



Summer 2006 Pre-College Research Symposium

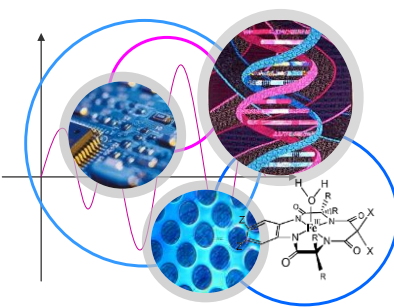


Sistema Universitario
Ana G. Méndez

Model Institutions for Excellence






Summer 2006 Pre-College Research Symposium



Department of Science and Technology
August 12, 2006 at the UMET Campus
San Juan, Puerto Rico


Sponsored by the National Science Foundation



Ana G. Méndez
University System

Model Institutions for Excellence



Summer 2006 Pre-College Research Symposium



Best Poster Presentations



Best Oral Presentations



Holiday Inn Hotel
Saturday, August 12, 2006

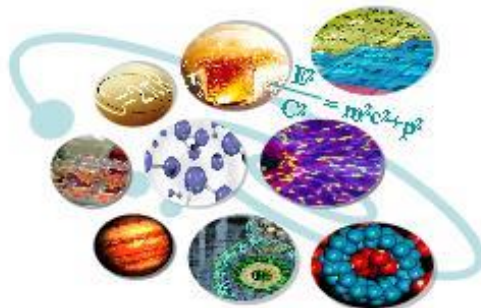




Spring 2006 Pre-College Symposium



**Sistema Universitario
Ana G. Méndez**

Model Institutions for Excellence



**Spring 2006
Pre-College Research Symposium**

May 13, 2006
Holiday Inn Hotel
Isla Verde, Puerto Rico

Sponsored by the National Science Foundation



**SISTEMA UNIVERISITARIO
ANA G. MÉNDEZ**

Model Institutions for Excellence

**Spring 2006 Pre-College
Research Symposium
Highlights**



Dr. Juan F. Arratia, Director and Principal Investigator of MIE Project at UMET and Dr. Wilfredo Colón, MIE Project Co-PI at Universidad del Este with the Spring 2006 Pre-College Research Symposium Poster and Oral Presentations winners.



Dr. Juan F. Arratia, MIE Project Director, Alberto Maldonado, Eng., UNE Chancellor and Dr. Wilfredo Colón, Dean, UNE Department of Science and Technology



Keynote Speaker: Mr. Manuel Ramon, MS Candidate, Florida A&M University

May 13, 2006
Holiday Inn Hotel
Isla Verde, Puerto Rico



Sponsored by the National Science Foundation



Pre-College Program Highlights



Pre-College Summer Research Program

Summer 2012

SUMMER INTERNSHIP PROGRAM 2012 Pre-College Research Internship Program

MIT Haystack Observatory, Boston



Lawrence Livermore National Laboratory, California



Morehead State University, Kentucky



University of Texas, El Paso



NCAR-UCAR-NOAA, Boulder, Colorado



University of Vermont, Burlington



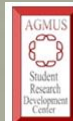
Purdue University, Indiana



Jessica D. Gonzalez
Baptist Academy



AGMUS Institute of Mathematics Caribbean Computing Center for Excellence



ANA G. MENDEZ UNIVERSITY SYSTEM
STUDENT RESEARCH DEVELOPMENT CENTER
AGMUS Institute of Mathematics
CARIBBEAN COMPUTING CENTER FOR EXCELLENCE



2012 Pre-College Summer Research Internship Program



Funding provided by the National Science Foundation (NSF)
Grants DMS-0822404 & CNS-0940522

Undergraduate Research Program

- Research Program at National Laboratories and Research Institutions in the US mainland, Puerto Rico and abroad for a ten-week period during the summers
- Undergraduate Research Exchange Program between UMET laboratories and MIE Institutions during the summers
- STEM students from MIE schools spend between 8 to 10 weeks at the UMET campus working in competitive research projects under the mentorship of faculty from UMET

