Development of a Class-Research Project: Beyond One Semester [1]

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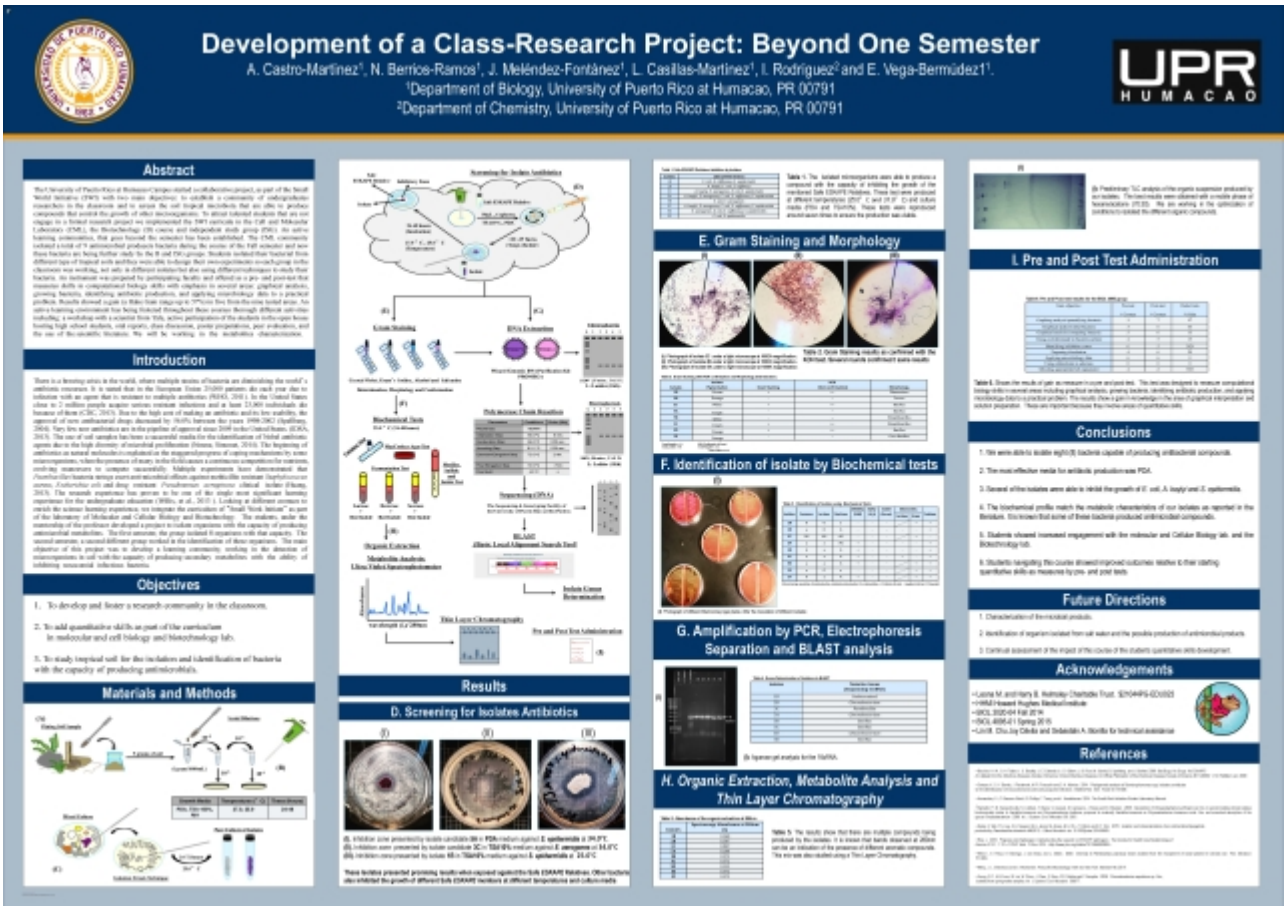
By:

Esther Vega Bermudez



Title:

Development of a Class-Research Project: Beyond One Semester

Author:

E. Vega Bermudez, A. Castro-Martínez, N. Berrios-Ramos, J. Melendez-Fontanez, L. Casillas-Martinez, I. Rodriguez-Velez; Univ. of Puerto Rico Humacao, Humacao, PR

Topic:

W02 Innovative Strategies for the Undergraduate Laboratories

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Abstract:

The University of Puerto Rico at Humacao Campus started a collaborative project, as part of the Small World Initiative (SWI) with two main objectives: to establish a community of undergraduates researchers in the classroom and to screen the soil tropical microbiota that are able to produce compounds that control the growth of other microorganisms. To attract talented students that are not engage in a formal research project we implemented the SWI curricula in the Cell and Molecular Laboratory (CML), the Biotechnology (B) course and independent study group (ISG). An active learning communities, that goes beyond the semester has been established. The CML community isolated a total of 9 antimicrobial producers bacteria during the course of the Fall semester and now these bacteria are being further study by the B and ISG groups. Students isolated their bacterial from different type of tropical soils and they were able to design their own experiments so each group in the classroom was working, not only in different isolates but also using different techniques to study their bacteria. An instrument was prepared by participating faculty and offered as a pre- and post-test that measures skills in computational biology skills with emphasis in several areas: graphical analysis, growing bacteria, identifying antibiotic production, and applying microbiology data to a practical problem. Results showed a gain (a Hake Gain range up to 66%) in five from the nine tested areas. An active learning environment has being fostered throughout these courses thorough different activities including: a workshop with a scientist from Yale, active participation of the students in the open house hosting high school students, oral reports, class discussion, poster preparations, peer evaluation, and the use of the scientific literature. We will be working in the metabolites characterization.

Content Categories:

- Faculty [3]

Links
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