



Impact of Ancestry and Gender
on Omics of Lung Diseases

PRogram to I ncrease Diversity Among Individuals Engaged in Lung Health- Related Research



SCHOOL OF MEDICINE
Pulmonary Sciences and Critical Care Medicine
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

COLORADO CENTER FOR
PERS  **NALIZED**
MEDICINE



Colorado PRIDE Academy: Impact of Ancestry and Gender on Omics of Lung Diseases



Program Overview

The Colorado PRIDE program: "Impact of Ancestry and gender in omics of lung diseases (AGOLD)" uses excellent faculty and resources at the highly-ranked Pulmonary and Critical care and Bioinformatics and Personalized Medicine divisions at the University of Colorado Anschutz Medical Campus. Scholars will use precision medicine and omics technologies to unlock complex interactions between genes and pulmonary diseases. We will address existing disparities in application and interpretation of omics data to populations with African or native ancestry and the impact of gender to diseases such as interstitial lung disease, pulmonary hypertension or pulmonary fibrosis. Career development activities will be complemented with behavioral and social science cognitive interventions to enhance success in academic medicine.

Program Description

AGOLD will integrate comprehensive formal instruction on:

- **Multi-omics** (proteomics, genomics, transcriptomics and metabolomics) and bioinformatics, with an emphasis on interpretations based on ancestry and/or gender
- **Career development** tools including grant writing with a focus on drafting a specific aims page using rhetorical patterns of writing, how to negotiate, how to mentor/be mentored and other tools
- **An additional level of engagement** distinct from the mentor-mentee relationship. With the recognition that minority scientists experience isolation, a sense of "otherness" that few mentors have experienced, we will implement the concept of academic "coaches" and use 2 levels of academic advisement, the traditional mentor-mentee, followed by an academic coach who complements and enhances the mentors' role. Culturally competent coaches will help scholars navigate the intricacies of academia, using group activities and social science approaches such as communities of practice and cultural capital.
- **Introduce best practices** in mentoring and training in cultural competence and implicit biases to mentors so they understand the challenges scientists from under-represented populations face.

AGOLD Leadership

Sonia C. Flores, PhD
Professor and Vice Chair for
Diversity and Justice, Department
of Medicine
Principal Investigator

Kathleen C. Barnes, PhD
Professor and Director, Colorado
Center for Personalized Medicine
Principal Investigator

Oliver Eickelberg, MD
Professor, Division of Pulmonary
and Critical Care Sciences
Principal Investigator

Adela Cota-Gomez, PhD
Associate Professor, Division of
Pulmonary and Critical Care
Sciences
Program Manager

Ivana V. Yang, PhD
Associate Professor, Colorado
Center for Personalized Medicine
Curriculum Director

AGOLD Mentors

Faculty members from the
Colorado Center for
Personalized Medicine and
the Division of Pulmonary
and Critical Care Sciences
will be available to mentor.

Contact Us

Email AGOLD@UCDenver.Edu
or call program manager
Adela Cota-Gomez
303-724-6085

AGOLD Fellow Training

- 2 consecutive summer academies in CO,
 - Academy 1 starts in mid-August and lasts approximately 15 days;
 - Academy 2 starts 3rd week in August and is 5 days long
- mid-year meeting in Aspen, CO at the annual Aspen Lung Conference
- annual meeting in Washington, DC
- all expenses paid
- pilot money to generate preliminary data
- Year-round mentoring and coaching to address issues like bias and harassment and other topics not usually discussed with mentors.

Eligibility

- hold a doctoral degree, such as a PhD, MD, DO, DVM
- be research-oriented junior-level faculty or be a **transitioning** post-doctorate trainee
 - **Transitioning** means that you have or will have a formal faculty appointment by the time the first Summer Institute Program convenes
- be from an under-represented group (Latinx, African American, Native Americans or Pacific Islanders, Southeast Asian, Pakistani, individuals with disabilities, economically or educationally disadvantaged backgrounds)
- have a research focus centered on gender or age disparities of lung diseases

About PRIDE

The Programs to Increase Diversity Among Individuals Engaged in Health-Related Research (PRIDE) initiative of the National Heart, Lung and Blood Institute (NHLBI) aims to broaden the demographic profile of biomedical research by training junior faculty from under-represented backgrounds and/or with disabilities to advance their scientific careers and be more competitive for external research funding. Visit <https://pridecc.wustl.edu/about> to learn more about PRIDE

How to Apply

<https://pridecc.wustl.edu/apply>

Summer Academy

- Michelle Daya Ph.D. Assistant Professor
- Christopher Gignoux Ph.D. Associate Professor
- Colleen Julian Ph.D. Assistant Professor
- Jennifer Kemp Ph.D. Director of Research Office
- Ethan Lange Ph.D., Professor
- Leslie Lange Ph.D. Professor
- Bruce Mandt Ph.D. Director of Post-doctoral Office
- Spero Manson Ph.D. Distinguished Professor and Associate Dean for Research
- Tzu Phang Ph.D. Professor
- Nicole Reisdorph Ph.D. Associate Professor

Selected Publications

Daya M, Rafaels N, Brunetti TM, Chavan S, Levin AM, Shetty A, **Gignoux CR**, Boorgula MP, Wojcik G, Campbell M, Vergara C, Torgerson DG, Ortega VE, Doumatey A, Johnston HR, Acevedo N, Araujo MI, Avila PC, Belbin G, Bleecker E, Bustamante C, Caraballo L, Cruz A, Dunston GM, Eng C, Faruque MU, Ferguson TS, Figueiredo C, Ford JG, Gan W, Gourraud PA, Hansel NN, Hernandez RD, Herrera-Paz EF, Jiménez S, Kenny EE, Knight-Madden J, Kumar R, **Lange LA**, **Lange EM**, Lizee A, Maul P, Maul T, Mayorga A, Meyers D, Nicolae DL, O'Connor TD, Oliveira RR, Olopade CO, Olopade O, Qin ZS, Rotimi C, Vince N, Watson H, Wilks RJ, Wilson JG, Salzberg S, Ober C, Burchard EG, Williams LK, Beaty TH, Taub MA, Ruczinski I, Mathias RA, **Barnes KC**; CAAPA. [Association study in African-admixed populations across the Americas recapitulates asthma risk loci in non-African populations](#). Nat Commun. 2019;10:880.

Crawford JE, Amaru R, Song J, **Julian CG**, Racimo F, Cheng JY, Guo X, Yao J, Ambale-Venkatesh B, Lima JA, Rotter JJ, Stehlik J, Moore LG, Prchal JT, Nielsen R. [Natural Selection on Genes Related to Cardiovascular Health in High-Altitude Adapted Andeans](#). Am J Hum Genet. 2017;101:752-767.

Yang IV, Pedersen BS, Liu A, O'Connor GT, Teach SJ, Kattan M, Misiak RT, Gruchalla R, Steinbach SF, Szefer SJ, Gill MA, Calatroni A, David G, Hennessy CE, Davidson EJ, Zhang W, Gergen P, Togias A, Busse WW, Schwartz DA. [DNA methylation and childhood asthma in the inner city](#). J Allergy Clin Immunol. 2015;136:69-80.

AGOLD Funding

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