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Rank/Discipline

Professor
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Education & Specialty Certification

PhD, University of Havana, Cuba,
1999. Advanced Level Residential
Program in PK/PD, Madingley
Hall, Cambridge University,
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Jorge Duconge, Ph.D.

Research Areas and Active Projects

Research interest areas are Pharmacogenomics, Pharmacokinetics; Pharmacometrics and Kinetic of Drug Action.

Active projects: 1) *A Genomic Approach to Warfarin Dose Prescription in Admixed Caribbean Hispanics*; 2) *Admixture mapping of the Puerto Rican population*; and 3) *Pharmacokinetics studies of intravenous Vitamin C at high doses*. These works are funded by grant number SC1 HL123911 from the National Heart, Lung, and Blood Institute (NHLBI); the Research Center in Minority Institutions (RCMI) award number 8G12 MD007600 from the National Institute on Minority Health and Health Disparities (NIMHD) and Genomas internal research and development funds.

Publications

- Humphries-Bickley T, Castillo-Pichardo L, Corujo-Carro F, Duconge J, Hernandez-O'Farrill E, Vlaar C, Rodriguez-Orengo JF, Cubano L, Dharmawardhane S. Pharmacokinetics of Rac inhibitor EHop-016 in mice by ultra-performance liquid chromatography tandem mass spectrometry. **J Chromatogr B Analyt Technol Biomed Life Sci.** 2015 Jan 2;981-982C:19-26
- Duconge J. Population Heterogeneity and Genomic Admixture: Relevance for Global Pharmacogenetics. **J Pharmacogenom Pharmacoproteomics** 2014, 5:5 e141. doi:10.4172/2153-0645.1000e141
- Claudio-Campos K, Duconge J, Cadilla CL, Ruaño G. Pharmacogenetics of drug-metabolizing enzymes in US Hispanics. **Drug Metabol Drug Interact.** 2014 Nov 28. pii:/j/dmdi.ahead-of-print/dmdi-2014-0023/dmdi-2014-0023.xml. doi: 10.1515/dmdi-2014-0023.
- Fernandez-Sanchez EM, Duconge J. The History of Pharmacokinetics in Cuba: Role of Universities. **Journal of Pharmacy and Pharmacology** 2014; 2(8): 453-469
- Valentin I, Rivera G, Nieves-Plaza M, Cruz I, Renta JY, Cadilla CL, Feliu JF, Seip RL, Ruaño G, Duconge J. Pharmacogenetic

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- Gonzalez MJ, Miranda-Massari JR, Duconge J, Arroyo JP. Chronic Diseases as Inborn Errors of Metabolism: The Metabolic Correction Therapy Approach. **International Journal of Human Nutrition and Functional Medicine** Open Access 2014;2(1);2 <http://intjhumnutrfuncmed.org/publications/index.html>
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- Orenge-Mercado C, Nieves B, Lopez L, Valles-Ortiz N, Renta Y, Santiago-Borrero PJ, Cadilla CL and Duconge J. Frequencies of Functional Polymorphisms in Three Pharmacokinetic Genes of Clinical Interest within the Admixed Puerto Rican Population. **J Pharmacogenom Pharmacoproteomics** 2013; (4)1:113. PMID: PMC3769800
- Ramos AS, Seip R, Rivera G, Felici M, Alejandro-Cowan Y, Garcia R, Kocherla M, Renta J, Cruz I, Feliu JF, Cadilla CL, Gorowski K, Vergara C, Rúaño G, and Duconge J. Development of a Pharmacogenetic-guided Warfarin Dosing Algorithm for Puerto Rican Patients. **Pharmacogenomics** 2012; 13(16): 1937-50. PMID: PMC3538136 [recipient of the ASHP Foundation Literature Awards]
- Duconge J, Rúaño G. 'Generic to genetic' transition in cardiovascular and neuropsychiatric drugs: opportunity for personalized medicine. **Pharmacogenomics** 2012; 13(10): 1097–1100. PMID: PMC3505752
- González MJ, Miranda Massari JR, Duconge J, Riordan NH, Ichim T, Quintero-Del-Rio AI, Ortiz N. The Bio-energetic Theory of Carcinogenesis. **Med Hypotheses.** 2012; 79: 433-39. PMID: 22809841
- González MJ, Miranda-Massari JR, Duconge J, Riordan NH, IchimT. Schedule Dependence in Cancer Therapy: Vitamin C and the Systemic Saturation. **Journal of Orthomolecular Medicine.** 2012; 27:9-12 PMID: PMC4031610
- Valentin II, Vazquez J, Rivera-Miranda G, Seip RL, Velez M, Kocherla M, Bogaard K, Cruz-Gonzalez I, Cadilla CL, Renta JY, Feliu JF, Ramos AS, Alejandro-Cowan Y, Gorowski K, Rúaño G, and Duconge J. Prediction of Warfarin Dose Reductions in Puerto Rican Patients based on Combinatorial CYP2C9 and VKORC1 Genotypes. **The Annals of Pharmacotherapy.** 2012; 46(2): 208-18. PMID: PMC3378722
- Duconge J, Escalera O, Korchela M, Rúaño G. Clinical Implications of Genetic Admixture in Hispanic Puerto Ricans:

