



Special Thanks to the RISE Programs' Staff –

Mr. Giovanni Cruz

RISE Lab Technician

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RISE Secretary

Mr. Michael Vicente

RISE Administrative Assistant

Support for

Student Salary & Materials were
provided by

– National Institute of Health (GM59429-15)

Research Initiative for Scientific Enhancement (RISE) Program

Support for Mentors

was provided by the



University of Puerto Rico- Cayey

Refreshments provided by University of Puerto Rico- Cayey

Morning refreshment – Chancellor, Dr. Mario Medina

RISE



December

Student

Research

Symposium

2014

Goals

The goal of the December Research Symposium is to provide Cayey students with an opportunity to present their research results. Research projects were conducted either on Campus with UPR faculty mentors or at other research institutions. Research site is listed next to each student photo.

Research results will be given in a series of oral presentations. Questions are welcomed and indicate that these young researchers have been successful with their projects. These presentations help us achieve two primary goals. First, students convey to the public their skills as researchers and as communicators of scientific knowledge. In addition, the progress that each student makes in their professional development is made self evident.

This activity is co-sponsored by the Biology, Chemistry, and Math Departments and by an NIH grant which has been awarded for five years (2011-2016) to UPR-Cayey for developing Biological Undergraduate Research Programs. Since 1985 Minority Biomedical Research Support (MBRS) has provided research experiences to over 800 Cayey students. Additional funds and their sources are listed on the back of this pamphlet. The efforts of mentors, lab technicians, and staff are gratefully acknowledged.

Certificates of participation will be provided to those speaking today. In addition, first, second and third place awards will be determined by UPR-Cayey judges. Selection will be made by four judges listed on the next page.

Schedule

Dec. 6, 2014 MMM 201

- 8:15 Setup & Refreshments
- 8:30 Welcoming Statements – Dr. Robert Ross, RISE Director
Dr. Raul Castro
Dean of Academic Affairs
- 8:45 – 9:45 Seminar Session I
- 9:45 – 10:15 Orientation on Research Opportunities at Ponce Health Sciences Univ.
by Ms. Wendy Pacheco, RISE Prog. Coordinator
- 10:15 – 10:30 Break & Photo Session
- 10:30 – 12:00 Seminar Session I I



Congratulations

to the following RISE alumni who were admitted to Ph.D. programs during the last four years (2011 – 2014).

Research experiences enabled them to continue their career development at these institutions.

Desiree Rolón	Michigan State University	Biology	2011
Elvin A. Morales	University of Wisconsin	Chem. Ed.	2011
Isamar Ortíz	Pennsylvania State University	Chemistry	2011
Frances Rodríguez	Univ. of California, Berkeley	Chemistry	2011
Jaritza Gómez	University of Wisconsin	Chemistry	2011
Widad Abdalla	Univ. of Iowa	Math	2011
Janice Díaz	Michigan State Univ.	Biology	2012
Mónica Rios	Michigan State Univ.	Biology	2012
Jesyka Meléndez	Univ. of California, Berkeley	Biology	2012
Wanda Figueroa	Univ. of Missouri	Biology	2012
Luis DeJesús	Texas A & M	Chemistry	2012
Gabriel Porrata	University of Iowa	Math	2012
Melissa Medina	Univ. of Buffalo	Biology	2013
Dorianmarie Vargas	Univ. of Central Florida	Biology	2013
Jennifer Ocasio	Univ. of North Carolina	Biology	2013
Elvin E. Morales	Univ. of Notre Dame	Biology	2013
Amaris Borges	Univ. of Buffalo	Chemistry	2013
Carlos Santos	Univ. of Minnesota	Biology	2014
Erick Perez	UPR- Medical Sciences	Biology	2014
Jose Rosado	UPR- Medical Sciences	Biology	2014
Laura Vicente	UPR- Medical Sciences	Biology	2014
Antonio Romero	Univ. of Calif.-San Diego	Chemistry	2014
Natalia Rivera	University of Buffalo	Chemistry	2014
Jaylissa Torres	Yale University	Chemistry	2014

The alumni table is sorted by-
year of graduation, area, and institution.

11:15

Developing Method for
Estimation of Lysine Density
on Affinity Membrane

Ms. Verónica Forbes
& *Dr. Vibha Bansal*
UPR- Cayey



11:30

Synthesis and Characterization of Zinc Oxide Nano-
fibers to Detect Hydrogen and Ethanol

Ms. Mormarieli Passalacqua
& *Dr. Wilfredo Otano*
UPR-Cayey



11:45

Preparation and characterization of Cellulose
Nanofibers for Biochemical Applications

Ms. Alejandra De Jesus
& *Dr. Wilfredo Otano*
UPR- Cayey



Guidelines for seminars –

Students will be speaking for eight minutes
followed by a seven-minute question period.
If there was insufficient time for all questions,
please approach the student during a break and ask your questions.
Each student, at the end of the question period, will introduce the following speaker.

Thanks to the following
for their help with judging this symposium:

Dr. Rosa Torres, Biology Director

Mr. Osvaldo Vega, ASBMB President & Founder

Mr. Joseph Pérez, graduating senior 2015

and Mr. Alberto Cintron, TMED President

Seminar Session I

8:45 – 9:45

8:45

Avian Influenze Type A-H5N1 Epidemiological
Model-Puerto Rico as a Case Student

Ms. Mariangeles Rivera
& *Dr. Maytee Cruz*
UPR-Cayey





9:00

Classifying Land Cover Composition of La Plata Watershed in Puerto Rico using Historical Aerial Photography and Object Classifiers

*Mr. Luis Perez
& Dr. Javier Arce
UPR- Cayey*



10:30

Prophage Induction of Environmental Isolates of Bacillus Species and Host Range Determination of Isolated Bacillobacteriophages

*Mr. Juan Apiz
& Dr. Michael Rubin
UPR- Cayey*

9:15

Solid-state Synthesis and Characterization of Low-Melting Mixed-Metal Oxides

*Ms. Maria Rivera
& Dr. Lukasz Koscielski
UPR- Cayey*



10:45

Characterization of Novel Bacteriophages: Mycobacteriophage Mirificustemp Isolated In Puerto Rico; Bacillobacteriophages Isolated In Brazil

*Mr. Gustavo Martínez
& Dr. Michael Rubin
UPR- Cayey*



9:30

Solid-State Synthesis of Low-Melting Mixed-Metal Sulfides

*Mr. Omar Padilla
& Dr. Lukasz Koscielski
UPR- Cayey*



11:00

Cloning and Expression of hPLAT Gene in *E. coli*

*Mr. Danilo Perez
& Dr. Vibha Bansal
UPR- Cayey*