

MAGNOLIA ARIZA-NIETO, PhD
PhD in Cell and Molecular Biology 2004
E-mail. magnoliaariza@gmail.com

EDUCATION

- 2000-2004 University of Arkansas, Fayetteville, AR. USA**
PhD Cell and Molecular Biology
- 1995-1998 Wageningen Agricultural University. The Netherlands**
MSc, Biotechnology, Plant and Microbial Production
- 1980-1986 Universidad INCCA de Colombia, Bogotá, Colombia**
Bachelor in Engineering BENG
Food Science -Phytopharmaceuticals and functional food constituents

EMPLOYMENT

- 2015-2024 EpiWELL, LLC. Ithaca, NY. USA**
Founder-CEO
Principal Investigator/**Diagnostic Tools for Molecular Medicine**
CDC-NDPP Coach
EpiWELL, LLC. **Certified Provider CDC-NDPP**
New York State Minority and Women Certified Business Entrepreneur.
- 2020-2021 Cornell University. Ithaca, NY. USA**
Medical Diagnostic Technologist
Animal Health Diagnostic Center- AHDC.
Cornell Covid Testing Laboratory (CCTL)
- 2017-2024 Finger Lakes Language Services LLC, Ithaca, NY. USA**
Founder-CEO
Lecturer
- 2018- Present Cornell University. Ithaca, NY. USA**
Cornell Botanical Gardens
Volunteer Docent
- 2013-2015 Cornell University. Ithaca, NY. USA**
Research Associate.
I obtained an NIH training award. “Research Supplement to Promote Diversity in Health-Related Research to Dr. Magnolia Ariza-Nieto on Dr. Michael L Shuler U54CA143876 parental grant”.
Meinig School of Biomedical Engineering BME.
Mentor: Michael L. Shuler

- 2011-2013** **Cornell University. Ithaca, NY. USA**
Research Associate
Meinig School of Biomedical Engineering BME.
Mentor: Michael L. Shuler
- 2009-2011** **Cornell University. Ithaca, NY. USA**
Research Associate/Laboratory Manager
Division of Nutritional Sciences
- 2007-2009** **Cornell University. Ithaca, NY. USA**
Research Associate
Department of Food Science
Mentors: Ross M. Welch and Raymond P. Glahn
- 2004-2007** **Cornell University. Ithaca, NY. USA**
Postdoctoral Researcher. Department of Food Science/USDA-ARS.
Mentors: Ross M. Welch and Raymond P. Glahn.

ACADEMIC AND RESEARCH PROJECTS

- 2015-Date** **epiWELL, LLC. Ithaca NY**
Founder/CEO and Principal Investigator

EpiWELL develops wellness interventions and evaluates their efficiency and effectiveness using clinical molecular diagnostic tools and proprietary biomarker methods in human secretory fluids.

- The epiWELL method can monitor modulations of the *s-adenosylmethionine* (SAM) pathway in response to wellness interventions.
- We combined the presence of plasma MIR148A, the concentration of total adiponectin, and the expression of DNA methyltransferase 1 (DNMT1) in liver biopsy tissue to identify patients with non-physiological adiponectin.
- Wellness interventions and the epiWELL method are used to monitor the physiological levels of adiponectin, which are thought to be important for human epigenetic function.
- EpiWELL has been a recognized provider of the CDC-NDPP program since 2018.
- EpiWELL supports NDPP Coaches and has served over 100 participants as of March 2025, 2023. We believe in the program's effectiveness and can improve its contribution to global health by determining the personalized etiology of obesity.

- 2020-2021** **Cornell University. Ithaca NY**
Medical Diagnostic Technologist
Cornell COVID Testing Laboratory (CCTL)

2011-2015 **Cornell University. Ithaca NY**
Research Associate
Department of Biomedical Engineering

Epigenome dysregulation biomarkers associated with the expression of adipokines

- I have been primarily responsible for two projects under the NIH-funded center on microenvironment and metastasis (CMM). My role included the primary preparation and execution of the project proposal. The study has two components: 1) developing clinical episensors based on clinical observations in vivo. 2) The replication ex-vivo of the modulations of the episensors using a human in vitro model
- With the outreach pilot project, an effective relationship with the Guthrie clinic and Guthrie foundation was started and has developed into a strong, blossoming collaboration
- The main focus has been the identification of episensors or epigenome dysregulation biomarkers
- Study the relationship between adipokines, microRNAs, and epigenomic dysregulations
- Observe differences among donors of mesenchymal stem cell isolation, expansion, and differentiation
- Genotyped body-on-a-chip (BOAC) microfluidic device to evaluate signaling between organs
- Bioavailability of methyl donors (D9-betaine) and changes in the methylation pathway (Caco-2 in vitro digestion model)

2011-2012 **CIAT/ICBF (Colombia)**
Consultant
Colombian public health strategy (obesity and nutrient biofortification).

