

Biographical Sketch

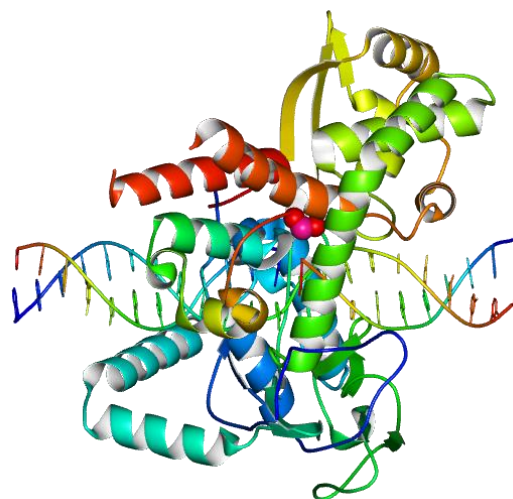
CHRISTIAN MORALES-GUZMAN

Current Status

Ph. D. Candidate

Department of Chemistry, UPR-Río Piedras
Campus

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Education

2005-2010 B.S. Chemistry

2010-present UPR-Río Piedras

2017 Ph. D. Chemistry (Expected)

Current Research Interests: Our research emphases are the total synthesis, characterization and biological evaluation of novel α -methoxylated acetylenic fatty acids. In particular, we study the inhibitory properties of the synthesized fatty acids against type I topoisomerase enzymes, validated targets for the treatment of leishmaniasis and cancer. The majority of the synthesized novel fatty acids have been isolated from symbiotic microorganisms associated with Caribbean sponges.

Research Experiences

2008 UPR-Medical Sciences Campus, Undergraduate research, Biochemistry and cytopharmacology, (Mentors: Emma Fernández-Repollet and Dr. Yamil Gerena)

2009 UPR-Medical Sciences Campus, Undergraduate research, Biotechnology and cytopharmacology, (Mentors: Emma Fernández-Repollet, Dr. Abraham Schwartz and Dr. Yamil Gerena)

2009-2010 UPR-Río Piedras Campus, Undergraduate research, Organic chemistry, (Mentor: Dr. Néstor M. Carballeira)

2010-2013 UPR-Río Piedras Campus Graduate research, Biochemistry and biophysics, (Mentors: Dr. Jose A. Lasalde-Dominicci and Dr. Orestes Quesada)

2013-present UPR-Río Piedras Campus Graduate research, Organic chemistry and bioorganic chemistry, (Mentor: Dr. Néstor M. Carballeira)

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Other Research Activities

- 2008 Flow Cytometry Annual Training Workshop, San Juan, P.R.
- 2014 EPA Region 2 Caribbean Science Consortium/Non-PRASA Systems Workshop, San Juan, P.R.
- 2015 Chemical and Optogenetic manipulation of lipid signaling, Experimental Biology annual meeting, Boston MA.
- 2015 Bioinformatics and modeling tools for discovering functions of unknown enzymes, Experimental Biology annual meeting, Boston MA.
- 2015 Workshop solar cells: SHARK, San Juan, P.R.
- 2015 Bruker Advance 1D and 2D NMR Training and Workshop, San Juan, P.R.
- 2015 AAAS Workshop: Communicating Science, San Juan, P.R.
- 2016 INBRE CRISPR cas9 workshop, San Juan, P.R.

Honors

- 2005 Eli Lilly and Company, Environmental sciences competition for high school students
- 2009 PR-LSAMP undergraduate research program
- 2010 PR-LSAMP Bridge to Doctorate Fellowship
- 2014 GK-12 Fellowship
- 2015 American Chemical Society Summer School on Green Chemistry & Sustainable Energy, Colorado School of Mines , Golden, Colorado.
- 2016 Institutional Development Award (IDeA) INBRE Fellowship
- 2017 Research Initiative for Scientific Enhancement (RISE) Fellowship

Presentations at Local Meetings

Morales, C., Cartagena, M. M., Carballeira, N. M., Synthesis of two novel 6-acetylenic fatty acids. 10th Annual Best Practices Conference, Ponce Hilton Hotel, Puerto Rico, October 29, 2010.

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Morales, C., Cartagena, M. M., Carballeira, N. M., Synthesis of two novel 6-acetylenic fatty acids. 46th JTM/31st PRISM Puerto Rico Louis Stokes Alliance for Minority Participation, UIA Bayamón, Puerto Rico, March 12, 2011.

Morales-Guzmán, C., González-Nieves, J., Padilla-Morales L.F., Quesada-González, O., Lasalde-Dominicci, J.A., Crystallization of nicotinic acetylcholine receptor (nAChR) using novel approaches, 2^{do} Congreso Estudiantil de Investigación Graduada, March 13, 2013.

Morales-Guzmán, C., González-Nieves, J., Padilla-Morales L.F., Quesada-González, O., Lasalde-Dominicci, J.A., Crystallization of nicotinic acetylcholine receptor (nAChR) using novel approaches, 48th JTM/33rd PRISM Puerto Rico Louis Stokes Alliance for Minority Participation, March 9, 2013.

