

Ana M Valentin Cabrera

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EDUCATION

Florida International University (FIU), Miami, FL	2021-Present
Doctor of Philosophy, Biomedical Engineering	GPA: 3.44
Advisors: Dr. Joshua Hutcheson and Dr. Alexander Agoulnik	
Anticipated Date of Ph.D. Conferral: Fall 2025	
Florida International University (FIU), Miami, FL	2017-2021
Bachelor of Science, Biomedical Engineering (BME), Honors College	GPA: 3.60
Concentration: Biomaterials and Biomechanics	
Graduated: Spring 2021	

RESEARCH EXPERIENCE

Graduate Research	Fall 2021 – Present
Department of Biomedical Engineering	
Advisors: Drs. Joshua Hutcheson and Alexander Agoulnik	
“Human Relaxin Family Receptor Type 1 Agonist as a Therapeutic for Vascular Calcification”	
This work is funded by Florida Heart Research Foundation.	
Coulter Undergraduate Research Excellence Program Trainee	Fall 2020 - Spring 2021
Advisor: Dr. Joshua Hutcheson	
<i>Responsibilities:</i> Worked with graduate students to learn the basics of laboratory research, image analysis, and statistical analysis. This included using the Li-Cor Odyssey CLx fluorescence imaging device and the NSF ImageJ analysis tools.	
Cardiovascular Matrix Lab Volunteer	February - August 2020
Advisors: Drs. Joshua Hutcheson, Sana Nasim, and Amirala Bakhishiannik	
Center for Children and Families Intern	September 2018 – February 2019
Advisor: Dr. Adela Timmons	
<i>Responsibilities:</i> Researched the use of biosensors and online counseling systems to determine and treat physiological signs of distress in family units.	

FELLOWSHIPS

Transdisciplinary Biomolecular and Biomedical Sciences (TBBS) Program	August 2021 – July 2023
<i>Funded by:</i> National Institute of Health, T32	
<i>Role:</i> Graduate Student	
Undergraduate to Graduate Program (UtGP)	August 2023 – July 2025
<i>Funded by:</i> Florida International University Graduate School	
<i>Role:</i> Graduate Student	
GEM Associate Fellow	August 2025 – July 2026
<i>Funded by:</i> The National GEM Consortium	
<i>Role:</i> Graduate Student	

PUBLICATIONS

1. Ashbrook, S.K., **Valentin Cabrera, A.M.**, Shaver, M., Hutcheson, J.D. Analysis of Extracellular Vesicle-Mediated Vascular Calcification Using *In Vitro* and *In Vivo* Models. J. Vis. Exp. (191), e65013, doi:10.3791/65013 (2023).

CONFERENCES AND SYMPOSIA PRESENTATIONS

Heart Day Symposium Poster	February 2023
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Ana Valentin, Curriculum Vitae, Updated January 2023

Ana M. Valentin Cabrera, Roxana Melo, Kenneth J. Wilson, Juan J. Marugan, Joshua D. Hutcheson, Alexander Agoulnik: “Relaxin receptor agonist ML290 causes dose-dependent vascular calcification attenuation in poloxamer induced mouse model of atherosclerosis” Miami, FL

MARC U*STAR, TBBS, & UtGP Research Symposium Oral Presentation *December 2022*

Ana M. Valentin Cabrera, Roxana Melo, Kenneth J. Wilson, Juan J. Marugan, Joshua D. Hutcheson, Alexander Agoulnik: “Relaxin receptor agonist ML290 causes dose-dependent vascular calcification attenuation in poloxamer induced mouse model of atherosclerosis” Miami, FL, 1st Place

International Society o Applied Cardiovascular Biology Oral Presentation *September 2022*

Ana M. Valentin Cabrera, Roxana Melo, Kenneth J. Wilson, Juan J. Marugan, Joshua D. Hutcheson, Alexander Agoulnik: “Relaxin receptor agonist ML290 causes dose-dependent vascular calcification attenuation in poloxamer induced mouse model of atherosclerosis” Memphis, TN

Biomolecular Sciences Institute Symposium Poster and Oral Presentation *June 2022*

Ana M. Valentin Cabrera, Roxana Melo, Kenneth J. Wilson, Juan J. Marugan, Joshua D. Hutcheson, Alexander Agoulnik: “Relaxin receptor agonist ML290 causes dose-dependent vascular calcification attenuation in poloxamer induced mouse model of atherosclerosis” Miami, FL