2009-2011 **Cornell University**
Research Associate
Laboratory Manager
Division of Nutritional Sciences

Obesity Molecular phenotyping/adipokines profiles in human donors

- Created a state-of-the-art laboratory setup that allows to phenotype women of reproductive age affected by polycystic ovarian syndrome PCOS.
- Followed IRB guidelines for human research
- Human secretory fluids and tissues were used to develop protocols and monitor adipokine changes. Real-time PCR assays were used to monitor changes in gene expression
- Analytical and immunoassays including Western blots, ELISA'S, and proteomic arrays to phenotype circulating adipokines in serum
- Nucleic acids and molecular techniques were used to study adipokines' level of expression, post-transcriptional modifications, and the effect of their circulating levels on metabolism (following minimal information required for quantitative real-time PCR experiments MIQE guidelines)
- Microarrays Affymetrix

- Adipokine oligomeric forms were profiled with Near-Infrared fluorescence western blots

2007-2009 CORPOICA (Colombia)/Cornell University
Consultant
Biofortification of staple foods

2004-2007 Cornell University / USDA-ARS
Postdoctoral /Research Associate
Department of Food Science—*Biofortification of staple crops. Analytical and in vitro assays were developed and used to evaluate Fe bioavailability of staple crops, including beans (*Phaseolus vulgaris*), cassava (*Manihot esculenta*), sweet potato (*Ipomoea batatas*), and potatoes (*Solanum tuberosum*).*

- In vitro digestions were assayed using the Caco-2 model
- Mammalian cell tissue culture
- Micronutrient bioavailability
- Chemical identification of enhancers and Inhibitors of Fe bioavailability
- Extractions, purification, and chemical characterization of polyphenolic and phytochemicals by HLPC and RP LC MS.
- Polyphenolic and phytochemical bioavailability using in vitro models. *Gene function and metabolic pathway. Microarrays. Affymetrixcs transcript arrays were used to identify genes (on a transcriptome-wide scale) involved in the regulation of nicotianamine synthase, a key enzyme in the synthesis of nicotinamide, a known methyl donor compound part of the s-adenosylmethionine (SAM) pathway.*
- *Cross-species hybridization approach. A genome-wide Medicago truncatula whole genome array (non-annotated) was hybridized with cDNA created with pea (Pisum sativum) wild-type and mutant clones.*
- *Cross-species hybridization approach. A genome-wide Arabidopsis thaliana whole genome array (annotated) was hybridized with cDNA created with pea (Pisum sativum) wild-type and mutant clones.*
- Real-time quantitative PCR qPCR was used to confirm the differential expression of target genes.

2001-2004 University of Arkansas
PhD degree 2004
Department of Crop Soil and Environmental Science

Rice Genome Structure and Genetic Engineering

- Site-specific integration of transgenes in rice (*Oriza sativa*) using the CRE-lox system.
- Current molecular biology techniques, including isolation and characterization of target genes, use of restriction enzymes, plasmids, cloning, sequencing, electroporation, agrobacterium and biolistic transgene delivery, southern blots, target PCR, rtPCR, and quantitative PCR.
- Plant tissue culture
- Analytical quantification of reported genes, e.g., *gus* and *gfp*
- HPLC analytical and antioxidant capacity of polyphenolics

- 1995-1998** **Wageningen Agricultural University / CIRAD-FLHOR / CORPOICA.**
International collaboration (Netherlands-France-Colombia)
MSc. Student/Leader/Creator
Elucidation of cell wall on Passion fruit (*Pasiflora edulis*)
- 1995-1998** **Wageningen Agricultural University.** The Netherlands.
MSc. Student
Production, purification, and characterization of oligogalacturonates
- 1993-1995** **Wageningen Agricultural University / UNICEF / ICBF / IAC.** Netherlands.
MSc. Student
Assessment of tropical fruits consumption on the prevention of micronutrient malnutrition
- 1991-2007** **ICA/CORPOICA. Colombia**
Research Scientist
Multiple positions in Management and Research.
- 1984-1986** **ICBF/ICA/UNINCCA. Colombia.**
Research Scientist
Vitamin A bioavailability assessment after consumption of pumpkin (*Cucurbita maxima*) in suburban areas of Bogotá. (Honor thesis).

OTHER TRAINING AND WORKSHOPS

- 2019 NSF I-CORPS. Personalized Medicine Customer Discovery. Binghamton University. NY.
May 2019. (This includes a trip to Compiegne, France, to brainstorm with end-users.)
- 2018 NIH, NSF I-Corps. Clinical Biomarkers Customer Discovery. Binghamton University. NY.
January 2018. (This includes travel to London, UK, to brainstorm with the research team at Siemens).
- 2015 Professional Development and Mock Review Workshop. National Cancer Institute (NCI).
Shady Grove Campus. Rockville, MD. June 7-8, 2015.
- 2015 Ageing & Degeneration: A Physiological Perspective. Special topic training. The
Physiological Society. Edinburgh Scotland. April 10-12, 2015.
- 2015 Cornell Faculty Institute for Diversity (FID) workshop. Organized by The Center for
Teaching Excellence. Cornell University. Ithaca NY. March 31 to April 2, 2015.

MENTORSHIP FOR UNDERGRADUATE/GRADUATE STUDENTS AND CLINICAL RESIDENTS

Research on Epigenetic abnormalities, adviser/mentor. (2012- present)

Residents 2012-2014

Dr. Andrew Trecartin MD

Dr. Brandon Andrew, MD

Master of Engineering (M.Eng) students.

