



Special Thanks to the RISE Programs' Staff –

Mr. Roberto Cora

RISE Secretary

Mr. Giovanni Cruz

RISE Lab Technician

Ms. Zoraida Pérez

RISE Administrative Assistant

Support for

Student Salary & Materials were  
provided by

– National Institute of Health (GM59429-14)

Research Initiative for Scientific Enhancement (RISE) Program

Support for Mentors

was provided by the

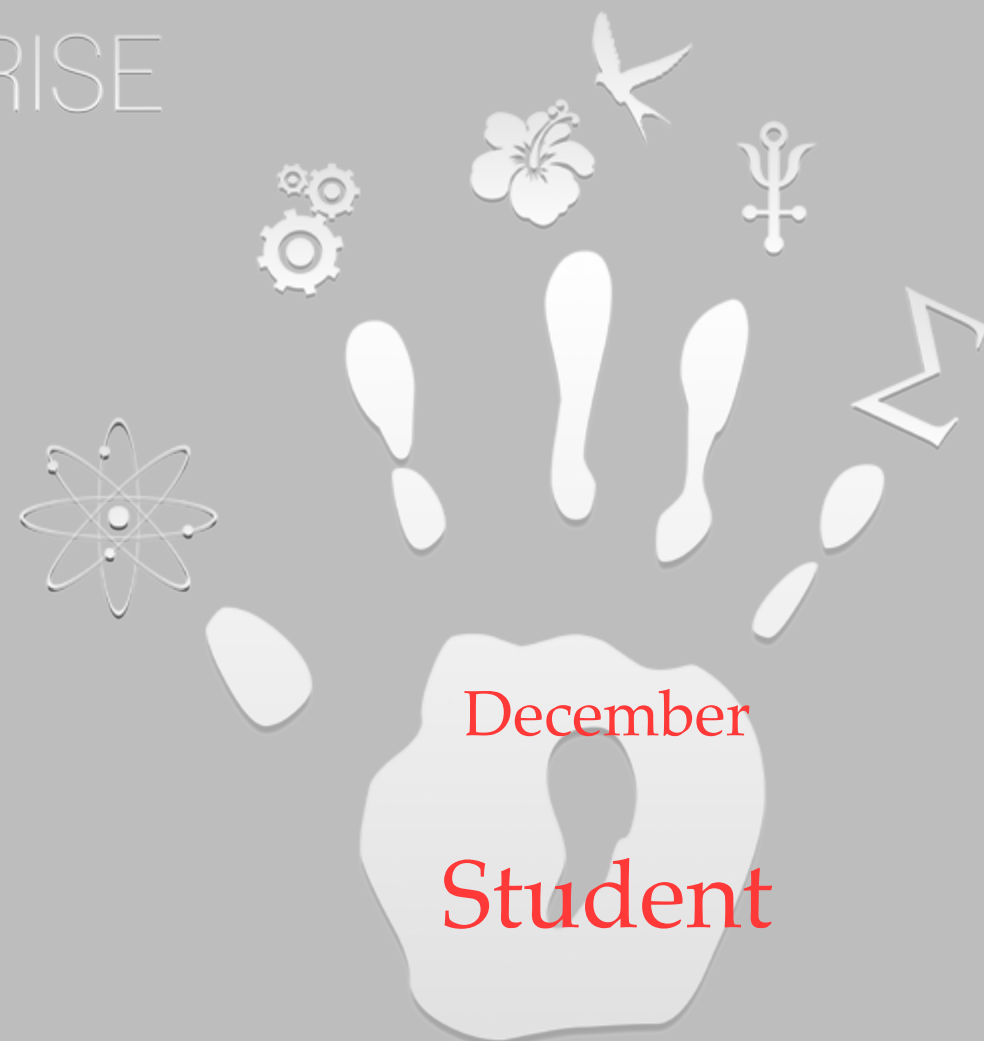


University of Puerto Rico- Cayey

Refreshments provided by University of Puerto Rico- Cayey

Morning refreshment – Chancellor, Dr. Jose N. Caraballo

RISE



December

Student

Research

Symposium

2013

# 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. 7, 2013 North Science Auditorium

8:15 Setup & Refreshments

8:30 Welcoming Statements – Dr. Robert Ross, RISE Director  
Dr. Edwin Flores  
Assoc. Dean of Academic Affairs

8:45 – 9:45 Seminar Session I

9:45 – 10:15 Break for Refreshments

10:15 – 11:30 Seminar Session II

## *Congratulations*

to the following RISE alumni who were admitted to Ph.D. programs during the last three years (2011 – 2013).

