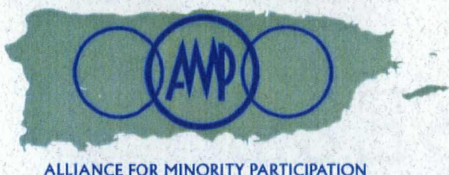


PUERTO RICO LOUIS STOKES



PRISM 2005

The 25th Puerto Rico Interdisciplinary Scientific Meeting

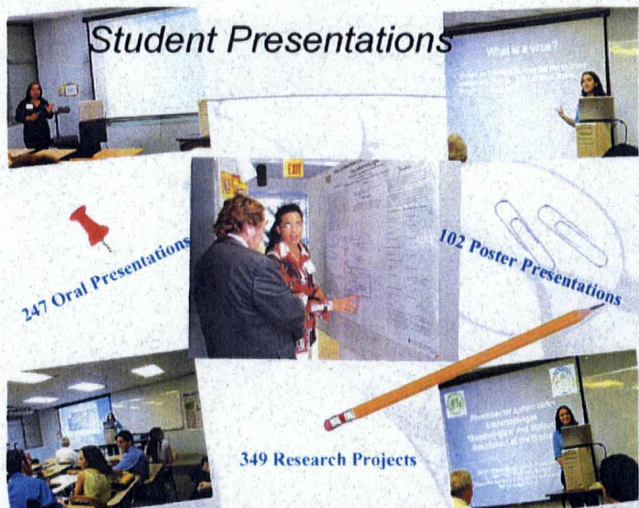


On March 12, 2005, the Puerto Rico LSAMP program and the local chapter of the American Chemical Society (ACS), celebrated the 25th Puerto Rico Interdisciplinary Scientific Meeting. The activity was held at the University of Puerto Rico, Mayaguez Campus, the site of the first PRISM twenty-five years ago. A total

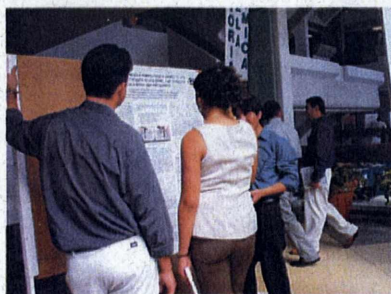
of **840 STEM** students and faculty members were welcome by the Chancellor of UPR-Mayaguez, Dr. Jorge Vélez Arocho.



