



citizen science

sit-uh-zuh n sahy-uh ns

noun

1. scientific research, data collection, etc., that involves the participation of non-scientists

QUINO
EL GUARDIAN
LIVEBOARD

Citizen Science Expeditions aboard Quino El Guardian

Quino El Guardian offers a truly unique experience – our Citizen Science Program. These trips include a marine biologist specializing in subjects such as Mantas, Sharks, Humpback Whales, Marine Mammals, Marine Ecology, Reef Ecology, Invertebrate Ecology, Geology, and more. Included in their research is animal tagging, identification, fish/animal counts, census monitoring, human and climate impact studies, etc.

Much of the information that is collected are included in papers and presentations to governments and NGO's to help with the conservation of these areas and animals. In addition, this information is provided to websites to educate lay persons helping to further conservation awareness.

Divers can be involved as much or as little as they like including hands-on research and presentations.

Join us on one of these amazing expeditions and you will never look at the ocean the same again.

To truly learn more about our program, please watch the below video.

Quino El Guardian Scientific Team

We are very excited to have some of the most experienced marine biologists and underwater conservationists on the Quino El Guardian Scientific Team!

If you know anyone who would be interested in joining this select group, please e-mail us at DSandoval@RocioDelMarLiveboard.com.

Dr. Gerardo Gonzalez Barba / Geologist

Dr. Barba is a research Specialist in Paleontology (Fossils) and Geology of the peninsula and Gulf of California. He is Chief Curator of the Museum of Natural History at the Universidad de Baja California Sur (UABCS).

How did the geological landscape of the Gulf of California begin?

Why the abundance of diverse and unique species in the Sea of Cortez?

As an expert in paleontology and geology, Dr. Gerardo Barba will take you on a journey of evolutionary and geological discovery. He will discuss how the Gulf of California originated 12 million years ago and how the biodiversity of marine and terrestrial life changed through time. Dr. Barba will share his knowledge on how the large islands were formed creating “hot spot” marine centers in the sea. The emphasis of the expedition will be at the northern islands - the youngest part of the Sea of Cortez.

Dr. Darcy Bradley / Shark Expert

Dr. Darcy Bradley has a PhD from the University of California, Santa Barbara where she is a post-doctoral researcher studying reef shark ecology and conservation.

Prior to this, Darcy helped run a citizen-science based whale shark research program throughout Australia, Southeast Asia, and Central America. Darcy now works in collaboration with scientists, non-profit organizations, and government agencies to better understand the ecology of reef sharks to improve our ability to protect these important top predators around the world,

Fred Buyle / Free Diving Champion, Underwater Photographer & Marine Conservationist

Fred Buyle is a 3 time world-record free diver, underwater photographer and marine conservationist.

Fred is the only free diver to have dived at the Geographic North Pole (2005) and Antarctica. Since 2005 he has worked with scientists around the world to field missions in which free diving is paramount, i.e. telemetry studies that involve tagging sharks or researching cetacean acoustics.

Dr. Edgar Mauricio Hoyos Padilla / Shark Expert

Mauricio has always had a passion for shark conservation and has dedicated his professional life to understanding the behavior of sharks. He began his career studying shark nurseries and reproductive biology, becoming an expert in this field early on. Mauricio holds a Ph.D. in Marine Sciences from CICIMAR-IPN, where he studied the movement patterns of white sharks in Guadalupe Island, carrying out the first studies of this species in Mexico.

Currently his work has focused on investigating the behavior of 10 shark species in different areas all across Mexico, including Guadalupe Island, Revillagigedo Archipelago, Clipperton Atoll, and the Mexican Caribbean. Mauricio has remained active in shark conservation, outreach and education, giving talks to groups as young as elementary school children as well as high school and university students, and the general public.

His goal is to change the misconception of sharks as “killing machines” in the human mind.

