

2016 NHGRI Research Training and Career Development Annual Meeting

Report from the DACC

The NHGRI Research Training and Career Development Program 1st Annual Meeting was held on April 7-8, 2016 at the DoubleTree Bethesda Hotel in Bethesda, MD. This inaugural meeting provided a venue for trainees supported by the National Institutes of Health (NIH) National Human Genome Research Institute (NHGRI) in Genomic Sciences, Genomic Medicine, and Genomics & Society fields to present their research and to form collaborations with other trainees and established investigators from training programs across the United States.

There were 230 participants attending the meeting (see **Appendix A**). Of these, 162 were **trainees**, including those from the Diversity Action Plan programs (DAP), the T32 training programs, individual awardees of fellowship or career-development awards (F or K awards), and NHGRI intramural interns.

OPENING SESSION

- **Welcome and Introduction of Participants:** Bettie Graham, NHGRI, welcomed the participants to the first annual meeting and introduced the staff from the NHGRI and the DACC, as well as the advisors. The purpose of the meeting was to provide an overview of the field of genomics research, including new research areas and tools for career progression, and to provide an opportunity for the trainees to share their research and network with other trainees, mentors, and NHGRI staff.
- **The Keynote Presentation:** The keynote presentation was given by Dr. Eric Green, NHGRI Director, who spoke on the “Present and Future of Genomics Field”.

Dr. Green outlined some of the major accomplishments of NHGRI in the genomics field, such as sequencing the human genome and genomic medicine in action, which were cited as being the most significant breakthroughs in the last 40 years. The future of genomics holds great promise for additional breakthroughs, particularly in precision medicine, by incorporating multiple fields such as genomics, physiology, lifestyle, and environment. The big question is “How do we do it?” The answer is simple; we don’t know, but we will start and just do it. Interestingly, this is the same answer given 20 years ago when asked how we would sequence the human genome, and in 2003, it was done. Thus, there is ample support to believe it will be done again, and again.

- **State of the Genome:** Scientific presentations were given by renowned investigators in each of the 3 fields supported by the NHGRI (Genomic Sciences, Genomic Medicine, and Genomics & Society).
 - **Mike Boehnke, University of Michigan, Genomic Sciences**

Dr. Boehnke focused his talk on “Some Lessons from a career in Discovery Genetics”. Discovery genetics seeks to identify the genetic basis for human diseases and traits in order to better understand human biology and disease etiology, while also suggesting targets for therapy and improving risk

prediction. The application centered around a large international collaboration on type 2 diabetes. Lessons learned were the importance of persistence, strong collaborations and taking advantage of opportunities. With regard to training, Dr. Boehnke outlined why now is a great time to be a genome scientist. Dr. Boehnke shared two thoughts on training. First, time to degree is the wrong statistic. The focus should be on the training you need and on time to an independent position. Second, despite what you have read, we are NOT training too many PhDs in biomedical sciences who have skills in statistics, computer science and mathematics.

- **Gail Jarvik, University of Washington, Genomic Medicine**

Now that the human genome has been sequenced, the task of genomic medicine is to categorize or classify all known human variants and to determine the pathogenesis of each variant and whether or not a variant is likely to be benign. However, deeper work is needed in underrepresented groups (e.g., racial/ethnic). Classifications depend on allele frequencies, which can vary dramatically across groups, so larger sample sizes are needed for reliability. The second push is to classify the functionality of variants in a standard and replicable way across labs, methods and diseases.

- **Larry Brody, NHGRI, Genomics & Society**

The intersection of genomics and society involves wearing multiple hats (multiple areas of expertise), e.g., in genetics/genomics, statistics, diversity/inclusion and health disparities research, and the law. Also, knowing when traits are likely to lend themselves to genetic testing is important. Some complex traits, such as those with lots of phenotypic variability and multiple underlying causes are not good candidates for using genetic testing to diagnose and treat disease. For these complex traits, even mice studies where lifestyles, environments, and genes can be rigidly controlled, still retain a lot of variability in trait expression. ELSI and the Division of Genomics & Society at NIH look at these kinds of implications in genomics research. ELSI is a congressional mandate (5% of the NHGRI budget) that tries to address issues before they ever reach the research stage. Some emerging areas include: data privacy, health care integration, health disparities, dealing with uncertainties, and the reproducibility crisis.

