Monterey Bay Aquarium
2019 Sea Grant Fellowship Position Description

Host Agency: Monterey Bay Aquarium
Location: 886 Cannery Row, Monterey, CA 93940
Fellowship Supervisor: Andre Boustany, Nereus Principal Investigator, Fisheries
Point of Contact: Claudia P. Tibbs, Conservation & Science Planning & Operations Manager
cptibbs@mbayaq.org; (831) 648-9821

Agency Background:
The Conservation and Science (C&S) Division at the Monterey Bay Aquarium focuses on conserving ocean wildlife and the marine environment. The division is comprised of three program areas: Ocean Conservation Policy, Conservation Research and Seafood Watch. C&S engages in strategies and activities to take action on behalf of ocean conservation while also collaborating with partners to achieve the Aquarium's mission *to inspire conservation of the ocean*. The Aquarium's ocean conservation priorities are to:

- **Cultivate and influence leaders to take action for the ocean**
  We believe in the power of collaboration, and a commitment to science-based management, to protect ocean health for future generations. We enlist new ocean champions from government, the private sector and the public to act for the ocean—in the Monterey Bay area, in California, across the United States and around the world.
- **Conserve iconic Pacific Ocean wildlife and ecosystems**
  The health of marine life is connected to the health of their ocean homes, which helps to sustain all life on earth. Beyond our work to conserve southern sea otters, Pacific bluefin tuna and white sharks—we're monitoring ocean biodiversity and ecosystem health. Through our policy influence and partnerships, we support and defend ocean protections.
- **Improve the sustainability of global fisheries and aquaculture**
  Unsustainable fishing and aquaculture exact a significant toll on ocean health—and on human communities. As a leader in the global sustainable seafood movement, we inform fishing and aquaculture practices, as well as national and international fishery management policies—driving a market shift to ocean-healthy seafood production worldwide.
- **Reduce the sources of ocean plastic pollution**
  Plastic pollution is a growing global problem for ocean ecosystems, wildlife and people. Our scientists are investigating the scope and impact of plastic pollution in the marine environment. And we're using science-based information to ignite individual and collective action, championing policies and practices to reduce the flow of plastic from land to sea.
- **Address climate change and its impacts on ocean health**
  Carbon emissions profoundly affect ocean health, and our own survival. We advocate for policies to reduce carbon emissions, end our reliance on fossil fuels, promote clean energy and mitigate the unavoidable impacts underway. We conduct scientific research on climate change, and bring science-based information to the public, encouraging them to be a part of the solution.

As an organization, the Aquarium celebrates and embraces diversity. We foster an inclusive, welcoming environment where individual differences are respected, appreciated and recognized as a source of strength to our organization. These qualities enrich our workplace and increase our capacity to fulfill our mission.

Position Description:
The Sea Grant Fellow will create various analytical tools to support research programs within the Conservation Research (CR) department on the themes of ocean plastics in the water column, climate change impacts and historical ecological baselines on kelp.

Potential Assignment
- Conducting research to support ecosystem science research programs.
- Obtaining, processing, organizing, and analyzing empirical data.
- Developing mechanistic and stochastic models using observational and environmental data.
- Writing journal manuscripts and conference presentations from analyses and figures created.
- Assisting with developing innovative ecological indices, metrics, and indicators to address key questions.
- Assisting with research conducted in the Ocean Memory Laboratory on long-term environmental records to generate baselines of ocean ecosystem health.

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- Assisting with research on life history, assessment, climatic forcing, and population structure of fisheries.
- Developing specific tools to support existing CR and Conservation & Science staff projects as assigned.

Desirable Qualifications
- Ability to work both independently and with diverse interdisciplinary teams that require clear communication.
- Experience or advanced knowledge in environmental sciences, fisheries, statistics, computer science, engineering or mathematics.
- Experience in geospatial ecology.
- Experience in processing and interpretation of environmental and biotelemetry data.
- Experience in applying empirical data to models to address applied environmental problems.
- Experience in R, Matlab, Python, AMDB, SAS, ARCGIS, Excel, or other analytical software.
- Familiarity and/or experience in information graphics; familiarity with leveraging large datasets into compelling graphical outputs.