

Curriculum vitae

Personal information

First name /
Surname

Moises De Jesus Cruz

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Objective

Hard-working graduate with excellent technical and social skills seeking an opportunity as a laboratory technician where my education, experiences and skills will contribute toward the achievements of the company goals.

Research Experiences

Position

Graduate Student

Dates

Present – August 2014

Main activities
and
responsibilities

Isolation, Identification and Molecular Characterization of *Rhodobacter sphaeroides*-specific bacteriophages.

- Conducting my thesis project in the Biotechnology and Microbial Bioprospecting Laboratory at UPRM with the purpose of designing a transductional genetic tool with biotechnological and biomedical potentials.
- Lab management and the development of aseptic techniques, protocol optimization, solutions and media preparation, biological waste disposal, cell culture, DNA isolation, agarose gel electrophoresis, use of centrifuge, autoclave, phage isolation, plaque assay, primers design, phage-specific PCR, genome assembly and bioinformatics tools; among other essential microbial laboratory techniques.

May 2012 - August 2011

Assessing Novel Tetracycline-resistant genes through a metagenomic approach of Guanica's Dry Forest Soil.

- Development of skills in cell culture, cloning, screening, antibiotic resistance assays and functional metagenomics.
- The goal of this research project was to describe the resistome of the Guanica's Dry Forest with the purpose of designing new drugs against these antibiotic resistance mechanisms.

Name of mentor

Dr. Carlos Rios Velazquez

Dates

January 2014 - May 2011

Occupation or position held

Graduate Research (NIH Bridge to UMDNJ Program Student)

Dates

Fall '13 (Lab Rotation at Rutgers University)

Main activities and responsibilities

Molecular and biochemical characterization of Cypin isolated from hippocampus.

- Development of skills in cell culture, immunostaining, Western Blot, PCR, cloning and transfection.
- The goal of this project was to identify the molecular and biochemical properties of the dendrite pattern regulator, Cypin, and the further development of drugs that can regulate its expression. Cypin is a protein related to various mental disorders such as autism, schizophrenia, and Alzheimer's disease.

Name of Mentors

Dr. Bonnie Firestein and PhD. Jungho Park

Dates

Summer '12 (Lab Rotation at Rutgers University)

Main activities and responsibilities

Isolation of chemoautotrophic and chemoheterotrophic microorganism from the hydrothermal vents of the Aegean Sea.

- Development of skills such as fluorescence microscopy, anaerobic microbe isolation, DNA extraction, PCR and analysis *in silico*.

- The purpose of this research project was to isolate and characterize novel deep-sea microorganisms from the Aegean Sea.

Name of Mentors

Dr. Constantino Vetriani, and PhD. Donato Giovannelli

Dates

May 2011 – August 2009

Occupation or position held

Undergraduate Research

Main activities and responsibilities

Isolation and Characterization of Photosynthetic Purple Non-Sulfur Bacteria (PPNSB) of the Hypersaline Microbial Mats from the Cabo Rojo Salterns

- Skills: Molecular Characterization using PCR and RFLP; and Physiologic Characterization using Biochemical Tests and Gram Staining.
- The purpose of this research project was to isolate and characterize morphologically, molecularly and biochemically PPNSB with biotechnological potential.

Publication

K. Soto-Feliciano, **M. De Jesús**, J. Vega- Sepúlveda and C. Ríos-Velázquez. (2010). Isolation and characterization of purple non-sulfur anoxyphototropic bacteria from two microecosystems: tropical hypersaline microbial mats and bromeliads phytotelmata. *Current Research, Technology and Education Topics in Applied Microbiology and Microbial Biotechnology*. 110-116.