MEng design team 2015

Alexandra J. Cho (Award winner for her research effort under my mentorship)

M.Eng design team 2013-2014

Chunyan Wu (Award winner for her research effort under my mentorship)

Nashaat S. Rasheed

Sean Peter Dennin

Ying Li

Cherrybing Hu

M.Eng design team 2012-2013

Karen Duffy

Paul I Sarkaria

Furqan Hassan

Chen Zhang

Undergraduate premedical 2014-2015

Matthew G. Bange

Justin Kruszewicz

Research on adipokines dysregulations adviser/mentor (2009-2012)

Undergraduate premedical students are receiving training on the expression of adipokines in subcutaneous adipose tissue and the assessment of molecular weight moieties of adiponectin in circulation.

Anna L. Kepley

Julie Ahn

Naomi Adjei

Agelique Marie Boyer

Nina Clark

Margaret Hay

Rachael Har

Research on iron bioavailability adviser/co-mentor (2004-2007)

Carried out research to measure bioavailable iron levels in staple foods using the in vitro Caco-2 cell model.

Melissa Young

Amy (Brownschidle) Wopperer

Cecilia Gonzales

RESEARCH AWARDS AND PROFESSIONAL RECOGNITION

May 2019 I-Corps Short Course Award to epiWELL. Binghamton University. NY

July 2016 The Physiological Society Travel Award. Poster presentation Physiology 2016. Dublin Ireland.

- July 2015 The Physiological Society Travel Award. Oral presentation Physiology 2015. Cardiff UK.
- June 2015 Student award to my mentored student, **Alexandra J. Cho**, for her research effort entitled " Development of tools to understand the inverse association between total plasma adiponectin and liver DNMT1. June 2015. SIVB. Tucson AZ. Invited oral presentation AWARDED second place.
- June 2014 Student award to my mentored student **Chunyan Wu**, for her research effort entitled-Profiles of Secretory Mature hsa-miR-22-3p and DNMT1 Transcript Abundance during Hepatogenic Differentiation of Mesenchymal Stem Cells (MSCs). June 2014. SIVB. Savannah GA. Invited oral presentation AWARDED third place.
- Nov 2004 Award for Outstanding Dissertation presented at the World Congress on In Vitro Biology.
Wilton R. Early Award. Society for In Vitro Biology (SIVB). San Francisco, CA
- May 2004 Student Travel Award. Society for In Vitro Biology (SIVB). San Francisco, CA
- June 2003 Award for Outstanding International Agricultural Student. University of Arkansas. Fayetteville, AR
- May 2003 First Place Poster Award. Gamma Sigma Delta. Chapter Fayetteville, AR
- Feb. 2003 First Place Poster Award. American Society of Agronomy. Mobile, AL
- 2000-2003 Fulbright Scholarship award for PhD studies. University of Arkansas, Fayetteville, AR
- 1995-1997 NUFFIC scholarship awards for Master in science studies. International Agricultural Center. Wageningen. The Netherlands.

JOURNAL EDITORSHIP AND REVIEW ACTIVITIES

Endocrine Society.

Journal of the Endocrine Society
Manuscript Reviewer 2024 to date active

The Journal of Clinical Endocrinology & Metabolism
Manuscript Reviewer 2014 to date active

Hormones & Cancer.
Manuscript Reviewer. Since 2012

American Society for nutrition

The American Journal of Clinical Nutrition AJCN.
Manuscript Reviewer. Since 2012

American Chemical Society

Journal of Agricultural and Food Chemistry.

Manuscript Reviewer. Since 2004

MEMBERSHIP IN PROFESSIONAL SOCIETIES

The Physiological Society

Member 2015 to date

Society for In Vitro Biology (SIVB)

Member since 2004 - 2016

Biomedical Engineering Society (BMES)

Member 2013 - 2014

The Obesity Society (TOS)

Member 2013 - 2014

American Physiological Society (APS)

Member 2012 - 2013

American Society for Nutrition (ASN)

Member 2004 - 2009

ACTIVE ROLE PROFESSIONAL SOCIETIES

Society for in vitro Biology (SIVB)

Elected. Vice Chair Membership, In Vitro Animal Cell Sciences. Officer 2014 – 2016.

Society for In Vitro Biology (SIVB)

Stem cells and regenerative medicine. Section co-Convener. 2014.

Society for In Vitro Biology (SIVB)

Elected. In Vitro Animal Cell Sciences Section Secretary of the Society for In Vitro Biology for 2012 – 2014.

Society for In Vitro Biology (SIVB)

Plant/Animal Join Section Convener. 2012.

Society for In Vitro Biology (SIVB)

Annual Meeting Volunteer. 2004-2008 and 2010-2011.

Society for In Vitro Biology (SIVB)

Plant Biofortification Section Co-Convener. 2006-2007.

Cornell University Postdoctoral Association

Committee member. 2006-2009.

International Agricultural Student Association
University of Arkansas. 2000-2004.