Undergraduate Research Program

Samples of Research Projects

- “Study of the Possible Effects of Jil-1 Protein Over Telomere Gene Expression”
- “Radar Data Fusion for Autonomous Navigation”
- “OCD Therapeutic Dynamics: Markovian-Based Simulations”
- “The Relationship between the Chemistry and Microphysics of Atmospheric Aerosols at a Mid-Atlantic Suburban Site”
- “*Ad Hoc* Networking and its Security Applications”
- “Metal-Organic Frameworks as Stationary Phase in High Performance Liquid Chromatography Columns for Organic Analytes Separations”
- “Intrinsic Ca^{2+} Variations in Hippocampal Astrocytes”
- “Relationships between Suspended Fecal Bacteria and Land Cover in Streams in the Enoree and Saluda River Basins, South Carolina”

Undergraduate Research Program

- **Broad participation of STEM students from prestigious universities in the US mainland and Puerto Rico**
- **MIE Schools, HBCU, Howard University, Florida A&M University, Cornell University, University of the Virgin Islands, University of California at Berkeley, University of Puerto Rico, MIT, Johns Hopkins, among others**



Undergraduate Research Symposium Highlights

XVII Undergraduate Research Symposium 2006

Sistema Universitario Ana G. Méndez

Model Institutions for Excellence (MIE)

XVII Undergraduate Research Symposium

September 15-16, 2006
Normandie Hotel
San Juan, Puerto Rico
Sponsored by the National Science Foundation

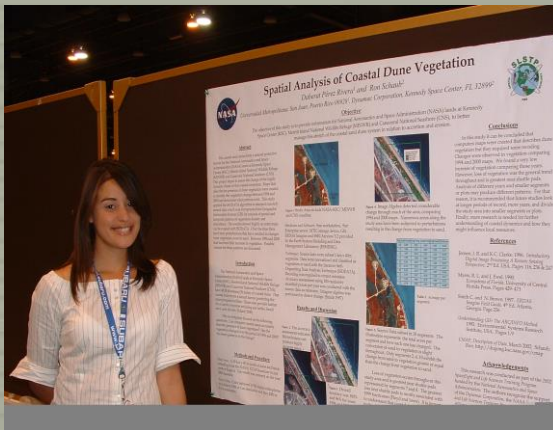
Ana G. Méndez University System
Model Institutions for Excellence
XVII Undergraduate Research Symposium

Best Poster and Oral Presentations

Nanotechnology Workshops Highlights



MIE Scholarship Program Highlights



Fulbright Visiting Scholars Series

January-May 2007



Ana G. Méndez
University System
Student Development Center
Universidad Metropolitana
Model Institutions for Excellence



Fulbright Visiting Scholars Series

January – May 2007



Dr. Linas Lozys
Institute of Ecology of Vilnius University
Vilnius, Lithuania



"Application of Fish Otolith Microchemical Analysis Method for Practical Needs Tracing Fish Migration Through the Salinity Gradients: Case Study in Lithuania"

UMET / TURABO
April 20, 2007



Dr. Abloul, Dr. Nidal A. Younes
University of Illinois
Chicago, Illinois



"The Effect of Ghrelin on TRP Ion Channels in the Brain" By: Dr. Abloul
"Islet Cell Transplantation as a Treatment of Diabetes" By: Dr. Younes

UMET/UNE
April 27, 2007

Summer 2007 Undergraduate Research Internships (UMET)



AGMUS SUMMER 2007 Research Internship Program



Universidad Metropolitana
Students



Arizona
State
University



NASA-Jet Propulsion Lab,
California Institute of Tech, CA



Damaris Chaz
Computer Science

Montclair State University,
Newark, NJ



Daniel Camila
Computer Science / ENG

University of P.J. Safarik,
Slovakia



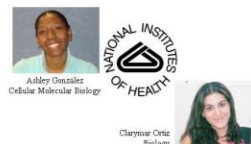
Michael Coraballo
Cellular Molecular Biology



