

2007

18th Annual
Student
Research

Symposium



Thanks to the RISE Staff-

Ms. Evelyn Rodríguez

Ms. Nayda Cordero

Ms. Jannette Rodríguez

Dr. Eneida Diaz

Dr. Chantelle MacPhee

Brochure by MORE - RISE Program

August 13- 25

Program & Symposium Goals

The RISE Program encourages and provides research opportunities for undergraduates. This goal is accomplished with four components–

- (1) inviting scientists to present seminars and workshops
- (2) freshmen enrolled in introductory research courses
- (3) activities for improving English language skills
- (4) arranging for students to participate in research with established scientists during the academic year or in summer programs in the United States of America.

Today's symposium follows two weeks of judging by 24 faculty who evaluated poster presentations by students. Their talks presented the results of research at laboratories and universities in the United States. Their projects were conducted under the supervision of a supporting faculty member (mentor) in their labs. Most students received research credits at Cayey for their efforts and their poster presentations are part of the research experience.

Graduate education is essential for Cayey alumni to become scientists and improve the world's health and environment. Today we will hear why and how graduate school is a source of innovation and discovery. Future opportunities will be awarded to UPRC alumni that are prepared.

In addition to the testimonials from alumni pictured on the right Dr. Thomas Landefeld from Calif. State Univ. will speak on –

'Succeeding on Your path in the Biomedical Sciences'

If you are interested or have a question, please ask the speaker. Your interest acknowledges the success of the presenter.

Financial Support & Mentoring were provided by the following institutions:

Baylor College of Medicine, Texas
 Merck Research Laboratories, New Jersey
 Michigan State University
 North Carolina State University
 Pennsylvania State University
 Tufts University, Boston
 University of Arizona
 University of Buffalo, New York
 University of California - Los Angeles
 University of Colorado
 University of Georgia - Athens
 University of Massachusetts - Amherst
 University of Medicine and Dentistry of New Jersey – Newark
 University of Minnesota
 University of Pennsylvania
 University of Pittsburgh
 University of Wisconsin-Madison

Financial support to coordinate all student activities were provided by:

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 UPR Cayey – RISE Program (GM59429)
 Research Initiative for Scientific Enhancement
 GlaxoSmithKline Pharmaceuticals, Cidra, PR
 Merck & Co.
 University of Puerto Rico– Cayey



Name of Student	Dept. of Degree	Institution of Study	Ph.D
Abdallah, Fatin		Univ. of Buffalo-NY	2006
Alvarado, Leiddy		Purdue Univ, IN	
Flores, Samuel		Cornell Univ.	
Lebrón, Ariel	Analytical Chemistry	Univ. of Arizona	2004
Martínez, Karen		Univ. of Florida	
Rodríguez, Alnelis		Univ. of Indiana	
Vicente, Glorimar		Univ. of Buffalo-NY	2007
Brewter, Amy	Anatomy & Neurobiology	UCLA	
Serrano, Geidy		UPR-MS	2006
Montano, Brenda		UPR-RP	
Rivera, Félix	Biochemistry	UPR-MS	2005
Armaiz, Guillermo	Cancer Biology	Univ. of Texas-Anderson	
Cotto, Xiomaris		New York City Univ.	
Gonzalez, Rosalyn	Cell & Molecular	UPR- RP	
López, Limary		Univ. of Michigan	2007
Rivera, Charlene		Univ. of Wisconsin	
Rivera, Jéssica		Vanderbilt Univ.	2007
Rivera, Noelia		Vanderbilt Univ.	
García, Edgardo		Caltech	
Nieves, Elias		North Carolina State Univ.	
Ortiz, Mariví		Cornell Univ.	
Ramirez, Magaly		University of Pennsylvania	
Rivera, Mary Chely		North Carolina State Univ.	
Rovira, Rosimar	Chemistry	Oklahoma State Univ.	
Sepulveda, Jennifer		North Carolina State Univ.	
Torres, Wildeliz		UPR-RP	2006
Marrero, Jeffrey		UPR-RP	2007
Medina Zuleika		Univ. of Massachusetts	2006
Vazquez, Vimary		UCLA	2003
Delgado, Johanna H.	Ecology	Texas A & M Kingsville	
Bonano, Vivian		Duke Univ.	
Bonilla, Margarita	Genomics & Development	Univ. of Texas, Houston	
Cintrón, Ariel	Mathematics	Cornell Univ.	
Marrero, Joeli	Micro- & Immunology	Tufts Med. School	
Sánchez, Elia		UPR-MS	
Valentín, Shirley		UPR	2006
Delgado, Jary	Neurology, Neuroscience	UCLA	
Rodríguez, Jennifer		U of Texas-Med.	
Soler, Gilberto		Harvard U	2007
Torres, Annelyn		SUNY NY	2005
Zayas, Roberto		U of Minnesota	2003
Rentas, Jaileen	Organic Chemistry	UPR-RP	
Rodríguez, Raúl		UPR-RP	
Colón, José		U of Minnesota	
Moreno, Johana	Pharmacology, Pharmacy	UPR-MS	2002
Velázquez, Guermarie	Physiology	UPR-MS	
Vallejo, Johana		UM-Colombia	2004
Morales, José	Toxicology/Biochemistry	Penn State U	2007

