

BIOGRAPHICAL SKETCH

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NAME: Alemán, José Orlando

eRA COMMONS USER NAME (credential, e.g., agency login): JALEMAN

POSITION TITLE: Assistant Professor of Endocrinology, New York University Medical Center

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Cornell University	BScE	05/2001	Chemical Engineering
Massachusetts Institute of Technology	PhD	02/2008	Medical Engineering
Harvard Medical School	MD	06/2009	
New York-Presbyterian Hospital-Cornell	Residency	06/2011	Internal Medicine
New York-Presbyterian Hospital-Cornell	Fellowship	06/2015	Endocrinology
Rockefeller University	MS	06/2016	Translational Science

A. Personal Statement

I am a physician-scientist who can apply omic technologies to the study of human disease and metabolism, specifically to the most prevalent metabolic diseases of obesity, Type 2 Diabetes and their common consequence of cardiovascular disease. I hypothesize that low grade inflammation in adipose tissue is a risk factor for the development of obesity complications such as cardiovascular disease, and that understanding the development of this low grade of inflammation will yield molecular and therapeutic strategies to prevent the development of such complications in addition to weight loss. During my postdoctoral work, I conducted detailed clinical studies in human subjects during rapid diet induced weight loss and showed how macrophage infiltration into adipose tissue likely has a physiologic role in remodeling human adipose tissue. Rapid weight loss separates inflammatory and metabolic functions of adipose tissue macrophages in ways that could be harnessed for therapeutic development. As part of the NYULMC Obesity Program, I hope to conduct translational studies of subjects undergoing bariatric surgery to elucidate the dynamic changes in adipose tissue immune cells observed with diet-induced weight loss. I also hope to contribute to the clinical obesity medicine community at NYULMC.

B. Positions and HonorsEmployment

<u>Dates</u>	<u>Position</u>	<u>Organization</u>	<u>Supervisor</u>	<u>Tenure Status</u>	<u>Status</u>
9/2001-6/2002	Fulbright Research Fellow	Universidad Complutense de Madrid, Spain	Francisco Montero, PhD	Non-tenure	Full Time
6/2002-2/2008	Graduate Research Fellow	Massachusetts Institute of Technology, Cambridge MA	Gregory Stephanopoulos PhD	Non-tenure	Full Time
6/2009-6/2011	Internal Medicine Resident	New York-Presbyterian Hospital-Cornell, New York NY	Andrew Schafer, MD	Non-tenure	Full Time

7/2011-6/2015	Endocrinology Fellow	New York-Presbyterian Hospital-Cornell, New York NY	David Brillon MD and Stephanie Fish, MD	Non-tenure	Full Time
7/2012-6/2016	Instructor in Clinical Investigation	Rockefeller University, New York NY	Jan Breslow, MD	Non-tenure	Full Time
7/2016-current	Assistant Professor of Endocrinology	New York University Medical Center	Ira Goldberg, MD	Tenure	Full Time

Honors

2000	Tau Beta Pi Engineering Honor Society
2000	Gates Millennium Scholar
2001	Fulbright Grant, Spain
2002	National Science Foundation Graduate Research Fellowship
2003	Bioinformatics and Integrative Genomics Training Grant, Health Sciences and Technology
2014	Cornell Department of Medicine Finalist Award for Research by a Fellow
2015-16	Chief Clinical Scholar, Rockefeller University

Professional Societies and Public Advisory Committees

2012-	Member, Endocrine Society
2012-	Member, American Association of Clinical Endocrinologists
2013-	Member, Association for Clinical and Translational Science
2015-	Member, American Heart Association
2015-	Member, American Diabetes Association

Mentoring and Outreach

2005-06	MD-PhD student representative, Annual Biomedical Research Conference for Minority Students (ABRCMS). Held in Atlanta, GA (November 2005) and Anaheim, CA (November 2006)
2006	MIT Summer Research Program Mentor, June-August 2006. Summer research experience program directed by the MIT Graduate Student Office targeting underserved students interested in research careers. Directed research project for undergraduate student Lalisce Guillén (University of Puerto Rico-Mayaguez Campus) presented at ABRCMS 2006, Anaheim CA.
2007	Biotech/Pharma Panel Organizer, "Restoring Economic Growth in Puerto Rico." April 27, 2007. Joint Harvard-MIT student conference exploring solutions to economic stagnation in the Puerto Rican economy. Cambridge, MA
2013-14	Rockefeller University Summer Science Research Program, June-Aug 2013, 2014 Summer research experience program directed by the Rockefeller University Office of Science Outreach targeting high school students interested in research careers. Directed research project for high school student Max Schechter (Mammaroneck High School) and Adiza Awwal (Central Islip High School)
2014	Steering Committee for the SPARC 2014 Tri-Institutional Conference: Advancing Diversity and Inclusion in the Translational Workforce. May 15, 2014
2015	Gateways to the Laboratory Summer Program, June-Aug 2015 Summer research experience program directed by Tri-Institutional MD-PhD program targeting college sophomore students interested in physician scientist careers. Directed research project for college student Arnaldo Mercado-Perez

C. Contribution to Science

1. My graduate thesis publications dealt with the development of metabolomic and flux analysis technologies for the resolution of glucose metabolism fluxes in the development of hepatic insulin resistance. This work established the utility of stable isotope tracing combination with circulating metabolomic analyses to reconstruct metabolic fluxes as indicators of hepatic disease in cellular models of lipoapoptosis and transgenic mouse models of hepatic insulin resistance.