ROLE IN COMMUNITY PROGRAMS AND ASSOCIATIONS

Ithaca Farmers Market (IFM)
Board of Directors.
One Year Starting 2021-2024

Cornell Cooperative Extension of Tompkins County (CCETC)
Board of Directors
One year starting January 2021-2024

Mental Health Association of Tompkins County (MHATC)
Board of Directors
One Year starting January 2021-2024

PEER-REVIEWED JOURNAL PUBLICATIONS

Magnolia Ariza-Nieto PhD, Joshua B. Alley MD, Sanjay Samy MD, Laura Fitzgerald MPH, Francoise Vermeulen, Michael L. Shuler PhD and José O. Alemán MD PhD. (2018) Circulating miR-148a is associated with sensitivity to adiponectin levels in human metabolic surgery for weight loss. *Endocrine connections*. (7): 975–982

Young, M.F. Glahn, RP. **Ariza-Nieto, M.**, Inglis, J., Olbina, G., Westerman, M., O'Brien, K.O. (2009). Serum hepcidin is significantly associated with iron absorption from food and supplemental sources in healthy young women. *The American Journal of Clinical Nutrition*. (89): 533-538.

Ariza-Nieto, M., Blair, MW. Welch, RM., and Glahn, RP. (2007) Distribution of iron in common beans (*Phaseolus vulgaris* L.) and the effect of polyphenolics and myo-inositol hexakisphosphate, on their iron bioavailability. *Journal of Agricultural and Food Chemistry*. (55): 7950-7956.

Chawla, R., **Ariza-Nieto, M.**, Wilson, AJ. Moore, SK. and Srivastava, V. (2006). The subsequent generations consistently inherit transgene expression produced by biolistic-mediated, site-specific gene integration. *Plant Biotechnology Journal* 4(2):209-218

Srivastava, V., **Ariza-Nieto, M.** and Wilson, A. (2004). Site-specific integration of transgenes in rice. *Plant Biotechnology* 2: 169-179

Florez, LM. Vaillant, F., Hollander, H., **Ariza-Nieto, M.** (2003) Passion fruit juice sacs: biochemical characterization and enzymatic treatment. *Trop. Sci.* 2003, 42, 28–34

BOOKS AND MONOGRAPHS

Ariza-Nieto, M. (2004). Molecular analyses of transgenic rice produced by Cre-mediated site-specific gene integration. *PhD Dissertation*. University of Arkansas. May 2004. p113.

Ariza-Nieto, M. (2000) *Technical assistant Manual Number 4* Chapter **10**. CORPOICA Colombia. Pages 83-94. “El cultivo de la papaya en los llanos orientales de Colombia. Manual de asistencia técnica N 4. CORPOICA. Capítulo 10 Cosecha y pos cosecha. P-83-94.”

Ariza-Nieto, M. (1997) Production, purification and characterization of oligogalacturonates. *Master in Science Thesis* Biotechnology. Wageningen Agricultural University. The Netherlands. p50

Ariza-Nieto, M. (1985). *Cucurbita maximum* increases the intake of vitamin A in suburban areas of Bogotá. *Undergraduate Honor Thesis*. ICBF-ICA-UNINCCA. Colombia. p354

Ariza-Nieto, M. (1995). *Manual Postharvest Management of Tropical and Exotic Fruits*. Introduction, production, post-harvest management, and integral benefits of tropical fruits introduced in the East Plains of Colombia (Llanos Orientales). Species: *Anacardium occidentale*, *Ananas comosus*, *Carica papaya* L., *Mangifera indica* L., *Annona muricata* L., and *Passiflora edulis*. Annual Reports ICA-CORPOICA Colombia. p10.

ORAL PRESENTATIONS

EPIWELL RESEARCH GROUP ORAL PRESENTATION EPIGENOMEDIAGNOSTIC STUDY (EDS) 2015- 2024

Magnolia Ariza-Nieto. epiWELL. Guthrie research group, Sayre PA. Design of a Human Personalized Diagnostic Model to Assess Epigenetic Abnormalities in the Etiology of Metabolic Disorders. November 20, 2020.

Magnolia Ariza-Nieto. epiWELL. Tompkins County Office for the Aging. Ithaca NY. Information section, CDC-National Diabetes Prevention Program, advantages for older adults. Oct 8, 2020.

Magnolia Ariza-Nieto. Cornell Botanical Gardens. Assessment of gardening (events of endurance PA) on metabolic health. Informal information presentation. July 22, 2020.

Magnolia Ariza-Nieto. epiWELL. Lifelong Ithaca, NY.CDC-National Diabetes Prevention Program advantages for older adults. June 1, 2020.

Multiple presentations to community groups and agencies in Tompkins, Broome, and Onondaga counties.

EPIGENOME DYSREGULATION BIOMARKER STUDY (EBS) 2009-2015.

Magnolia Ariza-Nieto. Physiology 2015. Downregulation of liver DNMT1 is associated with abnormally high adiponectin in a subset of obese patients: from clinical observation to human in vitro models. The physiological society. Cardiff. United Kingdom. July 7 2015

Magnolia Ariza-Nieto. SIVB 2015. A Human in Vitro Model to Study Epigenetic Dysregulations in Non-Communicable Diseases. Society for in vitro biology (SIVB). Tucson AZ. June 3, 2015. Alexandra J. Cho, Joshua B Alley, Laura Fitzgerald, Sanjay Samy, Michael L Shuler and **Magnolia Ariza-Nieto.** Development of tools to understand the inverse association between total plasma

adiponectin and liver DNMT1". Society for in vitro biology (SIVB). Tucson AZ. Invited oral presentation AWARDED second place. June 3, 2015.