Future Scientists – Since 1998 47 RISE summer interns are pursuing the Ph.D.

From Cayey – Science graduates are discovering a bright future through research.

Poster Symposium – August 13- 25

Science Building – MMM

8:30– 2:00 Poster Display

Program – Aug. 25, 2007
 New Science Building - Auditorium

8:30 Coffee- Pastries

8:45 Welcoming Remarks –
José Caraballo Ph.D., UPR-Cayey, Academic Dean
Robert Ross, Ph.D., RISE Program

9:00 Why Do We Need Ph.D.s? A Perspective
Homero Monsanto, Ph.D. – Merck Pharmaceutical, Inc.

9:20 UPR-Cayey Alumni Speak
From Cayey to Graduate School
Milka Zayas – Ponce School of Medicine
Jeffrey Marrero, Ph.D.– UPR- Río Piedras
Mariví Ortiz, Ph.D. – Cornell University

10:20 Succeeding on Your Path in the Biomedical Sciences
Thomas Landefeld, Ph.D. - Calif. State University

11:30 Awarding of Certificates & Prizes

Refreshments will be provided from 9:00 until the end of the session.
 Provided by the Chancellor's Office at UPR-Cayey

If you would like to email any of these speakers,
 please speak with Robert Ross.



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Ms. Annette Negroni

E. coli Homeostatic Genes Influence
Efficiency of Ag and Cu as Disinfectant Agents

Christopher Rensing, Ph.D.
Arizona University



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Mr. Miguel Ortiz

The Absence of FK506 Binding Protein
Decreases Diaphragm Fatigue

Susan L. Hamilton, Ph.D.
Baylor College of Medicine



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Ms. Carol Rivera

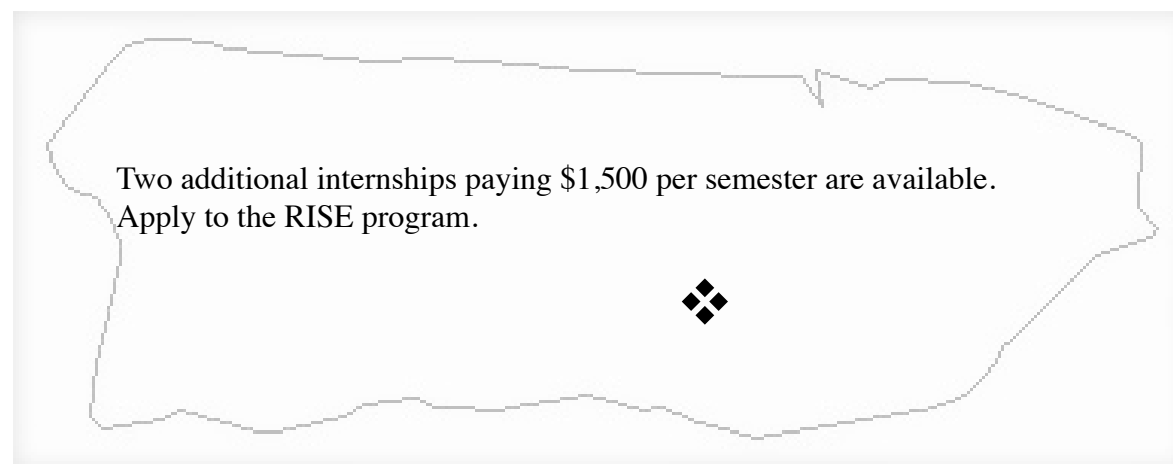
Interaction Between Separase (Espl 1) and
MLN51 in Breast Cancer