Impact on the Pharmacogenetics of CYP2C19 and PON1, Chapter 7, In: Clinical Applications of Pharmacogenetics, Dr. Despina Sanoudou (Ed.), ISBN: 978-953-51-0389-9, InTech, 2012; March 21: pp. 151-164. DOI: 10.5772/28567. <http://www.intechopen.com/books/clinical-applications-of-pharmacogenetics/clinical-implications-of-genetic-admixture-in-hispanic-puerto-ricans-impact-on-the-pharmacogenetics>

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- Seip RL, Duconge J, Ruaño G. Genotype-Guided Statin Therapy. In: Pharmacogenomic Testing in Current Clinical Practice: Implementation in the Clinical Laboratory. A.H.B. Wu and K.T.J. Yeo (eds.), Molecular and Translational Medicine series. Springer Science & Business Media (Humana Press), LLC, 2011; 1st edition, Chapter 10; pp. 155-174. doi: 10.1007/978-1-60761-283-4.
- Duconge J, Ruaño G. Emerging Role of Admixture in the Pharmacogenetics of Puerto Rican Hispanics. **J Pharmacogenom Pharmacoproteomics** 2010; (4)1:101. PMID: PMC3515058
- Rodriguez-Velez R, Ortiz-Rivera OJ, Bower B, Gorowski K, Windemuth A, Villagra D, Kocherla M, Seip RL, D'Agostino D, Ruaño G, and Duconge J. Exposure to Non-Therapeutic INR in a High Risk Cardiovascular Patient: Potential Hazard Reduction with Genotype-Guided Warfarin (Coumadin®) Dosing. **PR Health Sci J.** 2010; 29(4): 402-408. PMID: PMC3679530
- Duconge J, Villagra D, Windemuth A, Cadilla CL, Kocherla M, Gorowski K, Bogaard K, Renta JY, Cruz IA, Mirabal S, Seip RL, Ruaño G. CYP2C9 and VKORC1 Genotypes in Puerto Ricans: A Case for Admixture-Matching in Clinical Pharmacogenetic Studies. **Clinica Chimica Acta** 2010; 411:1306-1311. PMID: PMC2903218
- Seip RL, Duconge J, Ruaño G. Implementing Genotype-guided Antithrombotic Therapy. **Future Cardiology** 2010; 6(3): 409-424. PMID: PMC2903229
- González MJ, Rosario-Pérez G, Guzman AM, Miranda-Massari JR, Duconge J, Lavergne J, Fernandez N, Ortiz N, Quintero del Rio AI, Mikirova N, Riordan NH, Ricart CM. Mitochondria, Energy and Cancer: The Relationship with Ascorbic Acid. **Journal of Orthomolecular Medicine** 2010; 25(1): 29-37. PMID: PMC3615720

- Duconge J, Cadilla CL, Windemuth A, Kocherla M, Gorowski K, Seip RL, Bogaard K, Renta J, Paola Piovanetti P, D'Agostino D, Santiago-Borrero PJ, Ruaño G. Prevalence of combinatorial CYP2C9 and VKORC1 genotypes in Puerto Ricans: Implications for Warfarin Management in Hispanics. **Ethnicity & Disease** 2009; 19(4): 390-395. PMID: PMC2903231
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- J Duconge. Applying Organ Clearance Concepts in the Clinical Setting to optimize Dose management and Improve Patient Outcomes. **Am J Pharm Edu** 2008; 72 (5): 121. PMID: PMC2630146
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- J Duconge; JR Miranda-Massari; MJ Gonzalez; N Riordan. Schedule dependence in cancer therapy: what is the true scenario for vitamin C? **Journal of Orthomolecular Medicine** 2007; 22(1): 21-26.
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- Duconge J, Castillo R, Crombet T, Alvarez D, Matheu J, Vecino G, Alonso K, Beausoleil I, Valenzuela C, Bécquer MA, Fernández-Sánchez E. Integrated pharmacokinetic-pharmacodynamic modeling and allometric scaling for optimizing the dosage regimen of the monoclonal ior EGF/r3 antibody. **European Journal of Pharmaceutical Sciences**. 2004; 21(2-3): 261-70.
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 - Morales A, Núñez G, Pérez NP, Veliz BC, Caballero I, Duconge J, Fernández E, Crespo FZ, Veloso A, Iznaga N. Freeze- dried formulation for direct ^{99m} Tc- labeling MAb ior EGF/r3: additives, biodistribution and stability. **Nuclear Medicine and Biology.** 1999; 26: 717-723.
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Presentations