Mathew G. Bange, Joshua B. Alley, Michael L. Shuler, **Magnolia Ariza-Nieto**. TLR4/CD14 and DNMT1 in liver Biopsied Tissue and Differentiated Hepatocyte-like cells. Society for in vitro biology (SIVB). Tucson AZ. Student oral presentations. June 3, 2015.

Chunyan Wu, Joshua B Alley, Laura Fitzgerald, Sanjay A. Samy, Michael L Shuler and **Magnolia Ariza-Nieto**. Profiles of Secretory Mature hsa-miR-22-3p and DNMT1 Transcript Abundance during Hepatogenic Differentiation of Mesenchymal Stem Cells (MSCs). SIVB. Savannah GA. Invited oral presentation AWARDED third place. June 2014.

Joshua B Alley and **Magnolia Ariza-Nieto**. Invited oral presentation (2013 obesity week). "Mature microRNA profiles associated with resolution of hypoadiponectinemia pre and post gastric bypass". Atlanta GA. Nov. 2013.

Magnolia Ariza-Nieto. Invited oral presentation (APS EB2013). Body-on-a-chip BOAC: A tool to elucidate clinical observations that involve modulations of the "methylation pathway". American physiological society APS. Experimental Biology (EB2013). Boston MA. April 2013.

Magnolia Ariza-Nieto. Invited Presentation: Epigenome dysregulation biomarkers associated with the expression of adipokines. Guthrie Foundation. Sayre PA. February 2012.

OTHER ORAL PRESENTATIONS

Magnolia Ariza-Nieto. Micronutrient Bioavailability and its relationship to the expression of adipokines. Illinois Institute of Technology. Chicago IL. February 2010.

Magnolia Ariza-Nieto. Post-harvest physiology and micronutrient bioavailability of potato. University of Idaho. Twin Fall ID. February 2008.

Magnolia Ariza-Nieto. Transgene expression in site-specific integrant rice lines. Student Travel Award. Society for In Vitro Biology (SIVB). San Francisco. CA May 2004

RECURRENT LECTURES

CDC-National Diabetes Prevention Program. epiWELL / CDC / Medicaid-Medicare / Private Insurance

Yearlong program 26 modules. Roles: Director, Manager, Coach, Lecturer. Multiple cohorts starting 07/2018

Current on going

Interpreting and Cultural Broker Course for Bilingual Immigrants. Finger Lakes Language Services, 16 modules, 100-hour syllabus. Roles: Lecturer. Currently on going

Journal Club for M.Eng students in biomedical engineering (BME), Cornell University. Adiponectin, CD14, and liver regulatory signaling. Spring-Fall 2015

Journal Club for M.Eng students in biomedical engineering (BME), Cornell University. Irisin, insulin sensitivity and exercise in obesity and cancer. Spring-Fall 2014.

Journal Club for M.Eng students in biomedical engineering (BME), Cornell University. Mature microRNAs, obesity and cancer. Fall 2013.

Journal Club for M.Eng students BME, Cornell University. Epigenome dysregulation biomarkers are associated with the expression of adipokines—spring 2013.

Journal Club for M.Eng students BME, Cornell University. Hypoadiponectinemia and obesity. Fall 2012.

Journal Club on Molecular Basis of Adipokine Expression and Obesity Phenotypes. January 2009-December 2011.

POSTER PRESENTATIONS

Magnolia Ariza-Nieto. Europhysiology 2018. Circulating miR-148a is associated with sensitivity to adiponectin levels in human metabolic surgery for weight loss. The Physiological Society. London, England. September 2018.

Magnolia Ariza-Nieto. Physiology 2016. Episensors to Monitor Human Epigenome Changes due to Modulations of the *s-adenosylmethionine (SAM)* Pathway. The Physiological Society. Dublin, Ireland. July 2016

Magnolia Ariza-Nieto. A Human in Vitro Model to Study Epigenetic Dysregulations in Non-Communicable Diseases. Professional Development and Mock Review Workshop. National Cancer Institute (NCI). Shady Grove Campus. Rockville, MD. June 7-8, 2015.

Mathew G. Bange, Joshua B. Alley, Michael L. Shuler, **Magnolia Ariza-Nieto.** TLR4/CD14 and DNMT1 in liver Biopsied Tissue and Differentiated Hepatocyte-like cells. Society for in vitro biology. Tucson AZ. May 30, 2015.

Magnolia Ariza-Nieto, Ying Li, Lynn Dong, Sanjay Samy, Laura Fitzgerald, Michael L. Shuler, and Joshua B. Alley. Expression Profiles of Extracellular vesicle marker CD14 and microRNAs after RYGB in vivo and in vitro. Boston MA. Obesity Week TOS. November 2014.

Mathew G. Bange, J.B. Alley, M.L. Shuler, **Magnolia Ariza-Nieto.** Expression Profiles of Extracellular Vesicle CD14 in Liver Tissue and Plasma in Patients Undergoing Roux-en-Y Gastric Bypass. San Antonio TX. BMES. October 2014.

