Joey Garcia
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CDC Renews Funding for Study of Vector-Borne Diseases

The Southeast Regional Center of Excellence in Vector-Borne Disease (SECVBD) will continue its vital work for another five years, thanks to renewed funding from the Centers for Disease Control and Prevention (CDC). Entomologist John Beier, Sc.D., a professor at the University of Miami Miller School of Medicine Department of Public Health Sciences, leads the Miller School's SECVBD efforts in collaboration with the Miami-Dade County Mosquito Control Division.

Based at the University of Florida, the SECVBD was established in 2016, performing its initial work as the Zika epidemic reached the U.S. The center now includes an interdisciplinary team of researchers – from institutions including the Miller School, the University of South Carolina, University of North Carolina at Chapel Hill, Florida International University, Old Dominion University, and Ponce Health Sciences University in Puerto Rico – who work with leaders of state public health and mosquito and tick control agencies in the Southeast.

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Entomologist John Beier, Sc.D., professor in the Department of Public Health Sciences

Over the last five years, the center has become an authoritative source for quality, research-based training and best practices for controlling diseases spread by mosquitoes, ticks, and kissing bugs. In addition to Zika, the SECVBD has done important work on the dengue and West Nile viruses and during the COVID-19 pandemic. Dr. Beier has led the center's work with Miami-Dade County, supporting the response to mosquito-borne virus outbreaks.

"The University of Miami has been a part of this program since the first CDC award," Dr. Beier said. "The grant has allowed

us to collaborate with the Miami-Dade County Mosquito Control Division, where we have published more than 20 papers on mosquitoes and their surveillance and control. The grant also allowed us to be involved with arbovirus surveillance in the dengue and West Nile viruses."

To date, the center has trained more than 1,000 vector-control professionals, military personnel, and students to use integrated pest management to control mosquito- and tick-borne diseases in the Southeast. Its online training resources have also become popular outside the region.

Studies, Patents, Research, and Outreach

On the research front, the center's faculty members have published over 100 peer-reviewed, open-access studies, and filed four patents for compounds that make insecticides more effective against insecticide-resistant mosquitoes. The center has also developed new lures and traps for the Aedes aegypti mosquito, a species responsible for spreading several diseases.

With the grant, the SECVBD will increase its research and outreach activities related to the spread of tick-borne diseases in the southeastern United States, to better understand where ticks and tick-borne infections are appearing in the region and how guide control measures. It will also conduct research to investigate alpha-gal syndrome in humans, a tick-associated meat allergy that has recently seen an increase in documented cases in the Southeast.

In the next five years, the center will continue its research on insecticides that can kill insecticide-resistant mosquitoes. It will also develop mosquito surveillance

techniques to proactively prevent outbreaks of mosquito-borne diseases.

“The center is a team effort to help communities prevent, prepare, and respond to vector-borne disease threats through applied research and education efforts,” said Rhoel Dinglasan, Ph.D., M.P.H., the center’s director and a professor at the University of Florida College of Veterinary Medicine. “We look forward to continuing to inform these public health actions.”

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