AGMUS SUMMER 2007 Research Internship Program



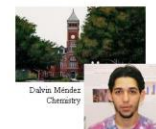
National Institutes of Health,
Bethesda, MD



Aubrey Gonzalez
Cellular Molecular Biology

Clarymar Ortiz
Biology

Clemson University,
Clemson, SC



Dalva Mendes
Chemistry

New Mexico Tech,
Socorro, NM



Irene Nieves
Environmental Sciences

Yalva Echevarria
Environmental Sciences

Universidad Metropolitana,
San Juan, PR



Roberto Cordero
Chemistry

Ana Rodriguez
Chemistry

Jonathan Lopez
Biology

Michigan Tech University,
Houghton, MI



Juan P. Alvarez
Biology

Purdue University,
West Lafayette, IN



Carlos Diaz
Cellular Molecular Biology

University of California,
Davis-Sacramento, CA



Nelson Bonilla
Biology

Universidad de Puerto Rico,
Recinto Ciencias Médicas, PR



Daniela Pátero
Biology

Tiana Merrifield
Biology

Tennessee Tech University,
Cookeville, TN



Raúl García
Computer Science

Arizona State University (MTBI),
Tempe, AZ



Emmanuel Morales
Mathematics



Maria Castellana
Cellular Molecular Biology

Eric Castillo
Cellular Molecular Biology

NIEHS Research Triangle,
North Carolina, NC



Celia Hernandez
Cellular Molecular Biology

Rensselaer Polytechnic Institute,
Troy, NY



Sharon Cansado
Chemistry

Summer 2007 Undergraduate Research Internships (UMET)



AGMUS SUMMER 2007 Research Internship Program



University of Connecticut, Storrs, CN



Howard University, Washington, DC



North Carolina State University, Raleigh, NC



University of Pennsylvania, Philadelphia, PA



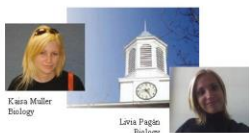
Harvard University, Cambridge, MA



Spanish Research Council, Madrid, Spain



Fort Valley University Tallahassee, FL



Carnegie Mellon University, Pittsburgh, PA



AGMUS SUMMER 2007 Research Internship Program



University of Maryland, Baltimore County, MD



University of Massachusetts, Amherst, MA



University of North Carolina, Chapel Hill, NC



University of Colorado, Boulder, CO



University of Texas, El Paso (UTEP), TX



Baylor College, Houston Texas



University of New Mexico, Albuquerque, NM



Universidad de Puerto Rico, Recinto Mayaguez, PR



University of Virginia, Charlottesville, VA



Delaware State University, Delaware



Jackson State University, Jackson, MS



Summer 2007 Undergraduate Research Internships (UNE-TURABO)



