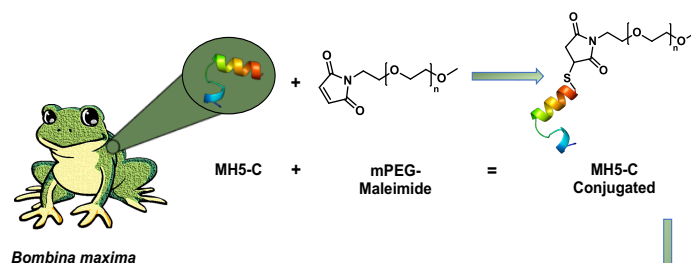


BIOGRAPHICAL SKETCH

VALERIE ORTIZ-GÓMEZ

M.S. in Biology

E-mail: valerie.ortiz2@upr.edu



CURRENT STATUS

2019 – present Ph.D. student of Biology
University of Puerto Rico-Rio Piedras

EDUCATION

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

RESEARCH INTEREST

Antimicrobial peptides (AMPs) are biomolecules that are found in most living organisms and some have demonstrated significant antimicrobial activity. Recent investigations have demonstrated that, in comparison to other materials, AMPs exhibit high bacteriostatic and bactericidal activity. Is necessary evaluation of the performance of Maximin H5 as an antimicrobial peptide in order to determine the feasibility of incorporating such peptides onto the structure of or biomedical surfaces.

GRADUATE RESEARCH EXPERIENCES

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

August-December 2015: Molecular and Cellular Biology of Parasites: Malaria.

January –May 2015: Paleoparasites, detection their presence in ancient human feces.

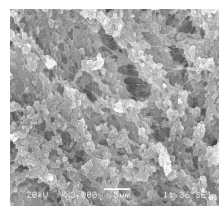
FELLOWSHIPS

August 2019-present RISE Program- NIH

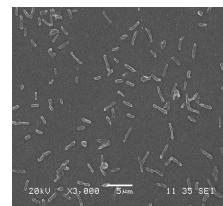
July 2016 - 2018 PR NASA Space Grant Fellowship. NASA Grant NNX15AI11H

December 2012 Santander U-Work Program, Scholarship

January 2011–2013 Ronald McNair Program/UPR-Humacao



Bacteria Fouling Layer



Potent Antibiofouling Effect



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PUBLICATIONS

Vega-Figueroa, Karlene; Santillán, Jaime; **Ortiz-Gómez, Valerie**; Ortiz-Quiles, Edwin; Quinones, Beatriz; Castilla-Casadio, 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.

MANUSCRIPTS SUBMITTED

AUTHOR

Valerie Ortiz Gómez, Victor D. Rodríguez, Rafael Maldonado, José A. González and Eduardo Nicolau. 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)*. 2019, pp xxx-xxx. Submission date: May 26, 2019.

MANUSCRIPTS IN PREPARATION

CO-AUTHOR

Christian Morales Guzmán, Miguel Betancourt, **Valerie Ortiz Gómez**, Perla Cruz Tato and Eduardo Nicolau. Synthesis of zwitterionic PSF materials for membrane-base water remediation applications. *Journal Name.*, 201_, x (x), pp xxx-xxx. In preparation for submission to *Journal of ACS Biomaterials Science & Engineering*. (IF:) Work completed.

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

2019: **(1) Valerie Ortiz Gómez**, Victor D. Rodríguez, 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. Rodríguez, 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. Rodríguez, 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. Rodríguez, José A. González, Rafael Maldonado

BIOGRAPHICAL SKETCH

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.

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

MOLECULAR TECHNIQUES: PCR, design of specific primers, extraction genomic DNA (gDNA), countdown of parasitemia, extraction of blood tail and cardiac puncture (mice).

REFERENCES UPON REQUEST

Name:

Email:

Eduardo Nicolau, Ph.D

eduardo.nicolau@upr.edu

Francisco Fuentes Ph.D

francisco.fuentes2@upr.edu

José A. Lasalde, Ph.D

jose.lasalde@upr.edu