Heart Day Symposium Poster *February 2022*

Ana M. Valentin Cabrera, Hooi Ng, Joshua D. Hutcheson, Alexander Agoulnik: “Poloxamer-407 Induced Hyperlipidemia” Miami, FL

SKILLS AND ABILITIES

Technical:

Computer Skills

Microsoft Office: PowerPoint, Word, Excel, OneNote, Outlook; MATLAB, GraphPad Prism, Python, Arduino Programming, NIH ImageJ Analysis, SPSS, AutoCAD, SOLIDWORKS

Laboratory Techniques

Cell extraction from cardiac tissue, RNA Extraction/Western Blotting, Genotyping/PCR, Immunofluorescence Techniques, Cell Culture

Animal Experiences

Mouse Handling, Tail Vein Injection, Oral Gavage, Intraperitoneal Injection, Anesthesia/Euthanasia, Mouse Dissection, Isolation of Aorta

Languages: Fluent in English and Spanish

TEACHING AND INSTRUCTION

Learning Assistant Internship, BME Modeling and Simulation *Fall 2020*

Course: BME 2740

Responsibilities: Develop an online system with the professor and teaching assistants to teach the core curriculum of the class best remotely. Helped approximately 50 students with class assignments or questions to ensure their success through office hours and one-on-one instruction.

Learning Assistant, BME Modeling and Simulation *Fall 2019*

Course: BME 2740

Responsibilities: Develop a teaching plan with the professor and teaching assistants to suit the core curriculum of the class best. Aided approximately 50 students with classwork, homework, and projects in the course through one-on-one instruction during class activities.

LEADERSHIP AND OUTREACH

Panther Unite in Support of Health (PUSH), Social Chair *April 2018 – August 2020*

Responsibilities: Maintain high morale and encourage college students to take care of their bodies through proper nutrition, habitual exercise, and mental breaks via social media posts and on-campus events.

Panther Camp Facilitator *January 2019 – August 2019*

Advisor: Alina Quintana

Responsibilities: Oversaw a group of students throughout the summer as a camp facilitator and introduced them to the resources available at Florida International University. Assisted in collecting donations and goods from companies and organizations throughout South Florida as part of the Sponsorship Committee.

MENTORING

Incoming graduate students and undergraduates

August 2021 – Present

Responsibilities: Trained students with laboratory safety and basic animal handling techniques such as mouse handling, oral gavage, intraperitoneal injection, gross dissection, and microdissection.

FIU Summer Research Internship

June 2022 – August 2022

Responsibilities: Mentored two High School Students from MAST Medical at Homestead. Designed a short research project and conducted laboratory safety training. Trained with murine vascular cells on ALP activity and Alizarin red staining. Assisted them with data collection, image analysis, and their final presentation for the end-of-summer symposium.

CERTIFICATIONS

Collaborative Institutional Training Initiative (CITI)

Health Information Privacy and Security (HIPS) for Students and Instructors
Social and Behavioral Responsible Conduct of Research Course
Social and Behavioral Human Subjects Research Course
Biomedical Human Research Course

FIU Development Training

Environmental Awareness Part 1 and 2
EPA: Hazardous Waste Awareness and Handling
Small Spills and Leaks
Safe Management of Biohazardous Waste
Fire Safety
Blood-Borne Pathogens Awareness
Laboratory Safety: The Finer Points
Hazard Communication (HAZCOM)
Compressed Gas Cylinder Safety
Laboratory Hazard Awareness
Personal Protective Equipment (PPE): Laboratory
Safe Use of Biosafety Cabinets
Safe Use of Fume Hoods
Chemical Handling Safety – Basic Principles

LinkedIn Learning

AutoCAD for MAC

PROFESSIONAL AFFILIATIONS

Biomedical Engineering Society (BMES), Project Lead

May 2020 – May 2021

Responsibilities: Coordinate in building a 3D-printed arm capable of programmed sensory movement. Fundraise money by teaching high school and middle school students about biomedical engineering and science.

Society of Women Engineers (SWE)

August 2019 – Present

Society of Hispanic Professional Engineers (SHPE)

December 2019 – Present