elements differentiating modern and archaic humans

Alicia Dominguez, University of Michigan graduate student
Population structure mediates the tradeoff between accuracy and generalizability of polygenic risk scores of bipolar disorder

Poster Session Lightning Talks
Lightning Talks were brief one-minute, one-slide presentations intended to quickly engage the audience's attention and interest them in visiting the trainees poster presentation. Each Lightning Talk presenter also presented a poster during the poster session. The day one Lightning Talk session moderator was Dr. **Kurt Christensen** of Harvard, and on day two the Lightning Talk session moderator was Dr. **Dustin Baldridge** of Washington University in St. Louis.

Day One: Poster Session 1-minute Lightning Talks

Alison Antes, Washington University in St. Louis
What did principal investigators prioritize when making decisions about conducting "essential" research during the COVID-19 pandemic?

Rachel Cohn, University of Connecticut, Jackson Laboratory
Investigation of TNNT2 genetic variants in heart failure

Hayden Davis, University of Washington
Does pheromone diversification play a key role in reproductive isolation?

Arya Kaul, Harvard University
Genomics of resistance before the age of antibiotics

Kathleen Mittendorf, Kaiser Permanente Center for Health Research
Can a patient-facing family history collection tool serve as an alternative modality for hereditary cancer risk assessment in medically underserved communities?

Jeffrey Okamoto, University of Michigan
Single nuclei resolution chromatin profiling in skeletal muscle across 287 individuals reveals differential accessibility by sex, age, and T2D-related traits.

Kara Quaid, Washington University, St. Louis
Defining the functional relationship between genetic and epigenetic variation in human iPSCs

Cameron Thomas, University of Florida
Impact of the ABCD-GENE score on cardiovascular outcomes with CYP2C19-guided antiplatelet therapy after PCI: a multi-site, real-world investigation

Bryan Thornlow, University of California, Santa Cruz
SARS-CoV-2 phylogenetics and genomic contact tracing

Wei Zhou, Massachusetts General Hospital & Harvard University
Global biobank meta-analysis initiative: collaborative efforts of biobanks to power genetic discovery across human diseases with > 2.5 million samples

Day Two: Poster Session 1-minute Lightning Talks

Sydney R. Anderson, Washington University, St. Louis
Identification of long non-coding RNAs as biomarkers for multiple myeloma progression

Matthew Bailey, University of Utah
Enhanced drug-screening informatics in tumor organoids provides improved metrics for precision oncology

Daniel Chavez-Yenter, University of Utah
"La Piedra Rosetta": a content analysis of health-specific stories on genetic testing from U.S. national Spanish-language news outlets

Katherine Hendy, University of Michigan
Biomedicalized discussions of genomics and addiction in media discussions of opioid epidemic

Daphne Martschenko, Stanford University
Building a public repository of FAQs: genomic findings on social and behavioral outcomes

Evonne McArthur, Vanderbilt University
Quantifying the relationship between 3D genome structure and the genetic architecture of complex traits

Gwen Miller, Broad Institute
Genomic characterization of the Cancer Cell Line Factory's patient-derived models

Ashley Robbins, University of Pennsylvania
Spatiotemporal profiling of the adult murine cerebellum at single-cell resolution via in situ split-pool barcoding

Thomas Sasani, University of Washington
Discovery of a quantitative trait locus for the germline mutation rate in mice

Mike Thompson, UCLA
Context-specific transcriptome-wide association studies

Poster Sessions
Due to the necessity for a virtual meeting, each trainee poster was presented in an interactive trainee-hosted Zoom session as a 4–6 slide *Poster Talk*. The length of each poster session was one hour on days one and two of the meeting. Each trainee's *Poster Talk* was designed to fit into ten minutes, to be repeated throughout the hour as visitors came and left. Each meeting participant was assigned to review two to three posters on each day (unless they were presenting a poster in that session themselves), to ensure that all trainees had at least three visitors to their poster. Reviewers were matched to posters by discipline keywords they entered when they registration for the meeting. In the post meeting survey, 81% said that the poster presentation format was successful. Posters had an average of 3.7 visitors each, and only three trainees reported having no visitors, at least one of which was due to technical difficulties on the presenter's end.

MODERATED NETWORKING CAFÉS

Networking is an important component of the Annual Meeting. Networking can be more challenging in a virtual setting. To facilitate interaction there were ten concurrent one-hour Zoom-based *Networking Cafés,* each moderated by two or three senior scientists. All ten *Networking Cafés* were repeated on days one and two of the meeting, to allow participants to visit more topics. During these sessions, participants could come and go, and move from one Café to another, as they pleased. Anyone could talk to anyone else in a session, but the moderators led the conversations. In the post meeting survey, 95% found the Café session timing and format successful, and no survey respondent disagreed with the statement that *"Discussion at the Networking Cafés sessions I attended was positive, constructive, and respectful."* The ten *Networking Café* topics were: Genome Sciences; Genomic Medicine; ELSI; Finding a Postdoctoral Position; How to Start a Company; Science Communication; Science Policy; Talk to NHGRI Program Officer; Working in Academia; and Working in Industry.

PLENARY SESSION CLOSING REMARKS

Dr. **Luis Cubano,** Program Director of the of the NHGRI Division of Genomic Medicine, thanked everyone for participating in the annual meeting and hoped to meet everyone in person next year.

EXECUTIVE SESSIONS

Day three was a shortday: one hour with PIs, Training Coordinators, NHGRI Staff and Advisors, and one hour with just NHGRI Staff and Advisors. Day three sessions were led by Dr. Cubano of the NHGRI. There was also a concurrent Executive Session on day two of the meeting, during the trainee talks, for training coordinators only. This half-hour session was on the topic of *Recruitment, Retention, Collaboration*, moderated by Dr. Tina Gatlin of the NHGRI, with presentations by Drs. **Debra Murray** of Baylor University and **Zia Isola** of UCSC.

2021 NHGRI Research Training and Career Development Annual Meeting
April 19 – April 21, 2021
A Virtual Meeting Hosted by the UCLA T32 Program
Meeting Website is https://uclahs.fyi/nhgri2021-website

Monday, April 19, 2021 — All times are Eastern Time!	
12:30 – 1:00pm	Admission to virtual meeting at **https://uclahs.fyi/nhgri2021**
1:00 – 1:15pm	**Welcome and Opening Remarks: Francis Collins**, NIH Director *Introduction by **Tina Gatlin**, NHGRI*
1:15 – 2:45pm	**Discussion of Race in Genetics Research** *Moderator*: **Carla Easter**, Smithsonian National Museum of Natural History **Keynote Address:** *Keynote Speaker*: **Angela Saini**, Science Journalist & Author *Title:* THE USE AND MISUSE OF RACE IN GENETICS *Panelists*: **Faith Fletcher**, Baylor University **Ewan Birney**, EMBL-EBI **Vence Bonham**, NHGRI
2:45 – 2:55pm	**Break (10 minutes)**
2:55 – 3:45pm	**Concurrent Career Development Sessions** https://uclahs.fyi/nhgri2021 (1) Engaging with Your Mental and Emotional Health *Moderator:* **Eric Sobel**, UCLA *Panelists*: **JD Barton**, UCLA **Jermaine Bean**, UCLA **Tina Del Carpio**, UCLA (2) Navigating the NIH Grant Application Process https://uclahs.zoom.us/j/94081507907?pwd=ZnhqcXJWeUlPTlFyUWhudjdGWFI4UT09 *Panelists*: **Heather Colley**, NHGRI **Lisa Chadwick**, NHGRI (3) COVID-19 Town Hall https://uclahs.zoom.us/j/93493983076?pwd=S1NMcmNUSklzbmlGZWZ1SkJKOTBXdz09 *Panelists:* **Elise Feingold**, NHGRI **Teri Manolio**, NHGRI
3:45 – 3:55pm	**Break (10 minutes)**
3:55 – 4:25pm	**Trainee Scientific Talks #1** https://uclahs.fyi/nhgri2021 Three Presenters (10-minute talks each, including Q&A) *Moderator*: **Anandi Krishnan**, Stanford University **Jazlyn Mooney**, Stanford University *On the number of genealogical ancestors tracing to the source groups of an admixed population* **Juan Gudino**, University of Iowa *Regulating desirability: Immigration and eugenics in California's state eugenics law* **Elizabeth Jasper**, Vanderbilt University Medical Center *Association of genetically-predicted placental gene expression with birth weight*

Monday, April 19, 2021 — **All times are Eastern Time!**	
4:25 – 4:40pm	**Poster Session Lightning Talks #1** https://uclahs.fyi/nhgri2021 Ten Presenters (1-minute plugs for their talks in Poster Session #1) *Moderator*: **Kurt Christensen**, Harvard Pilgrim Health Care Institute **Alison Antes**, Washington University in St. Louis *What did principal investigators prioritize when making decisions about conducting "essential" research during the COVID-19 pandemic?* **Rachel Cohn**, University of Connecticut, Jackson Laboratory *Investigation of TNNT2 genetic variants in heart failure* **Hayden Davis**, University of Washington *Does pheromone diversification play a key role in reproductive isolation?* **Arya Kaul**, Harvard University *Genomics of resistance before the age of antibiotics* **Kathleen Mittendorf**, Kaiser Permanente Center for Health Research *Can a patient-facing family history collection tool serve as an alternative modality for hereditary cancer risk assessment in medically underserved communities?* **Jeffrey Okamoto**, University of Michigan *Single nuclei resolution chromatin profiling in skeletal muscle across 287 individuals reveals differential accessibility by sex, age, and T2D-related traits.* **Kara Quaid**, Washington University, St. Louis *Defining the functional relationship between genetic and epigenetic variation in human iPSCs* **Cameron Thomas**, University of Florida *Impact of the ABCD-GENE score on cardiovascular outcomes with CYP2C19-guided antiplatelet therapy after PCI: a multi-site, real-world investigation* **Bryan Thornlow**, University of California, Santa Cruz *SARS-CoV-2 phylogenetics and genomic contact tracing* **Wei Zhou**, Massachusetts General Hospital & Harvard University *Global biobank meta-analysis initiative: collaborative efforts of biobanks to power genetic discovery across human diseases with > 2.5 million samples*
4:40 – 4:50pm	**Break (10 minutes)**
4:50 – 5:50pm	**Poster Session #1**

