Position announcement: Post-doctoral Researcher
Position to be located at: Oceanic Fisheries Programme
Secretariat of the Pacific Community
Noumea, New Caledonia
Contact: Patrick Lehodey, PatrickL@spc.int

Project: Mixed resolution models for investigating individual to population scale spatial dynamics (Individual based modelling of tuna population)

This project addresses ways to improve upon two classes of models: Individual Based Models (IBMs) and Advection Diffusion Reaction Models (ADRM)s in modelling the spatial dynamics of tunas and other large pelagics from individual to ocean basin scales. Both types of model have been successfully applied to predict tuna behavior at a range of spatio-temporal scales and can provide complimentary approaches to investigating the problems of scale integration. Mixed resolution models use a stretched grid system with greater resolution at particular locations in the model domain. Both IBMs and ADRMs are being adapted to this system. This position will work on the further development of the IBM methodology with particular reference to the new spatial grid and to intercomparison of results.

Conditions

Funding for this two year project is provided by the Pelagic Fisheries Research Program of the University of Hawaii, USA. The postdoctoral scientist will be integrated as a visiting scientist in the Tuna Ecology and Biology section of the Oceanic Fisheries Programme of the Secretariat of the Pacific Community in Noumea, New Caledonia (http://www.spc.int/OceanFish/).

Knowledge and skill requirements

- A PhD in marine ecology, fisheries science or a related field
- Broad knowledge of marine ecology, oceanography and fisheries science
- Knowledge of mathematical and statistical methods used in modelling exploited populations
- Detailed knowledge of ecological theory as it relates to spatially explicit individual based modelling
- Good computer programming skills
- An appreciation of the importance of scale/resolution in marine ecological processes

Desirable attributes

- Knowledge of the physiological and behavioural ecology of fish, tunas and/or other large pelagics (e.g. billfish, sharks, turtles)
- Programming skills in FORTRAN and/or C++
- Willingness to work in New Caledonia for a large part of the project
- Willingness to work in a multicultural environment

Note: Candidates who have a different background to that outlined above (e.g. terrestrial ecology, computer science) but who are nonetheless interested in the project are encouraged to apply. Their application will be assessed on their transferable skills and their potential to learn and adapt to new academic projects. Contact Patrick Lehodey, Secretariat of the Pacific Community, Oceanic Fisheries Programme, BP D5, Noumea, 98848 ,New Caledonia; PatrickL@spc.int