Debananda Pati, Ph.D.
Baylor College of Medicine



These RISE students are pursuing investigations in Puerto Rico this year (2007-08).

Student	Mentor	Location
Mr. Jean Calderón	Dr. Wilfredo Otaño	UPR-Cayey
Ms. Yadilette Rivera	Dr. Víctor Pantojas	UPR-Cayey
Ms. Roselin Rosario	Dr. Luis Fernández	UPR-Cayey
Ms. Lionitza Alsina	Dr. Luis Fernández	UPR-Cayey
Mr. José Suárez	Dr. Caroline Appleyard	Ponce School of Medicine
Ms. Limaris de Leon	Dr. Caroline Appleyard	Ponce School of Medicine
Ms. Eileen Rodríguez	Dr. Ada Szeto	Caribe Medical School
Ms. Gloriell Cardona	Dr. María-Eglee Pérez	UPR-Rio Piedras
Ms. María Jiménez		UPR-Medical Science
Mr. Wilfredo Soto		UPR-Medical Science



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Ms. Orielyz Flores

Control of Polymer Molecular Weight Distributions
Using Atom Transfer Radical Polymerization

Mahesh Mahanthappa, Ph.D.
University of Wisconsin –Madison



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Ms. Jaritza Gómez

Growth and Photochemical Functionalization of
ZnO Nanorod Arrays for Photovoltaic

Robert Hamers, Ph.D.
University of Wisconsin –Madison



#4

Mr. Luis Suárez

Identifying the Histological Relationship
In Patients with Thoracic Aortic Aneurysms
and Dissections

Xing Li Wang, Ph.D.
Baylor School of Medicine



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Ms. Lisandra Santiago

Characterization of Reversed-Phase HPLC
Columns Packed with Sub-3µm Particles

Luis Colón, Ph.D.
State University of New York - Buffalo



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Ms. Koraliz Santiago

Synthesis of Free-amino Heavy Chalcogen
Rhodamine Derivatives

Michael Detty, Ph.D.
State University of New York - Buffalo



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Ms. *Nicolé Cruz*

MHCI Expression

In the Main Olfactory Bulb

Ernesto Salcedo, Ph.D.

University of Colorado



#46

Mr. *Jorge Martínez*

Interaction of Antibacterial LL-37 Peptide

With Cellular Membranes

Paul Janmey, Ph.D.

University of Pennsylvania



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Mr. *Santiago Quiles*

Kingella kingae: Toxic Effect on Human Cells

Scott Kachlany, Ph.D.

University of Medicine & Dentistry-

New Jersey



#10

Ms. *Rhaisa Castrodad*

PIV Interactions

With *inv* and *sub* Sites *in vivo*

Anna Karls, Ph.D.

University of Georgia



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Mr. *José Peña*

Antibodies to HCoV-NL63 Spike Protein:

Tools for Localizing HCoV-NL63

Receptor Binding Domain

Kathryn Holmes, Ph.D.

