New Neuroscience Initiatives in Puerto Rico

Neuroscience in Puerto Rico dates back to the mid 1960s when NIH recruited José del Castillo (of del Castillo and Katz transmitter release fame) to create a neurobiology laboratory within the University of Puerto Rico's (UPR) Medical Sciences Campus. Today, neuroscience research is performed at the UPR's Institute of Neurobiology; the Biology and Chemistry Departments of the Río Piedras Campus; and in the Physiology, Anatomy, and Pharmacology Departments of the Medical Sciences Campus. Moreover, two private medical schools, Ponce School of Medicine (PSM) and Universidad Central del Caribe Medical (UCC) also participate in neuroscience research and have established research centers.

The increasing strength of neuroscience research in Puerto Rico is establishing links between Latin American and U.S. neuroscientists.

Since Puerto Rico is a commonwealth territory of the United States, it is eligible to receive scientific grants from federal agencies such as NIH and NSF. Several minority-related programs funded by NIH are dedicated to building a neuroscience infrastructure in Puerto Rico and providing research enhancement opportunities to its neuroscientists. The National Center for Research Resources (NCRR), the National Institute for General Medical Sciences (NIGMS), and the Experimental Program for Competitive Research (EPSCoR–NSF), helped UPR transition from a primarily teaching institution to a doctorate-granting research university. Today, the universities in Puerto Rico strive to become research institutions that compete successfully for investigator-initiated awards at NIH and NSF. Accordingly, these universities have recently obtained competitive NIH awards intended to guide young neuroscientists on the island into becoming independent RO1-funded investigators. These grants include two Specialized Neuroscience Research Programs (SNRP/NINDS) involving UPR and UCC, and one Center for Biomedical Research Excellence (COBRE/NCRR) in neuroscience involving UPR and PSM. This represents a combined $20 million investment in Puerto Rico's neuroscience future. In each case the universities match the funds as evidence of their commitment to building a strong neuroscience program in Puerto Rico. Finally, as part of these initiatives the UPR is currently hiring distinguished neuroscientists to lead Puerto Rico to increasingly competitive levels of neuroscience research.

Attracting Young Investigators

Though scientific "brain drain" affects many countries, Puerto Rico has currently retained many of its young scientists expertly trained in the U.S. The new investigators are attracted and supported by NIH programs like SNRP, COBRE, and by progressive administrators. This creates an atmosphere that favors professional development and motivates more students to follow in their steps. In the past five years, 11 assistant professors in neuroscience were hired among the four research institutions. Most of these are residents with undergraduate degrees from Puerto Rico and graduate and postdoctoral degrees from the United States. Many of these individuals received NIH or NSF support for their training, including the NIMH-funded American Psychological Association's Minority Fellowships in Neuroscience, and the NSF-funded Predoctoral and Postdoctoral Minority Fellowships. These talented new hires have established laboratories where they use state-of-the-art techniques such as gene microarrays, single-cell PCR, multiphoton confocal microscopy, multichannel unit recording in behaving animals, brain slice recording, and intracerebral drug microinfusion and self-administration. Last year, a group of these neuroscientists and their students held the first formal Brain Awareness Week (BAW) activities in Puerto Rico, reaching children in both the San Juan metropolitan area and the mountainous village of Villalba. BAW 2001 activities aim to reach even larger segments of the community.

Community Outreach

The local SFN chapter holds an annual Puerto Rico neuroscience conference as a way of strengthening communication, interaction, and collaborations within Puerto Rico that is now going into its tenth year. The 2000 conference included lectures by Leslie Henderson, Department of Physiology and Biochemistry, Dartmouth Medical School; John Hildebrand, ARL Division of Neurobiology, University of Arizona; Miguel Nicolelis, Department of Neurobiology, Duke University Medical Center; and Alcino Silva, Department of Neurobiology, UCLA Medical Center.

U.S.–Latin American Link

The increasing strength of neuroscience research in Puerto Rico is establishing links between Latin American and U.S. neuroscientists. The island will continue to be a bridge between the Spanish-speaking countries, the Caribbean, and the United States. Such a combination of talent and viewpoints is critical for the globalization of neuroscience. To this end, the establishment of an International Affairs Committee between SFN and IBRO is a major step in the right direction. Puerto Rico is ready to take its place together with other nations in making important contributions to neuroscience in the years ahead.

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