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\$2.5 Million Grant Will Help UVI Study Stony Coral Tissue Loss Disease in U.S. Virgin Islands

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Photo Dr. Marilyn Brandt surveys and records the effects of stony coral tissue loss disease on a large coral By. V. BRANDTNERIS

The University of the Virgin Islands announced Wednesday that it has been awarded a \$2.5 million grant by the National Science Foundation (NSF) to study stony coral tissue loss disease in the U.S. Virgin Islands.

This devastating disease affecting reef-building corals is ravishing the reefs of the U.S. Virgin Islands, British Virgin Islands and Puerto Rico. Since first discovered in the territory in 2019, many reefs in the U.S. Virgin Islands have lost more than half of their coral, UVI said. Negative effects of coral loss include less diversity of marine life, less protection from storm surge, and

lower water quality.

Unfortunately, the cause(s) of stony coral tissue loss disease has yet to be identified and modeling the spread of these diseases has been challenging. Classical approaches to modeling the spread and impact of disease are dependent on knowing the pathogen and having a relatively simple host population. New approaches are needed for modeling complex marine diseases that have no identified pathogen and that affect multiple hosts, according to the release. UVI will lead this new grant-funded project to develop an alternate approach to modeling these complex marine diseases.

“Stony coral tissue loss disease is radically altering coral reefs of the U.S. Virgin Islands and other Caribbean territories and nations,” explains Dr. Marilyn Brandt, a marine disease ecologist and a Research Associate Professor of Marine Science in UVI’s Center for Marine and Environmental Studies (CMES).

“The results of this collaborative project will provide critical information on how stony coral tissue loss disease spreads among diverse coral reefs. This research is innovative and exciting and has the potential to change the way we approach studying marine disease transmission. I believe that our selection for funding by the National Science Foundation shows that the University of the Virgin Islands has established itself as internationally recognized leading institution for coral reef research,” said Dr. Brandt, lead researcher.

UVI said Dr. Brandt’s research team includes ocean connectivity modelers, microbiologists, and coral immunologists from other institutions who have all previously collaborated with Dr. Brandt on studies of coral disease in the U.S. Virgin Islands. Additional researchers include Dr. Dan Holstein; an assistant professor of Oceanography at Louisiana State University will contribute his ocean connectivity and disease modeling expertise.

Dr. Amy Apprill, an associate scientist at Woods Hole Oceanographic Institute, will provide microbiological analysis of the disease. Dr. Laura Mydlarz, a professor of Biology at the University of Texas at Arlington, will work to identify how the different types of corals use different immune responses to fight off the disease. Finally, Dr. Adrienne Correa, an assistant professor of BioSciences at Rice University, will investigate how other organisms like fish may be contributing to disease transmission within individual reefs.

According to UVI, the project will support research experiences and exchanges for graduate and undergraduate students at UVI and the other contributing institutions. Results of the research will be communicated regularly to the U.S. Virgin Islands Coral Disease Advisory Committee (VI CDAC) that is led by the Department of Planning and Natural Resources and will be posted on the territory’s coral disease website: vicoraldisease.org

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