- **Summary of Opening Session**

The summary by Bettie Graham, NHGRI, set the tone for the remainder of the meeting. This is an exciting time to be in genomics. New technologies are being developed, and collaborations and networks are crucial to success since expertise in multiple fields is needed. We should remember that progress inevitably takes longer than anticipated, persistence in our research efforts is required, and we should always be looking for new opportunities.

FEATURED TALKS

- **Panel of Professional Development Talks by Mentor – Mentee pairs:** This session, moderated by Carla Easter, NHGRI, provided an opportunity for mentor – mentee pairs to talk about their professional relationship, and what each is expected to bring to the table.
 - **David Schwartz and Samuel Krerowicz (University of Wisconsin-Madison):**

Some of the points addressed how to read papers, learn patience, to engage one another, to maintain the excitement over long periods of time, and the importance of bringing complementary skills and mutual respect.
 - **Mike Snyder and Jessilyn Dunn (Stanford University):**

This pair emphasized the fact that the mentee should take responsibility for their project, with the expectation that eventually (maybe not too soon), the mentee will exceed the mentor’s level of expertise in the mentee’s area of research focus. It was stressed that the mentee should take as much time as needed to get the necessary training, regardless of the traditional notions of training length, since research is an ongoing process of designing and redesigning oneself to do the required work. Trainees should be encouraged to think for themselves, look for or develop improved methods, and not get stuck in the rut of doing the same things over and again.
 - **Debra Murray and Kandace Thomas (Baylor College of Medicine):**

Mentoring undergraduate or post-baccalaureate students requires regular formal meetings; mentors should welcome impromptu meetings with mentees as well. Having multiple mentors was suggested, e.g., the program director, a research bench supervisor such as a graduate student or post-doc, and the PI, with the expectations of each probably not being the same.
- **The Importance of Diversity in Biomedical Research:** Shirley Malcom from the AAAS spoke on the historical importance of diversity (or lack therefore) in mainstream research. Historically, biomedical research was performed primarily on white male subjects, and it wasn’t until more recently (http://grants.nih.gov/grants/funding/women_min/guidelines_amended_10_2001.htm) that it became clear that not all groups respond similarly to treatments (e.g., <http://acd.od.nih.gov/diversity%20in%20the%20biomedical%20research%20workforce%20report.pdf>). Research is determined by policy, and policy makers determine what research opportunities are important. To answer questions about what constitutes health and disease in different populations we need diversity at the top level, as a diversity of perspectives should yield a diversity of research questions. Your voice matters in the right setting. Don’t just survive but thrive and gain the advantage by engaging diversity. Several recent editorials were recommended, e.g., Jim Gates Science editorial on Einstein vs Roberts (**Science** 2016 Mar 25;351(6280):1371). Chief Justice Roberts’ premise that a person’s background is irrelevant in science demonstrates a fundamental misunderstanding of science and human creativity. Science involves creativity which requires diverse thinking or thinking from a different perspective. There is a call for all researchers to become something you have never been, to get to the point where you don’t have to be a member of an underrepresented group in order to bring the issues centering on diversity to the attention of policy makers. The bottom line is that everyone has biases. The real question is “What do we do with our bias?” Experience is the only way to deal with implicit bias.

- **Looking Towards the Future: What's the Big Deal about Big Data? A Medical Informatics Perspective:** This talk by Lucila Ohno-Machado on “Looking towards the future: What’s the big deal about big data: A medical informatics perspective” was presented. Dr. Lucila Ohno-Machado of UC San Diego shows how electronic health records from billions of doctor's visits could help scientists learn what therapies work best for patients with specific profiles-if used in a way that preserves patient privacy. UC San Diego is at the forefront of the "learning health-care system" revolution, finding patterns in health-care and genomic data by using supercomputers and multidisciplinary teams of experts in medicine, informatics, computer science, statistics and engineering. Ohno-Machado described recent biomedical-informatics advancements and ways that will lead the path to better health.

