

Potential Mentors for Summer Interns - 2007

Harbor Branch Scientific/Engineering Staff and Areas of Research

Center for Coastal Research:

Bossart, Greg - Senior Scientist, Marine Mammal Pathology (V.M.D., University of Pennsylvania; Ph.D., Florida International University) Research interests include clinical marine mammal medicine, wildlife pathology, immunopathology, and biotoxins.

Davis, Megan - Center Director (Ph.D., Florida Institute of Technology, 1998) Research interests include the aquaculture of tropical species *Strombus gigas*, queen conch, and *Panulirus argus*, spiny lobster. Areas of specialty include early life history, nursery and grow out techniques, stock enhancement, and conservation ecology.

Hanisak, Dennis - Senior Scientist, Marine Botany (Ph.D., University of Rhode Island, 1977) Research explores many facets of the physiology and ecology of marine plants (primarily macroalgae and sea grasses), including their primary production, nutrient uptake, and photobiology, as well as their cultivation and utilization as resources. Projects include seagrass ecology, seaweed mariculture, coral reef ecology, and community dynamics of estuarine macrophytes.

Lapointe, Brian - Associate Scientist, Marine Nutrient Dynamics (Ph.D., University of Florida, 1982) Program focuses on bottom-up controls of subtropical and tropical coastal ecosystems and includes studies on a variety of scales, ranging from organismal to multiple, linked ecosystems.

Laramore, Susan - Senior Research Associate, Aquatic Animal Health (Ph.D., Florida Institute of Technology, 2006) Research interests include crustacean and bivalve diseases, with an emphasis on viral diseases; the effect of the environment on the progression of these diseases and immune system function.

Lopez, Jose - Assistant Scientist, Molecular Genetics (Ph.D., George Mason University, 1995) Research interests focus on applying molecular genetic, phylogenetics, and bioinformatics towards characterizing gene and protein sequence evolution involved in secondary metabolite biosynthesis and the identification and systematics of marine invertebrates and associated marine microorganisms.

Mazzoil, Marilyn - Senior Research Associate, Dolphin Research and Conservation. (B.S., Ohio State University, 1983) Research explores population ecology of dolphins in the Indian River Lagoon, using photo-identification and GIS-based approaches. Projects include: abundance and distribution, social structure, reproductive success, shark interactions, and the occurrence of infectious diseases related to site fidelity and environmental data.

McCulloch, Steve - Program Manager, Dolphin & Whale Research and Conservation. Current projects involve dolphin photo-identification, whale research, marine mammal

rescue and rehabilitation, promotion and marketing, fundraising, business development, and administration.

Rehtanz, Manuela - Assistant Research Scientist, Marine Mammal Pathology (Ph.D., University of Cologne, 2004) Research interests include dolphin and manatee molecular biology research, including the investigation of different papillomaviruses (PV) and their strategies in causing certain types of skin cancers.

Scarpa, John - Associate Scientist, Bivalve Aquaculture (Ph.D., Texas A & M University, 1989) Research interests include bivalve genome manipulation, delineation of culture requirements of pharmacologically important species, determination of the effects of nutrition on immune function of fish, shrimp physiology as related to culture, and enhancement of microalgal culture.

Shawl, Amber - Research Associate, Tropical Aquaculture (M.E.M., Duke University, 2001) Research interests include queen conch biology and life history, including effects of the environment on larval development and metamorphosis, captive breeding, nutrition, and juvenile growout programs for stock enhancement.

Wills, Paul - Assistant Scientist, Fish Aquaculture (Ph.D., Southern Illinois University at Carbondale, 1998) Research interests include production of finfish for food, and for sportfish enhancement; use of chromosome set manipulation and sex control for improving production characteristics of finfish.

Center for Ocean Exploration:

Beiser, Geoff - Project Manager, Ocean Engineering (B.S., Florida Institute of Technology, 1981) Projects involve mechanical, structural and ocean engineering as well as hydrodynamic studies. Tasks include design engineering using FEM, proto-type modeling/testing and involvement in shop fabrication. Opportunities may exist for participation in offshore deployment and testing.

Borne, Lawrence - Project Manager, Mechanical Engineering (P.E. State of Florida; B.S., Embry-Riddle Aeronautical University, 1991) Projects involve mechanical, structural and ocean engineering as well as hydrodynamic studies. Tasks include design engineering using FEM, proto-type modeling/testing and involvement in shop fabrication.

Dagleish, Fraser - Project Manager, Optical Engineering (Ph.D., Cranfield University, 2004) Projects focus on underwater LASER and optical imaging systems.

Frank, Tamara - Associate Scientist, Visual Ecology (Ph.D., University of California, Santa Barbara, 1987) Research focuses on the ecology, behavior, and visual physiology of marine crustaceans, with emphasis on predator-prey interactions, the effects of light on behavior, and vertical migrations in the mesopelagic realm.

Frey, Lee - Project Manager, Ocean Engineering (M.S., Florida Institute of Technology, 2002) Research interests include underwater robotics, control systems, and instrumentation. Current projects focus on optical instruments for measuring marine bioluminescence, unobtrusive deepwater observing, autonomous underwater vehicles, and remotely operated vehicles.

Guzmán, Esther - Postdoctoral Investigator (Ph.D., University of Texas, Houston, 2004) Research focuses on the design of high-throughput assays to test the potential anti-tumor or anti-inflammatory activities of marine natural products isolated from sponges and corals, and the elucidation of the mechanism of action of those compounds that exhibit biological activity to assess their potential as therapeutics.

McCarthy, Peter - Senior Scientist (Ph.D., University of Kent, 1983) Research is focused on two areas of microbiology: heterotrophic microbes associated with sponges and the discovery of antibacterial agents. We are isolating and identifying marine microorganisms associated with deep-water marine invertebrates and using these unusual microbes as a novel source of pharmaceutical agents. We are also exploring the use of natural products from marine invertebrates and microorganisms as a source of new antibacterial agents which target pathogens such as methicillin-resistant *Staphylococcus aureus* (MRSA).

Sutton, Tracey - Assistant Scientist, Fish and Plankton Ecology (Ph.D., University of South Florida, 2001) Research interests include: ecology, taxonomy, and zoogeography of deep-sea fishes and micronekton, with emphasis on feeding relationships; zooplankton distribution, production, and grazing impact on phytoplankton; coastal fish biology; interactions of pelagic and slope/mid-ocean ridge communities; development of new technologies for biological sampling.

Taylor, Larry - Project Manager, Manatee Protection Systems. Projects focus on electrical and systems engineering, and laser systems. Current projects include optical instruments for measuring marine bioluminescence, unobtrusive deepwater observing, and manatee protection systems.

Wright, Amy - Senior Scientist (Ph.D., University of California, Riverside, 1984) Research interests focus on the bioassay-guided purification and structure elucidation of novel natural products that may have utility in the treatment of human diseases. Of special interest are macro- and microorganisms derived from deep-water habitats accessible through the use of the *Johnson-Sea-Link* manned submersibles. Current research projects include investigation of deep-water sponges and gorgonians as sources of novel antifungal, anti-inflammatory, and antitumor agents, lithistid sponges as sources of cell cycle inhibitors, and investigation of the role of secondary metabolites in sponge-microorganism consortia.