AGMUS SUMMER 2007 Research Internship Program



Universidad del Turabo
Students




NASA-Goddard
Space Flight Center, MD





Milwaukee School of Engineering,
Milwaukee, WI





Arizona State University,
Tempe, AZ





Santa Clara University,
Santa Clara, CA





Nanyang Technical University,
Singapore




Northwestern University,
Evanston, NM





Universidad de Puerto Rico,
Ciencias Médicas, PR




Princeton University,
Princeton, NJ




Universidad del Turabo,
Caguas, PR




University of Illinois,
Chicago, Illinois




Air Force-ROTC,
Puerto Rico






AGMUS SUMMER 2007 Research Internship Program



Universidad del Este
Students




Federal Bureau of Investigations,
Quantico, VA




Armed Forces Institute of
Pathology, Washington, DC




Arizona State University,
Tempe, AZ




Universidad de Puerto Rico,
Mayaguez, PR





Procter & Gamble Research
Department, Cincinnati, OH




Ohio State University,
Columbus, OH





University of South Carolina,
Columbia, SC




Wyeth Pharmaceutical,
Carolina, PR





University of Wisconsin,
Madison, WI

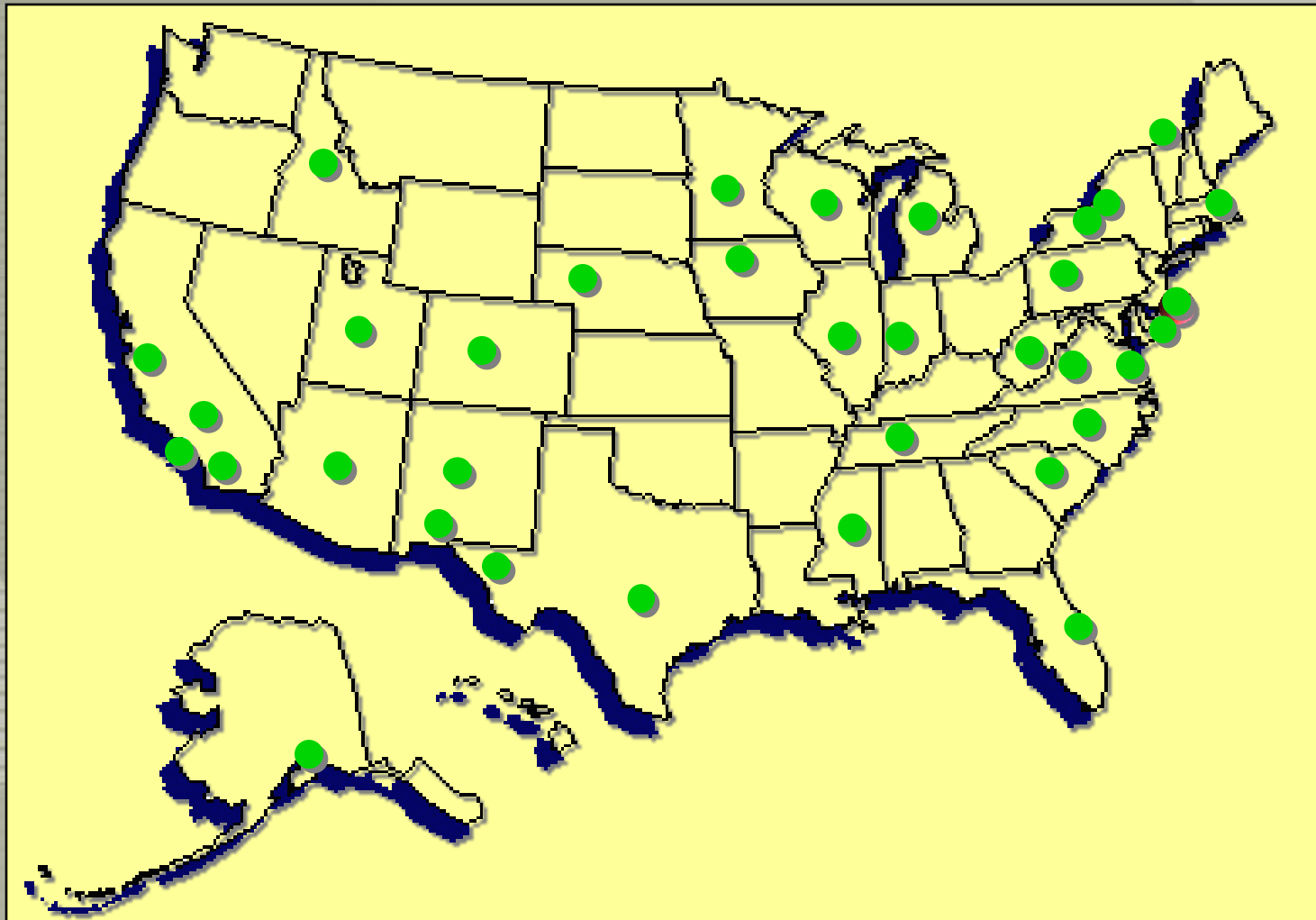




Universidad de Puerto Rico,
Ciencias Médicas, PR



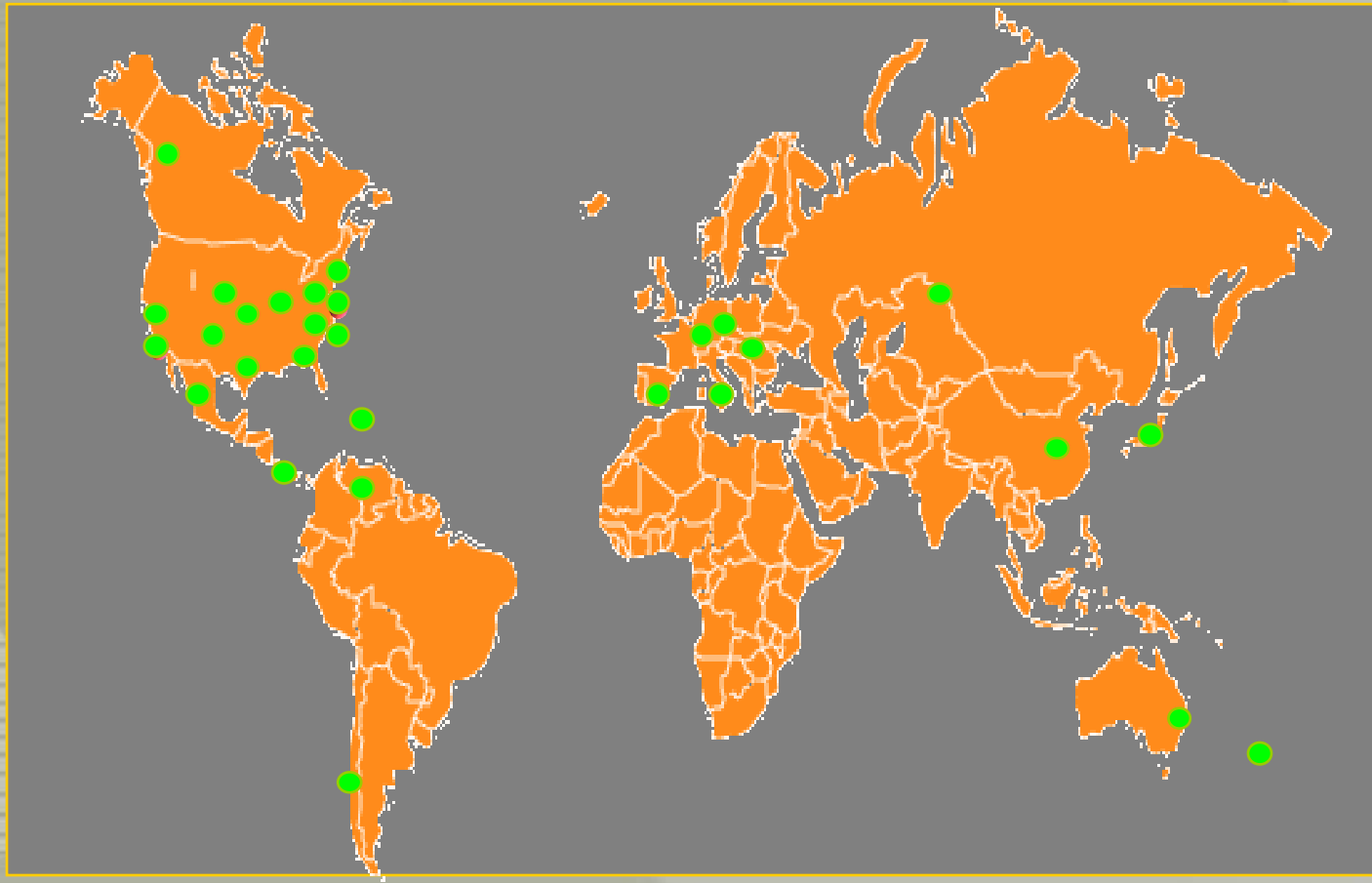

A NETWORK OF RESEARCH MENTORS



A NETWORK OF US MAINLAND RESEARCH MENTORS

Carlos Castillo	Cornell University
Kenneth Sargent	Furman University
Richard Weiss	UCLA