WORKSHOPS

- **How to have conversations about difficult issues:** Joy Boyer, NHGRI, moderated this workshop session by Tyler Smith from the NIH Ombudsman’s Office. This was an interactive workshop where scenarios that may require difficult conversations were presented, e.g., authorship for papers written on data from the mentor’s lab. The audience first watched two skits depicting difficult conversations between a mentor and her mentee, and then the audience participated in a discussion to provide feedback about what happened and to suggest ways to handle the situation differently for a better outcome.
- **NIH Peer Review and Grant Writing:** Bettie Graham and Rudy Pozzatti, NHGRI, hosted this workshop on NIH peer review process and grant writing for the trainees and career development awardees. The presentation was in two parts: (1) important facts to know about submitting an application to the NIH and (2) what happens to your application when it is submitted to NIH. The first part provided information about who is involved in developing an application, important things to consider when developing one’s ideas and writing an application and the importance of contacting NIH program staff in the early phases of the application process. The second part provided information about the structure of NIH and the structure of an institute. Detailed information was provided about the review process and how reviewers are selected, what reviewers are looking for when they evaluate an application. Participants were encouraged to not be discouraged if their applications are not funded the first time. The results of amended applications being funded is quite positive.
- **Training and Career Development Funding Opportunities:** This “box lunch” session by Heather Junkins, NHGRI, was attended by the trainees and career development awardees. Overview of the various career and development funding opportunities, specifically fellowships, career awards (K01, K08, and K99/R00), and diversity/re-entry supplements. Trainees were advised to review opportunities with their program directors/mentors and to contact program directors with questions before applying. Heather also reviewed the NIH grant cycle for submission, peer review, and funding/revise applications.
- **Executive Session:** The executive session hosted by Tina Gatlin and Heather Junkins, NHGRI, was attended by advisors, PIs, training coordinators, NHGRI staff and the DACC. This session is ***summarized in Appendix B: Business Section.***
- **Grants Management:** This “box lunch” session by Susan Toy and David Trantin from NHGRI was attended by the advisors, PIs, training coordinators, NHGRI staff and the DACC. This session is ***summarized in Appendix B: Business Section.***

TRAINEE PARTICIPATION

Presenting Research: In addition to the structured sessions listed above, trainees presented their research either as an oral platform talk or as a poster. Of a total of 143 abstracts submitted, 140 were presented at the meeting. Trainee abstracts are provided in **Appendix C**.

Total number of Abstracts submitted	143
Number of these Abstracts reviewed for possible Oral Platform Talks	78
Final number of Abstracts presented at the meeting	140
Presented as Oral Platform Talk (10 selected but only 9 presented)	9
Presented as Poster	131

The program committee was extremely impressed with the quality of the trainees' presentations and the potential impact that their work may have on the future of research in the genomic fields. While the program committee would have liked to provide an award to every trainee, the following individuals were singled out as providing noteworthy presentations.

- **Oral Talks:** A panel of expert judges (from the ranks of the DAP and T32 PI's) considered 78 abstracts for oral presentations. The following 9 trainees were chosen to give oral talks in concurrent sessions. (Note, a 10th abstract was chosen but the trainee was a no show.) Congratulations to the following presenters:
 - **Laura Senier** (Abstract #113) (Career Development Award-K01, Northeastern University) Public health action for HBOC screening enforcing physician autonomy via evidence-based medicine
 - **Gregory Zajac** (Abstract #141) (T32 program at University of Michigan) Genes for good: A model for using social media for genetic studies
 - **Jielu Lin** (Abstract #74) (NHGRI fellowship) Developing common perceptions of risk through family health history feedback
 - **Alexander Garruss** (Abstract #47) (T32 program at Harvard University) Next-generation biosensor design: Engineering an allosteric transcription factor to respond to new ligands
 - **Marquet Minor** (Abstract #87) (DAP at Washington University in St. Louis) Analysis of TERC levels and localization in cells with mutant telomerase
 - **Alex Bishara** (Abstract #14) (T32 program at Stanford University) Using read clouds to illuminate complex genomic variation
 - **Joon-Ho Yu** (Abstract #140) (Career Development Award-K99/R00, University of Washington) A framework for considering group benefits and harms in large cohort studies
 - **Amy Dapper** (Abstract #34) (T32 program at University of Wisconsin-Madison) Demography and the evolution of recombination hotspots
 - **Neville Sanjana** (Abstract #111) (Career Development Award-K99/R00, Broad Institute) Genome-scale CRISPR-Cas9 screening: Technology and applications