Monday, April 19, 2021 — **All times are Eastern Time!**	
5:50 – 6:50pm	**Moderated Networking Cafés** https://uclahs.zoom.us/j/98551475403?pwd=aFVaK2x4M1pVRS9iSjdnNG1Ib1JXZz09 *Topics:* *(1) Working in Academia:* **Michael Boehnke**, University of Michigan **Angela Brooks**, University of California, Santa Cruz *(2) Working in Industry:* **Marie-Luise Brennan**, NIH **Erica Ramos**, Genome Medical, Inc. *(3) Talk to NHGRI Program Officer:* **Dave Kaufman**, NHGRI **Mike Pazin**, NHGRI **Robb Rowley**, NHGRI *(4) Science Communication:* **Sarah Bates**, NHGRI **Prabana Ganguly**, NHGRI **Jenn Montooth**, NHGRI *(5) Science Policy:* **Amanda Conti**, NHGRI **Allison McCague**, NHGRI **Catharine Krebs**, Physicians Committee for Responsible Medicine *(6) ELSI:* **Joy Boyer**, NHGRI **Steve Joffe**, University of Pennsylvania **Nicole Lockhart**, NHGRI *(7) Genome Sciences:* **Carol Bult**, Jackson Laboratory **Brenton Graveley**, University of Connecticut *(8) Genomic Medicine:* **Bruce Korf**, University of Alabama, Birmingham **Heidi Rehm**, Harvard University *(9) Finding a Postdoctoral Position:* **Jason Moore**, University of Pennsylvania **H Joseph Yost**, University of Utah *(10) How to Start a Company:* **Jay Shendure**, University of Washington **Mike Snyder**, Stanford University

Tuesday, April 20, 2021 — **All times are Eastern Time!**	
12:30 – 1:00pm	Admission to virtual meeting at **https://uclahs.fyi/nhgri2021**
1:00 – 1:45pm	**Welcome & Keynote Speaker Introduction: Jeanette Papp**, UCLA **Keynote Address:** *Keynote Speaker*: **Harold Pimentel**, UCLA *Title:* SEQ AND YOU WILL FIND
1:45 – 1:55pm	**Break (10 minutes)**
1:55 – 2:45pm	**Concurrent Career Development Sessions** (1) Engaging with Your Mental and Emotional Health https://uclahs.fyi/nhgri2021 *Moderator:* **Eric Sobel**, UCLA *Panelists*: **JD Barton**, UCLA **Jermaine Bean**, UCLA **Tina Del Carpio**, UCLA (2) Navigating the NIH Grant Application Process https://uclahs.zoom.us/j/94081507907?pwd=ZnhqcXJWeUlPTlFyUWhudjdGWFI4UT09 *Panelists*: **Heather Colley**, NHGRI **Lisa Chadwick**, NHGRI (3) COVID-19 Town Hall https://uclahs.zoom.us/j/93493983076?pwd=S1NMcmNUSklzbmlGZWZ1SkJKOTBXdz09 *Panelists:* **Lucia Hindorff**, NHGRI **Carolyn Hutter**, NHGRI
2:45 – 2:55pm	**Break (10 minutes)**
2:55 – 3:25pm	**Concurrent Sessions** (1) **Trainee Scientific Talks #2** https://uclahs.fyi/nhgri2021 Three Presenters (10-minute talks each, including Q&A) *Moderator*: **PingHsun Hsieh**, University of Washington **Elias Awad**, University of Alabama, Birmingham *Rescue of NF1 cryptic splice site in exon 13 mRNA with antisense morpholino treatment* **Lana Harshman**, University of California, San Francisco *Functional characterization of gene regulatory elements differentiating modern and archaic humans* **Alicia Dominguez**, University of Michigan *Population structure mediates the tradeoff between accuracy and generalizability of polygenic risk scores of bipolar disorder.* (2) **Executive Session: Training Coordinators Only** https://uclahs.zoom.us/j/96687836794?pwd=VlJrTDRKVEZnRlRqM0NaTCtEZnV3dz09 Recruitment, Retention, Collaboration *Moderator*: **Tina Gatlin**, NHGRI *Panelists:* **Debra Murray**, Baylor University DAP **Zia Isola**, University of California, Santa Cruz DAP

Tuesday, April 20, 2021 — **All times are Eastern Time!**	
3:25 – 3:40pm	**Poster Session Lightning Talks #2** https://uclahs.fyi/nhgri2021 Ten Presenters (1-minute plugs for their talks in Poster Session #2) *Moderator*: **Dustin Baldridge**, Washington University, St. Louis **Sydney R. Anderson**, Washington University, St. Louis *Identification of long non-coding RNAs as biomarkers for multiple myeloma progression* **Matthew Bailey**, University of Utah *Enhanced drug-screening informatics in tumor organoids provides improved metrics for precision oncology* **Daniel Chavez-Yenter**, University of Utah *"La Piedra Rosetta": a content analysis of health-specific stories on genetic testing from U.S. national Spanish-language news outlets* **Katherine Hendy**, University of Michigan *Biomedicalized discussions of genomics and addiction in media discussions of opioid epidemic* **Daphne Martschenko**, Stanford University *Building a public repository of FAQs: genomic findings on social and behavioral outcomes* **Evonne McArthur**, Vanderbilt University *Quantifying the relationship between 3D genome structure and the genetic architecture of complex traits* **Gwen Miller**, Broad Institute *Genomic characterization of the Cancer Cell Line Factory's patient-derived models* **Ashley Robbins**, University of Pennsylvania *Spatiotemporal profiling of the adult murine cerebellum at single-cell resolution via in situ split-pool barcoding* **Thomas Sasani**, University of Washington *Discovery of a quantitative trait locus for the germline mutation rate in mice* **Mike Thompson**, UCLA *Context-specific transcriptome-wide association studies*
3:40 – 3:50pm	**Closing Remarks: Luis Cubano**, NHGRI
3:50 – 4:50pm	**Poster Session #2**
4:50 – 5:00pm	**Break (10 minutes)**

Tuesday, April 20, 2021 — **All times are Eastern Time!**	
5:00 – 6:00pm	**Moderated Networking Cafés** https://uclahs.zoom.us/j/98551475403?pwd=aFVaK2x4M1pVRS9iSjdnNG1Ib1JXZz09 *Topics:* *(1) Working in Academia:* **H Joseph Yost**, University of Utah *(2) Working in Industry:* **Marie-Luise Brennan**, NIH **Erica Ramos**, Genome Medical, Inc. *(3) Talk to NHGRI Program Officer:* **Joy Boyer**, NHGRI **Mike Pazin**, NHGRI **Robb Rowley**, NHGRI *(4) Science Communication:* **Sarah Bates**, NHGRI **Prabana Ganguly**, NHGRI **Jenn Montooth**, NHGRI *(5) Science Policy:* **Elena Ghanaim**, NHGRI **Cristina Kapustij**, NHGRI **Catharine Krebs**, Physicians Committee for Responsible Medicine *(6) ELSI:* **Dave Kaufman**, NHGRI **Debra Mathews**, Johns Hopkins University **Rene Sterling**, NHGRI *(7) Genome Sciences:* **Michael Boehnke**, University of Michigan **Brenton Graveley**, University of Connecticut *(8) Genomic Medicine:* **Bruce Korf**, University of Alabama, Birmingham **Heidi Rehm**, Harvard University *(9) Finding a Postdoctoral Position:* **Jason Moore**, University of Pennsylvania *(10) How to Start a Company:* **Steve Fodor**, 13.8, Inc. **David C Schwartz**, University of Wisconsin

Wednesday, April 21, 2021 *(by invitation only)* — All times are Eastern Time!	
1:00 – 2:00pm	**Executive Session:** PIs, Training Coordinators, NHGRI Staff and Advisors https://nih.zoomgov.com/j/1606399021?pwd=cDhxZHFXV1VXVENLMHpZRndaV2JXZz09 *Moderator:* **Luis Cubano**, NHGRI
2:00 – 2:10pm	**Break (10 minutes)**
2:10 – 3:10pm	**Executive Session:** NHGRI Staff and Advisors *Moderator:* **Luis Cubano**, NHGRI

Speaker Bios

JD Barton

Clinical Psychology Fellow, UCLA

JD Barton, PsyD is a clinical psychology fellow at UCLA Counseling and Psychological services and graduate from Pepperdine University. He completed his predoctoral internship at UCLA CAPS. His research explores techniques for implementing culturally-affirming practices within therapy and institutional settings and has developed expertise in trauma, and identity-affirming cognitive behavioral theory. He has worked in a diverse number of settings including university counseling centers, hospitals, neuropsychology clinics, and community mental health.

Sarah Bates

Communications and Public Liaison Branch, NHGRI

Sarah Bates is the chief of NHGRI's Communications and Public Liaison Branch (CPLB). Previously, as a public affairs specialist for the National Science Foundation (NSF), Bates led communications for the Engineering Directorate and the BRAIN Initiative, covering complex and sensitive topics such as gravitational waves, sexual harassment, and disaster relief. Through that work, she earned the NSF Director's Award for Excellence Pioneer. Bates has a Master of Arts in Journalism, a Master of Science in Astronomy, and a Bachelor of Arts in Physics and English.

Jermaine Bean

Doctoral Intern, UCLA Counseling and Psychological Services

Jermaine Bean is a Ph.D. candidate at Rosalind Franklin University of Medicine and Science and is currently completing his doctoral internship at UCLA Counseling and Psychological Services (CAPS). He completed his masters degree in sport psychology at Southern Illinois University Edwardsville. His dissertation research explores racial stereotypes in athletics, more specifically, stereotypes related to intellect vs. athleticism at the quarterback position. Before joining the UCLA CAPS team, he worked in various settings, including academic medical centers, VA hospitals, community mental health centers, and university counseling centers.

Ewan Birney

Deputy Director General of EMBL, Director of EMBL-EBI and Senior Scientist, EMBL-EBI

Ewan Birney is Deputy Director General of EMBL. He is also Director of EMBL-EBI with Dr. Rolf Apweiler, and runs a small research group. Ewan completed his PhD at the Wellcome Sanger Institute with Richard Durbin. In 2000, he became Head of Nucleotide data at EMBL-EBI and in 2012 he took on the role of Associate Director at the institute. He became Director of EMBL-EBI in 2015. In 2020, Ewan became the Deputy Director General of EMBL. In this role, he assists the EMBL Director General in relation to engagement with EMBL Member States and external representation. Ewan led the analysis of the Human Genome gene set, mouse and chicken genomes and the ENCODE project, focusing on non-coding elements of the human genome. Ewan's main areas of research include functional genomics, DNA algorithms, statistical methods to analyse genomic information (in particular information associated with individual differences in humans and Medaka fish) and use of images for chromatin structure. Ewan is a non-executive Director of Genomics England, and a consultant and advisor to a number of companies, including Oxford Nanopore Technologies, Dovetail Genomics and GSK. Ewan was elected an EMBO member in 2012, a Fellow of the Royal Society in 2014 and a Fellow of the Academy of Medical Sciences in 2015. In 2019, Ewan became a Board Member of the Biotechnology and Biological Sciences Research Council (BBSRC). He has received a number of awards including the 2003 Francis Crick Award from the Royal Society, the 2005 Overton Prize from the International Society for Computational Biology and the 2005 Benjamin Franklin Award for contributions in Open Source Bioinformatics.