Vernon Morris	Howard University
Robert Murphy	Carnegie Mellon University
Jerzy Leszezynski	Jackson State University
Mario Robles	University of California, Irvine
Stephen Dewhurst	University of Rochester, New York
Eugenia Kalnay	University of Maryland College Park
Thomas Windham	National Center for Atmospheric Research
Michele Glantz	NCAR, Boulder, Colorado
Thomas Landefeld	California State University, Domínguez Hills
Carl Bonner	Norfolk State University, Virginia
Greg Simmons	University of Maryland, Baltimore County
Mandana Sassanfar	Massachusetts Institute of Technology
Héctor Abruna	Cornell University
Larry Takemoto	Kansas State University
Kenneth Olden	National Institute of Environmental Health Sciences, Raleigh, North Carolina
Carlos Smith	University of South Florida
Tony Perry	University of the Virgin Islands
Janet Rutledge	UMBC

A NETWORK OF INTERNATIONAL RESEARCH MENTORS



A NETWORK OF INTERNATIONAL RESEARCH MENTORS

Qian Ye

**Chinese Academy of Meteorological
Science, Beijing, China**

Leendert Maat

**Delft University of Technology, The
Netherlands**

Andreas Klamt

COSMOlogic, Leverkusen, Germany

Lino Naranjo

**University of Santiago de Compostela,
Spain**

Peter Holtham

University of Queensland, Australia

Adeel Zafar

United Nations University, Japan

Howard Alper

University of Ottawa, Canada

Atif Tantaway

Mansura University, Egypt

Ben Feringa