- **Posters:** The **poster presentations** provided an opportunity for trainees to present their research and answer questions from their peers and other scientists in a setting that promotes networking. A panel of poster judges reviewed 131 posters and chose the top posters in each of 3 career level categories based on the visual presentation of the poster and the potential for the trainee's science to make a significant impact on the field. Congratulations go to the following trainees for their noteworthy posters:
 - **Undergraduate**
 - First place: (Abstract #91) **Naomi Nkinsi** (DAP program at University of Washington, Seattle) Sequencing DHODH in persons with Miller Syndrome: Expanding the spectrum of mutations
 - Runner Up: (Abstract #125) **Cynthia Tang** (DAP program at Washington University in St. Louis) A novel long non-coding RNA, onco-lncRNA 230, induces apoptosis in invasion in lung squamous cell carcinoma
 - **Graduate**
 - First place: (Abstract #43) **Diane Flasch** (T32 program at the University of Michigan) High throughput determination of long interspersed element-1 integration preferences in the human genome
 - Runner Up: (Abstract #21) **Robert Brown** (T32 program at University of California Los Angeles) Methods to detect haplotype to phenotype associations
 - **Post-graduate**
 - First place: (Abstract #68) **Diane Korngiebel** (Career Development Award-K01, University of Washington) Clinician stakeholder views on implementing universal colorectal cancer tumor screening for Lynch Syndrome
 - Runner Up: (Abstract #72) **Gabriel Lazaro-Munoz** (Career Development Award-K99/R00, University of North Carolina-Chapel Hill) Biomarkers for predicting schizophrenia: Facing the ethical, legal and public policy implications
- **Networking:** In addition to formal presentations (posters and oral talks), other opportunities were provided throughout the meeting to encourage trainees to network. Networking activities included both structured and informal opportunities to talk about research and to interact with other investigators (peers and program PIs, mentors and coordinators) interested in similar research questions, opening the door for developing collaborations among participants.
 - **Lunch with a Scientist:** This session was held on the first day. Each of the attending program PIs and training mentors and NHGRI researchers were assigned to tables, and trainees were asked to sit and talk with those investigators whose research was of interest to the trainee.
 - **Happy Hour:** An informal and casual networking happy-hour was held at the Rock Bottom Brewery and Restaurant at the end of the first full day of meetings.
 - **Breaks with Refreshments:** Between session breaks (with refreshments) in an open foyer area encouraged attendees to mingle and informally talk about their research.

LIST OF APPENDICES

Appendix A: Attendance Roster

Appendix B-1: Business Portion of the Meeting-Executive Session (not included)

Appendix B-2: Business Portion of the Meeting-Closed Executive Session (not included)

Appendix C: Abstracts Submitted by Trainees (not included)

Roster for 2016 NHGRI Research Training and Career Development Annual Meeting

First Name	Last Name	Affiliation	Program Type	Role	Career Level
Chanita	Hughes-Halbert	Medical University of South Carolina		Advisor	
Lucila	Ohno-Machado	University of California, San Diego		Advisor (Speaker)	
Gail	Jarvik	University of Washington		Advisor (Speaker)	
Jeff	Schloss	NHGRI		Director	
Dawayne	Whittington	Baylor College of Medicine	DAP	Evaluator	
Nicole	Lockhart	NHGRI		Health Sciences Administrator	
Shirley	Malcom	American Association for the Advancement of Science		Invited Speaker	
Paul	Chung	DACC		Member of the DACC	
Karen	Clark Laseter	DACC		Member of the DACC	
Denise	Dickerson	DACC		Member of the DACC	
Donna	Jeffe	DACC		Member of the DACC	
Jacob	Laseter	DACC		Member of the DACC	
Maria	Pérez	DACC		Member of the DACC	
Treva	Rice	DACC		Member of the DACC	
Paul	Appelbaum	Research Foundation for Mental Health/Columbia		Mentor	
Lisa	Barcellos	University of California, Berkeley	T32	Mentor	
Deborah	Bowen	University of Washington		Mentor	
William	Pavan	NHGRI		Mentor (Speaker)	
Mildred	Cho	Stanford University		Mentor (Speaker)	
Vence	Bonham	NHGRI		Office of the Director	
Colette	Fletcher-Hoppe	NHGRI		Program Analyst	
Kevin	Lee	NHGRI		Program Analyst	
Hannah	Naughton	NHGRI		Program Analyst	
Dave	Kaufman	NHGRI		Program Director	
Jean	McEwen	NHGRI		Program Director	
Bruce	Birren	Broad Institute	DAP	Program Faculty/Staff	
Katherine	Flannery	Harvard University	T32	Program Faculty/Staff	
Catherine	Haskell	Harvard University	T32	Program Faculty/Staff	
Peter	Park	Harvard University	T32	Program Faculty/Staff	
Meiyee	Law	Jackson Laboratories	DAP	Program Faculty/Staff	
Faith	Harrow	NHGRI		Program Faculty/Staff	
Kara	Dolinski	Princeton University	T32	Program Faculty/Staff	
John	Storey	Princeton University	T32	Program Faculty/Staff	
Arend	Sidow	Stanford University	T32	Program Faculty/Staff	
Daniel	Rokhsar	University of California, Berkeley	T32	Program Faculty/Staff	
Richard	Green	University of California, Santa Cruz	T32	Program Faculty/Staff	
Zia	Isola	University of California, Santa Cruz	DAP	Program Faculty/Staff	
David	Burke	University of Michigan	T32	Program Faculty/Staff	
Dawn	Keene	University of Michigan	T32	Program Faculty/Staff	