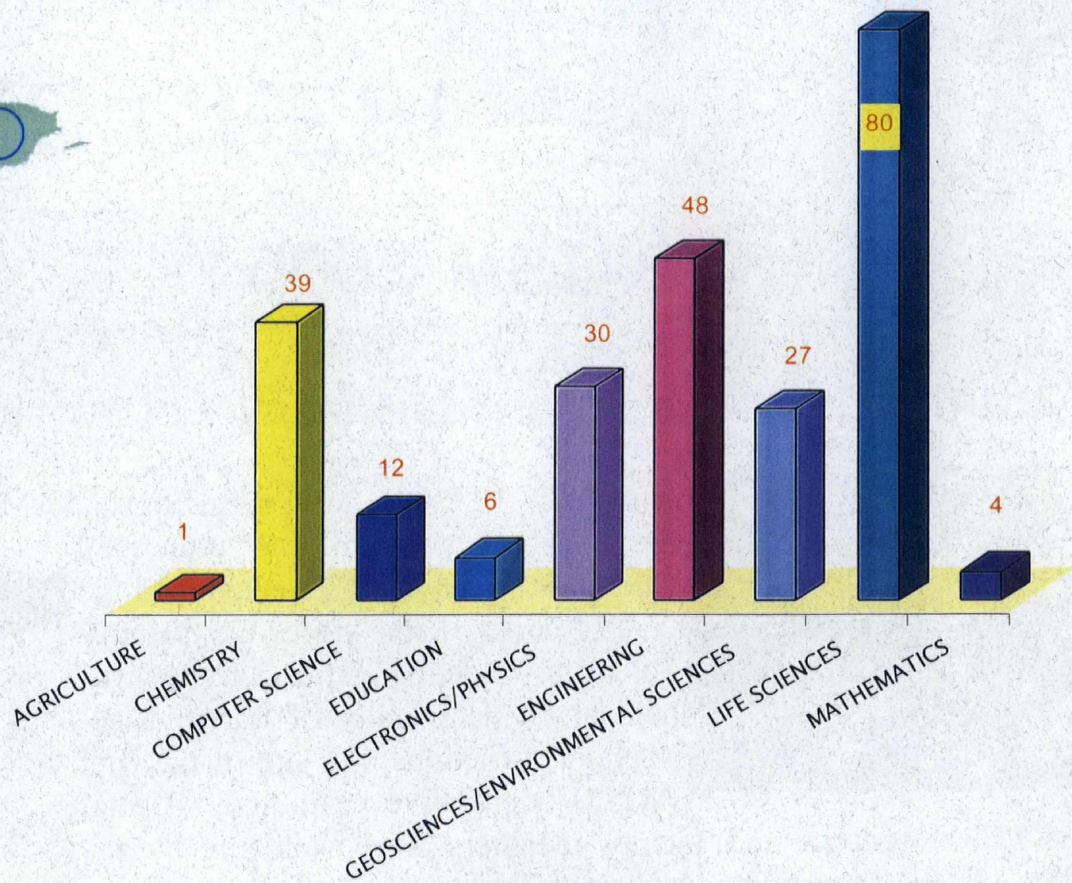
Dr. Jorge Velez Arocho



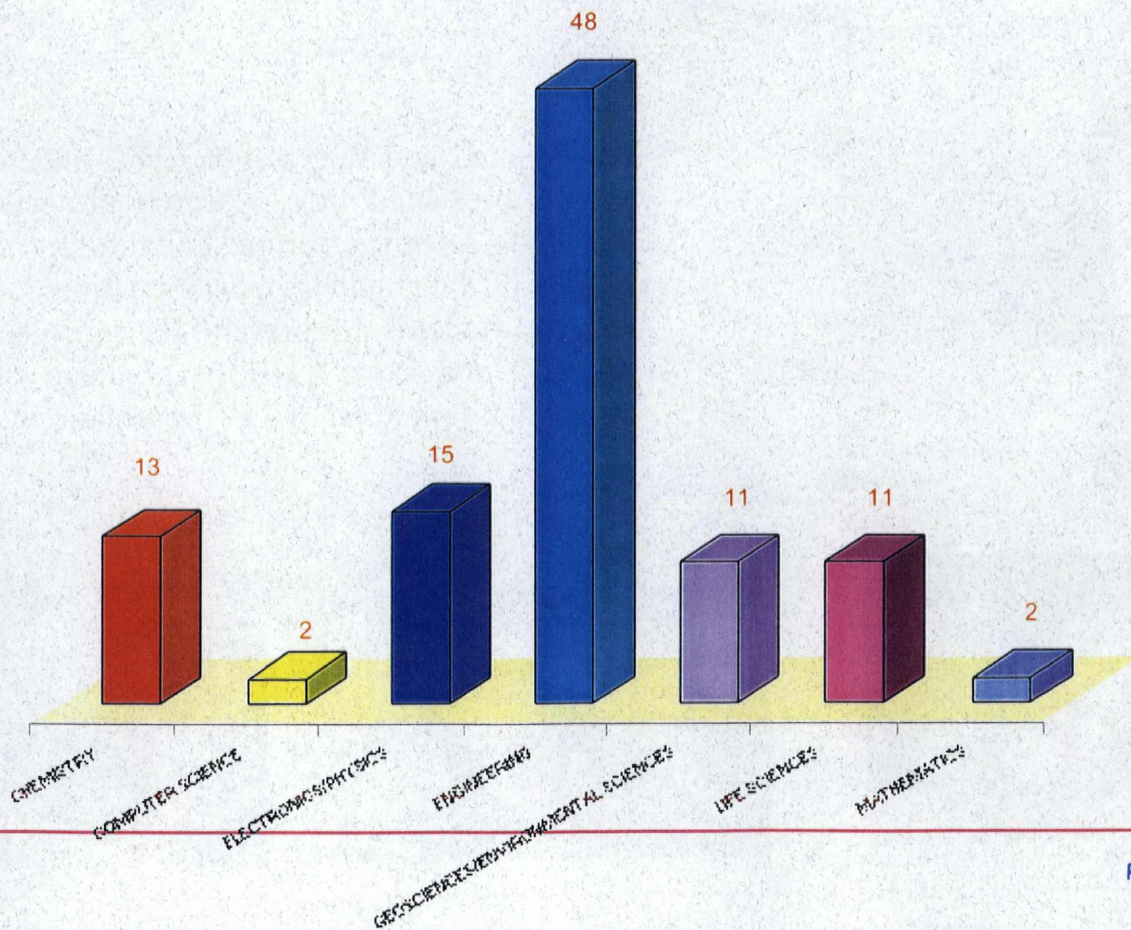
Two hundred and forty seven (247) undergraduate students presented their research projects at this islandwide scientific forum. For the first time this year, PRISM included a poster session for STEM graduate students to present their projects. One hundred and two (102) graduate students participated for a total of 349 presentations.



