Karla Claudio Campos
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Education

Ph.D. **University of Puerto Rico- Medical Sciences Campus**
Pharmacology, June 2017
Advisors: Jorge Ducongé, Ph.D. and Susan Corey, Ph.D.

B.S. University of Puerto Rico- Cayey Campus
Biology, December 2010
Magna cum laude

Research Experience

Postdoctoral Associate- University of Florida, Department of Pharmacotherapy and Translational Research, College of Pharmacy 08/2018- present

Research Advisor: Carol Mathews, MD

As a postdoctoral fellow of the Program for Applied Research and Development in Genomic Medicine (PARADIGM) my research project will be focused on Psychiatric Genomics.

Postdoctoral Researcher- University of Puerto Rico, Medical Sciences Campus 02 – 06/2018

Research Advisor: Jorge Ducongé, Ph.D.

The goal of this research project is to perform a genome-wide association study (GWAS) to identify genetic variants involved in poor response to clopidogrel (Plavix) in Caribbean Hispanics. My participation involved recruiting patients to obtain blood samples and performing platelet reactivity test.

Doctoral research- University of Puerto Rico, Medical Sciences Campus 08/2010- 06/2017

Research advisor: Jorge Ducongé, Ph.D.

The goal of my dissertation research was to identify genetic variants involved in warfarin (Coumadin) dose requirements in Puerto Ricans using a case-control association study. Next generation sequencing of the candidate genes *CYP2C9* and *VKORC1* as well as high-throughput genotyping experiments were performed to identify single nucleotide variants. During my Ph.D. training, I worked with current technologies in the field of genomic research, initiated collaborations with other groups in pharmacogenetics (Mount Sinai, University of Florida and Children's Mercy Hospital) and supervised six undergraduate students.

Undergraduate research- University of Puerto Rico, Cayey 08/2008- 12/2010

Research advisor: Claudia Ospina, Ph.D.

The goal of my research project was to isolate and characterize chemical compounds from the endemic plant *Simarouba tulae* . Extracted compounds were screened for cytotoxicity and antitumor activities, leading to my first-author publication.

Undergraduate research- Cold Spring Harbor Laboratory (CSHL) 06-08/2007

Research advisor: Gregory Hannon, Ph.D.

For my summer research experience at CSHL I worked in sequencing the mitochondrial DNA from Tasmanian devils' samples affected by the lethal devil facial tumor disease (DFTD). In collaboration with bioinformaticians of the institution, we found a single nucleotide polymorphism in the mitochondrial genome that distinguished cancerous cells from non-cancerous host tissue of the same individual. This finding gave evidence in support of a transmissible cancer as later confirmed by the group.

Undergraduate research- International Institute of Tropical Forestry 06-08/2006

Research advisor: Jean Lodge, Ph.D.

El Yunque National Forest in Puerto Rico is the only tropical rain forest in the US National Forest System. In summer 2006 I had the unique experience of living in El Yunque with the task of studying the ability of endemic basidiomycetes fungi to form litter mats to prevent erosion in steep slopes. These findings were part of a chapter that I co-authored for the book *Ecology of Saprotrophic Basidiomycetes*.

Skills

I managed several skills for DNA analysis from end-to-end assessments: isolation, quantification, genotyping, sequencing, case-control associations and ancestry analysis. I have worked isolating DNA from whole blood and buccal swabs and performed quantification using qPCR (TaqMan RNase P). I have vast experience performing single genotyping experiments with TaqMan and high-throughput genotyping with DMET Plus from Affymetrix. For Next-Generation Sequencing, I performed the construction of DNA libraries and the sequencing using the Ion Personal Genome Machine (Ion PGM). I also master several tools that are used in bioinformatics: PLINK, Haploview, LocusZoom, IGV and Structure. Other experience in bioinformatics includes working with databases like UCSC Genome Browser and dbSNP.

Collaborations

Currently I collaborate with the CYP2C9 Expert Panel of the Pharmacogene Variation Consortium (PharmVar) directed by Dr. Andrea Gaedigk at Children's Mercy Hospital in Kansas City.

My research group is part of the Warfarin Pharmacogenetics in Hispanics Consortium directed by Dr. Larisa Cavallari with the participation of different institutions: the University of Puerto Rico, the University of Florida, Mount Sinai Hospital in NY and the University of Arizona.

Awards and Fellowships

Minority Biomedical Research Support- Research Initiative for Scientific Enhancement 09/2014-2017

UCLA Predoctoral Diversity Fellowship for the 2014 Statistical Genetics Short Course 07/2014

FASEB-MARC Travel Award for American Society of Pharmacology and Experimental Therapeutics (**ASPET**) annual meeting 04/2014

"Proyecto: Adopte un gen" (translation: Adopt a gene) Award of The Caribbean Genome Center 03/2014

Research Centers for Minority Institutions (RCMI) Travel Award for Sequencing Training at Dr. McCombie's Lab in **CSHL** 07/2013

Pittsburgh Supercomputing Center- **MARC** Summer Bioinformatics Workshop 06/2013

Howard Hughes Medical Institute **(HHMI)** Exceptional Research Opportunities (**EXROP**) 06/2007

Teaching Experience

University of Puerto Rico, Medical Sciences Campus 05/2016

Invited lecturer for the RISE course Advanced Topics in Pharmacogenomics (CBIO 8506)

- Developed and presented a lecture about basic concepts of Pharmacogenetics and Pharmacogenomics, molecular biology techniques used for DNA analysis, and interpretation of data in a clinical scenario

University of Puerto Rico, Medical Sciences Campus 2014-2017

Invited lecturer of the course "Pharmacogenomics: The Scientific Principles of Personalized Medicine" (CILC-6306) of the Master Program of Clinical Laboratory Sciences of the School of Health Professions

- Developed and presented a lecture about molecular biology techniques used for DNA analysis in Pharmacogenomics research.

