College of Integrative
Sciences and Arts
Arizona State University

The Science and Mathematics Faculty in the College of Integrated Sciences and Arts at Arizona State University invites applications for a Postdoctoral Research Assistant. The postdoctoral research assistant will work in La Jolla, California in conjunction with Arizona State University. Project support is available for eighteen months, with the potential for additional support, depending on funding. This is a full-time (1.0 FTE), benefits-eligible, fiscal, year-to-year appointment. Candidate must reside in California, or be willing to relocate. For additional information and policies regarding postdoctoral scholars at ASU, please see https://provost.asu.edu/academic-personnel/postdoc Salary is $55,000.00 to $58,000.00 per year, depending on experience.

Arizona State University is a comprehensive public research university named #1 in the United States for innovation for the third consecutive year, (https://asunow.asu.edu/20170911-asu-news-asu-selected-nations-most-innovative-school-third-straight-year) followed by #2 Stanford and #3 MIT. We measure our success not by whom we exclude, but rather by whom we include and how they succeed; advancing research and discovery of public value; and assuming fundamental responsibility for the economic, social, cultural and overall health of the communities we serve. ASU's College of Integrative Sciences and Arts is home to innovative teachers who are guided by educational access, student success, applied learning, and interdisciplinary inquiry. We understand there are many paths to achieving a university education, and we build undergraduate and graduate degree programs and pathways that are flexible and relevant for a rapidly changing world. To learn more about ASU and the College of Integrative Sciences and Arts go to: http://about.asu.edu/ and http://cisa.asu.edu.

POSEIDON[1] is a coupled human-ecological model that combines an agent-based, adaptive fishing fleet model with existing fishery models or simple biological data, to simulate vessel behavior and fishery outcomes based on policies, market influences, and environmental factors. POSEIDON provides a powerful platform for policy evaluation and decision support, with a strong focus on the spatial and human dimensions of fisheries management. POSEIDON was originally developed by a multidisciplinary team from the University of Oxford, Ocean Conservancy, George Mason University, the University of California, Santa Barbara, and Arizona State University, as part of an effort to advance innovation in fisheries management. The model has been calibrated and validated to the U.S. West Coast groundfish fishery, where it has been able to reproduce observed fishing patterns. It is now being adapted to explore MSC certification for Indonesia's deep water snapper fishery (in partnership with The Nature Conservancy, Indonesia), as well as for Eastern Pacific Ocean (EPO) tropical tuna management.

EPO tropical tuna management
In partnership with the International Seafood Sustainability Foundation (ISSF) and in cooperation with staff of the Inter-American Tropical Tuna Commission (IATTC) we are in the process of scoping potential applications of the model as an analytical and policy evaluation tool to support tropical tuna management in the EPO. This work is planned for 2018 through 2020. The model will be used to explore timely research questions, including fish aggregating device (FAD) management, understanding the spatial dynamics of the fishery, as well as some of the social and economic issues that affect management.

Overview of the role
We seek a Postdoctoral Research Assistant (PDRA) to serve as a key member of the team to develop the POSEIDON application for EPO tropical tuna management. S/he will be based at the IATTC's headquarters in La Jolla, California, and will be charged with 1) understanding and accessing relevant datasets from IATTC; 2) scoping model application and designing use cases that are supportive of IATTC policy evaluation processes; and 3) conducting statistical analyses of data to support model development. This researcher will work closely with the modeling team based at the University of Oxford and Ocean Conservancy to drive model design, calibration and validation of the tool and its outputs, as well as evaluation of model results. At the IATTC headquarters, this researcher will act as the liaison between the POSEIDON team and IATTC staff so that the best knowledge of the data and the fishery is well-captured in the model.

The PDRA position requires a strong background in quantitative fisheries science; candidates with other strong quantitative backgrounds (e.g., a doctorate in a quantitative subject, e.g., computer science, applied mathematics, physics, engineering, quantitative ecology) may be considered. This position also requires the ability to handle large datasets, knowledge of statistics and simulation modeling, and programming skills in R (or equivalent languages). Experience with agent-based model building and application, wider software development skills, and natural resource management are strongly preferred.

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[1] Process-based Ocean system Simulator for Evolving Integrated Domains and Operational Needs

The PDRA will be expected to assist in the production of published material and grant-writing to support the ongoing development of the project. This project will provide the opportunity to experience first-hand how to bring research into practical application, connect with top researchers, policy experts, practitioners and business leaders, and contribute to meaningful and timely solutions for the world's oceans and fisheries.

This project is funded for 18 months, with the possibility of extension after this period, based on successful development of the initial use case. Throughout this assignment, the PDRA will have the opportunity to work closely with partners, making visits as necessary, as well as with practitioners, interdisciplinary experts, and advocates from a range of academic institutions and public agencies. The various partners will provide expertise in ocean ecology, fisheries management/policy/economics, and model building.

Required Qualifications:
- Ph.D. in quantitative fisheries science or equivalent research in a relevant subject by the start of the appointment
- Experience with empirical data analysis.
- Knowledge (or experience) of (in) a statistical coding language, specifically R or other languages such as Python or SAS
- Familiarity with the fisheries modelling and experience with ecological data, particularly in the marine environment.
- Excellent communication and interpersonal skills.
- Experience assessing operations and processes to understand procedures, information flows, decisions, etc. and general functional requirements for software development.
- Ability to work both independently and as a member of a large interdisciplinary team.
- An interest in the application of research to policy.

Desired Qualifications:
- Experience with Random Utility Models and other statistical discrete choice models.
- Expertise in agent-based model construction and application.
- Software development skills in Java as well as a good understanding of design patterns and object-oriented concepts.
- Proficiency in Spanish.
- Broad understanding of complex systems methods.
- History of producing peer-reviewed publications.
- Desire to learn and explore new intellectual territory.

Application Procedure:
To apply, visit **https://cisa.asu.edu/jobs** and upload your application as **one combined .pdf document** under job number **12400.** Only electronic submissions will be reviewed. Incomplete applications will not be considered. Applications must contain:
1. A letter of interest outlining qualifications and experience as it relates to the position, and a short description of related research the incumbent would be interested in pursuing
2. Curriculum vitae
3. Unofficial graduate transcripts
4. Information for three professional references (their position, title, e-mail, phone number)

The application deadline is **7/2/2018 at 5pm**; and if not filled, then every Friday thereafter until the search is closed. Official Transcripts required prior to first day of employment. A background check is required prior to employment. For technical assistance please email cisahr@asu.edu, for position related questions contact Search Committee Chair Dr. Steven Saul at steven.saul@asu.edu.

Arizona State University is a VEVRAA Federal Contractor and an Equal Opportunity/Affirmative Action Employer. All qualified applicants will be considered without regard to race, color, sex, religion, national origin, disability, protected veteran status, or any other basis protected by law. (See ASU's complete non-discrimination statement at https://asu.edu/aad/manuals/acd/acd401.html; see ASU's Title IX policy at https://www.asu.edu/titleIX/)

ASU offers applicants an opportunity to voluntarily self-disclose information for the University affirmative action plan; applicants may complete an EEO survey for te position they are applying for online. Information you will need to complete the survey: Job Number: **12400** Job Title: Postdoctoral Research Associate; Department Name: College of Integrative Sciences and Arts.

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