He is the co-founder of Pelagios Kakunjá, a Mexican non-profit organization led by a group of marine biologists that have dedicated their work to the conservation of sharks and pelagic species in Mexican waters through research, public outreach, and education. He is also a collaborating scientist on the board of many different shark conservation foundations. As a rising star in the world of marine science, Mauricio has also consulted on many commercial productions, collaborating with different film companies, including BBC, National Geographic and the Discovery Channel.

Dr. James Ketchum / Shark Expert

James has studied sharks and migratory pelagic species since 1996, particularly whale sharks, hammerhead sharks and dolphinfish in the Gulf of California and Eastern Tropical Pacific. James holds a Ph.D. in Ecology from UC Davis, where he studied the movement patterns and habitat use of scalloped hammerhead sharks in the Galapagos Islands. His publications about hammerheads and whale sharks constitute pioneering work in Mexico and Ecuador.

He participated in the first telemetric studies of sharks in Cocos, Malpelo, Galapagos and Revillagigedo islands, collaborating in the establishment of an array of 100 acoustic receivers in the region. James is co-founder of [Migramar](#), an international network of research and conservation institutions that jointly study the dynamics of sharks and other pelagics in the Eastern Tropical Pacific. James is also co-founder of [Pelagios Kakunjá](#), a Mexican non-profit organization that seeks to conserve sharks and pelagic species by understanding their movements, migratory patterns and population dynamics in the Mexican Pacific.

He works closely with the Mexican Commission for Natural Protected Areas (CONANP) and other agencies to improve the effectiveness of marine reserves for the conservation of sharks in Mexico. More recently, James has been leading studies on different shark species at Cabo Pulmo Marine Park and the Revillagigedo Biosphere Reserve, where he is assessing the relevance of no-take zones for the conservation of sharks and the effects of scuba diving on the abundance and behavior of these marine top predators.

Frida Lara Lizardi / Marine Biologist

Frida Lara is originally from Veracruz, México. From a very young age she has had a passion for diving and traveling the world.

Frida earned her degree in Marine Biology in Yucatan and a master's degree at the University of London. During her training she has worked in different projects in the Gulf of Mexico, Caribbean Sea, Red Sea and Indian Ocean. Her main area of interest is the study of the behavior, conservation and management of sharks.

Since 2014 she has been a part of the Pelagios Kakunjá team and is currently in her last year of her PhD at CICMAR, studying sharks in the Archipelago of Revillagigedo.

Dr. Francisco Alonso Solis Marin / Marine Biologist

Dr. Francisco Alonso Solís Marín is a research Specialist in Echinoderms (Sea stars, Sea cucumbers, Sea Urchins, Sea Lilies and Allies) and Taxonomists. He is Chief Curator of the Echinoderm National Collection, Institute of Marine Sciences and Limnology Universidad Nacional Autónoma de México (UNAM). He has extensive knowledge in echinoderm species found in the Sea of Cortez and specializes in their systematics.

He is currently director of the Research Program for exploring and listing Echinoderm Biodiversity in Mexico, developing studies on:

- A) Biodiversity in different ecosystems (Marine and Anchialine Caves) and description of new species
- B) Ecology of Echinoderm communities
- C) Evaluation of the health status of the principal heavily exploited Echinoderm communities in the Sea of Cortez

He has presented more than 270 papers in national and international congresses, published more than 190 scientific articles, books and book chapters and directed more than 35 undergraduate, master's and doctoral theses.

He has conducted research stays in museums and/or universities in the United States, England, France, Denmark, Cuba, Nicaragua, Colombia, Costa Rica, Peru, Argentina, China and Japan.

He continues to prepare students in scientific activities and exploring ways to communicate science to society regarding the wonders of these Mexican seas and the need to conserve marine nature for future generations.

For a more complete listing of Dr. Francisco Alonso Solis-Marin's accomplishments, please visit:
<http://www.icmyl.unam.mx/?q=node/79>

Marta D. Palacios / Marine Biologist

Marta D. Palacios is a Marine Biologist with a extensive experience in the study of endangered and lesser known marine species. She earned her Marine Biology degree in the Canary Islands and during that time she had the opportunity to study in the two peninsulas of Mexico.