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First Name	Last Name	Affiliation	Program Type	Role	Career Level
Phillip	Baker	University of New Mexico / Harvard	DAP	Program Faculty/Staff	
Richard	Cripps	University of New Mexico / Harvard	DAP	Program Faculty/Staff	
Susan	Russo Gelbart	University of New Mexico / Harvard	DAP	Program Faculty/Staff	
Junhyong	Kim	University of Pennsylvania	T32	Program Faculty/Staff	
Gregory	Diggs-Yang	University of Washington, Seattle	DAP	Program Faculty/Staff	
Willie	Swanson	University of Washington, Seattle	T32	Program Faculty/Staff	
Louise	Pape	University of Wisconsin-Madison	T32	Program Faculty/Staff	
Barak	Cohen	Washington University in St. Louis	T32	Program Faculty/Staff	
Cherilynn	Shadding	Washington University in St. Louis	DAP	Program Faculty/Staff	
Ronald	Breaker	Yale University	T32	Program Faculty/Staff	
Debra	Murray	Baylor College of Medicine	DAP	Program Faculty/Staff (Speaker)	
Michael	Snyder	Stanford University	T32	Program Faculty/Staff (Speaker)	
Jeanette	Papp	University of California, Los Angeles	T32	Program Faculty/Staff (Speaker)	
Michael	Boehnke	University of Michigan	T32	Program Faculty/Staff (Speaker)	
Maja	Bucan	University of Pennsylvania	T32	Program Faculty/Staff (Speaker)	
David	Schwartz	University of Wisconsin-Madison	T32	Program Faculty/Staff (Speaker)	
Carol	Bult	Jackson Laboratories	DAP	Program Faculty/Staff and Advisor	
Joy	Boyer	NHGRI		Speaker	
Larry	Brody	NHGRI		Speaker	
Carla	Easter	NHGRI		Speaker	
Tina	Gatlin	NHGRI		Speaker	
Bettie	Graham	NHGRI		Speaker	
Eric	Green	NHGRI		Speaker	
Heather	Junkins	NHGRI		Speaker	
Rudy	Pozzatti	NHGRI		Speaker	
Tyler	Smith	NHGRI		Speaker	
Susan	Toy	NHGRI		Speaker	
David	Trantin	NHGRI		Speaker	
Jessilyn	Dunn	Stanford University	T32	Speaker	
LaCassidy	Broadnax	Baylor College of Medicine	DAP	Trainee or Intern	Undergraduate Student
Molly	Starkovich	Baylor College of Medicine	DAP	Trainee or Intern	Graduate Student
Maya	Sabatello	Columbia University	Career Dev.	Trainee or Intern	Faculty
Luca	Pinello	Dana-Farber Cancer Institute	Career Dev.	Trainee or Intern	Post-Doctoral or Clinical Fellow
Tiffany	Amariuta	Harvard University	T32	Trainee or Intern	Graduate Student
Surojit	Biswas	Harvard University	T32	Trainee or Intern	Graduate Student
Craig	Bohrson	Harvard University	T32	Trainee or Intern	Graduate Student
Adam	Brown	Harvard University	T32	Trainee or Intern	Graduate Student
Rohit	Garg	Harvard University	T32	Trainee or Intern	Graduate Student
Katherine	LaChance	Harvard University	T32	Trainee or Intern	Graduate Student
Lovelace	Luquette	Harvard University	T32	Trainee or Intern	Graduate Student
Luke	O'Connor	Harvard University	T32	Trainee or Intern	Graduate Student

