Post-doc opportunity at Pontificia Universidad Católica de Chile

Position opening in the Ecology Departament of the Pontificia Universidad Católica de Chile for a postdoctoral-level marine biologist/biological oceanographer to work on the optimization of imaging flow cytometry for detection of harmful algae.

Chile suffers frequent harmful algal bloom problems with serious negative effects on local economies, but faces major challenges in effective monitoring and ecological study of phytoplankton communities: The Chilean coast extends from the Southern Ocean to tropical latitudes. This includes southern fjords and inland seas, and long extensions of open ocean coast where westerlies dominate towards the south and coastal upwelling dominates seasonally to the north. The current project seeks to explore how effective monitoring of phytoplankton community dynamics over a wide spatial scale can be implemented using robotic sampling and environmental data collection on ships-of-opportunity, coupled with imaging flow cytometry to increase sample processing rates. The project is funded by the program FONDEF IT FAN of the Chilean Consejo Nacional de Ciencia y Tecnología (CONICYT) for 24 months and involves an interdisciplinary team of physical and biological oceanographers, phytoplankton ecologists and marine engineers, as well as collaboration with stakeholders.

Duties:

- Optimize methods for collecting and preserving phytoplankton samples for imaging flow cytometry analysis.
- Optimize protocols for sample processing and data analysis, determining what the limits of discrimination and detection are for target species.
- Compare the ability of imaging flow cytometry to traditional phytoplankton methodologies for detecting and distinguishing known harmful algal species.
- Publish results in highly ranked journals and help share results with stakeholders.

Scientific and career opportunities:

- Be at the forefront of implementation of new technology and innovative information transfer from fundamental oceanographic science to stakeholders and decision makers.
- Generate and analyze a large database to discover relationships between phytoplankton community composition and oceanographic variables.
- Discovery of eco-oceanographic patterns underlying harmful algal blooms.

Qualifications:

- Formation in biological oceanography with research experience relevant to plankton ecosystems. Limnologists with relevant experience are also encouraged to apply.
- Knowledge of phytoplankton is desirable but not essential, as training will be provided.
- More than any specific skill set, we look for candidates who are self-driven, detail-oriented, display leadership in problem-solving and interpretation of results, and are ready to critically diagnose instrument performance and data analysis methods.
- Ability to work in interdisciplinary teams is crucial.

Requirements:

- PhD received no earlier than January 2012.
- Be ready to start between no later than the end of March 2018 (negotiable).
- Publication level should be commensurate with time since completing PhD, and include at least one first-author publication in an internationally indexed (ISI/WOS) journal.
- Available for international travel (e.g., to the USA and/or Europe) for two weeks or more for intensive training in both traditional phytoplankton taxonomy and the use of imaging flow

cytometry.
- Chilean nationality is not required, although non-Chileans will be required to obtain Chilean residency.

Institutions involved:
The project is hosted in Santiago by the Pontificia Universidad Católica de Chile (PUCCh), consistently ranked as one of top research universities in Latin America, in the Facultad de Ciencias Biológicas (http://biologia.uc.cl/es/) and in the Escuela de Ingeniería (https://www.ing.uc.cl/) of PUCCh. Work will occur in Santiago as well as in the Estación Costera de Investigación Marina in Las Cruces and/or other marine research facilities of collaborating institutions. Other institutions include the Instituto Milenio de Oceanografía de Chile (http://en.imo-chile.cl/) and the University of North Carolina Wilmington, USA (MARBIONC http://www.marbionc.org/home.html).

Contacts for further information or for sending applications (CVs and at least two contacts for professional references):

Dr. Peter von Dassow, pvondassow@bio.puc.cl

We will be evaluating applications as they come in until 6 January 2018.

More about the researchers and institutions involved can be found on the following websites:
http://biologia.uc.cl/es/cuerpo-academico/profesor/74
http://biologia.uc.cl/es/cuerpo-academico/profesor/109
https://www.ing.uc.cl/academicos-e-investigadores/giancarlo-troni-peralta/