Name of mentor

Dr. Carlos Rios Velazquez/ Kristina Soto

Place

Biology Department, University of Puerto Rico, Mayaguez Campus

Education and training

Dates

August 2014 – Present (Expected Graduation: Dec/2017)

Title of qualification awarded

M.S. in Biology

GPA

3.68/ 4.00 Scale (General)

Name and type of organization

University Of Puerto Rico, Mayaguez Campus

Dates	<i>May 2011</i>
Title of qualification awarded	Bachelor's Degree in Biology
GPA	3.19/ 4.00 Scale (General) 3.24/ 4.00 Scale (Spec.)
Name and type of organization	University Of Puerto Rico, Mayaguez Campus
Dates	<i>May 2006</i>
Title of qualification awarded	High School Degree
GPA	3.85/ 4.00 Scale
Name and type of organization	Math and Science Specialized School University Gardens High School San Juan, Puerto Rico
Dates	<i>June 2010</i>
Workshop	<i>Mastering Metagenomics at Jo Handelsman's Lab (Yale University)</i>
Learned Techniques	DNA Extraction, Gel Electrophoresis and PFGE, Clone libraries construction, bacterial transformation and functional metagenomics.
Dates	<i>May 2007</i>
Workshop	Marc and Sloan Genetic Engineering Workshop
Learned Techniques	PCR, Cloning, Gel Electrophoresis and W/B screening.

Work Experience

Dates

January 2017-Present

Job and employee

Science Teacher at SESO School, Mayaguez

Responsibilities: To teach science courses such as 10th Grade Biology and Biology Lab, 9th Grade Health and 5th Grade Science.

Dates

August 2014 – Dec 2016

Job and employee

Genetics Lab Teaching Assistant at University of Puerto Rico-Mayaguez

Responsibilities: To teach basic genetics principles and techniques such as DNA extraction, PCR, gel electrophoresis, RFLP, transformation, among other molecular techniques.

Dates

Summer 2016

Job and employee

Soft Matter Research Experience for Undergraduate Pre-Faculty Mentor

Responsibilities: Mentorship in the research project: Unraveling Biofilm Formations from Metagenomic Libraries and Microbial Mats; and to teach molecular and microbiological techniques such as DNA Extraction, PCR, Gel Electrophoresis, Cell Culture, Biofilm Formation Assay, among other.

Dates

June 2017, 2016

Job and employee

Amgen Foundation's IGNITE Science Camp Facilitator

Responsibilities: To teach fundamental life science concepts and commonly used modern laboratory techniques such as PCR, Gel electrophoresis, bacterial transformation, transfection using liposomes, Bacterial and CHO cells culture, ELISA and Bioassays on TF-1 cells. To expose students to the various possible career paths within the life sciences; and to hone student's scientific data analysis and presentation skills.

Dates

May 2016

Job and employee

Howard Hughes Medical Institute Research Workshop Facilitator

Responsibilities: To teach genetics basic principles and techniques related to the study of mtDNA.

Dates

March 2015 – May 2015

Job and employee

**Research in Biotechnology (BTEC-Inv) course instructor
University of Puerto Rico-Mayaguez (DECEP)**

Responsibilities: To teach the basic principles of the research in biotechnology. Also to teach writing and oral skill focused on oral and poster presentation and scientific article.

Dates

Dic 2010-Aug 2012

Job and employee

Ekho Ministries Inc. Missions Department Director

Responsibilities: Organization of fundraising activities, organization of outreach activities, construction planning of deep water wells in Haiti, working with homeless in Puerto Rico.

Ekho Ministries Inc. Student Mentor

Responsibilities: To provide guidance and support to students organization's leaders, organize leader's training camps and camp-retreat for members.

**Awards and
Certifications**

2012

NPO Administration and Proposal Writing Certification
DECEP-University of Puerto Rico-Mayaguez

2008

Beta Beta Beta National Biological Honor Society, Zeta Alpha Chapter

2006-2007

Society of Hispanic Professional Engineers (SHPE)

2007

Biology Department Honor Roll Member

2005-2006

National Honor Society Member, Hortus Chapter

Personal skills

Social skills	Bilingual- Spanish and English; writing and oral skills, people person.
Organizational skills	Leadership, creativity, initiative and team oriented skills, analytical skills and self-taught abilities.
Technical skills	PCR, Cloning, Electrophoresis, W/B screening, among other microbial and molecular techniques.
Computer skills	Proficient Windows, Internet, Microsoft Office applications
Relevant Courses	Industrial microbiology, Virology, Biochemistry, Bacterial Genetics and Bacterial Genetics Laboratory, Metagenomics and Metagenomics Lab