Michael Boehnke

Richard G. Cornell Distinguished University Professor of Biostatistics and Director of the Center for Statistical Genetics and Genome Science Training Program at the University of Michigan.

Michael Boehnke is the Richard G. Cornell Distinguished University Professor of Biostatistics at the University of Michigan. He is Director of the University of Michigan Center for Statistical Genetics and Genome Science Training Program, a member of the National Academy of Medicine, and a Fellow of the American Statistical Association and of the American Association for the Advancement of Science. Dr. Boehnke did his undergraduate degree in Mathematics at the University of Oregon and his PhD in Biomathematics at UCLA. He has been on the faculty at Michigan since 1984. Dr. Boehnke develops statistical methods for the analysis of genetic data and applies those methods to understand the genetic basis of human health and disease, notably type 2 diabetes and related traits. Dr. Boehnke has supervised 23 doctoral students 12 post-doctoral fellows.

Vence Bonham

Senior Advisor to the NHGRI Director on Genomics and Health Disparities, NHGRI

Vence Bonham received his BA from Michigan State University and his Juris Doctor degree from the Moritz College of Law at Ohio State University. Mr. Bonham was a tenured faculty member at Michigan State University with appointments in the Colleges of Medicine and Law. He is currently an associate investigator in the National Human Genome Research Institute (NHGRI) within the Division of Intramural Research's Social and Behavioral Research Branch. He leads the Health Disparities Unit, which investigates the equitable integration of new genomic knowledge and precision medicine into clinical settings. His research focuses primarily on the social implications of new genomic knowledge, particularly in communities of color, how genomics influences the use of the constructs of race and ethnicity in biomedical research and clinical care, and the role of genomics in health inequities. The Bonham group also studies sickle cell disease, a condition that will be impacted by emerging curative genomic technologies but faces significant health disparities both in the United States and globally. Mr. Bonham also serves as the senior advisor to the NHGRI Director on Genomics and Health Disparities. This role complements his research, as it allows contemporary genomic science and policy issues to inform his research program.

Joy Boyer

Program Director, Division of Genomics and Society, NHGRI

Joy Boyer has been a program official with the National Human Genome Research Institute (NHGRI) Ethical, Legal and Social Implications (ELSI) Research Program since 1996. As a program director in the NHGRI Division of Genomics and Society, Joy oversees a portfolio of research, training and career development grants related to the ethical, legal and social implications of genomic research. She coordinates the Centers of Excellence in ELSI Research (CEER) consortium and is the principal contact for ELSI Training grants (T32) program. She also participates in a variety of ELSI-related trans-NHGRI, trans-NIH and trans-HHS initiatives and programs, particularly initiatives focused on newborn and prenatal genetic screening. Currently, Joy focuses on ELSI Research Program grants and initiatives related to Genomics and Sociocultural Structures and Values. These projects examine the foundational concepts and values that underlie and shape how individuals, families, communities and other social and cultural groups understand and use genomic information and technologies.

Angela Brooks

Assistant Professor of Biomolecular Engineering at the University of California, Santa Cruz

Angela Brooks is an Assistant Professor of Biomolecular Engineering at the University of California, Santa Cruz. She is also an Affiliated Faculty of the UCSC Center for Molecular Biology of RNA and the Director of Diversity for the UCSC Genomics Institute. Angela joined UC Santa Cruz in 2015, after completing her Postdoctoral Fellowship at the Dana-Farber Cancer Institute/Broad Institute with Matthew Meyerson. She completed her Ph.D. in Molecular and Cell Biology with a Designated Emphasis in Computational and Genomic Biology in 2011 at UC Berkeley under the advisement of Steven Brenner. In 2018, she was named a Pew Scholar in the Biomedical Sciences and was selected for the Women in Science and Engineering Award as part of the UC Santa Cruz Chancellor's Achievement Awards for Diversity. The Brooks lab works on developing computational and experimental approaches to study cancer mutations that cause changes in the transcriptome, particularly through RNA splicing.

Carol Bult

Professor and Knowlton Family Chair, The Jackson Laboratory

Prior to joining the Laboratory in 1997, Dr. Bult was a founding faculty member of The Institute for Genomic Research (TIGR) where she helped to pioneer the application of large-scale genomics to human gene discovery and whole genome sequencing. At The Jackson Laboratory, Dr. Bult and her collaborators maintain a unique database of genetic and genomic data for mouse models of human disease – a resource that is free to the entire scientific community. Her research group combines computational and experimental approaches to investigate the genetic and molecular drivers of metastatic lung cancer and to identify causative mutations in the human birth defect, congenital diaphragmatic hernia. She has published more than 150 scientific papers and serves on numerous national and international scientific advisory boards. Current projects in the Bult lab include integrating diverse data from humans and mice to predict genes that are causative for congenital diaphragmatic hernia, and exploring the relationship of microRNAs and tumor progression in lung cancer. Dr. Bult is the Director of the Diversity Action Plan (DAP) program at The Jackson Laboratory.

Lisa Chadwick

Program Director Genome Sciences, Division of Genome Sciences, NHGRI

Lisa Helbling Chadwick, Ph.D. joined the National Human Genome Research Institute's Extramural Research Program as a program director in 2018. She oversees the Centers for Mendelian Genomics within the NHGRI Genome Sequencing Program. Prior to joining NHGRI, Dr. Chadwick was a program director in the Division of Extramural Research and Training at the National Institute of Environmental Health Sciences (NIEHS), where she was involved in the leadership of the NIH Roadmap Epigenomics Program, and the NIH 4D Nucleome Program. Dr. Chadwick received a B.A. in biology from Case Western Reserve University, a Ph.D. in genetics from Case Western Reserve University, and completed postdoctoral research at NIEHS.

Heather Colley

Program Director, Division of Genomic Medicine, NHGRI

Ms. Colley is a program director in the Division of Genomic Medicine, National Human Genome Research Institute (NHGRI), joining NHGRI in 2007. Her research portfolio includes the NHGRI Training and Career Development Programs, NHGRI GWAS Catalog, and the NIH Common Fund Undiagnosed Diseases Network. Her research interests include increasing the diversity of the biomedical workforce and leveraging genomics to improve human health. Ms. Colley received her M.S. in biomedical anthropology from the State University of New York at Binghamton.

Francis Collins

NIH Director, NIH

Francis S. Collins, M.D., Ph.D. was appointed the 16th Director of the National Institutes of Health (NIH) by President Barack Obama and confirmed by the Senate. He was sworn in on August 17, 2009. In 2017, President Donald Trump asked Dr. Collins to continue to serve as the NIH Director. President Joe Biden did the same in 2021. Dr. Collins is the only Presidentially appointed NIH Director to serve more than one administration. In this role, Dr. Collins oversees the work of the largest supporter of biomedical research in the world, spanning the spectrum from basic to clinical research. Dr. Collins is a physician-geneticist noted for his landmark discoveries of disease genes and his leadership of the international Human Genome Project, which culminated in April 2003 with the completion of a finished sequence of the human DNA instruction book. He served as director of the National Human Genome Research Institute at NIH from 1993-2008. Dr. Collins is an elected member of both the National Academy of Medicine and the National Academy of Sciences, was awarded the Presidential Medal of Freedom in November 2007, and received the National Medal of Science in 2009. In 2020, he was elected as a Foreign Member of the Royal Society (UK) and was also named the 50th winner of the Templeton Prize, which celebrates scientific and spiritual curiosity.

Luis Cubano

Program Director, Division of Genomic Medicine, NHGRI

Dr. Luis Cubano is a program director in the Division of Genomic Medicine, National Human Genome Research Institute (NHGRI), joining NHGRI in 2019. His main responsibility is to lead NHGRI's Training and Career Development Program. His interests include increasing the diversity of the biomedical workforce. Prior to joining NHGRI, Dr. Cubano was a professor and associate dean for research and graduate studies at the Universidad Central del Caribe School of Medicine in Puerto Rico. Dr. Cubano received his B.S. from Tulane University, his M.S. from the University of Alabama in Huntsville, his Ph.D. from Kansas State University, and completed post-doctoral training at the Tulane University Medical Center.

Tina Del Carpio

PhD candidate, Dept of Ecology and Evolutionary Biology at UCLA

Tina is a Latinx, non-binary (pronouns: they/them) PhD candidate in Ecology and Evolutionary Biology at UCLA. They are a member of the Lohmueller lab. Tina's research reflects their interests in both genetics and improving graduate education. They are estimating recombination rates in North American gray wolf populations and breed dogs to investigate how domestication has influenced the evolution of recombination rates. Tina is also studying the impact of UCLA's Competitive Edge bridge program for new doctoral students from underrepresented minority (URM) backgrounds. They are hoping to learn the strengths and areas of growth of the Competitive Edge program to improve URM student experiences and retention at UCLA. After completing their PhD, Tina plans to pursue a career working with STEM graduate programs to improve equity, diversity, and inclusion. Tina manages their mental health in grad school with help from their two emotional support cats Tuca and Jem.

Carla Easter

Smithsonian’s National Museum of Natural History

Carla Easter, Ph.D., is the assistant director for Education, Outreach, and Visitor Experience at the Smithsonian's National Museum of Natural History. Formerly, she served as chief of the Education and Community Involvement Branch at the National Human Genome Research Institute. Dr. Easter directed the outreach office for Washington University School of Medicine's Genome Sequencing Center and was a research associate in the Department of Education at Washington University where she explored the significance of science for secondary students. She served as pre-college coordinator for the NASA Summer High School Apprenticeship Research Plus Program and project associate for the Quality Education for Minorities Network. Dr. Easter conducted post-doctoral research at Washington University School of Medicine on the virulence factors associated with Streptococcus pyogenes. She earned her bachelor's degree in microbiology from the University of California, Los Angeles and her doctorate in biology with an emphasis on molecular genetics from the University of California, San Diego.