Invited lecturer of the course "Pharmacogenetics" (PHAR8505) of the Department of Pharmacology and Toxicology of the Division of Biomedical Sciences of the School of Medicine

- Discussion about Pharmacogenetics in Hispanics

Publications

Claudio-Campos K, Labastida A, Ramos A, Gaedigk A, Renta-Torres J, Padilla D, Rivera-Miranda G, Scott S, Ruaño G, Cadilla CL, Duconge-Soler J. Warfarin anticoagulation therapy in Caribbean Hispanics of Puerto Rico: a candidate gene association study. *Frontiers in Pharmacology*. 2017 Jun 7; 8:347. doi: 10.3389/fphar.2017.00347. eCollection 2017. PMCID: PMC5461284

Hernandez-Suarez DF, **Claudio-Campos K**, Mirabal-Arroyo JE, Torres-Hernandez BA, Lopez-Candales A, Melin K and Duconge J. Potential of a pharmacogenetic-guided algorithm to predict optimal warfarin dosing in a high-risk Hispanic patient: role of a novel *NQO1*2* polymorphism. *J Investig Med High Impact Case Rep*. 2016 Dec 1; 4 (4): 2324709616682049 PMCID: PMC5298566.

Duconge J, Ramos AS, **Claudio-Campos K**, Rivera-Miranda G, Bermúdez-Bosch L, Renta JY, Cadilla CL, Cruz I, Feliu JF, Vergara C, Ruaño G. A novel Admixture-Based Pharmacogenetic Approach to Refine Warfarin Dosing in Caribbean Hispanics. *PLoS One*. 2016 Jan 8;11(1):e0145480. doi: 10.1371/journal.pone.0145480. eCollection 2016. PubMed PMCID: PMC4706412

Claudio-Campos K, Orengo-Mercado C, Renta JY, Peguero M, Garcia R, Hernandez G, Corey S, Cadilla CL, Duconge J. Pharmacogenetics of healthy volunteers in Puerto Rico. *Drug Metabol Personal Ther*. 2015 Dec;30(4): 239-249. PubMed PMCID: PMC4768757**.**

Claudio-Campos K, Duconge J, Cadilla CL, Ruaño G. Pharmacogenetics of drug metabolizing enzymes in U.S. Hispanics. *Drug Metabol Drug Interact*. 2015;30(2):87–105 PMCID: PMC4447600.

Claudio-Campos K, Hernández-Rivera J, Rivera-Gutierrez J, Ortiz-Rivera I, Carvajal-Vélez A, Pérez-Torres M, Pagán-Ortiz M, Ospina-Millán CA. Biological screening of select Puerto Rican plants for cytotoxic and antitumor activities. *P R Health Sci J*. 2015 Mar;34(1):25-30. PubMed PMCID: PMC4586088

Lodge, J., McDowell, W. H., Macy, J., Ward, S. K., Leisso, R., **Claudio-Campos, K**., & Kuhnert, K. The British Mycological Society Symposium Series (2008). Distribution and role of mat-forming saprobic basidiomycetes in a tropical forest. In L. Boddy, J. C. Frankland, & P. Van West (Eds), Ecology of Saprotrophic Basidiomycetes (pp. 197- 209). Boston: Amsterdam. Elsevier Academic Press.

Conferences

Oral Presentations

Claudio-Campos K, Cadilla-Vazquez CL, Duconge-Soler J. Is Native American contribution in Puerto Ricans associated with a lower warfarin dose requirement?. Oral Presentation at the **76th FIP World Congress of Pharmacy and Pharmaceutical Sciences**. Session E8: short oral presentations Part I (Industry and Science). August 28- September 1st 2016 in Buenos Aires, Argentina.

Claudio-Campos K, Cadilla-Vazquez CL, Duconge-Soler J. "Native American contribution in Puerto Ricans is associated to lower warfarin dose requirements". Oral and poster presentation at the **2016 Keystone Symposia** on Genomics and Personalized Medicine. Personalized and Preventative Medicine (Q2) session. February 7-11, 2016 in Banff Springs, Alberta, Canada.

Poster Presentations

Claudio, K., Orengo, C., Berrios, L., Pagan, R., Renta, J., Cadilla, C., and Duconge,J. "*CYP2C9**8 frequency distribution in Puerto Ricans: Implications for warfarin dosing". Poster Presentation. Abstract No. 2014-A-515-ESHG presented at European Conference of Human Genetics 2014 in Milan June 2nd, 2014.

Claudio, K., Orengo, C., Berrios, L., Pagan, R., Renta, J., Cadilla, C., and Duconge,J. "*CYP2C9**8 frequency distribution in Puerto Ricans: Implications for warfarin dosing". Poster Presentation. Abstract No. 1141.10 presented at American Society for Pharmacology and Experimental Therapeutics at Experimental Biology in San Diego April 31, 2014.

Claudio, K., González, P., Luciano, E.; Santiago, J., Pérez, M; Carvajal, A., Pagán, M., Ospina, C. A. "Chemical Analysis and Biological Evaluation of the Endemic Plant *Simarouba tulae*" Poster Presentation, Abstract No. 295 presented at the 61st Southeastern Regional Meeting of the American Chemical Society (SERMACS), San Juan, Puerto Rico, October 21-24, 2009.

Claudio, K.; Smith, C.; Rebbeck, C.; Murchison E.; Hannon, G. "Studies to Determine the Role of Allograft in Devil Facial Tumor Disease (DFTD) Spread". Poster Presentation, Abstract No. 2863 presented at the **47th Annual Meeting of The American Society for Cell Biology (ASCB)**, Washington, D.C. December 1-5, 2007.