

LEWIS MARQUEZ

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EDUCATION

- Emory University** Atlanta, GA
• Ph.D. Molecular and Systems Pharmacology Expected 2024
- California State University of Northridge** Northridge, CA
• Bachelor of Science in Molecular Cell Biology May 2018
- Los Angeles Valley College** Valley Glen, CA
• Associate of Science in Biology December 2013

RESEARCH EXPERIENCE

- Emory University** Atlanta, GA
Graduate Student Researcher with Dr. Cassandra Quave April 2019-Present
• Antibiotic drug discovery utilizing plants from traditional medicine as a source of novel small molecules for treatment against MDR pathogens.
- Graduate Student Researcher with Dr. Lian Li* Nov. 2018- Feb. 2019
• Identified possible role of novel kinase in the pathophysiology of Alzheimer's disease and Parkinson's disease.
- Graduate Student Researcher with Dr. Keqiang Ye* Sep. 2018- Nov. 2018
• Elucidated role of transcription factor C/EBP β and how it relates to Alzheimer's disease and Parkinson's disease.
- University of North Texas Health Science Center** Fort Worth, TX
Summer Research Assistant with Dr. Raghu Krishnamoorthy Summer 2017
• Examined potential pathways through which neurodegeneration occurs in retinal ganglion cells in rat model of glaucoma.
• Analyzed effects of different treatments of small molecules on prevention of the neurodegenerative hallmarks of glaucoma.
- California State University of Northridge** Northridge, CA
BUILD PODER Undergraduate Research Assistant with Dr. Taeboem Oh 2016-2018
• Synthesized potentially therapeutic benzimidazole compounds with hindered rotation around a single bond to allow for greater stereochemical control to produce more enantiomerically pure compounds.
- California State University of Northridge** Northridge, CA
Undergraduate Research Volunteer with Dr. Taeboem Oh 2015-2016
• Synthesized benzimidazole substrates for future projects examining atrope isomers.

PUBLICATIONS

Marquez, L.; Quave, C.L. "Prevalence and Therapeutic Challenges of Fungal Drug Resistance: Role for Plants in the Pipeline". *Antibiotics*. (2020). DOI: 10.3390/antibiotics9040150.

Marquez, L.; Dettweiler, M.; Lin, M.; Sweeney-Jones, A.M.; Chhetri, B.K.; Zurawski, D.V.; Kubanek, J.; Quave, C.L. “*Pentagalloyl glucose from Schinus terebinthifolia inhibits growth of carbapenem-resistant Acinetobacter baumannii*”. Scientific Reports. (2020): Submitted.

Dettweiler, M.; Melander, R.; Porras, G.; Risener, C.; **Marquez, L.**; Samarakoon, T.; Melander, C.; Quave, C.L. “*A Clerodane Diterpene from Callicarpa americana Resensitizes Methicillin-Resistant Staphylococcus aureus to β -Lactam Antibiotics*”. ACS Infectious Disease. (2020): Submitted.

Dettweiler, M., **Marquez, L.**, Bao, M., Quave, C.L. “*Quantifying synergy in the bioassay-guided fractionation of natural substances*”. Phytomedicine. (2020): Submitted.

PRESENTATIONS

Marquez, L., Chassagne, F., Porras-Brenes, G., Lyles, J., Nelson, K., Shang, J., Quave, C.L. (July 2019) *Discovery of Botanical Natural Products to Combat the Emerging Multidrug-Resistant Fungal Pathogen Candida Auris*. Poster presented at 2019 American Society of Pharmacognosy - Annual Meeting, Madison, WI.

Marquez, L., Stankowska, D., & Krishnamoorthy, R. (2017, October). *Downregulation of Cytochrome C Oxidase Following IOP Elevation in Rat Model of Glaucoma is prevented by α B-crystallin core peptide (ABCP)*. Poster presentation delivered at UCLA’s 16th Annual Research and Evidence-Based Practice Conference, Los Angeles, CA.

Marquez, L., Stankowska, D., & Krishnamoorthy, R. (2017, October). *Downregulation of Cytochrome C Oxidase Following IOP Elevation in Rat Model of Glaucoma is prevented by α B-crystallin core peptide (ABCP)*. Poster presentation delivered at 2017 SACNAS – The National Diversity in STEM Conference, Salt Lake City, UT.

Marquez, L., Stankowska, D., & Krishnamoorthy, R. (2017, October). *Downregulation of Cytochrome C Oxidase Following IOP Elevation in Rat Model of Glaucoma is prevented by α B-crystallin core peptide (ABCP)*. Poster presentation delivered at Emory University-Laney Graduate School STEM Research and Career Symposium, Atlanta, GA.

Marquez, L., Stankowska, D., & Krishnamoorthy, R. (2017, July.) *Downregulation of Cytochrome C Oxidase Following IOP Elevation in Rat Model of Glaucoma is prevented by α B-crystallin core peptide (ABCP)*. Poster presentation delivered at UNTHSC Student Summer Research Symposium, Fort Worth Texas, TX.

Marquez, L., Oh, T., (2017, April). *A Novel Approach to Producing a New Class of Biologically Active Compounds*. Poster presentation delivered at CSUN Student Research and Creative Works Symposium, Northridge CA.

PROFESSIONAL ASSOCIATIONS

The Society for Economic Botany (SEB) Member
American Society of Pharmacognosy (ASP) Member
Basic Life Support Certified by American Heart Association (AHA)
American Chemical Society (ACS) Member
Council on Undergraduate Research (CUR) Member
CITI Program Biomedical Responsible Conduct of Research Certification

AWARDS AND HONORS

Graduate Student Assistantship; Funded by the *Jones Center at Ichauway*; (2020-2023)
IMSD Scholar (Initiative for Maximizing Student Development) NIH; Grant #: 5R25GM125598-02
ARVO/SACNAS Eye and Vision Research Award and Travel Award- The Association for
Research in Vision and Ophthalmology (May 2018)
Travel Scholarship for 2017 SACNAS – The National Diversity in STEM Conference (Oct.2017)
Travel Award for Emory University-Laney Graduate School STEM Research and Career
Symposium (Oct. 2017)
Featured student in *Solutions* magazine article, University of North Texas (Oct. 2017), pp. 44-49
Dean’s List, CSUN, College of Science and Mathematics (Spring 2017)
Golden Key International Honour Society Member (January 2017)
Dean’s List, CSUN, College of Science and Mathematics (Spring 2016)
BUILD PODER Scholar (Building Infrastructure Leading to Diversity; Promoting Opportunities for
Diversity in Education and Research); Funded by *the National Institute of Health (NIH)*; Award
amount: \$20,000/year (2016-2018)
Dean’s List, CSUN, College of Science and Mathematics (Fall 2015)
Dean’s List, Los Angeles Valley College (Spring 2015)
NASA Scholar, National Community College Aerospace Scholars’ Program (2013-2014)

Teaching Experience

Guest Lecture “Safety and Efficacy Issues Concerning Herbal Products”, Botanical Medicine and
Health, Emory University, 60 undergraduate students (2019)
Teaching Assistant, Botanical Medicine and Health, Emory University, 60 undergraduate students
(2019)
Teaching Assistant, Food, Health, and Society, Emory University, 80 undergraduate students (2020)