

Puerto Rican high school students travel to Kentucky for science research ^[1]

Submitted by [Wilson Gonzalez-Espada](#) ^[2] on 24 August 2012 - 1:41pm



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During the summer, most high school students are working or enjoying their vacation. But six high school students and one college student traveled more than 1,500 miles from Puerto Rico to Morehead to complete a challenging research experience.

This unique 8-week opportunity is possible thanks to a National Science Foundation (NSF) grant obtained by Universidad Metropolitana de Puerto Rico, under the leadership of Dr. Juan F. Arratia, Director and Principal Investigator (PI), and the academic and personal commitment of five Morehead State University faculty members.

This group of talented students was selected after completing a rigorous series of Saturday workshops on the basics of scientific research. Their summer experience at MSU allows them to apply and expand what they learned in realistic research scenarios.

Dr. Ilsun White, Professor of Psychology, and Dr. Wesley White, Professor of Psychology mentored a team of students, including Natalia C. Santiago-Merced (Bio-mathematics major at Universidad Metropolitana; chaperone), Guillermo R. Díaz-Ginés (junior, University Gardens High School) and Jessica N. Pita-Aquino (senior, University Gardens High School). These students worked on projects using rats as human models to study behavioral and cognitive effects of food

deprivation and illegal drugs.

Dr. Allen C. Risk, Professor of Biology, mentored a team of two students, Natalie López-Rodríguez (junior, Academy of the Immaculate Conception) and Nydiana Benítez-Mangual (sophomore, Isidro Sánchez High School). Their projects aimed at using tree growth rates and climatic variables such as precipitation, temperature, and drought patterns in order to predict future changes in the composition of the forest at Eagle Lake.

Dr. Jennifer Birriel, Associate Professor of Astrophysics, and Dr. Ignacio Birriel, Associate Professor of Nuclear Physics mentored the third team of researchers, Gabriela D. Talavera-Santiago (junior, Colegio Santa María del Camino) and Daniel Rodríguez-Torres (senior, Residential Center of Educative Opportunities of Mayagüez). These students' research study combined physics and earth science by examining radioactive emissions from rock formations and light pollution in Rowan County.

The culminating activity for this program will be a series of oral presentations where students share the results of their experiments. In addition, they are required to present a poster or oral session at the AGMUS Research Symposium in Puerto Rico, on September 21-22, 2012.

Dr. Wilson González-Espada, Associate Professor of Physics and Science Education, acted as the liaison between the two partnering institutions. "Universidad Metropolitana has summer research partnerships with the University of Vermont, Purdue University, the Lawrence Livermore National Laboratory, the National Center for Atmospheric Research, MIT-Haystack Observatory, Morehead State University and University of Texas El Paso, impacting 29 pre-college students from private and public schools from Puerto Rico. This is the first year Morehead State University receives students from this program and the experience has been fantastic. These are motivated, hard-working students with a deep interest for science."

Of course, not everything is lab or field work. Ricardo Nazario-Colón, Director of Student Activities, Inclusion, and Leadership Development, has sponsored several educational field trips around Eastern Kentucky. Some of the local attractions they have visited included Carter Caves, Cave Run Lake, the Newport Aquarium, and Natural Bridge State Park.

It is through research experiences like this that students live first-hand the challenges and responsibilities of scientific inquiry. This will undoubtedly motivate them even more to become professional scientists and mathematicians.

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