UNDERGRADUATE ORAL PRESENTATIONS BY STEM FIELD



GRADUATE POSTER PRESENTATIONS BY STEM FIELD



DR. LEON LEDERMAN, 1988 Nobel Prize in Physics



Dr. Lederman on
"Science, Education and
Science Education"

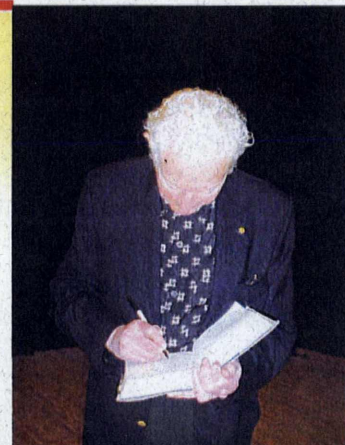
The invited plenary speaker was Dr. Leon M. Lederman, an internationally renowned high-energy physicist, and the 1988 Nobel Prize in Physics was the invited plenary speaker at PRISM 2005. The topic of the conference, however, was not on the muon neutrino, the discovery for which he and his colleagues received such a distinction, but on the need for scientists to get actively involve in the process of improving science education at all levels. Why? Because: *"We tend to overwork the description 'crisis'. However, having a 19th century educational system in the 21st century deserves at least such a description. Why? Science and technology continue to be the driving forces for human behavior, health, longevity, and economic well-being. They also bear part of the burden for poverty, lack of access to Internet, and looming environmental catastrophes. That's why."*

Dr. Lederman is the founder of the Teachers Academy for Mathematics and Science in Chicago, which aims at re-training all science and mathematics teachers in the city's public schools. He is also the founder and resident scholar of the Illinois Mathematics and Science Academy, a 3-year residential public high school for talented children.

DR. LEON LEDERMAN ON THE IMPORTANCE OF RESEARCH EXPERIENCE

"For a creative scientist, it's very good to get started early. Skip things and begin to accumulate the ability to do research. That's what we really keep emphasizing: research experience, even as an undergraduate. Get into the lab and begin to dabble with things a little bit. You don't have to learn everything, but begin to address the basic issues as soon as you can" (Interview by the Academy of Achievement, June 1992)

"Aim high, because you can always fall back, but if you aim low, there's nothing to fall back to"

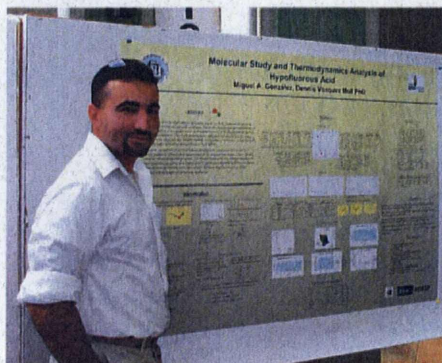


At the reception offered by the Chancellor in honor of Dr. Lederman:

