Postdoctoral Researcher in population dynamics and fishery management
Hopkins Marine Station of Stanford University
18 months at 100% FTE

POSITION: The Postdoctoral Researcher will lead the modelling/population dynamics/fishery management research as part of a recently funded NSF project investigating whether coastal oceanographic variability gives rise to local refuges that can be harnessed to increase the resilience to climate change of ecologically and economically important species in the southern California Large Marine Ecosystem, off Baja California, Mexico. The project merges disciplines and will involve fishers, fisheries managers, and members of Mexican fishing cooperatives to integrate knowledge of the drivers and outcomes of local oceanographic variability in fisheries management and conservation aimed at enhancing the resilience of coastal species and small-scale fisheries to climate change. Integration of oceanographic and ecological studies will advance understanding of the effects of oceanographic variability on marine populations and fisheries. This position is tailored towards a Postdoctoral Researcher who is interested in engaging in interdisciplinary research.

We seek an enterprising Postdoctoral Researcher capable of working in diverse settings, and as part of interdisciplinary, international teams. The Postdoc will lead the modelling analyses and will work with team members to integrate experiments, oceanographic and ecological monitoring in synthetic analyses and models. The ideal candidate will have the following skills:

- In depth knowledge of population ecology and fishery management
- Documented experience in modelling population dynamics and, in particular, in computer simulations of fishery management by using a variety of approaches, such as integral project models, spatial dynamics, couple ecological-oceanographic models, agent base modelling, etc. R is the preferred programming language, but knowledge of other programming language, such as Matlab and Python will also be valuable.
- Documented experience in the application of cutting-edge statistical approaches to data analysis, time series, spatial analysis, model parameterization, and maximum likelihood estimation.

Other ideal skills include a high degree of independence and leadership, knowledge of marine ecosystems, and ability to work in an interdisciplinary, international research group.

The Postdoctoral Researcher will be based at Hopkins Marine Station, supervised by Professors Giulio De Leo and Fiorenza Micheli, and will interact extensively with the whole interdisciplinary team.

The Postdoctoral Researcher will:
1. Conduct statistical analysis of available data to identify spatial and temporal trends
2. Conduct literature analysis with the goal to identify realistic ranges of model parameters when primary data is not available
3. Expand existing R scripts and develop new R scripts to simulate population dynamics of targeted species of conservation and/or commercial interest - such as abalone, sea urchin, spiny lobster, and finfish – through the development of stochastic, spatially explicit size structured, multi species models.
4. Extract relevant oceanographic data and couple 2D oceanographic models with the ecological models at different spatial scale of research and management interest.
5. Report and communicate results in publications and presentations;
6. Support interdisciplinary project research;
7. Mentor graduate and undergraduate students involved in the project;
8. Contribute to project reports and team publications.

**Hours and Compensation**

The Postdoctoral Scholar will be given a workspace at Hopkins Marine Station, and will be expected to work full time for a duration of 18 months, starting Winter or Spring 2019. Compensation is $60,000/year plus benefits.

**QUALIFICATIONS:** A Ph.D. in a relevant scientific field is required. We seek a self-starting Postdoctoral Researcher with the following interests and experience:

- extensive modelling experience in fish population biology and fishery management,
- enthusiastic about working with an interdisciplinary, international research team,
- enthusiastic about co-mentoring graduate and undergraduate students involved in the project,
- familiarity with data management and data analysis,
- enjoys sharing ideas and communicating with different groups,
- strong communication, media, and technology skills,
- strong empathy, social skills and motivation,
- able to work independently, while also knowing when to seek guidance from peers and mentors,
- detail-oriented, thorough and dependable.

Interested candidates should submit their CV, research statement, and the names and email addresses of three references electronically to Giulio De Leo (DeLeo@stanford.edu) and Cheryl Butner (cbutner@stanford.edu). We will start reviewing applications on October 8, 2018, but applications will be considered until the position is filled.