VALERIE ORTIZ GÓMEZ
M.S. in Biology
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EDUCATION

2019 – present	Graduate Student (Ph.D. student of Biology) University of Puerto Rico-Rio Piedras
2014 – 2019	M.S. in Biology, Natural Sciences College, University of Puerto Rico-Rio Piedras
2009 – 2014	B.S. in Microbiology, Natural Sciences College, University of Puerto Rico-Humacao

LANGUAGES

Spanish and English

GRADUATE RESEARCH EXPERIENCES

Aug 2019-present-The Use of Superficial Coating of Antimicrobial Peptide-Polymer Conjugate to Combat Biofilm Formation: Application of Bio-surfaces in Medical Devices

2016-2019-Evaluation of biomimetic antimicrobial peptide as building blocks for reactive/responsive membranes: A water purification approach

August-Dec 2015-Molecular and Cellular Biology of Parasites: Malaria

January-May 2015-Paleoparasites, detection their presence in ancient human feces

LABORATORY MANAGER

Aug 2018- May 2019 and June 2021-present: Molecular Sciences Research Center at University of Puerto Rico. Nicolau's Laboratory.

FELLOWSHIPS

Aug 2019-present	Research Initiative for Scientific Enhancement (RISE) Grant 5R25GM061151-18
July 2016 - 2019	PR NASA Space Grant Fellowship. NASA Grant NNX15AI11H
December 2012	Santander U-Work Program, Scholarship
January 2011–2013	Ronald McNair Program/UPR-Humacao

TEACHING EXPERIENCE

2014- 2016 Teaching Assistant for General Biology Laboratory I and II, Department of Biology, University of Puerto Rico–Rio Piedras Campus

PUBLICATIONS

Ortiz-Gómez, Valerie, Rodríguez Victor D., Maldonado Rafael, González José A. and Nicolau Eduardo. Antimicrobial activity of a polymer-peptide conjugate based on Maximin H5 and PEG to prevent biofouling of *E. coli* and *P. aeruginosa ACS Applied Materials (IF:9.0).* *https://pubs.acs.org/doi/abs/10.1021/acsami.0c13492*. Publication date: September 16, 2020.

Vega-Figueroa, Karlene; Santillán, Jaime; **Ortiz-Gómez, Valerie**; Ortiz-Quiles, Edwin; Quinones, Beatriz; Castilla-Casadiego, David; Almodovar, Jorge; Bayro, Marvin; Nicolau, Eduardo. Aptamer-based Impedimetric Assay of Arsenite in Water: Fundamental Aspects and Performance". https://doi.org/10.1021/acsomega.7b01710.Publication date: February 2, 2018.

INVENTION DISCLOSURE SUBMITTED

Invention Id: 19-027-DISC-UPR. Antimicrobial activity of a polymer-peptide conjugate based on Maximin H5 and PEG to prevent biofouling of *E. coli* and *P. aeruginosa.* Submission date: May 30, 2019.

GRADUATE PRESENTATIONS

2020: **Valerie Ortiz Gómez** and Eduardo Nicolau. The use of superficial coating of antimicrobial peptide MH5C-Cys with PEG polymer conjugate to combat biofilm formation in Medical Devices. Abstract Accepted. ASM Microbe Online 2020, June 18-22, 2020.

2019: **(1) Valerie Ortiz Gómez,** Victor D. Rodriguez, José A. González and Rafael Maldonado. Evaluating cation approach the Potential of Maximin H5 Peptide to Avoid Biofilm formation of *Pseudomonas aeruginosa*: A water purification approach. Abstract Accepted. ASM Microbe 2019, San Francisco, California, June 20-June 24, 2019. **(2) Valerie Ortiz Gómez**, Victor D. Rodriguez, José A. González and Rafael Maldonado. Characterization of novel biomimetic peptide-polymer conjugate using the properties of antimicrobial peptide Maximin H5. Poster Presentation. 2019 Lilly Academy Technical Forum, Puerto Rico Convention Center, April 12, 2019. **(3) Valerie Ortiz Gómez**, Victor D. Rodriguez, José A. González and Rafael Maldonado. Antimicrobial Peptide-Polymer such as model to fabrication the biomimetic surfaces using MH5 peptide. ASM Microbe 2019, San Francisco, California, June 20-June 24, 2019.

Travel Award 2019: **Valerie Ortiz Gómez**, Victor D. Rodriguez, José A. González, Rafael Maldonado and Eduardo Nicolau. Characterization of novel biomimetic peptide-polymer conjugate using the properties of antimicrobial peptide Maximin H5. 2019 Annual BioXFEL Conference. San Diego, California. February 11- February 14. Poster #46**.**

Presentations 2018: **(1) Valerie Ortiz Gómez**, Victor Rodriguez, Eduardo Nicolau. Evaluation of Secondary Structures and Effects on Bacterial Growth of Novel Antimicrobial Peptides. Bioinspired Multifunctional Dynamic Materials Les Diablerets Conference Center. Abstract Accepted June 24-29, 2018. **(2) Valerie Ortiz Gómez,** Victor Rodriguez**,** Eduardo Nicolau. Evaluation and biophysical characterization of novel antimicrobial peptides: "A water purification approach." ACS 255th National Meeting. New Orleans, LA, March 18, 2018.

2017: **(1) Valerie Ortiz Gómez,** Victor Rodriguez**,** Eduardo Nicolau. Design of biomimetic antimicrobial peptide-polymer conjugates as building blocks for reactive/responsive membranes: A water purification approach. ACS 253rd National Meeting and Exposition. Moscone Center San Francisco, California. April 2, 2017. **(2) Valerie Ortiz Gómez,** Victor Rodriguez**,** Eduardo Nicolau. Design of biomimetic antimicrobial peptide-polymer conjugates as building blocks for reactive/responsive membranes: A water purification approach. 2017 Lilly Academy Technical Forum. Puerto Rico Convention Center. March 25, 2017.

OTHER EXPERIENCES/SKILLS

MICROBIOLOGY APPLICATIONS: aseptic techniques, bacterial culture, antimicrobial susceptibility test, growth curves, inoculation procedures and transformation of bacteria. Study and identification of biofilm formation. Bacterial sample preparation to Confocal Microscopy and Scanning Electron Microscopy.

HUMAN CELL CULTURE: microvascular endothelial cells culture and sample preparation to Confocal Microscopy and Scanning Electron Microscopy.

ANALYTICAL TECHNIQUES: Circular Dichroism spectroscopy, Dynamic Light Scattering, Zeta Potential and Differential Scanning Calorimetry. FPLC peptide-conjugates purification.

MOLECULAR TECHNIQUES: Polymerase chain reaction (PCR), Western Blot, SDS-PAGE. Design of specifics primers, extraction genomic DNA (gDNA), countdown of parasitemia, extraction of blood tail and cardiac puncture (mice).

ACADEMIC AFFILIATIONS

2012–Present Puerto Rico Society of Microbiologist (SMPR)

2009 –2014 -Microbiology Student Chapter UPR-H. General Biology Association UPR-H.

2012–2013- Educador@s Pares Association UPR-H

REFERENCES UPON REQUEST

Name:	Email:
Eduardo Nicolau, Ph.D	eduardo.nicolau@upr.edu
Francisco Fuentes Ph.D	francisco.fuentes2@upr.edu
Ileana Rodriguez, Ph.D	ileana.rodriguez@upr.edu
José A. Lasalde, Ph.D	jose.lasalde@gmail.com