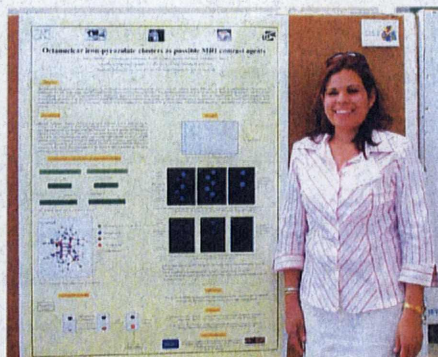
Dr. Manuel Gomez, Director RCSE; Dr. Pat Rapp, a former graduate student of Dr. Lederman and now a Physics Professor at UPR-Mayaguez, Dr. Leon Lederman, Dr. Angel Lopez, BDP Coordinator at UPR-Mayaguez; Dr. Mildred Chaparro, Dean of Academic Affairs at UPR-Mayaguez; and Dr. Juan Gonzalez Lagoa, Associate Director of RCSE at UPR-Mayaguez.

Fifteen BDP Fellows Presented their Research Projects in the 2005 PRISM Poster Session

Ten BDP fellows from UPR-Mayaguez and five from UPR-Rio Piedras shared with their undergraduate and graduate peers their research work. BDP fellows not present were attending the ACS National Conference in San Diego, California



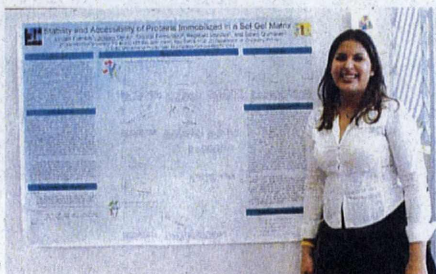
Miguel Gonzalez, UPR-Mayaguez
"Molecular Study of the Thermodynamics Properties of Hipofluoric Acid."



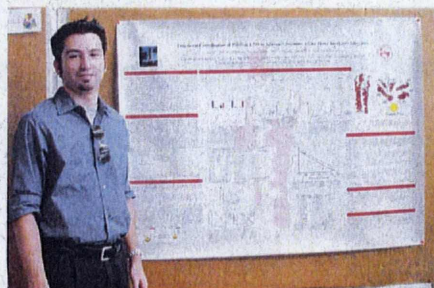
Karilys Gonzalez, UPR-Rio Piedras
"Octanuclear Iron-pyrazolate Cluster as Possible MRI Contrast Agent"



Luzed Diaz, UPR-Rio Piedras
"Distinct Actions of Acetylcholine Receptor Mutations in Slow-Channel Syndrome Identify an M1 Domain Allosteric Hinge"



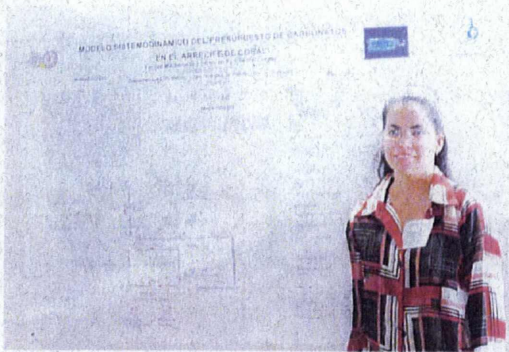
Jessica Oyola, UPR-Rio Piedras
"Stability and Accesibility of Proteins Immobilized in a Sol-Gel Matriz"



Daniel Caballero, UPR-Rio Piedras
"Functional Contribution of Position L218 to Neuronal Nicotinic Alpha Three Receptors Subtypes"



Priscila Santiago, UPR-Mayaguez
"Synthesis and Characterization of PT and PT-RU Nanoparticles for Fuel Cell Miniaturization"



Yaritzta Maldonado, UPR-Mayaguez
"A System Dynamic Model of the Total Calcium Carbonate in a Coral Reef"



Luis Rodriguez, UPR-Mayaguez
"Axial Load Capacity of Drilled Shafts Socketed in Rock"



Azlin Biaggi, UPR-Rio Piedras
"Cathodoluminescence Studies of Nanocrystalline Silicon Films and its Dependence on the In-Situ Induced Changes of the Surface Passivation"