Groningen University, The Netherlands

Luis Barrera

Universidad Católica del Norte de Chile

Fernando Ruelle

**Instituto Venezolano de Integración
Científica, Venezuela**

Srikantha Herath

Tokyo University, Japan

Hector Kaschel


Universidad de Santiago, Chile

International Undergraduate Research Program



2003-2006

<p>University of Canterbury, New Zealand</p> <p>Amor Ovenden Environmental Science Summer 2003</p> <p>Jon Tundo Environmental Science Summer 2003</p>	<p>University of Arizona, Tucson Vatican Observatory, Italy</p> <p>Lynn Zandbergen Physics Summer 2004 and 2005</p>
<p>Universidad Santiago de Compostela, Spain</p> <p>Joel Hernandez Computer Science Summer 2004</p> <p>Chloé Raventos Environmental Science Summer 2003</p>	<p>United Nations University, Tokyo, Japan</p> <p>Thomas Van Hols Biology Summer 2003</p> <p>Alejandro Berkenbos Environmental Science Summer 2004</p> <p>Robert Jones Biology Summer 2003</p>
<p>University of Queensland, Australia</p> <p>Marcel Oates Computer Science Summer 2003</p>	<p>Groningen University, The Netherlands</p> <p>Orlando Roper Chemistry Summer 2003</p>
<p>University of Rome, Italy</p> <p>Joe Roper Biology Summer 2003</p>	
<p>Andrés Bello University, Santiago de Chile</p> <p>Thomas Morrell Biology Summer 2003</p>	<p>Arctic Field Ecology, Canada</p> <p>Adriana Ojeda Environmental Science Summer 2003</p>