Marta has collaborated in the research of freshwater dolphins in the Amazon, penguins in New Zealand, coral reefs in Indonesia and the diver environmental impact in Ecuador.

In a collaboration with Manta Trust and The Charles Darwin Foundation, she studied the Oceanic Manta and Mobula Ray population in the Galapagos Marine Reserve where she realized the urgency of studying these amazing creatures to help in their protection.

As a Master Student at CICIMAR-IPN, she is currently carrying out a Research project focused on the movements and habitat use of Mobula Munkiana around Espiritu Santo Archipelago in collaboration with the Monterey Bay Aquarium, Manta Trust and Pelagios Kakunjaevillagigedo.

Dr. Yannis Papastamatiou / Shark Expert

Dr. Yannis Papastamatiou is an Assistant Professor at Florida International University. He has been studying the ecology and behavior of sharks and other fishes for over 16 years resulting in nearly 50 scientific publications.

He specializes in the use of electronic tags to understand the spatial ecology of sharks and the role they play in marine ecosystems.

By increasing our understanding of shark biology we can greatly improve the methods we use to aid shark conservation such as the establishment and conservation of marine protected areas.

He has worked with many species all over the world including Mexico, the Bahamas, Alaska, and Japan.

Dr. Ross Robertson / Staff Scientist, Smithsonian Tropical Research Institute, Panama

Dr. Ross Robertson

B.Sc. University of Queensland, Australia, 1966

Ph.D. University of Queensland, Australia, 1974

D. Ross Robertson is a Staff Scientist of the Smithsonian Tropical Research Institute in Panama. He specializes in tropical reef fishes: evolution, biogeography, and digital identification guides.

"Much of what is supposed to be mimicry among tropical reef fishes could be a figment of overly enthusiastic imaginations."

Dr. Robert Rubin / Manta Expert

Bob earned the Ph.D degree in physiological ecology from the University of California Irvine, and is presently on the faculty of Santa Rosa College, where he teaches courses in marine biology and human anatomy. He has been involved in college and university teaching for several decades, and has conducted field and laboratory research on the ecology and physiology of such diverse groups as fish eating bats, elephant, hooded and harp seals, sea birds, desert dwelling rodents and for the past twentyfive years on manta rays in the sub tropical Pacific and Indian Oceans.

He has been selected by the State of California, the United States Senate and Congress to receive their awards for outstanding contributions to college and university teaching. He is the recipient of the NISOD award for outstanding contributions to higher education and in 1996 the Carnegie Foundation for the Advancement of Teaching honored him as "The California College and University Professor of the Year". He served as a program developer and reviewer for the National Science Foundation (NSF) and for the US Department of Energy (DOE).

Presently he serves on the foundation boards of Save our Seas, Sea Watch, Cordell Bank Marine Sanctuary, Laguna de Santa Rosa and The Manta Trust. Additionally, his research on manta rays has been the subject of international public media productions for NOVA, Discovery Channel, National Geographic Channel, World of Wonder, BBC, Animal Planet, Blue Realm, and most recently as a TEDx invited presentation.

Dr. Carlos Armando Sanchez-Ortiz / Marine Biologist

Dr. Carlos Sánchez-Ortiz

Specialty: Conservation biology in reef ecosystems

Dr. Sanchez is Professor-Researcher at the Autonomous University of Baja California Sur (UABCS), La Paz, BCS, Mexico.

Marine Biologist by UABCS and PhD in Molecular Genetics at the University of East Anglia, Norwich, UK and research stays at James Cook University & Australian Institute of Marine Science, Townsville, Australia.

As a professor at the UABCS he has taught courses in Invertebrate Zoology, Benthos Ecology, Genetics and Molecular Systematics. For 25 years he has been doing research in the Gulf of California, Mexican Pacific and Oceanic Island.

He is currently director of the UABCS Research Program for the Conservation of Reef Fauna, developing studies on: a) biodiversity in reef ecosystems and description of new species; B) ecology of communities in reef ecosystems; C) evaluation of the health status of reef ecosystems and their environmental services; and d) scientific underwater photography.