Elise Feingold

Program Director Genome Analysis, Division of Genome Sciences, NHGRI

Dr. Elise A. Feingold is the Scientific Advisor for Strategic Implementation within the Division of Genome Sciences, National Human Genome Research Institute (NHGRI), at the U.S. National Institutes of Health. In this role, she provides strategic support for scientific visioning and division-wide initiatives, and leadership for implementing the NHGRI 2020 Strategic Vision (https://www.genome.gov/2020SV). In addition, she serves as the Co-Manager of the Scientific Program Analysts program for NHGRI’s Extramural Research Program. Previously, Dr. Feingold was a Program Director at NHGRI, managing a portfolio of research grants in Functional Genomics. In this position, she initiated and led the Encyclopedia of DNA Elements (ENCODE) Project (www.encodeproject.org) which is creating a comprehensive catalog of functional elements in the human and mouse genomes as well as the related model organism (modENCODE) project which focused on the comprehensive mapping of functional elements in the D. melanogaster and C. elegans genomes. Dr. Feingold also managed, in collaboration with the National Cancer Institute, the Mammalian Gene Collection project, which created a comprehensive collection of sequence verified full-length human and mouse cDNA clones. Dr. Feingold received a B.A. in Biology with a concentration in Genetics from the University of Pennsylvania and a Ph.D. in Human Genetics from Yale University. After conducting post-doctoral research at the National Heart, Lung, and Blood Institute she joined the extramural division of NHGRI in 1992. Dr. Feingold received the 2013 HHS Secretary’s Award for Distinguished Service as well as NIH Director’s Awards in 1999, 2013 and 2015.

Faith Fletcher

Assistant Professor, Center for Medical Ethics and Health Policy, Baylor College of Medicine

Faith E. Fletcher, PhD, MA is an Assistant Professor in the Center for Medical Ethics and Health Policy at Baylor College of Medicine. To date, her research has focused on implementing social and behavioral research in community and clinic settings, with attention to the ethics of engaging traditionally marginalized and stigmatized populations in scientific research. She is currently co-chair of the American Society for Bioethics and Humanities RACE Affinity Group, a national special interest group committed to promoting bioethics discourse and cross-disciplinary collaboration around social and structural disadvantage. She is also a senior advisor to the Hastings Center, a leading U.S. research institute in bioethics. Nationally, she is contributing to critical conversations around COVID-19 vaccination equity, structural racism, medical mistrust, and trustworthiness. Her recently funded NHGRI K01 study aims to employ stakeholder engagement methods with rural populations in the Deep South to establish evidence-based frameworks and guidelines that reflect their unique values, preferences, and priorities. This work aligns with her overall goal to promote ethical inclusion of medically underserved populations in scientific research to advance health equity.

Steve Fodor

Co-founder of 13.8, Inc.

Dr. Steve Fodor is currently co-founder of 13.8, Inc. He has founded and served as chief executive officer/chief scientific officer of several biotechnology companies, most recently Cellular Research, Inc., a company founded in 2011 to improve precision of measurements in biology, Perlegen Sciences, Enumerix, and Atlas Bio. He is the founder and former chairman of Affymetrix, Inc., an innovative supplier of analysis tools for genetics. Affymetrix began as a unit of the Affymax Research Institute in Palo Alto, where Dr. Fodor spearheaded the effort to develop high-density arrays of biological polymers in a light-directed, spatially defined format. Dr. Fodor and his colleagues were the first to describe and develop highly parallel microarray technologies utilizing combinatorial chemistry synthesis for measuring the genetics of an organism. His interests include developing innovative new techniques to parallelize and digitize biological assays, increase precision in measurements, and to encourage and manage risk in entrepreneurial ventures. Dr. Fodor is a Fellow of the American Association for the Advancement of Science (AAAS), a member of the American Chemical Society, the Biophysical Society, and the National Academy of Engineering. In 1992, he and his colleagues were honored by the AAAS with the Newcomb-Cleveland Award for an outstanding paper published in Science. He has received various honors and awards, including the Washington State University Alumni Achievement Award, the Intellectual Property Owner's Distinguished Inventor of the Year Award, the Chiron Corporation Biotechnology Research Award, The Association for Laboratory Automation Achievement Award, the Jacob Heskel Gabbay Award in Biotechnology and Medicine, the Takeda Foundation Award, the Economist Innovation Award for Nanotechnology, and the Association of Biomolecular Resource Facilities Award for outstanding contributions to Biomolecular Technologies. He holds over 200 US and international patents. Dr. Fodor earned a BS in biology and an MS in biochemistry from Washington State University, an MA and PhD in chemistry from Princeton University, and was a National Institutes of Health postdoctoral fellow at the University of California, Berkeley. He is a Trustee of the Carnegie Institute of Science, a member of the Board of the American Association for the Advancement of Science and serves on the council for the National Human Genome Research Institute as well as various public and private advisory groups.

Tina Gatlin

Program Director, Division of Genome Sciences, NHGRI

Dr. Tina Gatlin joined NHGRI's Extramural Research Program as a Program Director in 2010. She is the Lead Training Program Director for efforts focused in the area of genomic sciences. She manages a portfolio of grants focused on training, genomic sciences and proteomics. Her interests lie in promoting career opportunities, advancement for a diverse biomedical workforce, and improving the health of diverse communities. She serves on a number of trans-NIH committees that promote such efforts. Prior to joining NHGRI, Dr. Gatlin held a faculty appointment at the College of William and Mary, was an associate director at The Institute for Genomic Research (TIGR), and a senior director at Large Scale Biology Corporation where she led efforts in proteomics technology development and protein biomarker discovery.

Elena Ghanaim

Policy Analyst, Policy and Program Analysis Branch, NHGRI

Elena Ghanaim is a Policy Analyst for the Policy and Program Analysis Branch (PPAB) at the National Human Genome Research Institute (NHGRI). She focuses on the NIH Genomic Data Sharing (GDS) Policy, health privacy regulations, and human research participant protection issues. Her responsibilities include policy analysis; tracking federal and state legislation with an impact on genomic data sharing, privacy and policy issues; development of genomic data sharing resources for researchers and NHGRI staff; and administrative and project management support for various NHGRI or NIH committees. Ms. Ghanaim graduated from Rutgers University in 2015 with a bachelor's in Genetics and minors in Philosophy and Psychology. From there, she worked as a post-baccalaureate IRTA fellow for two years at the NIH. She went on to receive her master's in Bioethics and Science Policy with a focus on Genetics and Health Policy from Duke University in 2018.

Lucia Hindorff

Epidemiologist, Division of Genomic Medicine, NHGRI

Dr. Hindorff is an epidemiologist and program director in the Division of Genomic Medicine at NHGRI. She received her M.P.H. and Ph.D. degrees from the University of Washington, where her research focused on cardiovascular genetic epidemiology and motivating factors for using genetic tests in clinical care. At NHGRI, Dr. Hindorff is the lead Program Director for the Clinical Sequencing Evidence-Generating Research (CSER) program, a consortium to assess the clinical utility of genome sequencing in diverse settings and populations, and for the Polygenic Risk Score (PRS) Diversity Consortium, an upcoming consortium to collaboratively generate and refine PRS for populations of diverse ancestry. Dr. Hindorff is also the project scientist for the Population Architecture using Genomics and Epidemiology (PAGE) program, a consortium formed to expand understanding of ancestral differences in genomic disease associations in large, diverse, well-characterized cohorts. She is also the NHGRI scientific lead for the online NHGRI Genome-wide Association Study catalog. She has authored or co-authored over 100 publications and enjoys working with trainees and experienced investigators alike. In addition to managing her scientific portfolio, Dr. Hindorff is broadly interested in health information disparities, the integration of genomic tests into clinical care and practical issues related to large epidemiological studies.

Carolyn Hutter

Director, Division of Genome Sciences, NHGRI

Dr. Hutter is Division Director for the Division of Genome Sciences at the National Human Genome Research Institute (NHGRI) of the National Institutes of Health (NIH). She is also the NHGRI team lead for The Cancer Genome Atlas (TCGA). Dr. Hutter joined the NIH in 2012, serving as a program director in the National Cancer Institute (NCI) Epidemiology and Genomics Research Program before transferring to NHGRI in 2013. Prior to NIH, she was a senior staff scientist at the Fred Hutchinson Cancer Research Center and Lecturer at the University of Washington, where her research focused on large-scale consortia work for genome-wide association studies and on gene-environment interactions for cancer and other complex diseases.

Steve Joffe

Interim Chair, Department of Medical Ethics & Health Policy Chief, Division of Medical Ethics Founders Professor of Medical Ethics and Health Policy Professor of Pediatrics, U Penn

Steven Joffe is a pediatric oncologist and bioethicist who is currently the Founders Professor and Interim Chair of Medical Ethics and Health Policy, as well as Professor of Pediatrics, at the University of Pennsylvania Perelman School of Medicine. He is also the Director of the NHGRI-funded Penn Postdoctoral Training Program in the Ethical, Legal and Social Implications (ELSI) of Genetics and Genomics. Dr. Joffe's research addresses the many ethical challenges that arise in the conduct of clinical and translational investigation and in the practice of genomic medicine and science. He has led NIH and foundation grants to study the roles and responsibilities of principal investigators in multicenter randomized trials, accountability in the clinical research enterprise, children’s capacity to engage in research decisions, return of individual genetic results to participants in epidemiologic cohort studies, the integration of whole-exome sequencing technologies into the clinical care of cancer patients, and strategies for identifying hereditary risk among young adults with cancer. He has coauthored over 200 articles addressing these topics. He serves as a member of the FDA’s Pediatrics Ethics Subcommittee and the National Institutes of Health Clinical Center’s Board of Scientific Counselors and chairs the National Human Genome Research Institute’s Genomics and Society Working Group. Dr. Joffe attended Harvard College, received his medical degree from the University of California at San Francisco, and received his public health degree from UC Berkeley. He trained in pediatrics at UCSF and undertook fellowship training in pediatric hematology/oncology at the Dana-Farber Cancer Institute and Boston Children’s Hospital.