Deborah Acevedo, UPR-Mayaguez
"A Biphasic Displacement of [60] Fullerene From Fac-(Dihapto-[60] Fullerene)(Dihapto-1, 10-Phenanthroline) TricarbonylMolybdenum (0)"



Laura Granell, UPR-Mayaguez
"Spectroscopic Evidence of the Roles of the Amino Acid Residues on Positions E7 and B10 of Hemoglobin I from Lucina Pectinata"



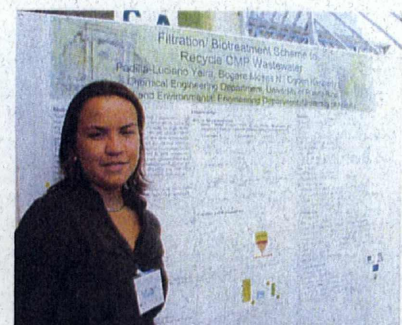
Luis Gonzalez, UPR-Mayaguez
"Multi-Hazard Application of Consequence Based Engineering"



Yashira Estrada, UPR-Mayaguez
"Aquatic Hyphomycetes Associated to Foam, Water, and Submerged Leaf Litter in an Urban Subtropical Stream"



Olga Abreu, UPR-Mayaguez
"Size Frequency Distribution in a Population of *Isognomon Alatus* from La Parguera, Puerto Rico"

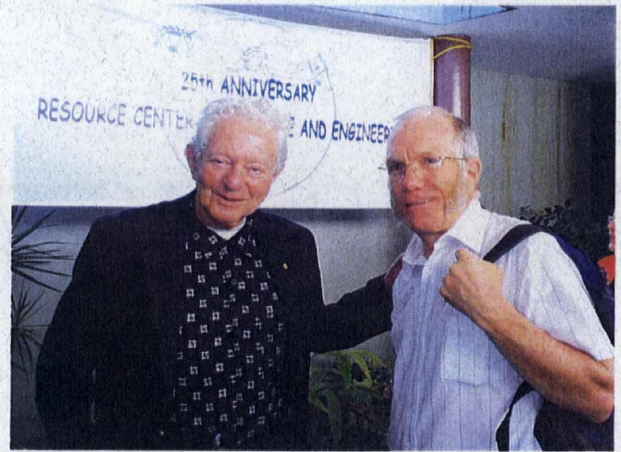


Yeira Padilla, UPR-Mayaguez
"Filtration and Biotreatment Scheme to Recycle CMP Waste"

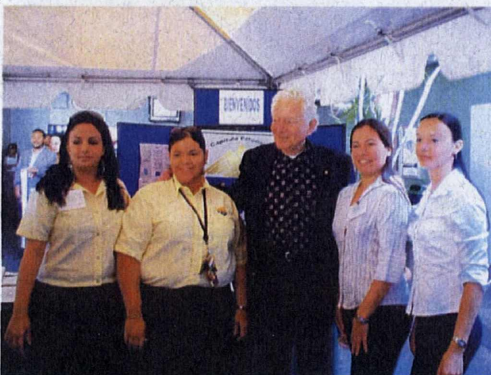
PRISM 2005



A group of PR-LSAMP leaders at lunch with Dr. Lederman



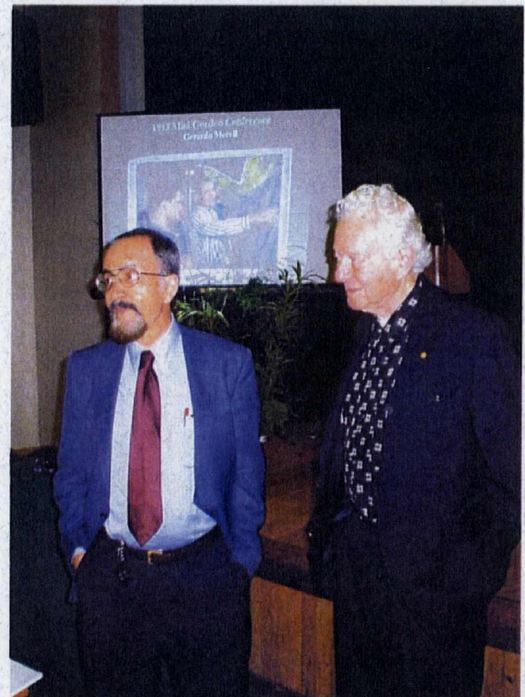
Dr. Lederman with Pat Rapp, a former graduate student of his and now a Physics Professor at UPR-Mayaguez