Morales Guzmán, C., Carballeira, N. M., Total synthesis of Δ^5 , 9 brominated fatty acids and analogs for biological activity evaluation. 50th JTM/35th PRISM Puerto Rico Louis Stokes Alliance for Minority Participation, UPR Río Piedras, Puerto Rico, March 14, 2015.

Morales Guzmán, C., Carballeira, N. M., Total synthesis of Δ^5 , 9 brominated fatty acids and analogs for biological activity evaluation. 4^{to} Congreso Estudiantil de Investigación Graduada, UPR Río Piedras, Puerto Rico, April 8-9, 2015.

Morales Guzmán, C., Morales Cruz, M., Díaz Vázquez, L. M., "Nature Gifts", Inquiry Base Learning in Middle and High School Science Laboratories. 13th Annual Best Practices Conference on Teaching and Learning, Universidad del Turabo, Gurabo, Puerto Rico, September 18, 2015.

Morales Guzmán, C., Rivera Torres, Y., Mooney, J., Vázquez, N., Sanabria-Ríos, D. J., De La Cruz, F., Carballeira, N. M., Conjugation inhibitory activity of newly-synthesized hexadecynoic acids. EAC-INBRE Meeting, Caribe Hilton Hotel, San Juan Puerto Rico, March 2, 2016.

Morales Guzmán, C., Rivera Torres, Y., Mooney, J., Vázquez, N., Sanabria-Ríos, D. J., De La Cruz, F., Carballeira, N. M., Conjugation inhibitory activity of newly-synthesized alkynoic acids. 51st ACS JTM/36th PRISM Puerto Rico Louis Stokes Alliance for Minority Participation, Pontifical Catholic University of Puerto Rico, Ponce Campus, March 5, 2016.

Morales Guzmán, Christian; Morales Cruz, Moraima and Díaz Vázquez, Liz "Nature Gifts", Inquiry base learning in middle and high school laboratories to introduce nanoscience education. PRCHEM 2016, The Ritz Carlton Hotel, San Juan, Puerto Rico, August 3 to 6, 2016.

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Morales Guzmán, C., Rivera Torres, Y., Mooney, J., Vázquez, N., Sanabria-Ríos, D. J., De La Cruz, F., Carballeira, N. M., Conjugation inhibitory activity of newly-synthesized alkynoic acids. PRCHEM 2016, The Ritz Carlton Hotel, San Juan, Puerto Rico, August 3 to 6, 2016.

Morales Guzmán, C., Rivera Torres, Y., Mooney, J., Vázquez, N., Sanabria-Ríos, D. J., De La Cruz, F., Carballeira, N. M., Conjugation inhibitory activity of novel acetylenic fatty acids 40th ACS Senior Technical Meeting, Copamarina Beach Resort, Guánica, Puerto Rico, October 29, 2016.

Morales Guzmán, C., Álvarez Benedicto, E., Sanabria Ríos, D. J., Tinoco, A. D., Balaña Fouce, R., and Carballeira, N. M., Synthesis and biological evaluation of α -methoxylated hexadecynoic acids. 40th ACS Senior Technical Meeting, Copamarina Beach Resort, Guánica, Puerto Rico, October 29, 2016.

Morales, C., Cartagena, M. M., Carballeira, N. M., Synthesis of two novel 6-acetylenic fatty acids. 45th JTM/30th PRISM Puerto Rico Louis Stokes Alliance for Minority Participation, UPR Mayagüez, Puerto Rico, March 13, 2010.

Morales Guzmán, C., Carballeira, N. M., Total synthesis of Δ^5 , 9 brominated fatty acids and analogs. 38th Senior Technical Meeting American Chemical Society Puerto Rico Section, Sheraton Old San Juan Hotel & Casino, Puerto Rico, November 7, 2014.

Presentations at National Meetings

Morales Guzmán, C., Carballeira, N. M., Total synthesis of Δ^5 , 9 brominated fatty acids and analogs for biological activity evaluation. 2015 American Chemical Society Summer School on Green Chemistry & Sustainable Energy , Colorado School of Mines , Golden, Colorado June 22, 2015.

Morales Guzmán, C., Álvarez Benedicto, E., Sanabria Ríos, D. J., Tinoco, A. D., Balaña Fouce, R., and Carballeira, N. M., Synthesis and biological evaluation of α -methoxylated acetylenic fatty acids. 253rd ACS National Meeting, San Francisco, California, April 2 - 6, 2017.

Publications

Morales-Guzmán, C. (2015) ¡Usemos nuestros cinco sentidos! Haciendo de la ciencia una experiencia sensorial para toda la vida. *"El Sol" pedagogical journal*, ISSN: 2372-9635(printed)/ISSN:2372-9643(online).

Néstor M. Carballeira, N. M., Montano, N., Morales, C. Joseph Mooney, J., Torres, X., Díaz, D., Sanabria-Rios, D. J. (2017). 2-Methoxylated FA Display Unusual Antibacterial Activity Towards

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Clinical Isolates of Methicillin-Resistant Staphylococcus aureus (CIMRSA) and Escherichia coli.
Lipids Journal, accepted (Manuscript ID LIPIDS-17-0077.R1).