2003-2006

<p>COSMOlogic, Germany</p> <p>Melissa Ostry Chemistry Summer 2006</p>	<p>Delft University of Technology, The Netherlands</p> <p>Justina Charnal Chemistry Summer 2006</p>
<p>Center for Chemical Research, Venezuela</p> <p>Denise L. Lauer Biology Summer 2003</p>	<p>Universidad Católica Del Norte, Chile</p> <p>Thomas Morrell Biology Summer 2003</p>
<p>University of California Irvine, Summer Program in Mexico</p> <p>Thomas Morrell Biology Summer 2006</p> <p>Martha Trinidad Orbital Molecular Biology Summer 2006</p> <p>Jose A. Vega Orbital Molecular Biology Summer 2006</p>	<p>Spanish Research Council, Barcelona, Spain</p> <p>Karen Condeelis Orbital and Molecular Biology Summer 2006</p>
<p>University of Valladolid, Valladolid, Spain</p> <p>Celia M. Hernandez Environmental Science Summer 2003</p>	<p>Nanyang Technical University, Singapore</p> <p>Joel Hernandez Engineering Texas University Summer 2006</p>
<p>Earth University, Costa Rica</p> <p>Elizabeth Cuevas Behavioral Science Summer 2006</p>	<p>Earth University, Costa Rica</p> <p>Evelyn Lago Behavioral Science Summer 2006</p>

MGE@MSA Student Research Conference

April 23, 2007



Michael Caraballo, Senior
Cellular Molecular Biology Major
First Place, Poster Presentation Award

Johanna Rodríguez, Junior
Biology Major
Third Place, Poster Presentation Award



64th Annual BKX/NIS Meeting Conference, Greensboro, North Carolina



José A. Vega, Senior,
Cellular Molecular
Biology Major
Third Place Poster
Presentation

José Cardona, Senior,
Mechanical Engineering
Major
First Place Poster
Presentation

SACNAS 2007 National Conference

Kansas City, Missouri



Ana G. Mendez University System
Universidad Metropolitana
Model Institution for Excellence



SACNAS 2007 National Conference

Kansas City, MO
October 11-14, 2007

Congratulations!

Cristina Tatis

Best Poster Presentation Award
Immunology Category




*“Regulation of Hepatic Multidrug Resistance Protein
Expression During Allyl Alcohol Hepatotoxicity”*



Ana G. Mendez
University System


SACNAS 2006 National Conference

Tampa, Florida




UNIVERSIDAD METROPOLITANA
MET
M. D. S. J. I.
INSTITUTIONS
EXCELLENCE

Ana G. Méndez
University System
Model Institutions for Excellence




SACNAS
national conference




Tampa, Florida
October 26-29, 2006

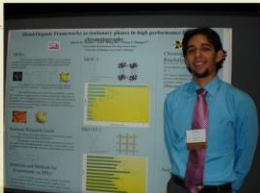
Best Poster Awards



Dr. Juan F. Arratia and Dr. Gustavo Miranda Carboni with Universidad Metropolitana's best poster winners; José A. Vega and Dalvin Méndez




**José Alejandro Vega, Senior,
Biological Science Category,**
"Osmoregulatory role of Thyroid Hormones in the Kallfish"
University of California, Irvine, Instituto Neurobiología,
Universidad Autónoma de México




**Dalvin Méndez, Senior,
Chemistry Category,**
*"Metal-Organic Frameworks as Stationary Phase in
High Performance Liquid Chromatography Columns for
Organic Analyte Separation"*
University of Michigan Ann Arbor, MI

45th Sanibel Symposium, St. Simons Island, Georgia, March 5, 2005





UNIVERSIDAD METROPOLITANA
Model Institutions for Excellence (MIE)
Department of Science and Technology



Amir Rodríguez, Sophomore Computer Science, was awarded the best oral presentation for his research project "Theoretical Studies of BE_nGe_n and $BE_{2n}Ge_n$ ($n=1-4$) cluster at the 45th Sanibel Symposium in St. Simons Island, Georgia on March 5, 2005

CONGRATULATIONS !!