Cristina Kapustij

Chief, Policy and Program Analysis Branch, NHGRI

Cristina Kapustij, M.S., is chief of the Policy and Program Analysis Branch at the National Human Genome Research Institute. Ms. Kapustij spearheads the branch's efforts to understand the policy implications of genomics research and technologies, assess policy needs for the field, and develop policy positions on issues arising from the translation of genomic research discoveries to uses within the public domain. In addition to advising Institute leadership on a broad range of policy and program matters, she oversees the branch's policy analysis related to the ethical, legal and social implications of human genomics research and develops policies to address these issues. Ms. Kapustij's well rounded work experiences have prepared her to lead the policy branch at NHGRI. Prior to her role at NHGRI, she worked at the Institute for Human Genetics at the University of California, San Francisco. There she was the program manager for a National Institutes of Health cooperative research grant titled, "Sequencing of Newborn Blood Spot DNA to Improve and Expand Newborn Screening." She directed policy responses to potential changes in state and federal legislation; coordinated interactions with the Food and Drug Administration; and researched the societal implications of the DNA sequencing of newborn blood spots. Ms. Kapustij has also worked in industry, on Capitol Hill as a Congressional Health Fellow in the office of Representative John Dingell, and at Duke University's Center for Genome Ethics, Law and Policy where she was also a member of the Medical Center Institutional Review Board. These myriad opportunities have allowed her to work on a variety of topics including direct-to-consumer genetic testing and intellectual property issues. Her interest in science policy was fostered at the National Academies of Science as a Mirzayan Science and Technology Policy Fellow and as an intern in the AAAS Science and Policy Directorate.

Dave Kaufman

Program Director, Division of Genomics and Society, NHGRI

Dave Kaufman is a program director who joined the National Human Genome Research Institute (NHGRI) in May of 2014, after working as an NHGRI ELSI grantee for several years. He oversees a portfolio of research and career development grants related to the ethical, legal and social implications of genomic research. Dr. Kaufman serves as the primary ELSI advisor to the Clinical Sequencing Evidence-Generating Research (CSER) consortium and participates in a variety of ELSI-related trans-NHGRI and trans-NIH initiatives and programs, including a Citizen Science Working Group. Currently, Dr. Kaufman focuses on ELSI Research Program grants related to Genomic Healthcare and the integration of genomic information and technologies into clinical care. He also focuses on big data and stakeholder engagement issues.

Bruce Korf

Associate Dean for Genomic Medicine, School of Medicine; Chief Genomics Officer, UAB Medicine; Wayne H. and Sara Crews Finley Endowed Chair in Medical Genetics, Professor of Genetics, Co-Director of the UAB-Hudson Alpha Center for Genomic Medicine, Associate Director for Rare Diseases, Hugh Kaul Personalized Medicine Institute, U Alabama

Bruce R. Korf, M.D., PhD. Dr. Korf is the Associate Dean for Genomic Medicine, School of Medicine; Chief Genomics Officer, UAB Medicine; Wayne H. and Sara Crews Finley Endowed Chair in Medical Genetics, Professor of Genetics, Co-Director of the UAB-HudsonAlpha Center for Genomic Medicine, Associate Director for Rare Diseases, Hugh Kaul Personalized Medicine Institute and editor-in-chief of the American Journal of Human Genetics. He is a medical geneticist, pediatrician, and child neurologist, certified by the American Board of Medical Genetics and Genomics (clinical genetics, clinical cytogenetics, and clinical molecular genetics), American Board of Pediatrics, and American Board of Psychiatry and Neurology (child neurology). Dr. Korf is past president of the Association of Professors of Human and Medical Genetics, past president of the American College of Medical Genetics and Genomics, and current president of the ACMG Foundation for Genetic and Genomic Medicine. He has served on the Board of Scientific Counselors of the National Cancer Institute and the National Human Genome Research Institute at the NIH. His major research interests are molecular diagnosis of genetic disorders and the natural history, genetics, and treatment of neurofibromatosis. He serves as principal investigator of the Department of Defense funded Neurofibromatosis Clinical Trials Consortium, the Alabama Genomic Health Initiative, and the Southern All of Us Network. He is co-author of Human Genetics and Genomics (medical student textbook, now in fourth edition), Medical Genetics at a Glance (medical student textbook (now in third edition), Emery and Rimoin's Principles and Practice of Medical Genetics (now in 6th edition), and Current Protocols in Human Genetics.

Catharine Krebs

Medical Research Specialist, Physicians Committee for Responsible Medicine

Catharine E. Krebs, PhD, is a medical research specialist with the Physicians Committee for Responsible Medicine, a nationwide organization of physicians and laypersons that promotes preventive medicine, conducts clinical research, and encourages higher standards for ethics and effectiveness in research and medical training. At the Physicians Committee, Dr. Krebs advocates for responsible and effective biomedical practices in numerous areas including Alzheimer's disease, mental health, and translational sciences. She monitors NIH funding priorities, research strategies, and policies for opportunities to meaningfully engage NIH leadership and staff, researchers, lawmakers, Physicians Committee members, and the public. Dr. Krebs consistently urges for greater prioritization of workforce diversity and health disparities research, and advocates for increased ethics research, policies, and training.

Nicole Lockhart

Program Director, Division of Genomics and Society, NHGRI

Dr. Nicole Lockhart came to National Human Genome Research Institute (NHGRI) in 2012 as a program director in the Division of Genomics and Society. Dr. Lockhart oversees a portfolio of research and career development grants related to the ethical, legal and social (ELSI) implications of genomic research. Dr. Lockhart also coordinates the Genomics and Society Working Group, a working group of the National Advisory Council for Human Genome Research. She participates in a variety of ELSI-related trans-NHGRI and trans-NIH initiatives and programs. Prior to joining NHGRI, Dr. Lockhart served six years as a program manager at the National Cancer Institute (NCI). While at NCI, she focused on ethical, legal and policy issues related to biobanking. Her academic training is in biology and physiology. She also served as an American Association for the Advancement of Science (AAAS) Science and Policy Fellow and as a Christine Mirzayan Science and Technology Policy Graduate Fellow. Currently, Dr. Lockhart focuses on ELSI Research Program grants and initiatives related to Genomic Research Design and Implementation, which identifies, documents and develops approaches to address challenges related to genetic and genomic research.

Teri Manolio

Director, Division of Genomic Medicine, NHGRI

As a physician and epidemiologist, Teri Manolio, M.D., Ph.D. has a deep interest in discovering genetic changes associated with diseases by conducting biomedical research on large groups of people. As the Director of the Division of Genomic Medicine, a position she has held since 2012, Dr. Manolio leads efforts to support research translating those discoveries into diagnoses, preventive measures, treatments and prognoses of health conditions. "I see our division as a unique undertaking at NHGRI. We apply the rapidly expanding knowledge base of genetic associations and genome-scale analytic technologies to clinical problems of disease diagnosis and treatment" said Dr. Manolio. "This knowledge will enable us to meld clinical and genomic research for rapid improvements in clinical care." Dr. Manolio envisions a day when patients have ready access to affordable, reliable genetic tests enabling them to avoid rare, sometimes devastating complications of common drug treatments. She also hopes to find ways of using a patient's genomic information to enhance diagnostic strategies and improve treatment outcomes by examining comprehensive databases of patients whose physical characteristics and genomic variants match those of the patient at hand. Dr. Manolio joined NHGRI in 2005 as senior advisor to the NHGRI Director for population genomics, and in 2007 established NHGRI's Office of Population Genomics and became its Director. She has led efforts to apply genomic technologies to population and clinical research, including the Population Architecture for Genomics and Epidemiology (PAGE) Network, the Electronic Medical Records and Genomics (eMERGE) Network, the Clinical Sequencing Exploratory Research (CSER) Consortium, the ClinGen Resource, the Implementing Genomics in Practice (IGNITE) Network, and the NHGRI Genome-Wide Association Catalog. Dr. Manolio came to NHGRI from NIH's National Heart, Lung, and Blood Institute where she was involved in large-scale cohort studies such as the Cardiovascular Health Study and the Framingham Heart Study. Dr. Manolio also maintains an active clinical appointment on the in-patient medical service of the Walter Reed National Military Medical Center, Bethesda, and is a Professor of Medicine on the faculty of the Uniformed Services University of the Health Sciences. She has authored more than 280 research papers and has research interests in genome-wide association studies of complex diseases, ethnic differences in disease risk and incorporating genomic findings into clinical care.

Allison McCague

Science Policy Analyst, NHGRI

Allison McCague is a Science Policy Analyst for the Policy and Program Analysis Branch (PPAB) at the National Human Genome Research Institute (NHGRI). She leads annual reporting activities for NHGRI and performs portfolio analysis activities for the Institute. She also facilitates collaboration between PPAB and Extramural Program staff, as well as with policymakers to provide genetics and genomics subject matter expertise. She provides support for PPAB Congressional activities, including resource development, as well as project management support. Allison earned her PhD in Human Genetics from Johns Hopkins University in 2019. Her graduate work was a unique collaboration between the Institute of Genetic Medicine and the Berman Institute of Bioethics, which combined qualitative research on the policy implications of emerging therapies and quantitative research in cystic fibrosis therapeutics. Following her PhD, she was part of the inaugural class of Science & Politics Fellows with the Eagleton Institute of Politics at Rutgers University, spending a year as a full-time science aide for the New Jersey Department of Health. Outside of her science policy work, Allison is an avid baseball fan and writer; her baseball writing has been published on SB Nation, Baseball Prospectus, and Fangraphs.

Jason Moore

Professor, Department of Biostatistics and Epidemiology, Perelman School of Medicine, University of Pennsylvania

Jason Moore is the Edward Rose Professor of Informatics and Director of the Penn Institute for Biomedical Informatics. He also serves as Senior Associate Dean for Informatics and Chief of the Division of Informatics in the Department of Biostatistics, Epidemiology, and Informatics. He came to Penn in 2015 from Dartmouth where he was Director of the Institute for Quantitative Biomedical Sciences. Prior to Dartmouth he served as Director of the Advanced Computing Center for Research and Education at Vanderbilt University where he launched their first high-performance computer. He has a Ph.D. in Human Genetics and an M.S. in Applied Statistics from the University of Michigan. He leads an active NIH-funded research program focused on the development of artificial intelligence and machine learning algorithms for the analysis of human genomics data.