University of Colorado



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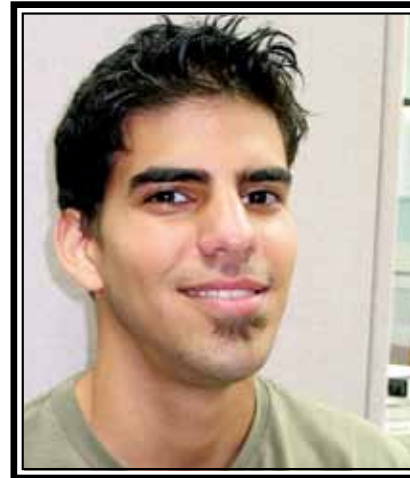
Mr. *Ricardo Rivera*

Fabrication of Oriented Polyethylene Oxide

Microfibers Through Electrospinning

Jorge Santiago, Ph.D.

University of Pennsylvania



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Mr. *Wilfredo De Jesús*

Oculocutaneous Albinism II (OCA2) Protein in

Hermansky-Pudlak Syndrome

Model Melanocytes

Mickey Marks, Ph.D.

University of Pennsylvania



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Mr. *Reynaldo Morales*

Identification and Characterization of a Mutant

Allele of HOS1 to Study the Regulation of ADF5

by the Cold-Tolerance Signaling Pathway

Richard Meagher, Ph.D.

University of Georgia



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Mr. *Wilfredo Soto*

Wnt 7a/ Fzd 9 Activation of Spry-4 Leads to

Downregulation of the E-cadherin

Repressor Snail in NSCLC

Robert Winn, Ph.D.

University of Colorado



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Mr. *Jean Calderón*

The Growth of Epitaxial

Silicon Nanowires

Song Jin, Ph.D.

University of Wisconsin - Madison



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Ms. *Yeseida Garay*

Synthesis and Characterization of a

Villin Headpiece Subdomain Mutant

Feng Gai, Ph.D.

University of Pennsylvania



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Ms. *Vanessa Suárez*

Construction, Verification and

Physiological Characterization of an RNase G

RNase Z Deletion Strain of *E. coli*

Sidney Kushner, Ph.D.

University of Georgia



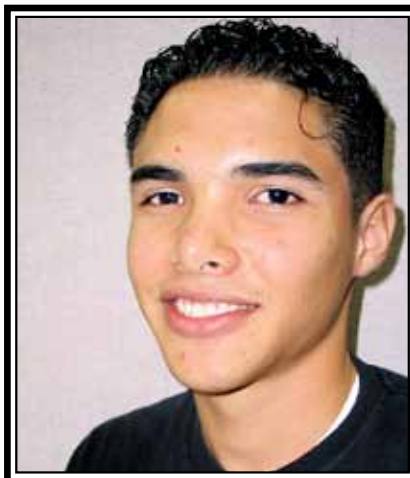
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Mr. Edwin Colón

Hh Signaling and Endocrine
Cell Differentiation in the Zebrafish Pituitary

Rolf Karlstom, Ph.D.

University of Massachusetts – Amherst



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Ms. Olga González

In vitro Study of
Postnatal Atrioventricular Valve Development

Vincianie Gaussin, Ph.D.

Univ. of Medicine & Dentistry of New Jersey



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Ms. María Jiménez

CodY: A Regulator Gene
In *Staphylococcus aureus*

Abraham Sonenshein, Ph.D.

Tufts University School of Medicine



#16 *Ms. Roselín Rosario*

High-throughput Cell Surface FMAT Assay
For LDL Receptor Levels on
Living Human Liver Cells

Lyndon Mitnaul, Ph.D.

Merck Pharmaceutical Inc.



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Mr. Jayson Llavona

Construction of a Vector
To Express Human EGFR
In Chloroplast's Inner Membrane

Danny Schnell, Ph.D.

University of Massachusetts – Amherst



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Mr. Jessian Muñoz

Characterization of RE-1 Silencing Factor
(REST) in Human Mesenchymal Stem
Cell-Derived Neurons

Pranela Rameshwar, Ph.D.

Univ. of Medicine & Dentistry of New Jersey



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Ms. Aniabelle Amadeo

TBA

Shalini Kumar, Ph.D.

University of California at Los Angeles



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Mr. Martín Carrasquillo

Protective Role of Selenoproteins in Bovine
Mammary Endothelial Cells Exposed to an
Oxidant Stress Environment

Lorraine Sordillo, Ph.D.