- a. Noguchi Y, Young JD, **Aleman JO**, Hansen ME, Kelleher JK, Stephanopoulos G. Tracking cellular metabolomics in lipoapoptosis- and steatosis-developing liver cells. *Mol Biosyst.* 2011 May;7(5):1409-19. Epub 2011 Feb 16. PMID: 21327189
- b. Noguchi Y, Young JD, **Aleman JO**, Hansen ME, Kelleher JK, Stephanopoulos G. Effect of anaplerotic fluxes and amino acid availability on hepatic lipoapoptosis. *Journal of Biological Chemistry.* 2009. Epub Sep 16. PMID 19758988, PMCID: PMC2785187
- c. Biddinger SB, Hernandez-Ono A, Rask-Madsen C, Haas JT, **Alemán JO**, Suzuki R, Scapa EF, Agarwal C, Carey MC, Stephanopoulos G, Cohen DE, King GL, Ginsberg HN, Kahn CR.. Hepatic insulin resistance is sufficient to produce dyslipidemia and susceptibility to atherosclerosis. *Cell Metab.* 2008 Feb;7(2):125-34. PMID: 18249172, PMCID: PMC4251554
- d. Taniguchi CM, **Aleman JO**, Ueki K, Luo J, Asano T, Kaneto H, Stephanopoulos G, Cantley LC, Kahn CR. The p85-alpha Regulatory Subunit of Phosphoinositide 3-Kinase Potentiates JNK-mediated Insulin Resistance. *Mol Cell Biol.* 2007 Apr;27(8):2830-40. PMID: 17283057, PMCID: PMC1899914

2. My postdoctoral work dealt with obesity-associated inflammation as a risk factor for the development of the chronic complications of obesity, including insulin resistance, cardiovascular disease and certain types of cancers. In a clinical weight loss study, we translated mouse findings showing increased macrophage infiltration with rapid diet-induced weight loss with adipose tissue remodeling, and explored the connections between the plasma metabolome, stool microbiome and adipose tissue transcriptome during weight loss.

- a. **Aleman JO**, Iyengar NM, Walker J, Gonzalez J, Milne GL, Giri D, Hudis CA, Breslow JL, Holt PR, Dannenberg AJ. *Acute Weight Loss Stimulates Lipolysis and Macrophage Infiltration in the Subcutaneous Adipose Tissue of Obese Women.* Abstract and Oral Presentation at ENDO 2015, published in *Endocrine Reviews*
- b. Haka AS, Sue E, Zhang C, Bhardwaj P, Sterling J, Carpenter C, Leonard M, Manzoor M, Walker J, **Aleman JO**, Gareau D, Holt PR, Breslow JL, Zhou XK, Giri D, Morrow M, Iyengar N, Barman I, Hudis CA, Dannenberg AJ. Noninvasive Detection of Inflammatory Changes in White Adipose Tissue by Label-Free Raman Spectroscopy. *Anal Chem.* 2016 Feb 16;88(4):2140-8. PMCID: PMC4799653
- c. **Aleman JO**, Eusebi LH, Ricciardello L, Patidar KR, Sanyal A, Holt PR. Mechanisms of Obesity-induced Gastrointestinal Neoplasia. *Gastroenterology.* 2014 Feb;146(2):357-73. PMCID: PMC3978703

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/1XMxyTdfzNI/bibliography/41008006/public/?sort=date&direction=ascending>.

D. Research Support

Ongoing Research Support

NYUSOM Startup Funds Aleman (PI) 7/1/16 – 6/30/19
New York University School of Medicine to establish the Laboratory of Translational Obesity Research

Completed Research Support

8 UL1 TR000043 Coller (PI) 11/06/15 – 10/30/16
The Rockefeller University Center for Clinical and Translational Science (CCTSA) and Center for Basic and Translational Research on Disorders of the Digestive System (CDDS)

Pilot Project Grant – *Mechanisms of Accelerated Atherosclerosis in Brown Adipose Tissue Expansion*
Aleman (PI)

8 UL1 TR000043 Collier (PI) 09/30/06 – 06/30/16

Transforming Translational Science and Education to Benefit Human Health

The goal of The Rockefeller University Center for Clinical and Translational Science is to improve human health by providing an infrastructure to conduct clinical investigation at the highest level, educational programs to train future generations of skilled and committed investigators, and novel methods of clinical investigation that can be shared with others.

Role: KL2 Master's degree candidate

8 UL1 TR000043 Collier (PI) 10/01/14 – 09/30/15

The Rockefeller University Center for Clinical and Translational Science (CCTSA) and Sackler Center for Biomedicine and Nutrition.

Pilot Project Grant - *The OWL Validation Study*. Aleman (PI)

8 UL1 TR000043 Collier (PI) 10/01/13 – 09/30/14

The Rockefeller University Center for Clinical and Translational Science (CCTSA) and Center for Basic and Translational Research on Disorders of the Digestive System (CDDS)

Pilot Project Grant - *The OWL-Skin Study*. Aleman (PI)

8 UL1 TR000043 Collier (PI) 10/01/12 – 09/30/13

The Rockefeller University Center for Clinical and Translational Science (CCTSA) and Center for Basic and Translational Research on Disorders of the Digestive System (CDDS)

Pilot Project Grant - *The Obesity Weight Loss Study*. Aleman (PI)