Dr. Lederman and students



Dr. Lederman and Prof. Migdalia Sotomayor, PR-LSAMP Liaison Officer at UPR-Aguadilla

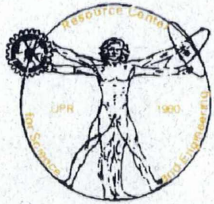


Dr. Lederman and Dr. Manuel Gomez, PI PR-LSAMP

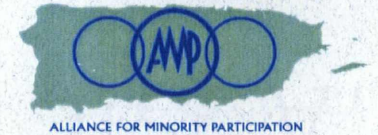
PR-LSAMP 2005
HIGHLIGHTS AND ACCOMPLISHMENTS

Major Accomplishments of Phase III, Year 4 (2004-05)

1. *In academic 2004-05, 2,958 baccalaureate degrees were awarded in STEM disciplines, contributing in 2004 27% of the total number of BS degrees awarded nationwide in STEM fields to Hispanics.*
2. *In the Fall of 2004, 28,299 students were enrolled in STEM fields at PR-LSAMP institutions.*
3. *Seventeen percent (17%) of the Hispanics who received a PhD nationwide in a natural science field, from 1998 to 2003, received their BS degree from a PR-LSAMP institution.*
4. *Almost 15 percent (14.7%) of the Hispanics who received a PhD nationwide in engineering, from 1998-2003, received their BS degree from a PR-LSAMP institution.*
5. *The three graduate campuses of the University of Puerto Rico awarded a total of 31 PhD degrees in STEM fields in academic year 2004-05.*
6. *A third Cohort of BDP Fellows began graduate studies in August 2005. Cohort #1 of Bridge-to-the-Doctorate Fellows (10 students) successfully completed their first two years of graduate studies and they are ALL enrolled in a PhD Program at UPR-Rio Piedras. Nine of the BDP fellows were awarded fellowships either from AGEPE, GANN, EPSCoR or NASA and the tenth is a Teaching Assistant in the Chemistry Department. The twelve BDP Fellows in Cohort #2 at UPR-Mayaguez completed their first year of graduate studies and are now enrolled in their second year. PR-LSAMP has awarded 34 fellowships through the BDP Program.*
7. *In academic year 2004-05, PR-LSAMP awarded 326 stipends (\$260,800) to undergraduate STEM students to participate in research experiences. Also, 270 stipends (\$54,000) were awarded by PR-LSAMP to researchers to cover laboratory materials for PR-LSAMP participants.*
8. *One hundred and sixty (160) high school students participated in workshops and field trips sponsored by PR-LSAMP Pre-College to College Bridging Component, to strengthen their academic preparation and motivate them to pursue careers in STEM fields.*
9. *One thousand eleven (1,011) STEM students participated in workshops offered through the PR-LSAMP Mentoring Program at the different institutions. Seventy-seven (77) upper level undergraduate STEM students served as peer mentors.*
10. *Three hundred and forty nine (349) STEM students (247 undergraduates and 102 graduates presented their research projects at the annual Puerto Rico Interdisciplinary Scientific Meeting (PRISM), to an audience of 840 faculty members and students.*
11. *Fifteen undergraduate STEM students received PR-LSAMP travel stipends (\$7,807) to present their research projects in national conferences.*
12. *The National Institute of Standards and Technology provided \$21,132 to three undergraduate STEM students to participate in research experiences at their main site with nationally recognized scientists.*
13. *PR-LSAMP institutions secured \$28.3M in external and institutional funds to implement educational projects geared at strengthening STEM education at their institutions.*
14. *Pfizer Corp awarded eight fellowships to Pharmaceutical Sciences majors.*
15. *PR-LSAMP received a \$25,500 supplemental award from NSF to participate in the FaST and SULI Programs in National Laboratories, a collaborative effort between NSF and DoE.*



PUERTO RICO LOUIS STOKES



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