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First Name	Last Name	Affiliation	Program Type	Role	Career Level
Danielle	Rasooly	Harvard University	T32	Trainee or Intern	Graduate Student
Siranush	Sarkizova	Harvard University	T32	Trainee or Intern	Graduate Student
Kamil	Slowikowski	Harvard University	T32	Trainee or Intern	Graduate Student
Amaro	Taylor-Weiner	Harvard University	T32	Trainee or Intern	Graduate Student
Ryan	Tewhey	Harvard University	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Christopher	Douville	Johns Hopkins	Fellowship	Trainee or Intern	Graduate Student
Hayden	Metsky	MIT/Broad	T32	Trainee or Intern	Graduate Student
Sally	Adebamowo	NHGRI	NHGRI	Trainee or Intern	Post-Doctoral or Clinical Fellow
Elma	Aflaki	NHGRI	NHGRI	Trainee or Intern	Post-Doctoral or Clinical Fellow
Brennan	Decker	NHGRI	NHGRI	Trainee or Intern	Graduate Student
Temesgen	Fufa	NHGRI	NHGRI	Trainee or Intern	Post-Doctoral or Clinical Fellow
Olive	Jung	NHGRI	NHGRI	Trainee or Intern	Post-Doctoral or Clinical Fellow
Greg	Darnell	Princeton University	T32	Trainee or Intern	Graduate Student
Brian	Jo	Princeton University	T32	Trainee or Intern	Graduate Student
Ugne	Klibaite	Princeton University	T32	Trainee or Intern	Graduate Student
Kelsi	Lindblad	Princeton University	T32	Trainee or Intern	Graduate Student
Patrick	Reilly	Princeton University	T32	Trainee or Intern	Graduate Student
Sagar	Setru	Princeton University	T32	Trainee or Intern	Graduate Student
Andrew	Taverner	Princeton University	T32	Trainee or Intern	Graduate Student
Colin	Watson	Princeton University	T32	Trainee or Intern	Graduate Student
Jose	Zamalloa	Princeton University	T32	Trainee or Intern	Graduate Student
Nanibaa'	Garrison	Seattle Children's Hospital	Career Dev.	Trainee or Intern	Faculty
Ilana	Arbisser	Stanford University	T32	Trainee or Intern	Graduate Student
Clair	Baumer	Stanford University	T32	Trainee or Intern	Graduate Student
Sean	Bechwith	Stanford University	T32	Trainee or Intern	Graduate Student
Lily	Blair	Stanford University	T32	Trainee or Intern	Graduate Student
Nathan	Boley	Stanford University	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Evan	Boyle	Stanford University	T32	Trainee or Intern	Graduate Student
Joe	Charalel	Stanford University	T32	Trainee or Intern	Graduate Student
Furgan	Fazal	Stanford University	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
David	Gennert	Stanford University	T32	Trainee or Intern	Graduate Student
Emily	Glassberg	Stanford University	T32	Trainee or Intern	Graduate Student
Michael	Haney	Stanford University	T32	Trainee or Intern	Graduate Student
Gaelen	Hess	Stanford University	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Devin	King	Stanford University	T32	Trainee or Intern	Graduate Student
Jonathan	Mares	Stanford University	T32	Trainee or Intern	Graduate Student
Nilah	Monnier Ioannidis	Stanford University	Fellowship	Trainee or Intern	Post-Doctoral or Clinical Fellow
Anil	Narasimha	Stanford University	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Anisa	Noorassa	Stanford University	T32	Trainee or Intern	Graduate Student
Armin	Pourshafeie	Stanford University	T32	Trainee or Intern	Graduate Student
Cameron	Prybol	Stanford University	T32	Trainee or Intern	Graduate Student