- 2014 Minority Health & Health Disparities Grantees' Conference. Transdisciplinary Collaborations: Evolving Dimensions of US and Global Health Equity. PGt Algorithm for Commencing Warfarin in Puerto Ricans. December 1-3, 2014. Gaylord National Resort & Convention Center on the Potomac, at National Harbor, Maryland, USA.
- 7th Santorini Conference Biologie Prospective; Poster: A Proposal for an Individualized Pharmacogenetic-Guided Warfarin Dosage Regimen for Puerto Rican Patients Commencing Anticoagulation Therapy. Petros Nomikos Center; September 2014, Thira, Santorini, Greece.

- Puerto Rico Society of Microbiologists (American Society of Microbiology Local Branch) Annual Meeting “Microbiology in the 21st Century: Microbiomes and Omics”; Invited Speaker, presentation: “Pharmacogenomics: Fundamentals and Current Applications in Personalized Medicine” June 20, 2014, Carolina, PR.
- European Human Genetics Conference 2014, ESHG; Poster: “*CYP2C9*8* frequency distribution in Puerto Ricans: Implications for warfarin dosing”. June 2014, Milano, Italy.
- ASPET Annual Meeting at Experimental Biology (EB) 2014, Federation of American Societies for Experimental Biology (FASEB). Poster: “*CYP2C9*8* frequency distribution in Puerto Ricans: Implications for warfarin dosing”. 14-8204-EB. April 2014, San Diego, CA.
- 2013 Annual Convention, Puerto Rico College of Pharmacists. Poster: Admixture-adjusted genotype-guided warfarin dosing algorithm in Puerto Ricans. August, 2013 (**first prize**).
- 12th National Conference on Anticoagulant Therapy (AC Forum). Poster: “Pharmacogenetic-driven warfarin dosing algorithm in Puerto Rican patients”. Phoenix, Arizona, May, 2013.
- Congress of the Puerto Rican College of Medical Technology. Conference/short-course: Pharmacogenetic Testing: Fundamentals and Current Applications in Personalized Medicine. Carolina, Puerto Rico, March, 2013.
- XXXIII Annual Forum of Education and Investigation. Poster: “Optimization of the *CYP2C9* coding region amplification for DHPLC analysis” Medical Sciences Campus-UPR, March, 2013.
- 13th RCMI International Symposium on Health Disparities “Translating Sciences to Better Health: The Power of Diversity and Multicultural Engagement”. Poster: Pharmacogenetic-driven Warfarin Dosing Algorithm in Puerto Ricans. San Juan, PR, December, 2012.
- 2nd Latin-American Congress of Pharmacogenomics and Personalized Medicine. Conference “The Emerging Role of Admixture in the Pharmacogenetics of Puerto Ricans: The Case of Warfarin”, Rio de Janeiro, Brazil, June, 2012.
- 1st Thrombosis and Hemostasis Summit of North America (THSNA). Posters: “A Pharmacogenetic Safety Profile of Puerto Ricans on Warfarin Therapy” and “Pharmacogenetic-driven Warfarin Dosing Algorithm in Puerto Ricans”. May 2012, Chicago, IL.
- 2011 Annual Convention, Puerto Rico College of Pharmacists. Poster: Pharmacogenetic-driven warfarin dosing algorithm in Puerto Rican patients. August, 2011 (**first prize**).

- 12th RCMI International Symposium on Health Disparities “Bridging the Gap between Disparity and Equity”. Poster: Pharmacogenetics of Warfarin in Puerto Ricans: Preliminary Data. Nashville, TN, December, 2010.
- 69th Annual Convention of the Puerto Rican College of Chemistry. Conference: “Fundamentals and Current Applications of Pharmacogenetics in Research”, San Juan, PR, August, 2010.
- Convention of the Puerto Rican Association of Community Pharmacies. Conference: “Pharmacogenetics Implications in the Current and Future Therapy of the Psychiatric Patients”, Carolina, PR, July, 2010.
- 1st Latin-American Congress of Pharmacogenomics and Personalized Medicine. Conference “Admixture in the Puerto Rican Population: Physiogenomic Analysis and Implications for Personalized Medicine”, San Juan, PR, May, 2010.
- 23rd Annual Meeting of the American Society of Pediatric Hematology/Oncology (ASPHO). Poster: Integrating Combinatorial CYP2C9 and VKORC1 Genotypes into Clinical Warfarin Management in Puerto Rican Children with Thrombosis: An Illustrative Case Study. Montreal, Quebec, Canada, April 7-10, 2010.
- XXX Annual Forum of Education and Investigation. Conference “Vitamin C and Cancer: RECNAC 2 project”, Medical Sciences Campus-UPR, March, 2010.