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

Desiree Rolón	Michigan State University	Biology	2011
Andrés Betancourt	Univ. of California, San Diego	Biology	2011
Isamar Ortíz	Pennsylvania State University	Chemistry	2011
Frances Rodríguez	Univ. of California, Berkeley	Chemistry	2011
Jaritza Gómez	University of Wisconsin	Chemistry	2011
Elvin A. Morales	University of Wisconsin	Chemistry	2011
Jorge León	University 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	University of Buffalo	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

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



10:45

Synthesis of Mixed-Metal Oxides

*Mr. Antonio Romero*

*& Dr. Lukasz Koscielski*

*UPR-Cayey*



11:00

Optimization of the  
Coliphage Enumeration Method

*Ms. Edwin Alvarado*

*& Dr. Javier Arce*

*UPR- Cayey*



11:15

Evaluating the Relationship  
between Land Use and  
Water Quality in Non-PRASA Systems

*Ms. Wilmarie Morales*

*& Dr. Javier Arce*

*UPR- Cayey*



Guidelines for seminars –

During these sessions students are presenting 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. Wilfredo Resto, Chemistry Chairperson

Ms. Jaylissa Torres,

Mr. Omar Padilla,

and Mr. Carlos Santos

Seminar Session I

8:45 – 9:45

8:45

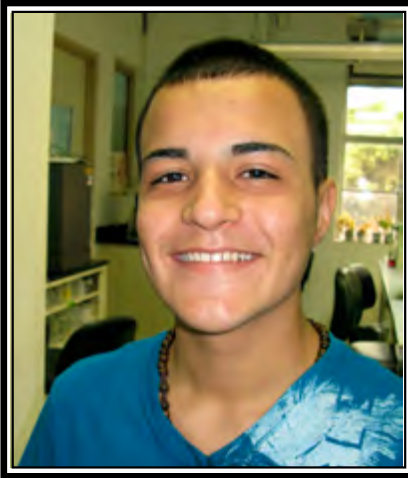
Preparation and Characterization of Cellulose  
Fibers Based on Electrospinning Technique

*Mr. José Cruz*

*& Dr. Wilfredo Otaño*

*UPR-Cayey*





9:00

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

*Mr. José Rosado*  
& *Dr. Vibha Bansal*  
UPR- Cayey  
Winner at ABRCMS 2013

9:45 – 10:15

Break for Refreshments & Questions

Seminar Session II

10:15 – 11:30

9:15

Understanding the Effect  
of the Spacer Arm Length  
on Protein Binding Capacity  
of an Affinity Membrane

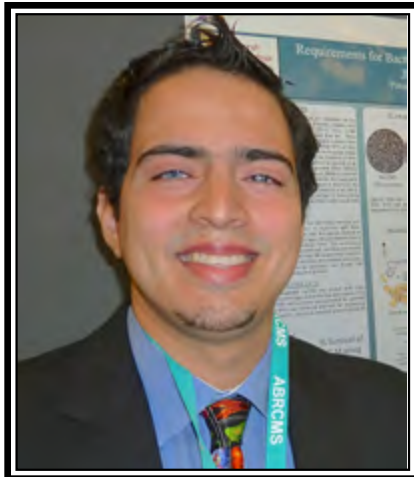
*Ms. Anaeli Shockey*  
& *Dr. Vibha Bansal*  
UPR- Cayey



10:15

Primer Design, PCR Amplification, Cloning,  
Sequence Determination, and Bioinformatics  
Analyses of Novel Plant Genes

*Ms. Nicolle Rosa*  
& *Dr. Michael Rubin*  
UPR- Cayey



9:30

Requirements for Bacteriophage Growth:  
Using High Throughput Sequencing  
to Determine Gene Essentiality

*Mr. Joseph Pérez*  
& *Dr. Michael Rubin*  
UPR- Cayey  
Invited to



10:30

Synthesis of  
Metal Oxynictide Compounds

*Mr. Darryl López*  
& *Dr. Lukasz Koscielski*  
UPR- Cayey