

ALEX E. MERCADO MOLINA, PHD



APPOINTMENTS

- VICE-PRESIDENT SAM
- POST-DOCTORAL RESEARCH ASSOCIATE-FLORIDA INTERNATIONAL UNIVERSITY
- ASSISTANT PROFESSOR UPRR- 2015-2016

QUALIFICATIONS

- PhD in Biology
- MSc in Marine Sciences
- BSc in Biology
- Strong quantitative skills
- Strong scientific diving skills
- Over 18 years conducting coral reef research and restoration
- Demographic and population modeling
- Successful grants writer
- Proven leadership and project management.
- Experience working with community development projects.
- Identification of corals, sponges, and octocorals species.
- Experience mentoring students in research

CONTACT:



PRINCIPAL INVESTIGATOR & VICE-PRESIDENT SOCIEDAD AMBIENTE MARINO -SAM

EXPERIENCE:

Alex E. Mercado Molina is a founding member of the “ Sociedad Ambiente Marino – (SAM)” a nonprofit organization advocating for the conservation of local marine resources, actually as Vice President and Scientist Associate of the organization. Born in Barranquitas, Puerto Rico, a small town located in the heart of the island, Alex studied pre-university in the public education system of the rural community. He obtained his Bachelor's degree in Biology at the University of Puerto Rico Rio Piedras Campus (UPRRP) in 2000. After serving as a volunteer at the Peace Corps in Bolivia (2001-2003), I joined the Marine Ecology Laboratory, under the supervision of Dr. Paul Yoshioka in the Department of Marine Sciences at the University of Puerto Rico in Mayagüez. There he obtained his Master's Degree in Marine Sciences in 2008. As part of his Master's thesis, Alex studied the population ecology of the Amphimedon Compressa sponge where he investigated the patterns of abundance and spatial distribution, size structure, and the effect of physical factors, such as hydrodynamics, on the population dynamics of this sponge. Alex also took part in several research projects focusing on the demography of octocorals, scleractinian corals, and the *Diadema antillarum* sea urchins. In 2015, Alex recently obtained his PhD in Biology (Ecology and Systematics) from UPRRP where he worked under the supervision of Dr. Alberto Sabat. His dissertation focused on the demography of *Acropora cervicornis* coral, which is currently on the list of threatened species. The objectives of his research were study the demographic performance of two wild populations. The second objective of the research was to determine if coral transplantation is an alternative to restore declining or locally extinct populations. The third objective was to model the branching dynamics of *A. cervicornis* to assist in the development of management plans. The results of their research provide a solid demographic basis for developing management plans in an educated manner to allow the recovery of the species. Currently, he is a Post-Doc in Aquatic Ecology at Florida International University.

For the last 17 years, Alex has been involved in several research projects focusing in coral reef ecology and conservation. This experience includes: 1) the study of the demographic performance of the threatened coral *Acropora cervicornis* by combining population modeling and field experiments; 2) studying the community ecology of octocorals; 3) investigating the role of the sea urchin *Diadema antillarum* on bedload sediment transport and its effect on gorgonians recruitment; 4) evaluating the effect of physical disturbances in the ecology and biology of common sponges; and 5) examining the demographic effect of aspergillosis on the population persistence of the sea fan *Gorgonia ventalina*. While working on these projects he gained valuable knowledge on population and community dynamic. Also developed the technical, analytical, and quantitative (e.g. parametric and non-parametric statistics) skills necessary to successfully design and conduct research studies. His work with coral reefs has not been limited to formal academic settings. As member of SAM he has been involved in the drafting and evaluation of restoration proposals, provided management and scientific advice, and helped to coordinate several conservation and educational activities. The Low Tech Coral Aquaculture and Coral Reef Rehabilitation Project which has been running for over fifteen years, as one of our emblematic conservation efforts.

SKILLS:

- Highly accomplished and results-driven Marine Scientist, successful academic research, coral reef conservation and ecosystem rehabilitation leadership
- Planning, design and development of coral farming, reef rehabilitation, and marine mitigation projects for large-scale application of coral reef rehabilitation programs
- Expertise in coral population and community ecology dynamics
- Parametric, Non-Parametric, and Multivariate Statistical Analyses
- Advanced expertise in multiple methods for evaluation of coral reefs.
- Experienced scientific SCUBA diver, >5,000 dives, >20 years of involvement in Scientific SCUBA diving, marine field surveys, monitoring and ecosystem rehabilitation programs, including reef, coral and seagrass monitoring projects, vessel grounding emergency restoration efforts, environmental impact assessments.
- Established collaborative partnership between local stakeholders and non-government organizations to train locals in coral reefs conservation practices.
- Developed environmental science education curricula in both formed classroom settings and applied learning venues.
- Successfully Communicated results to the scientific and non-scientific community
- Experimental design, data collection, organizing and interpreting field and laboratory data.