Jeanette Papp

Director, Genomic Analysis Training Program, Professor, Department of Human Genetics, David Geffen School of Medicine at UCLA

Jeanette Papp, PhD, considers that one of the more rewarding paths her scientific career has taken toward furthering genomic discovery has been through collaborations with young scientists. She is currently the PI of the NHGRI-funded Genomic Analysis and Interpretation predoctoral T32 program, and has had the privilege of advising trainees on a wide variety of genomic research. In her own research, she focuses on gene localization, and developing integrated software solutions for managing and analyzing genomic data

Mike Pazin

Program Director, Functional Genomics, Division of Genome Sciences, NHGRI

Dr. Pazin joined the National Human Genome Research Institute's NHGRI's Extramural Research Program in 2011. Mike is part of the NHGRI team overseeing the ENCODE project, generating an Encyclopedia of DNA Elements from the human and mouse genomes, as well as the Non-Coding Variants (NoVa) program. Mike is part of the Common Fund working group for the 4D Nucleome (4DN) program. He manages a portfolio of grants in functional genomics. He has worked on the NHGRI Data Access Committee, Common Fund Epigenomics, modENCODE, and the Genomics of Gene Regulation (GGR). Prior to joining NHGRI, Dr. Pazin was a principal investigator conducting research on the role of chromatin remodeling in gene regulation, at Massachusetts General Hospital/Harvard Medical School and the National Institute on Aging. This research was performed using cell-free (biochemical) assays and cell-based (single-gene and genomic) assays using T helper cells and neurons as model systems. He received his B.S. in chemistry from MIT in Cambridge, Massachusetts, his Ph.D. in cell biology from University of California, San Francisco (UCSF), and completed postdoctoral training at University of California, San Diego (UCSD).

Harold Pimentel

Assistant Professor, HHMI Hanna H. Gray Fellow, Professor, Departments of Human Genetics and Computational Medicine, UCLA

Dr. Pimentel recently started as an assistant professor in Computational Medicine and Human Genetics at UCLA. Previously, he was a postdoctoral researcher in Jonathan Pritchard’s lab at Stanford. Broadly, he is interested in understanding how genes work in concert through gene regulation to make our bodies function normally. Part of why he finds this area so fascinating is the technology is constantly evolving, as are the questions from both the biological side and the modeling side. As the theory evolves, in parallel the technology evolves opening new questions.

Heidi Rehm

Chief Genomics Officer, Department of Medicine, MGH, Professor of Pathology, MGH, BWH and Harvard Medical School, Medical Director, Broad Institute Clinical Research Sequencing Platform, Harvard

Written bio: Heidi Rehm is the Chief Genomics Officer in the Department of Medicine and at the Center for Genomic Medicine at Massachusetts General Hospital working to integrate genomics into medical practice. She is a board-certified laboratory geneticist, Medical Director of the Broad Institute Clinical Research Sequencing Platform and Professor of Pathology at Harvard Medical School, working to guide genomic testing for clinical and clinical research use. She is a principal investigator of ClinGen, providing free and publicly accessible resources to support the interpretation of genes and variants. Rehm also co-leads the Broad Center for Mendelian Genomics focused on discovering novel rare disease genes and co-leads the Matchmaker Exchange to also aid in gene discovery. She is a strong advocate and pioneer of open science and data sharing, working to extend these approaches through her role as vice chair of the Global Alliance for Genomics and Health. Rehm is also a principal investigator of the Broad-LMM-Color All of Us Genome Center supporting the sequencing and return of results to a cohort of one million individuals in the US and co-leading gnomAD, the Genome Aggregation Database.

Scott Roberts

Professor, Health Behavior & Health Education Co-Director, Dual-Degree (MPH/MS) Program in Public Health and Genetic Counseling Director, ELSI Research Training Program, University of Michigan

Scott Roberts, PhD, at the University of Michigan, conducts research on the psychological and behavioral impact of receiving genetic disease risk information, with work in this area focused on Alzheimer's disease, cancer, and direct-to- consumer genetic testing contexts. He directs several training programs, including the University of Michigan's Public Health Genetics certificate program, a dual degree program in genetic counseling and public health, and a NHGRI-funded ELSI Research Fellowship program.

Robb Rowley

Program Director, Electronic Medical Records and Genomics (eMERGE) Network, NHGRI

Dr. Robb Rowley is an Internal Medicine Physician and is the newly appointed Program Director for the National Human Genome Research Institute (NHGRI) Electronic Medical Records and Genomics (eMERGE) Network. The national Network combines DNA biorepositories with electronic medical record (EMR) systems for large scale, high-throughput genetic research in support of implementing genomic medicine. Prior to starting at NHGRI, he spent thirteen years in private practice and hospital management, where he provided clinical assessments and medical care for adult diseases influenced by genetically influenced conditions to improve patient risk stratification and individualize treatments. Dr. Rowley previously served in the United States Air Force Surgeon General's Office in Washington DC as the Chief of Medical Bioinformatics and Genomics. During this time, he established genomic policy and conducted genomic research for the United States Air Force. Dr. Rowley has also been instrumental in establishing national and international plans and policies for incorporating genomics into biosurveillance systems and biotechnology for the DoD and NATO. Dr. Rowley has experience with managing multiple FDA clinical trials, along with presenting original research at international scientific and medical meetings.

Angela Saini

Science Journalist & Author

Angela Saini is an award-winning British science journalist and broadcaster. She presents science programmes on the BBC, and her writing has appeared in New Scientist, The Sunday Times, National Geographic and Wired. Her latest book, Superior: the Return of Race Science, was a finalist for the LA Times Book Prize and named a book of the year by The Telegraph, Nature and Financial Times. Her previous book, Inferior: How Science Got Women Wrong, has been translated into thirteen languages. Angela has a Masters in Engineering from the University of Oxford and was a Fellow at the Massachusetts Institute of Technology. In 2020 she was named one of the world's top 50 thinkers by Prospect magazine.

David Schwartz

Professor, Chemistry and Genetics, U Wisconsin

David C. Schwartz, a Bronx native, has been a professor of chemistry and genetics at the University of Wisconsin-Madison, Madison, WI since 1999. He received his B.A. from Hampshire College, Amherst, MA, and his Ph.D. from Columbia University, New York, NY. Previous faculty appointments were at New York University, New York, NY and The Carnegie Institution for Science, Baltimore, MD. He works at the interface between nanotechnology, bioinformatics and the genomic sciences through his invention and applications of single molecule platforms for large-scale genome analysis and synthesis. As an undergraduate student, he invented Pulsed Field Gel Electrophoresis and remains committed to training students in the science of how to conceive and develop new tools for genomic investigation as the current and founding director of an NIH/NHGRI funded training program in the genomic sciences. His inventions are covered by ~30 patents and have served as the scientific basis for multiple start-up companies.

Jay Shendure

Investigator of the Howard Hughes Medical Institute, Professor of Genome Sciences at the University of Washington, Director of the Allen Discovery Center for Cell Lineage Tracing, and Scientific Director of the Brotman Baty Institute for Precision Medicine., University of Washington

Jay Shendure is an Investigator of the Howard Hughes Medical Institute, Professor of Genome Sciences at the University of Washington, Director of the Allen Discovery Center for Cell Lineage Tracing, and Scientific Director of the Brotman Baty Institute for Precision Medicine. His 2005 doctoral thesis with George Church included one of the first successful reductions to practice of next generation DNA sequencing. Dr. Shendure's research group in Seattle pioneered exome sequencing and its earliest applications to gene discovery for Mendelian disorders and autism; cell-free DNA diagnostics for cancer and reproductive medicine; massively parallel reporter assays, saturation genome editing; whole organism lineage tracing, and massively parallel molecular profiling of single cells. Dr. Shendure is the recipient of the 2012 Curt Stern Award from the American Society of Human Genetics, the 2013 FEDERAprijs, a 2013 NIH Director's Pioneer Award, the 2014 HudsonAlpha Life Sciences Prize, the 2018 Richard and Carol Hertzberg Prize for Technology Innovation, and the 2019 Richard Lounsbery Award from the National Academy of Sciences. He serves or has served as an advisor to the NIH Director, the US Precision Medicine Initiative, the National Human Genome Research Institute, the Chan-Zuckerberg Initiative and the Allen Institutes for Cell Science and Immunology. He received his MD and PhD degrees from Harvard Medical School in 2007.

Mike Snyder

Ascherman Professor and Chair of Genetics and the Director of the Center of Genomics and Personalized Medicine at Stanford University, Stanford

Michael Snyder, PhD, is the Ascherman Professor and Chair of Genetics and the Director of the Center of Genomics and Personalized Medicine at Stanford University. He is a leader in the field of functional genomics and proteomics, and a major participant- in the ENCODE project. His laboratory was the first to perform a large-scale functional genomics project in any organism and has developed many technologies used in genomics and proteomics research, including the development of proteome chips, high resolution tiling arrays for the entire human genome, methods for global mapping of transcription factor binding sites (ChIP-chip now replaced by ChIP-seq), paired end sequencing for mapping of structural variation in eukaryotes, de novo genome sequencing of genomes using high throughput technologies and RNA-Seq. These technologies have been used to characterize genomes, proteomes and regulatory networks. Seminal findings from the Snyder laboratory include the discovery that much more of the human genome is transcribed and contains regulatory information than was previously appreciated and that a high diversity of transcription factor binding occurs both between and within species. He has also combined different state-of-the-art “omics” technologies to perform the first longitudinal detailed integrative personal omics profile (iPOP) of person and used this to assess disease risk and monitor disease states for personalized medicine. He also is a cofounder of several biotechnology companies.

Eric Sobel

Director, Genomic Analysis Training Program, Professor, Departments of Human Genetics and Computational Medicine, UCLA

Eric Sobel does research in statistical genetics, especially gene-mapping algorithms. Many of his projects focus on the complications in the analysis of family-based data, including cryptic relationships. Another core interest is algorithm optimization, including GPU implementations, that allows analysis of very large, modern genetic data sets on systems from standard, individual computers to cloud-based computational servers. He is also heavily involved in applying gene-mapping algorithms, with the dual benefit of making sure that state-of-the-art algorithms are used in the community and that the needs of the community inform his algorithmic development.

Rene Sterling

Program Director, Division of Genomics and Society, NHGRI

Dr. Rene Sterling joined National Human Genome Research Institute (NHGRI) in June 2020 as a program director in the Division of Genomics and Society. She oversees a portfolio of research and career development grants related to the ethical, legal, and social implications (ELSI) of genomic research. Dr. Sterling also serves as the primary ELSI advisor on the Electronic Medical Records and Genomics (eMERGE) Genomic Risk Assessment and Management Network. Dr. Sterling has over 15 years of federal service with the Health Resources and Services Administration (HRSA), first joining the agency as a presidential management fellow in 1997. She has held program officer, senior advisor, and deputy director positions in several HRSA programs, including the Organ Donation and Transplantation Program, the Health Center Program, and the Ryan White HIV/AIDS Program, and brings expertise in healthcare and public health systems, health policy and health disparities.