Michigan State University

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Ms. Yadilette Rivera

Studying the Effects of Weakened Promoter
Binding on the Initiation to Elongation
Transition of T7 RNA Polymerase

Craig Martin, Ph.D.

University of Massachusetts – Amherst



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Ms. María Oyolá

Glucose and Hypoxia Induced
Fetal Growth Restriction: Impact of Ancestry

Stacy Zamudio, Ph.D.

Univ. of Medicine & Dentistry of New Jersey



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Mr. Harry López

Role of CD Chromosomes
In Animal Pathogenesis

Andrew Diener, Ph.D.

University of California at Los Angeles



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Ms. Ángela Rivera

Spinal Neuron Toxicity to Heavy Metals

William Atchison, Ph.D.

Michigan State University



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Ms. Eileen Rodríguez

R-type Calcium Channels
In the Enteric Nervous System

Jim Galligan, Ph.D.

Michigan State University



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Ms. Jessica Torres

Activation of the Aryl Hydrocarbon Receptor
Promotes Hepatic Lipogenesis

Wen Xie, Ph.D.

University of Pittsburgh



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Ms. Claudia Rodríguez

Measuring Serotonin Uptake by
Chronoamperometry in Mouse Lymphoblasts

Anne Andrews, Ph.D.

Penn State University



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Ms. Vimary Bermúdez

Influence of Cytomegalovirus Shedding on
Gene Expression in Bronchoalveolar Lavage Cells

Marshall Hertz, Ph.D.

University of Minnesota



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Mr. José Suárez

Suppression of B cell Differentiation
By 2,3,7,8- tetrachlorodibenzo-*p*-dioxin

William Atchison, Ph.D.

Michigan State University



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Mr. Erick Aponte

Generation of Hybridomas from
Autoimmune Mice

Thereza Imanishi, M.D.

Tufts University School of Medicine



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Ms. Gloriell Cardona

Electrical Contacts for Hybrid Solar Cells

Suzanne Mohny, Ph.D.

Penn State University



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Mr. José Cotto

Characterization of PAAP-motif Containing
Proteins in *Streptococcus sanguinis*

Mark Herzberg, Ph.D.

University of Minnesota



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Ms. Francheska Vega

Ion Mechanisms for
Neurotoxicity-Glutamate Receptors

William Atchison, Ph.D.

Michigan State University



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Ms. Límaris de León

The Role of Progenitor Cells in v-Abl
Mediated Transformation

Naomi Rosenberg, Ph.D.

Tufts University School of Medicine



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Ms. Aixa Ortiz

Expression & Purification of
TEV Protease

Xiang-Qun Xie, Ph.D.

University of Pittsburgh



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Ms. Lily Guzmán

Alkaloid Total Synthesis via [2+2+2]
Cyclotrimerization Reactions

Alexander Deiters, Ph.D.

North Carolina State University



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Ms. Adriana Huertas

Screening Wild Carnivores for Zoonotic
Infections and Potential Agents of Bioterrorism

Adam Birkenheuer, Ph.D.

North Carolina State University



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Ms. Yaritza Figueroa

Fabrication of Metallic Nanorods and the
Observation of their Movement

Thomas Mallouk, Ph.D.

Penn State University



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Ms. Joan Roque

Determination of Phase Transitions of Surfactant
Mixtures with Fluorocarbon Modifiers by Using
Parallel studies of Conductivity and Surface Tension

Mortez Khaledi, Ph.D.

North Carolina State University



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Ms. Darimar Hernández

Self Assembly of Gold Nanowires
Onto Silica Surfaces

Christine Keating, Ph.D.

Penn State University



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Ms. Lizbeth Cotto

Measurements of Gas Flow Rate
Through Microstructured Optical Fibers
At High Pressure

John Budding, Ph.D.

Penn State University



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Ms. Liz Rivera

Fabrication and Characterization
of Ordered Porous Alumina Membranes
& Bi Nanowires

Moses Chan, Ph.D.

Penn State University