Matthew G. Bange, S.A. Samy, M.L. Shuler, **Magnolia Ariza-Nieto.** Clinical and Molecular Expression Profiles Revealed Abnormal Plasma miR22 in Patients with Aortic Valve Stenosis. San Antonio TX. BMES. October 2014.

Ying Li, Joshua B Alley, Laura Fitzgerald, Sanjay A. Samy, Michael L Shuler and **Magnolia Ariza-Nieto.** Poster. Gene Expression Profiles of Adiponectin and CD14 In vivo and In vitro. SIVB. Savannah GA. June 2014

Cherrybing Xu, Joshua B Alley, Laura Fitzgerald, Sanjay A. Samy, Michael L Shuler and **Magnolia Ariza-Nieto**. A Novel Method for Drug Screening Using Human Mesenchymal Stem Cell (hMSC) Spheroids. SIVB. Savannah GA. June 2014.

Sanjay A. Samy, Andrew C. Trecartin, Chunyan Wu, Michael L. Shuler, **Magnolia Ariza-Nieto**. Modeling the Progression of Aortic Stenosis Using miR-22 and DNMT1. Aortic Valve International. Miami Florida. March 2014.

Magnolia Ariza-Nieto, Sanjay Samy, Laura Fitzgerald, Michael L. Shuler, and Joshua B. Alley. Mature microRNA profiles associated with resolution of hypoadiponectinemia pre and post gastric bypass. Obesity week. Atlanta GA. Nov 2013.

Joshua B. Alley, Sanjay Samy, Laura Fitzgerald, **Magnolia Ariza-Nieto**. Case Report: Hypoadiponectinemia as a predictor of failure to resolve metabolic syndrome by 12 weeks post gastric bypass. Obesity week. Atlanta GA. Nov 2013.

Paul Sarkaria, **Magnolia Ariza-Nieto**, Sanjay Samy, Laura Fitzgerald, Michael L. Shuler, and Joshua B. Alley. Profiles of Adiponectin Expression Following MIQE Guidelines in Liver, Omental Fat, and MNC in Peripheral Circulation in Obese Patients Undergoing Gastric Bypass. Obesity week. Atlanta GA. Nov 2013.

Karen Duffy, **Magnolia Ariza-Nieto**. Rapid Detection of Adiponectin Using a Lateral Flow Assay. BMES. Seattle WA. Sep 2013.

Paul Sarkaria, J-M. Prot, M. L. Shuler, and **Magnolia Ariza-Nieto**. Total Adiponectin in Clinical and In Vitro for the Evaluation of Metabolic Dysregulations. BMES. Seattle WA. Sep 2013.

Chen Zhang, Michael L. Shuler, and Magnolia Ariza-Nieto. Human Omental adipose-derived mesenchymal Stem Cells (hoADMSCs), a phenotype for microRNAs, are to be used with physiologically based microfluidic devices. BMES, Seattle, WA, September 2013.

Paul Sarkaria, Joshua B Alley, Brandon Andrew, Laura Fitzgerald, Sanjay A. Samy, Michael L Shuler and **Magnolia Ariza-Nieto**. Adiponectin expression in liver, omental fat, and MNC in peripheral circulation in morbidly obese patients undergoing Roux-en-Y gastric bypass. EB2013. Boston, MA. April 2013.

Chen Zhang, Joshua B Alley, Laura Fitzgerald, Sanjay A. Samy, Michael L Shuler and **Magnolia Ariza-Nieto**. Genotyped adipocytes to monitor adiponectin expression in response to environmental stressors. EB2013. Boston, MA. April 2013.

Mobula Ambie, Joshua B Alley, Laura Fitzgerald, Sanjay A. Samy, Michael L Shuler and **Magnolia Ariza-Nieto**. Total circulating levels of adiponectin vs transcript abundance in omental fat following the MIQE guidelines in a group of morbidly obese patients. EB2013. Boston, MA. April 2013.

Furgan Hassan, Joshua B Alley, Laura Fitzgerald, Sanjay A. Samy, Michael L Shuler and **Magnolia Ariza-Nieto**. Circulating microRNA profiling and their association with hypoadiponectinemia. EB2013. Boston, MA. April 2013.

Magnolia Ariza-Nieto, Joshua B Alley, Laura Fitzgerald, Sanjay A. Samy, Michael L Shuler. Body-on-a-chip BOAC: A tool to elucidate clinical observations that involve modulations of the “methylation pathway”. EB 2013. Boston, MA. April 2013.

Magnolia Ariza-Nieto, Prot, JM., and Shuler ML. Human body-on-a-chip: A tool to study health disorders that involve modulations of the “methylation pathway”. SIVB 2012. Seattle WA. June 2012.

Ariza-Nieto M, Glahn RP, Ariza-Nieto CJ, Yan J, Malysheva1 OV, Caudill MA. Shuler ML. Profiles of Betaine and Choline in Cultivars of a Set of Staple Crops. EB 2012 San Diego. April 2012.

Ariza-Nieto M, Carlson G, Aragon I, Kordas K, Fonseca-Centeno ZY, Ocampo-Tellez PR, and Helena Pachon. Etiology of anemia in preschool children: A systematic literature review. EB 2012 San Diego. April 2012.