SACNAS 2005, Denver, Colorado



Carlos Díaz, Sophomore, Chemistry

Category, Best Poster Award

“Chemical Ligation with N-Alkylaminooxy Peptides”

Santa Clara University



Ricardo Cordero, Senior, Applied Mathematics

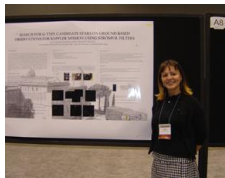
Applied Mathematics Category, Honorable Mention

“Intrinsic Spectral Geometry of the Kerr-Newman
Event Horizon”

Universidad Metropolitana

SACNAS 2004, Austin, Texas

Best Poster Awards, October 24, 2004

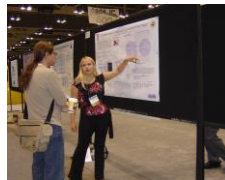


Luisa Zambrano, Senior, Applied Physics

Astronomy Category

"Search for G-Type Candidate stars on Ground-Based Observations for Kepler Mission Using Strömvil Filters"

Vatican Observatory, Italy

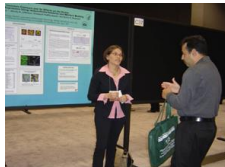


Yanine Rosario, Senior, Computer Science

Computational Biology Category

"Classification Accuracy of Multiresolution Downsampled Cellular Images"

Carnegie Mellon University

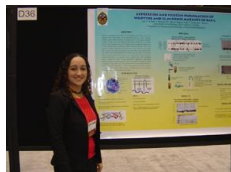


Karla Hernández, Junior, Chemistry

Chemistry Category

"Neonatal Genistein Exposure and its Effects on the Ovary: Alterations in Protein Expression Using Immunohistochemistry and Western Blotting"

National Institute of Environmental Health Sciences (NIEHS)



Iris Olmeda, Senior, Cellular Molecular Biology

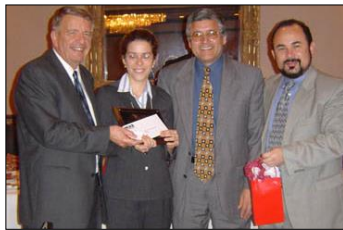
Cellular Molecular Biology Category

"Expression and Protein Purification of Wildtype and 12 missense Mutants of BAF-L"

Johns Hopkins University

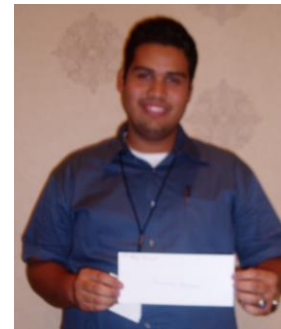
Outreach and Networking Strategies

National Undergraduate Research Conference Winners



Alejandra Irizarry, senior Computer Science, Model Institutions for Excellence (MIE) scholar was awarded the second best poster presentation for her research project “Combining Vision and Touch for the Perception of Object Size” at the 18th University of Texas Medical Branch, Undergraduate Research Symposium on March 4-5, 2004 in Galveston, Texas.

Alejandra Irizarry



Alejandro Berberena, junior Environmental Science, Model Institutions for Excellence (MIE) scholar was awarded the second best oral presentation for his research project “The Effects of Visible Fluorescent Elastomer Implants on the Growth and Mortality of *Atya lanipes* and *Xiphocaris elongata*” at the 61th Annual Joint Meeting of The National Institute of Science/Beta Kappa Chi Scientific Honor Society/Brookhaven Semester Program, on March 24-29, 2004 in Houston, Texas.

Alejandro Berberena

Outreach and Networking Strategies

Undergraduate Research Presentations National and International Conferences

California Alliance for Minority Participation (CAMP) Symposium,
University of California, Irvine, January 31 - February 2, 2003



Oscar González
Lucy Hamilton
Terannie Vázquez