Joseph Yost

Richard L. Stimson Presidential Endowed Chair, Vice Chairman for Basic Science Research, Department of Pediatrics, U Utah

H. Joseph Yost, PhD, is the Richard L. Stimson Presidential Endowed Chair, and Vice Chair for Basic Science Research in Pediatrics at the University of Utah. His research team works at the intersection between human genomics and zebrafish genetics, bioinformatics and the discovery of novel disease-causing mutations in human genomes. They have generated zebrafish genetic models of human congenital heart diseases (CHD), adult onset heart-failure, ciliopathies, Kabuki Syndrome and other rare/orphan syndromes and diseases in pediatrics. Their goals are to understand the gene regulatory networks that contribute to diseases. Dr. Yost is dedicated to training and mentoring the next generation, with emphasis on building pipelines from primary schools through postdoctoral programs for historically underrepresented groups in the biomedical sciences.

First Name	Last Name	Program Name
Hasan	Abu-Amara	University of Michigan
Alexandra	Acuna	The University of Utah (ELSI)
Wesley	Agee	Washington University, St. Louis
Titilope	Akinwe	Washington University, St. Louis
Uchechukwu	Akoma	Baylor College of Medicine
Hannah	Allen	University of Utah
Sara	Amirkiai	UCSC
Rebecca	Anderson	University of Utah
Sydney	Anderson	Washington University, St. Louis
Alison	Antes	Washington University, St. Louis
Carlos	Arevalo	UCSC
SAMIRA	ASGARI	Harvard
Laya	Ashely	UCSC
Amir	Asiaeetaheri	OSU
Rachael	Aubin	University of Pennsylvania (GS)
Benjamin	Auerbach	University of Pennsylvania (GS)
Elias	Awad	University of Alabama at Birmingham
Melica	Baboldashtian	UCSC
Yossef	Baidi	Broad Institute
Matthew	Bailey	University of Utah
Dustin	Baldridge	Washington University, St. Louis
Greg	Barsh	Hudson Alpha
JohnDavid	Barton	UCLA
Sarah	Bates	NHGRI
Jermaine	Bean	UCLA
Basheer	Becerra	Harvard
Tracy	Bedrosian	Nationwide Children’s Hospital
Abby	Bergman	Stanford
Nathan	Bihlmeyer	Duke University
Ewan	Birney	EMBL-EBI
Bruce	Birren	Broad Institute
Jared	Blackbear	The University of Oklahoma (ELSI)
Jessica	Blanchard	University of Oklahoma
Michael	Boehnke	University of Michigan
Toni	Boltz	UCLA
Leroy	Bondhus	UCLA
Vence	Bonham	NHGRI
Vence	Bonham	NHGRI
Luca	Bonomi	UCSD
Arpita	Bose	Washington University, St. Louis
Sarah	Boutom	University of Wisconsin, Madison

First Name	Last Name	Program Name
Joy	Boyer	NHGRI
Gabriel	Boyle	University of Washington
A'Doriann	Bradley	Broad Institute
Marie-Luise	Brennan	NHGRI
Michael	Brent	Washington University, St. Louis
Debora	Brito de Andrade	University of Utah (GS)
Lawrence	Brody	NHGRI
Angela	Brooks	UCSC
Gregory	Brunette	Harvard
Maja	Bucan	The University of Pennsylvania
Carol	Bult	The Jackson Laboratory
David	Burke	University of Michigan
Emily	Butka	Washington University, St. Louis
Eileen	Cahill	NHGRI
Katharine	Callahan	University of Pennsylvania (ELSI)
Sara	Camilli	Princeton University
Kyle	Campbell	University of Michigan
Tiffany	Campbell	University of Utah
Grace	Carter	Broad Institute
Lisa	Chadwick	NHGRI
Meenakshi	Chakraborty	Stanford
Michael	Chambers	NHGRI
Marco	Chamorro	UCSC
Florence	Chardon	University of Washington
Daniel	Chavez-Yenter	University of Utah
Chun-Kan	Chen	Stanford
Hannah	Chervitz	University of Pennsylvania
David	Chiang	Harvard
Barbara	Chinery	Princeton University
Alec	Chiu	UCLA
Kurt	Christensen	Harvard
Wendy	Chung	Columbia University
Dan	Ciotlos	University of Michigan
Ann	Cirincione	Princeton University
Cecilia	Cisar	UCSC
Barak	Cohen	Washington University, St. Louis
Rachel	Cohn	University of Connecticut/Jackson Lab
Cameron	Cole	UC Davis
Heather	Colley	NHGRI
Amanda	Conti	NHGRI
Jaime	Cordova	University of Wisconsin, Madison

First Name	Last Name	Program Name
Nancy	Cox	Vanderbilt University Medical Center
Luis	Cubano	NHGRI
Brandon	Cuevas	Broad Institute
Zharko	Daniloski	NYU
Emily	Davenport	Washington University, St. Louis
Hayden	Davis	University of Washington
Lia	Davis	Northwestern University
Cristina	de Guzman Strong	Washington University, St. Louis
Bonnie	Dee	Washington University, St. Louis
Samuel	Degregori	UCLA
Tina	Del Carpio	UCLA
Eduardo	Del Rio	UCSC
Juan	Diaz Rodriguez	University of Wisconsin, Madison
Kara	Dolinski	Princeton University
Alicia	Dominguez	University of Michigan
Olivia	Dong	Duke University
Joy	Doong	Stanford
Joseph	Dougherty	Washington University, St. Louis
Alan	Du	Washington University, St. Louis
Katherine	Duchinski	Harvard
Connor	Duffy	Stanford
Madeleine	Duran	University of Washington
Carla	Easter	NHGRI
Evan	Eichler	University of Washington
Yasha	Ektefaie	Harvard
Amanda	Elsey	University of Florida
Syed Usman	Enam	Stanford
Joshua	English	Oakwood University
Dana	Ernst	University of Utah
Graham	Erwin	Stanford
Maricruz	Espinoza	Baylor College of Medicine
Carole	Federico	Stanford
Elise	Feingold	NHGRI
Sara	Feldman	University of Michigan (ELSI)
Rebecca	Ferber	University of Michigan
Kailey	Ferger	UC Berkeley
Jenifer	Ferguson	Hudson Alpha
Ardian	Ferraj	University of Connecticut/Jackson Lab
Faith	Fletcher	The University of Alabama at Birmingham Count
Elise	Flynn	Columbia University
Steve	Fodor	13.8 Inc

First Name	Last Name	Program Name
William	Fondrie	University of Washington
Philip	Freda	University of Pennsylvania (ELSI)
Max	Frenkel	University of Wisconsin, Madison
Ryan	Friedman	Washington University, St. Louis
Isabel	Gabel	University of Pennsylvania (ELSI)
darhien	gaddis	UCSC
Vijay	Ganesh	Harvard
Prabarna	Ganguly	NHGRI
Tina	Gatlin	NHGRI
Renee	Geck	University of Washington
Gifti	Gemeda	UCSC
Mark	Gerstein	Yale
Lina	Ghaloul Gonzalez	Children's Hospital of Pittsburgh
Elena	Ghanaim	NHGRI
Daniel	Gilchrist	NHGRI
Rachel	Gilmore	The Jackson Laboratory
Geoffrey	Ginsburg	Duke University
Andrew	Glazer	Vanderbilt University
Page	Goddard	Stanford
Lino	Gonzalez	23&Me
Gracie	Gordon	UCSF
Theo-Alyce	Gordon	UCSC
BETTIE	GRAHAM	NHGRI
Brenton	Graveley	The Jackson Laboratory
Ardawna	Green	Baylor College of Medicine
Malachi	Griffith	Washington University, St. Louis
Yessenia Isabel	Guadalupe Bastidas	Universidad Cesar Vallejo
Juan	Gudino	University of Iowa
Julia	Guerrero	The University of Oklahoma (ELSI)
Ruby	Guevara	UCSC
Trinity	Guido	The University of Oklahoma (ELSI)
Francis	Guitart	University of Washington
Chris	Gunter	NHGRI
Gamze	Gursoy	Yale
Kim	Ha	University of Washington
Luis Antonio	Haddock III Soto	University of Wisconsin, Madison
Susanne	Haga	Duke University
Yichao	Han	Washington University, St. Louis
Sarah	Hanks	University of Michigan
Hwaida	Hannoush	NHGRI
Jeff	Hansen	Washington University, St. Louis

First Name	Last Name	Program Name
Zeinab	Haratipour	Vanderbilt University Medical Center
Zack	Harmer	University of Wisconsin, Madison
Faith	Harrow	NHGRI
Lana	Harshman	UCSF
Tiffany	Harvey	Stanford
Catherine	Haskell	Harvard
David	Haussler	UCSC
Michael	Hayes	Stanford
Michelle	Hays	Stanford
James	Hazel	Vanderbilt University
Katherine	Hendy	University of Michigan (ELSI)
Kelly	Herremans	University of Florida
Sarah	Heston	Duke University
Lucia	Hindorff	NHGRI
Brian	Ho	Stanford
Kevin	Hope	University of Utah
PingHsun	Hsieh	University of Washington
Angela	Huang	University of Pennsylvania (GS)
Kim	Huggler	University of Wisconsin, Madison
Belen	Hurle	NHGRI
Brian	Hutler	Berman Institute, Johns Hopkins
Carolyn	Hutter	NHGRI
Zia	Isola	UCSC
Karthik	Jagadeesh	Broad Institute
Elizabeth	Jasper	Vanderbilt University
Samantha	Jensen	UCLA
Tanner	Jensen	Stanford
Soo	Ji	UCLA
Connie	Jiang	University of Pennsylvania
Steve	Joffe	University of Pennsylvania
Julie	Johnson	University of Florida
LYNN	JORDE	University of Utah
Sheethal	Jose	Johns Hopkins
Julius	Judd	Cornell
Ashley	Kapron	University of Utah
Cristina	Kapustij	NHGRI
Cristina	Kapustij	NHGRI
Pooja	Kathail	UC Berkeley
Moriah	Katt	University of Wisconsin, Madison
Dave	Kaufman	NHGRI
Arya	Kaul	Harvard