Ariza-Nieto CJ, Glahn RP, **Ariza-Nieto M**. Effects of resistant starch of shared and native potato on broiler performance. EB 2012 San Diego. April 2012.

Ariza-Nieto, M., Chizen DR., Pierson, RA., Lujan, M. Circulating and Subcutaneous Adiponectin in Clinical Phenotypes of Women with Polycystic Ovarian Syndrome. Canadian Fertility and Androgen Society. Ontario, Canada 2011

Ahn, J, Ariza-**Nieto, M.**, Lujan ME. Differential expression of adiponectin in women with clinical phenotypes of polycystic ovary syndrome. EB 2012. Washington DC. April 2012.

Naa-Adjeley, N., **Ariza-Nieto, M.**, Lujan ME. Quantification of Oligomeric Forms of Adiponectin Using Near-Infrared Fluorescence. EB 2012. Washington DC. April 2012.

Clark, NM. **Ariza-Nieto, M.**, Lujan, ME. Near-Infrared Fluorescence for the Quantification of Visfatin in Human Serum: Association with Clinical Markers of Metabolism in Women. EB 2012. Washington DC. April 2012.

Boyer, AM., **Ariza-Nieto, M.**, Lujan, ME. Circulating Adiponectin Levels Vary in Clinical phenotypes of Women with Polycystic Ovary Syndrome. EB 2012. Washington DC. April 2012.

Kepley, AL, **Ariza-Nieto, M.**, Lujan, ME, Subcutaneous fat gene expression levels of adipokines among the four central clinical polycystic ovary syndrome (PCOS) clinical phenotypes. *Kepley Anna L. Recipient of a Howard Hughes Medical Institute Summer Scholarship Program during summer 2009.

Ariza-Nieto, M., Welch, RM., and Glahn, RP. Fe Bioavailability in Staple Crops of Developing Countries. Society For In Vitro Biology (SIVB) Tucson Arizona. June 2008

Ariza-Nieto, M., Welch, RM., and Glahn, RP. Microarray expression analysis of normal and Fe-hyper-accumulating Pea (*Pisum sativum* L.) mutant genotypes and genetic links to Caco-2 Fe bioavailability. EB 2007. Washington DC. April 2007.

Ariza-Nieto, M., Welch, RM., and Glahn, RP. Fe bioavailability in Potato (*Solanum tuberosum*). Federation of American Societies for Experimental Biology. EB 2007. Washington DC. April 2007.

Ariza-Nieto, M., Welch, RM., and Glahn, RP. Fe Bioavailability in Staple Crops. Postdoc Research Day Weill Medical College of Cornell University. New York City 2006

Ariza-Nieto, M., Blair, MW. Heller, LI., Hu, Y., Welch, RM., and Glahn, RP. Distribution of iron in common beans (*Phaseolus vulgaris* L.) and the effect of polyphenolics and myo-inositol hexakisphosphate on their iron bioavailability. Federation of American Societies for Experimental Biology EB 06. San Francisco, CA. April 2006

Ariza-Nieto, M., Sanchez, MT., Heller, LI., Hu, Y., Welch, RM., and Glahn, RP. Cassava (*Manihot esculenta*) has high potential for iron biofortification. Federation of American Societies for Experimental Biology EB 06. San Francisco, CA. April 2006

Ariza-Nieto, M., Hu, Y., Bonierbale, M., Burgos, G., Kapinga, R., Welch RM. and Glahn, RP. Fe Bioavailability in Sweet Potato (*Ipomoea batatas*). Federation of American Societies for Experimental Biology EB 05. San Diego, CA. April 2005

Ariza-Nieto, M. and Srivastava, V. Transgene expression in site-specific integrant rice lines. Society for In Vitro Biology (SIVB), World Congress on In Vitro Biology. San Francisco, CA. May 2004

Ariza-Nieto, M. and Srivastava, V. Molecular characterization of site-specific integrant rice lines. Rice technical working group (RTWG). New Orleans, LA. March 2004

Ariza-Nieto, M. Cre-mediated site-specific integration of transgenes in rice. Gamma Sigma Delta (GSD) annual meeting chapter Fayetteville AR. May 2003

Ariza-Nieto, M. and Srivastava, V. Site specific integration of transgenes in rice. American Society of Agronomy (ASA), southern branch annual meeting. Mobile, AL. February 2003.

NON-DEGREE EDUCATION

Front End Web Development-**CanCode, Albany, NY**

AI Essentials-**CanCode, Albany, NY**

SQL-ETL-**CanCode, Albany, NY**

Python for Data Analytics-**CanCode, Albany, NY**

NY State Citizen Public Health Leader-**NY Department of Health**

Manuscript reviewer, **The JCEM-Endocrine Society**

National Diabetes Prevention Program (NDPP)-**CDC Recognition to epiWELL LL**

25 years of plant biotechnology/genetics/analytical chemistry training. Courses available on request.

LANGUAGES

- Spanish
- English

I am fluent in both Spanish and English. I was raised in a bilingual household, have taken Spanish and English coursework, and have worked on several projects requiring both.

IMMIGRATION STATUS

- United States Citizen since February 1, 2017.

