Hussman Researchers Attend Conferences in Peru, Furthering Collaborations on Amerindian Alzheimer’s Research

Deepening their collaboration with Peru, a team of genetic researchers from the John P. Hussman Institute for Human Genomics (HIHG) at the University of Miami Miller School of Medicine recently attended back-to-back meetings in Peru’s capital, sharing on the genetics of Alzheimer’s disease at the Pan American Neurology Conference, then at a one-day workshop with local Peruvian partners.

The meetings stem from the Peru Alzheimer’s Disease Initiative (PeAdi) that began nearly three years ago.

The meetings stem from the Peru Alzheimer’s Disease Initiative (PeAdi) that began nearly three years ago to study the genetics of people mainly from Amerindian backgrounds, a group little researched to date. The project involves sampling blood from residents across Peru, freezing it and partially processing it in Lima, shipping it frozen to high-tech labs at the Miller School for analysis and then jointly interpreting the results. The aim: to help develop treatments for the
disease that is afflicting growing numbers of people worldwide.

“We’ve already proved that the ancestry of your genes makes a difference in your risk for Alzheimer’s,” said Margaret A. Pericak-Vance, Ph.D., director of the Hussman Institute and the Dr. John T. Macdonald Foundation Professor of Human Genetics. “But most studies have looked at people only of European background. Gene-based treatments targeting northern Europeans may not benefit other people around the world.

“The goal of our research is to champion diversity, because each different ancestry can provide information that can help solve the problems of other ancestries,” she said.

Democratizing Genetics Research

At the three-day Pan American Neurology Conference, organized by the Pan American Federation of Neurological Societies, Dr. Pericak-Vance presented on the HIHG’s international Alzheimer’s research. HIHG's one-day workshop with local partners then brought together Peruvian field workers from city, mountain and desert sites working on the Alzheimer's project.

“If we’re talking about personalized medicine, we really want to take a global approach” to Alzheimer's disease, said Margaret Pericak-Vance, Ph.D.

“This study in Peru will not only democratize genetics research by looking at a little-studied population, but it
also will contribute to understand better the proteins and metabolic processes that contribute to the disease around the world,” said Mario R. Cornejo-Olivas, M.D., a main collaborator with the Hussman Institute. He is a research professor at the School of Medicine at Universidad Científica del Sur, senior researcher at the Neurogenetics Research Center at Instituto Nacional de Ciencias Neurologicas and co-director of Neurogenetics Research Unit at San Marcos Foundation in Lima.

As part of the research initiative, partners are developing sites across the Andean country to draw samples from people with Alzheimer’s and in a control group. So far, those teams have sampled more than 600 people, half with the disease, said Dr. Cornejo-Olivas.

‘Horizontal Collaboration’

“Collaboration isn’t only for research per se. We look to develop professional opportunities for young people: biologists, doctors and others, and we’ve had various exchange programs and trainings with UM, both in Miami and Lima,” said Dr. Cornejo-Olivas, calling the initiative an example of successful “horizontal collaboration” between North America and Latin America.

Too often, researchers from “developed nations simply come in and take samples from the developing nation that lacks resources,” he said. "But the responsibility for horizontal collaboration rests not only with the developed country but also with us setting the parameters and making clear we want to contribute, learn and grow together with you, not only hand over samples. And that’s the spirit of the collaboration we
have with Miami."

The Hussman Institute’s collaboration with Peru is groundbreaking because Amerindians have long been overlooked in genetic research.

With nearly $317 million in total funding from the National Institutes of Health, the human genetics group at the Miller School currently ranks second in the U.S. for genetic research. The Hussman Institute has also expanded research operations across Africa, partnering with African collaborators from the African Dementia Consortium, and is also continuing to expand partnerships in South America.

A major goal with the research is to improve the development of Alzheimer’s drugs, so that they are effective for everyone.

"We know genetic targets have twice the success in drug trials versus non-genetic targets," Dr. Pericak-Vance said. “If we’re talking about personalized medicine, we really want to take a global approach to the disease.”

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