He has conducted research stays in museums and/or universities in the United States, England, Australia, Peru and Argentina.

He has presented more than 120 papers in national and international congresses, published more than 35 scientific articles, books and book chapters and directed more than 35 undergraduate, master's and doctoral theses.

He continues to prepare students in scientific activities and exploring ways to communicate science to society, regarding the wonders of these Mexican seas and the need to conserve marine nature for future generations.

Dr. Jorge Urban / Whale Expert

Dr. Jorge Urbán is a Professor of the Department of the Coastal and Marine Sciences of the Autonomous University of Baja California Sur at La Paz, B.C.S. where he has worked for 30 years.

He received his Ph. D. from the National University of México (UNAM). He began his research on whales since 1982, when he initiated the first long term study on humpbacks in Mexico. Jorge has presented papers on this topic at more than 70 international meetings, and has written more than 100 scientific publications about the great whales and dolphins of the Gulf of California.

He has special interest on the fin, humpback and gray whales, as well of beaked whales from the Mexican Pacific. From 1991 to 1993 he was president of the Mexican Marine Mammologist Society (SOMEMMA). He is chairman of the Subcommittee of Whale-watching of the Scientific Committee of the International Whaling Commission, and member of the Cetacean Specialist Group of the IUCN.

He currently is advisor of four PhD and 6 Master students and serves on dissertation committees of 6 others. He is the founder and leader of the Marine Mammal Research Program of the UABCS.

Steph Venables / Manta Expert

About Steph Venables

Steph is a marine scientist and Manta Ray researcher with the Marine Megafauna Foundation (MMF) and a PhD candidate at the University of Western Australia.

A love of travel and an obsession with the ocean lead her to study marine science at Murdoch University in Western Australia. Steph graduated in 2011 with a Bachelor of Science and a passion for marine conservation. Her postgraduate studies focused on the impact of tourism on Manta Ray behavior in Ningaloo Marine Park, Western Australia and this lead her to joining MMF in 2014. She has since worked on Manta Ray populations in Mozambique and Indonesia.

Steph's research focuses on Manta Ray population genetics. Her research uses genetic analysis to gather vital information on population size, structure and connectivity that can be used to further understand populations and guide the development of management and conservation strategies. Although her work focuses on both the Mozambique and Raja Ampat Manta alfredi populations, she is primarily based in Raja Ampat, Indonesia where she co-manages MMF's regional Manta Ray research project.

Frequently Asked Questions Citizen Science Expedition

Q: What is a "Citizen Science" trip?

A: The Citizen Science Program merges marine scientists with enthusiastic and mindful divers who want to make a difference. This program has successfully brought together scientists and volunteer divers to the Socorro Islands to study manta rays and sharks as well as to the Sea of Cortez to study geology and marine ecology. Recreational divers benefit from observing and participating with scientists as they conduct research, assist with tasks, and receive nightly presentations.

Q: Do I need special qualifications to go on this trip?

A: No! All that is required is to be a certified diver and have a love for the ocean. Data collection will be guided by our expert scientists. There will be training dives and nightly presentations to help you feel comfortable working alongside the scientists. You will learn about the ecological context in which animals of the Socorro Islands and the Sea of Cortez live. Potential experiences may include learning how to photo-ID and take skin samples of sharks and mantas. You can be as involved with the research process as much or as little as you want.

Q: Who is going on this trip?

A: This "citizen science" voyage will be comprised of interested citizen divers like yourself and our scientists, along with our wonderful crew and dive masters.

Q: Where do we go?

A: Trips are scheduled in the Sea of Cortez and Socorro Islands of varying lengths. [Click here](#) for the schedule of Citizen Science trips.

Q: Does the Citizen Science portion affect how much diving we do?

A: Not at all. We typically follow the same itinerary as we normally would for that destination. If it does vary, this will be listed on the trip description.

Q: Is it okay if I don't want to participate in everything?

A: Of course! You can participate in as much or as little as you like.