INTELLECTUAL PROPERTY INVENTIONS

U.S. Provisional Patent Application in preparation for CIRCULATING EPISENSORS PANEL/METHODS TO MONITOR HUMAN EPIGENETICS IN RESPONSE TO ENVIRONMENTAL CHANGES. Inventor: Magnolia Ariza-Nieto, epiWELL, LLC. NOVEMBER 2019 IN PREPARATION.

U.S. Provisional Patent Application Serial No. 62/553,452, filed September 1, 2017, for CIRCULATING MIR148A ASSOCIATES WITH SENSITIVITY TO ADIPONECTIN LEVELS IN HUMANS. Inventor: Magnolia Ariza-Nieto
Cornell Reference No.: 7352-01-US. LR Reference No.: 29543.8010.

RESEARCH SUPPORT

I have been primarily responsible for research concerning the discovery of biomarkers/methods to monitor changes in the human epigenome both in vivo and in vitro. The project was part of the Cornell NIH-funded Center on Microenvironment and Metastasis (CMM). My role included the primary preparation and execution of the project proposal. Mentor: Dr. Michael L. Shuler PhD.

1. GF-104-CAGIR, Guthrie Foundation for Education and Research
Ariza-Nieto, Magnolia (PI)
01/01/2020- Date

National Diabetes Prevention Program and Epigenome Dysregulation Biomarkers (EDB).

2. GF-100-LAB, Guthrie Foundation for Education and Research
Ariza-Nieto, Magnolia (PI)
01/01/13-12/31/15

Epigenome dysregulation biomarkers (EDB) associated with the expression of adipokines
Complementary funding is needed to cover the collection, processing, and storage of specimens at the Guthrie clinic. The CYTOMATE system and software will be used to isolate and monitor mesenchymal stem cells (MSCs).

Role: PI

3. GF-102-SAMY, Guthrie Foundation for Education and Research
Ariza-Nieto, Magnolia (PI)
01/01/13-12/31/15

Epigenome dysregulation biomarkers (EDB) are associated with the expression of adipokines. Complementary funding is needed for exploratory research to identify target microRNAs using microRNA panels and potential gene targets in patients with/without metabolic syndrome.

Role: PI

4. GF-102-ALLEY, Guthrie Foundation for Education and Research

Ariza-Nieto, Magnolia (PI)

01/01/13-06/30/15

Epigenome dysregulation biomarkers (EDB) associated with the expression of adipokines
Complementary funding is needed to collect liver, adipose tissue, and mesenchymal stem cells (MSCs) from bone marrow, adipose tissue, and blood specimens.

Role: PI

5. U54 CA 143 876-05S1, NIH/NCI

Michael L. Shuler (PI)

08/01/14-06/30/15

Epigenome dysregulation biomarkers associated with the expression of adipokines
Extension of Research Supplements to Promote Diversity in Health-Related Research To Magnolia Ariza-Nieto under Dr. Michael L. Shuler mentorship. To identify human episensors (microRNA/target genes) to monitor epigenetic changes in vivo and/or in vitro. This study includes an approved IRB protocol for a prospective observational study of patients undergoing metabolic surgery for weight loss and a control group. Explanatory NOTE: I have established a research collaboration with the Guthrie Foundation for Education and Research, and they are providing funding for materials and supplies directed to my research work. My salary comes from an NIH NCI research supplemental award to promote diversity in health-related research, and I work with clinical and in vitro human models. I am in charge of preparing the proposals for all the projects with the Guthrie Clinic, and the money will be used to support my research efforts directly.

Role: OP

6. U54 CA 143 876-01, NIH-NCI

Michael L. Shuler (PI)

06/01/13-07/31/14

Epigenome dysregulation biomarkers associated with the expression of adipokines
Research Supplements to Promote Diversity in Health-Related Research to Magnolia Ariza-Nieto under Dr. Michael L. Shuler mentorship. Aging and obesity are the major risk factors for the onset of cancer. However, the mechanisms underlying obesity and age-related disorders remain poorly understood. The excellent human variability suggests that a personalized model will be beneficial. A dysregulatory state of the epigenome appears to be involved in obesity and age-related metabolic disorders. If available, episensors of the epigenome could be used both in vivo and in vitro. This award aimed to identify human secretory episensors and their potential target genes. We identified three microRNAs (miR210, miR148, and miR22) that target liver DNMT1. The role of DNMT1 is to preserve the patterns of DNA methylation, and its function is controlled via SIRT1/PGC1/FNDC5, insulin/PI3K/PTEN/AKT, MAT1/MAT2, the activation of the TLR/CD14 superfamily, the bioavailability of methyl donors, and physical activity.

Role: OP

7. U54 CA 143 876-01, NIH/NCI

Michael L. Shuler (PI)

06/01/12-05/30/13

Outreach pilot proposal for Cornell PS-OC.

The project aimed to develop a research strategy to study changes in the human epigenome and assess circulating levels of adiponectin, homocysteine, and NPY in a group of patients during weight loss. Under the mentorship of Professor Michael L. Shuler. I was primarily responsible for developing an outreach collaboration with a local Central New York health care provider. My role included developing and preparing an original idea that could be used as the start of my independent research in the future. I wrote the original research plan and proposal, the corresponding IRB protocol, and created sufficient preliminary data to start the collaborative research.

Role: OP