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First Name	Last Name	Affiliation	Program Type	Role	Career Level
Jessica	Ribado	Stanford University	T32	Trainee or Intern	Graduate Student
Hila	Sberro	Stanford University	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Charles	Starr	Stanford University	T32	Trainee or Intern	Graduate Student
Xiaotong	Suo	Stanford University	T32	Trainee or Intern	Graduate Student
Nikki	Teran	Stanford University	T32	Trainee or Intern	Graduate Student
Steven	Wilson	Stanford University	T32	Trainee or Intern	Graduate Student
Shizuka	Yamada	Stanford University	T32	Trainee or Intern	Graduate Student
Michael	Zhao	Stanford University	T32	Trainee or Intern	Graduate Student
Qing	Dai	The University of Chicago	Career Dev.	Trainee or Intern	Faculty
Gabriel	Lázaro-Muñoz	UNC School of Medicine	Career Dev.	Trainee or Intern	Post-Doctoral or Clinical Fellow
Anya	Prince	UNC School of Medicine	Career Dev.	Trainee or Intern	Post-Doctoral or Clinical Fellow
Alexander	Brandt	University of California, Berkeley	T32	Trainee or Intern	Graduate Student
Jonathan	Fischer	University of California, Berkeley	T32	Trainee or Intern	Graduate Student
Lauren	Gibilisco	University of California, Berkeley	T32	Trainee or Intern	Graduate Student
Brooke	Rhead	University of California, Berkeley	T32	Trainee or Intern	Graduate Student
Aaron	Stern	University of California, Berkeley	T32	Trainee or Intern	Graduate Student
Kelly	Street	University of California, Berkeley	T32	Trainee or Intern	Graduate Student
Annabel	Beichman	University of California, Los Angeles	T32	Trainee or Intern	Graduate Student
Robert	Brown	University of California, Los Angeles	T32	Trainee or Intern	Graduate Student
Dat	Duong	University of California, Los Angeles	T32	Trainee or Intern	Graduate Student
Kevin	Keys	University of California, Los Angeles	T32	Trainee or Intern	Graduate Student
Catharine	Krebs	University of California, Los Angeles	T32	Trainee or Intern	Graduate Student
Timothy	Stutz	University of California, Los Angeles	T32	Trainee or Intern	Graduate Student
Stephen	Tran	University of California, Los Angeles	T32	Trainee or Intern	Graduate Student
Michael	Kramer	University of California, San Diego	Fellowship	Trainee or Intern	Graduate Student
Martha	Arciniega	University of California, Santa Cruz	DAP	Trainee or Intern	Graduate Student
Layla	Cervantes	University of California, Santa Cruz	DAP	Trainee or Intern	Undergraduate Student
Charles	Cole	University of California, Santa Cruz	T32	Trainee or Intern	Graduate Student
Brian	Lin	University of California, Santa Cruz	T32	Trainee or Intern	Graduate Student
Audrey	Musselman-Brown	University of California, Santa Cruz	T32	Trainee or Intern	Graduate Student
Yulia	Newton	University of California, Santa Cruz	T32	Trainee or Intern	Graduate Student
Arthur	Rand	University of California, Santa Cruz	T32	Trainee or Intern	Graduate Student
Nathan	Schaefer	University of California, Santa Cruz	T32	Trainee or Intern	Graduate Student
Prestina	Smith	University of California, Santa Cruz	DAP	Trainee or Intern	Graduate Student
Andrew	Beck	University of Michigan	T32	Trainee or Intern	Graduate Student
Jedidiah	Carlson	University of Michigan	T32	Trainee or Intern	Graduate Student
Nathan	Cohen	University of Michigan	T32	Trainee or Intern	Graduate Student
Kathryn	Demanelis	University of Michigan	T32	Trainee or Intern	Graduate Student
Diane	Flasch	University of Michigan	T32	Trainee or Intern	Graduate Student
Pelle	Hall	University of Michigan	T32	Trainee or Intern	Graduate Student
Amanda	Pendleton	University of Michigan	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow

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Rosemary	Pulter	University of Michigan	T32	Trainee or Intern	Graduate Student
Alexander	Berry	University of Pennsylvania	T32	Trainee or Intern	Graduate Student
Jacquelyn	Meisel	University of Pennsylvania	T32	Trainee or Intern	Graduate Student
Jean	Rosario	University of Pennsylvania	T32	Trainee or Intern	Graduate Student
Barry	Slaff	University of Pennsylvania	T32	Trainee or Intern	Graduate Student
Krishna	Vijayendran	University of Pennsylvania	T32	Trainee or Intern	Graduate Student
Wengqing	Fu	University of Washington	Career Dev.	Trainee or Intern	Post-Doctoral or Clinical Fellow
Diane	Korngiebel	University of Washington	Career Dev.	Trainee or Intern	Faculty
Maria	Abando	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Clara	Amorosi	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Bryan	Andrews	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Alejandrina	Carreno	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Rosario	Guel	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Andrew	Hill	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Jerusalem	Kifelew	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Emily	Killingbeck	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Terence	Leach	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Jesús	Martínez-Gomez	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Rajiv	McCoy	University of Washington, Seattle	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Jose	McFaline-Figueroa	University of Washington, Seattle	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Colin	McNally	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Naomi	Nkinsi	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Jamie	Nunez	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Lindsay	Pino	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Vijay	Ramani	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Joseph	Sanchez	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Adree	Songco-Aguas	University of Washington, Seattle	DAP	Trainee or Intern	Undergraduate Student
Holly	Stessman	University of Washington, Seattle	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Emma	Timmins-Schiffman	University of Washington, Seattle	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Tychele	Turner	University of Washington, Seattle	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Aaron	Wolf	University of Washington, Seattle	T32	Trainee or Intern	Graduate Student
Katie	Buxton	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Alejandra	Canales	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Jesse	Dabney	University of Wisconsin-Madison	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Ted	de Groot	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Drew	Doering	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Sid	Kiblawi	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Jason	Lajoie	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Matthew	MacGilvray	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Jeff	Nelson	University of Wisconsin-Madison	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Mark	Nolte	University of Wisconsin-Madison	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow

Roster for 2016 NHGRI Research Training and Career Development Annual Meeting

First Name	Last Name	Affiliation	Program Type	Role	Career Level
Mark	Politz	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Ben	Steyer	University of Wisconsin-Madison	T32	Trainee or Intern	Graduate Student
Janessa	Aneke	Washington University in St. Louis	DAP	Trainee or Intern	Graduate Student
Davinelle	Daniels	Washington University in St. Louis	DAP	Trainee or Intern	Graduate Student
Zane	Goodwin	Washington University in St. Louis	T32	Trainee or Intern	Graduate Student
Malachi	Griffith	Washington University in St. Louis	Career Dev.	Trainee or Intern	Post-Doctoral or Clinical Fellow
Justin	Melendez	Washington University in St. Louis	T32	Trainee or Intern	Graduate Student
Derek	Platt	Washington University in St. Louis	DAP	Trainee or Intern	Graduate Student
Cynthia	Tang	Washington University in St. Louis	DAP	Trainee or Intern	Undergraduate Student
Ruben	Atihlo	Yale University	T32	Trainee or Intern	Graduate Student
Michael	Grome	Yale University	T32	Trainee or Intern	Graduate Student
Steven	Weicksel	Yale University	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Rebecca	Wissner	Yale University	T32	Trainee or Intern	Post-Doctoral or Clinical Fellow
Charles	Xue	Yale University	T32	Trainee or Intern	Graduate Student
Kandace	Thomas	Baylor College of Medicine	DAP	Trainee or Intern (Speaker)	Graduate Student
Neville	Sanjana	Broad Institute	Career Dev.	Trainee or Intern (Speaker)	Post-Doctoral or Clinical Fellow
Alexander	Garruss	Harvard University	T32	Trainee or Intern (Speaker)	Graduate Student
Jielu	Lin	NHGRI	NHGRI	Trainee or Intern (Speaker)	Post-Doctoral or Clinical Fellow
Laura	Senier	Northeastern University	Career Dev.	Trainee or Intern (Speaker)	Post-Doctoral or Clinical Fellow
Alex	Bishara	Stanford University	T32	Trainee or Intern (Speaker)	Graduate Student
Artur	Jaroszewicz	University of California, Los Angeles	T32	Trainee or Intern (Speaker)	Graduate Student
Greg	Zajac	University of Michigan	T32	Trainee or Intern (Speaker)	Graduate Student
Katherine	Siewert	University of Pennsylvania	T32	Trainee or Intern (Speaker)	Graduate Student
Joon-Ho	Yu	University of Washington	Career Dev.	Trainee or Intern (Speaker)	Post-Doctoral or Clinical Fellow
Amy	Dapper	University of Wisconsin-Madison	T32	Trainee or Intern (Speaker)	Post-Doctoral or Clinical Fellow
Sam	Krerowicz	University of Wisconsin-Madison	T32	Trainee or Intern (Speaker)	Graduate Student
Marquet	Minor	Washington University in St. Louis	DAP	Trainee or Intern (Speaker)	Undergraduate Student