First Name	Last Name	Program Name
Jerome	Keh	UCLA
Mark	Keller	Harvard
Alex	Kern	Stanford
Namita	Khajanchi	University of Wisconsin, Madison
Amit	Khera	Harvard
Madison	Kilbride	University of Pennsylvania
Junhyong	Kim	University of Pennsylvania
Minji	Kim	The Jackson Laboratory
Samuel	Kim	MIT
Ellen	Kim DeLuca	University of Michigan
Steve	Kimmel	University of Florida
Maureen	Kirsch	University of Pennsylvania
Maureen	Kirsch	University of Pennsylvania
Sarah	Knerr	University of Washington
Bruce	Korf	The University of Alabama at Birmingham
Stephanie	Kraft	Seattle Children's Hospital
April	Kriebel	University of Michigan
Anandi	Krishnan	Stanford
Natalie	Kucher	NHGRI
Madeline	Kwicklis	University of Michigan
Jessica	Lam	University of Pennsylvania (GS)
Dawn	Landon	The University of Oklahoma (ELSI)
Christian	Lantz	Stanford
Christopher	Large	University of Washington
Brittany	Lasseigne	The University of Alabama at Birmingham
Wara	Laura	University of Pennsylvania
Dylan	Lawrence	Washington University, St. Louis
Kendra	Lawrence	University of Utah
Charles	Lee	The Jackson Laboratory
Ruth	Lehan	Duke University
Maya	Lemmon Kishi	UC Berkeley
Carolina	Leynes	Baylor College of Medicine
Michelle	Li	Harvard
Juliana	Limon	UCSC
Asiyah	Lin	NHGRI
Angela	Liou	University of Pennsylvania (GM)
Zewen	Liu	Stanford
Nicole	Lockhart	NHGRI
Kai	Loell	Washington University, St. Louis
Talha	Lone	Stanford
Peter	Louis	Vanderbilt University

First Name	Last Name	Program Name
Maria	Lozada	Broad Institute
Daniel	Lozano	UCSC
Zhipeng	Lu	USC
Issa	Lutfi	UCLA
Rosa	Ma	Stanford
Jasmine	Mack	University of Michigan
Teri	Manolio	NHGRI
Lupe	Martinez	UCSC
Molly	Martorella	Columbia University
Daphne	Martschenko	Stanford
Debra	Mathews	Johns Hopkins
Lucas	Matthews	Columbia University
Evonne	McArthur	Vanderbilt University
Allison	McCague	NHGRI
Mike	McKernan	The Jackson Laboratory
Rachel	Mester	UCLA
Robin	Meyers	Stanford
Gwen	Miller	Broad Institute
Kevin	Mintz	Stanford
Hafsa	Mire	Broad Institute
Robi	Mitra	Washington University, St. Louis
Kathleen	Mittendorf	Kaiser Permanente
Javier	Montelongo	The University of Pennsylvania
Michael	Montgomery	Stanford
Jenn	Montooth	NHGRI
Jazlyn	Mooney	Stanford
Jason	Moore	University of Pennsylvania
Stephanie	Morris	NHGRI
Shandukani	Mulaudzi	Harvard
Michael	Mumphrey	University of Michigan
Debra	Murray	Baylor College of Medicine
Katherine	Nathanson	University of Pennsylvania
Shakila	Nawaz	University of Utah
Julia	Nepper	University of Wisconsin, Madison
Duyen	Nguyen	UCSC
Linh	Nguyen	UCSC
David	Nicholson	University of Pennsylvania (GS)
Serafina	Nieves	UCSC
Nicole	Novak	University of Iowa
Frank	Ockerman	University of Michigan
Jeffrey	Okamoto	University of Michigan

First Name	Last Name	Program Name
Krystle	Osby	University of Utah (GS)
Kellie	Owens	University of Pennsylvania
Therese	Pacio	University of Washington
James	Page	University of Utah
Rachel	Paolini	Washington University, St. Louis
Louise	Pape	University of Wisconsin, Madison
Jeanette	Papp	UCLA
Peter	Park	Harvard
Lisa	Parker	University of Pittsburgh
Roshni	Patel	Stanford
Prakriti	Paul	Princeton University
Claudia	Paz Flores	UCSC
Mike	Pazin	NHGRI
Thomas	Pearson	University of Florida
Thomas	Pearson	University of Florida
Wolfgang	Pernice	Columbia University
Trenton	Peters-Clarke	University of Wisconsin, Madison
Josh	Peterson	Vanderbilt University Medical Center
Lisa	Peterson	University of Washington
Stefan	Pietrzak	University of Wisconsin, Madison
Harold	Pimentel	UCLA
Leslie	Pineda	Baylor College of Medicine
Sebastian	Plasencia	The University of Pennsylvania
Amanda	Potts	Baylor College of Medicine
Eric	Pruitt	University of Florida
Alanna	Pyke	Stanford
Kara	Quaid	Washington University, St. Louis
Vasiliki	Rahimzadeh	Stanford
Sandra	Ramirez	UCSC
Erica	Ramos	Genome Medical, Inc.
Paul	Ranum	University of Pennsylvania (GM)
Alex	Raphael	NHGRI
Gregory	Raskind	Harvard
Chinmay	Raut	University of Michigan
Matthew	Ravalin	Stanford
Anna	Redgrave	University of Michigan
Samuel	Regalado	University of Washington
Heidi	Rehm	Harvard
Steven	Reilly	Broad Institute
Diana	Reyna	UCSC
Megan	Richters	Washington University, St. Louis

First Name	Last Name	Program Name
Renee	Rider	NHGRI
Andrea	Riner	University of Florida
Antonio	Rios	Stanford
Milagros	Rivera	UCSC
Ashley	Robbins	University of Pennsylvania (GS)
Paul	Robbins	Duke University
Scott	Roberts	University of Michigan
Foxy	Robinson	Broad Institute
Eyes	Robson	UC Berkeley
Dan	Roden	Vanderbilt University Medical Center
Diego	Rodriguez	Broad Institute
Anna	Rogers	UC Berkeley
Daniel	Rokhsar	UC Berkeley
Robb	Rowley	NHGRI
Micaela	Ruiz	University of Washington
Craig	Rush	University of Utah
Azita	Sadeghpour	Duke University
Meru	Sadhu	NHGRI
Angela	Saini	Freelance
Eric	Sanford	University of Pennsylvania
Irania	Santaliz Moreno	Washington University, St. Louis
Brittney	Sartori	University of Utah
Thomas	Sasani	University of Washington
Naomi	Scheinerman	University of Pennsylvania (ELSI)
Kayla	Schimke	UCSC
Alina	Schmidt	Washington University, St. Louis
David	Schwartz	University of Wisconsin, Madison
Ashley	Seiger-Jones	Harvard
Shurjo	Sen	NHGRI
Gabi	Serrato Marks	Broad Institute
Alan	Shaw	UC Berkeley
Lilian	Shen	University of Florida
Jay	Shendure	University of Washington
Colin	Shew	UC Davis
Melody	Shi	Duke University
Yekaterina	Shulgina	Harvard
Mohammad	Siddiq	University of Michigan
Arend	Sidow	Stanford
Brandon	Sie	Harvard
Yuval	Simons	Stanford
Jim	Skeath	Washington University, St. Louis

First Name	Last Name	Program Name
Celine	Slam	University of Utah (GS)
Gloria	Slattum	University Of Utah
Hadley	Smith	Baylor College of Medicine
Mary	Smithson	University of Alabama at Birmingham
Jordan	Smoller	Harvard
Michael	Snyder	Stanford
Eric	Sobel	UCLA
Heidi	Sofia	NHGRI
John	Soldner	University of Alabama at Birmingham
Sebastian	Somolinos	Harvard
Luisangely	Soto	Washington University, St. Louis
Hayden	Speck	UCLA
Jeffrey	Spence	Stanford
Sarah	Spendlove	UCLA
Paul	Spicer	University of Oklahoma
Amanda	Stanhaus	University of Michigan
Annamarie	Steed	University of Washington
Rene	Sterling	NHGRI
Alexandra	Stern	University of Michigan
Ana	Stevens	NHGRI
Edward	Stewart	The University of Oklahoma (ELSI)
John	Storey	Princeton University
Miranda	Stratton, Ph.D.	Stanford
Kari	Strouse	Duke University
Tim	Stuart	New York Genome Center
James	Tabery	University of Utah
Holly	Tabor	Stanford
Dana	Talsness	University of Utah
Alison	Tang	UCSC
Liana	Tellez	Broad Institute
Daniel	Thiel	University of Michigan
William	Thistlethwaite	Princeton University
Cameron	Thomas	University of Florida
Mike	Thompson	UCLA
Bryan	Thornlow	UCSC
julio	tinoco	Baylor College of Medicine
Jackson	Tonnies	University of Washington
Lam	Tran	University of Michigan
Grace	Trinidad	University of Michigan (ELSI)
Katharine	Tsukahara	University of Pennsylvania (GM)
Scott	Tyler	Mount Sinai

First Name	Last Name	Program Name
Lilen	Uchima	Harvard
Rachel	Ungar	Stanford
Raeline	Valbuena	Stanford
Kevin	Van Bortle	Stanford
Rhiannon	Vargas	Washington University, St. Louis
Gisselle	Velez Ruiz	Broad Institute
Kateryna	Voitiuk	UCSC
Thy	Vu	Stanford
Meghan	Wachira	The University of Pennsylvania
Alex	Wagner	Nationwide Children's Hospital
Shamari	Waller	UCSC
Bruce	Wang	Princeton University
Lily	Wang	Harvard
Ryan	Waples	University of Washington
Megan	Washington	Baylor College of Medicine
Samantha	Weeks	University of Utah
Alex	Wei	University of Pennsylvania
Kris	Wetterstrand	NHGRI
Alexander	Whatley	UC Berkeley
Peggy	White	University of Michigan
Penny	White	Johns Hopkins
Michael	Wilkinson	Washington University, St. Louis
Cynthia	Williams	Vanderbilt University Medical Center
Pamela	Williams	Duke University
Valerie	Willis	NHGRI
Scott	Wolf	Princeton University
R. Brian	Woodbury	Southcentral Foundation
Alexa	Woodward	University of Pennsylvania (GS)
Dylan	Wyatt	University of Utah
Karissa	Wynne	The University of Oklahoma (ELSI)
Allen	Yen	Washington University, St. Louis
H Joseph	Yost	University of Utah
Jennifer	Young	Stanford
Cynthia	Zajac	University of Michigan
Fuzhong	Zhang	Washington University, St. Louis
Sifang Kathy	Zhao	NHGRI
Ronghao	Zhou	Stanford
Wei	Zhou	Harvard
Chenxu	Zhu	UCSD