

## Update on POGO capacity building (cont'd)

### Austral Summer Institute ASI XII

ASI XII was devoted to the themes Marine Genomics, Water and Global Change, Time Series in Oceanography and Microbial Oceanography. Activities were held at the Main Campus of the University of Concepcion and at the Marine Biology Station of the Catholic University in Las Cruces.

Some 118 graduate and advanced undergraduate students from Argentina, Brazil, Colombia, Cuba, Ecuador, France, Uruguay and Chile participated in ASI XII, organized by the Department of Oceanography and the COPAS Center of the University of Concepcion.

In October 2011, there was a course on "Marine Genomics: from Ecology to Biotechnology" involving scientists from the University Pierre et Marie Curie/CNRS, France, followed by a mini course on Data mining and genotyping of Single Nucleotides Polymorphisms (SNP): linking genotypes to phenotypes of marine organisms, by Dr. Cristian Gallardo from University of Concepcion.

The course Exploring Fresh Water in Global Climate and High-Latitude Oceans (Dr. Peter Rhines) covered the global hydrological cycle: fresh water in the climate system, in the oceans and atmosphere. It consisted of regular lectures and student projects, practical demonstrations and student presentations.

Three courses covered the topic of Oceanographic Time Series. Coastal Upwelling Time Series in the Humboldt Current System (CUTS-HCS), taught by lecturers from the Department of Oceanography of UDEC, comprised methodological and conceptual aspects in the coastal upwelling area of the Humboldt Current System, and included lectures and practical activities.

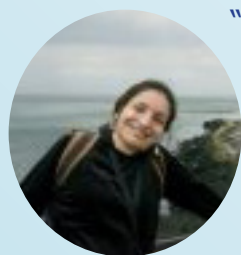
Oceanographic Time Series in Northern Hemisphere Coastal and Open Ocean Ecosystems was taught by Drs. David Checkley and Michael Lomas. It focused on the scientific history and development of the CalCOFI and BATS time series programs and included a practical component.

Coastal Ocean Monitoring and Ecological Time Series (COMETS) was carried out by Drs. John Largier and Juan Carlos Castilla. This course addressed the scientific, statistical and operational aspects of monitoring, i.e. sustained observations in the coastal ocean and along the coast. Oceanographic, biological and pollution phenomena and processes were addressed through lectures, readings, working groups, student presentations and discussions.

The course Ecology and Diversity of Marine Microorganisms (ECODIM) celebrated its seventh anniversary. A number of foreign and Chilean scientists provided an overview of microbial oceanography by illustrating basic concepts which are applied today to understand the ecology of marine microorganisms and the roles they play in global biogeochemical cycles. The lectures, the selection of seminar papers and the course research projects focused on the diversity of microbes in saline ecosystems, in particular metagenomics, phylogenetic taxonomy, microscopy, flow cytometry, culturing techniques and geochemical bio-thermodynamics.

The Austral Summer Institute continues every year to contribute to capacity building in Latin America, allowing the development of networks among local and visiting scientists and students.

*This article was provided by Monica Sorondo and Silvio Pantoja (UNESCO IOC Chair Oceanography), COPAS Sur-Austral, University of Concepcion.*



"I came back from ASI XII reinvigorated with new research ideas, new perspectives on my field, and new friends and colleagues."

*Valéria C. Prando, Master in Meteorology, University of Sao Paulo, Brasil.*



"The courses of the Austral Summer Institute had a high academic level and scientific quality. It was a great opportunity for me to be able to participate in the ones devoted to Time Series in Oceanography."

*Andrea Corredor, Colombia, M.Sc. Program in Oceanography, University of Concepcion, Chile.*

"Another important aspect was the contact with other students also doing masters or doctorates in different areas. The group presentations were really important to stimulate discussion and consolidate ideas suggested during classes."

*Felipe Maneschy, M.Sc. Student in Physical Oceanography, University of Sao Paulo, Brasil.*



"It was really inspiring to interact with top scientists both in lectures and during lab work. I really hope this course continues motivating and helping lots of students in the future."

*Fernando Sorroche, PhD Student in Biological Sciences, Universidad Nacional de Río Cuarto, Argentina.*

