

## Interim Report on the 2009 POGO-SCOR Fellowship Programme

This year the fellowship programme was again implemented using POGO funds with supplementary financial support from SCOR. January's announcement opened the competition for three months. This year saw a total of 25 applications received with applicants from Abu Dhabi, Argentina, Brazil, Cape Verde, Chile, China, India, Indonesia, Mexico, Mozambique, Pakistan, Romania, South Africa, Trinidad & Tobago and Turkey.

The applications were screened independently by a committee of three, with representation from SCOR and POGO. In making their selection, the committee considered the following factors:

- quality of the application
- relevance of the application to the priority areas identified in the fellowship announcement
- evidence that the training will lead to improved sustained observations in the region, or improved applications of such data;
- evidence that the training would lead to capacity-building with potential lasting impact on regional observations
- relevance to ongoing or planned programmes at the parent institution and links to GOOS initiatives

This year, thirteen visiting fellowships were initially offered to oceanographers from developing countries and economies in transition. The host institutions were in Australia, France, Germany, Portugal, the UK, and the USA. Unfortunately, one of the fellows was sadly lost in the Air France tragedy in May 2009 and the decision was taken not to replace him, making the final total of twelve 2009 fellowships. POGO and SCOR commend the efforts from all the supervisors and colleagues at the various host institutions who agreed to devote time and energy required for the training. The programme would not have been viable without such efforts from prominent scientists and their teams.

As in 2008 a Special POGO-SCOR visiting fellowship for on-board training on an Atlantic Meridional Transect (AMT) Cruise was also offered with the selected candidate having the opportunity to visit Plymouth Marine Laboratory (PML) in the UK for one month prior to the cruise to participate in cruise preparation and planning, to go on the cruise and after the cruise spend up to two additional months at PML, learning to analyse the results statistically and interpret them.

All the people involved in each fellowship (the fellowship holder, the supervisor at the parent institute and the supervisor at the host institute) will be requested to submit short reports at the end of the training period. Thus far (September 2009), one fellowship has been completed and the reports received have been enthusiastic. Three fellows have arrived at their host institution and have written eagerly of the forthcoming period of training.

There is tremendous interest in the fellowship programme at all levels, both in the oceanographic institutions of the developing nations, as well as among leading scientists who are eager to contribute to this initiative. It is seen to be filling a niche in capacity building through specialised training that is not filled by intensive courses or by participation in scientific meetings. It helps improve the *esprit de corps* among oceanographic institutions around the world, and serves as a stepping stone to building collaborations.

## Demography of visiting fellowships

### Parent Institutions of Successful Candidates:

Brazil	Federal University of Rio Grande
India	Physical Research Laboratory
Chile	Pontificia Universidad Catolica de Chile
Chile	University of Concepción
South Africa	CSIR
India	National Institute of Oceanography
Cape Verde	TENATSO - Instituto Nacional de Desenvolvimento das Pescas
China	South China Sea Institute of Oceanology, Chinese Academy of Science
Pakistan	National Institute of Oceanography
Mexico	The National Commission for the Knowledge and Use of Biodiversity (CONABIO)
Mozambique	National Institute for Hydrograph and Navigation - INAHINA
Mexico	CICESE

### Host Institutions:

Australia	CSIRO Marine and Atmospheric Research
France	Laboratoire d'Océanologie et de Géosciences (LOG) IFREMER
Germany	Max Planck Institute for Marine Microbiology Alfred Wegener Institute IFM-GEOMAR EOMAP
Portugal	University of Aveiro
UK	SAHFOS, Plymouth Sheffield Centre for Earth Observation Science, University of Sheffield
USA	College of Oceanic and Atmospheric Sciences, Oregon State University University of Rhode Island, Graduate School of Oceanography Virginia Institute of Marine Science, College of William and Mary

### Gender distribution

Female: 3

Male: 9

## POGO-SCOR JOINT FELLOWSHIP PROGRAMME

### SUCCESSFUL VISITING FELLOWSHIP CANDIDATES - 2009

#### Christopher Aiken - Chile

Dr Aiken is a research associate with the Pontificia Universidad Catolica de Chile where he is developing an innovative coastal observing network in the Chilean fjords using ferries as ships of opportunity, known as FOCA (Ferries Observando los Canales Australes). By visiting CSIRO Dr Aiken will receive specific training in various aspects of Australia's Integrated Marine Observing System (IMOS) Ship of Opportunity (SOOP) facility that are of relevant to the Chilean project. He will be supervised by Mr Ken Ridgeway, Leader of the IMOS Ship of Opportunity Facility with assistance from Prof. Gary Meyers, Director of IMOS at the University of Tasmania.

#### Sinibaldo Canhanga - Mozambique

Mr Canhanga is a researcher at the National Institute for Hydrograph and Navigation (INAHINA) in Mozambique where he is responsible, amongst other things, for the tide analyses and tide table production. He is also on a national group designated to establish the numerical models as a tool to support the decision-makers on the best decision for sustainable coastal development. At the University of Aveiro in Portugal under the supervision of Prof. J Dias, the time will be devoted to improving his knowledge about morphodynamic modelling system being used by the Estuarine Group, its potentials and limitations.

#### Sergio Cerdeira Estrada - Mexico

Dr Cerdeira is an expert analyst in remote sensing with The National Commission for the Knowledge and Use of Biodiversity (CONABIO) in Mexico. The fellowship period with Dr Thomas Heege at Earth Observation and Mapping (EOMAP) in Germany will be used to train Dr Cerdeira in the use of hyperspectral data to derive standardised products such as suspended matter, phytoplankton and coloured organic material from both deep inland and coastal waters. EOMAP and CONABIO see the fellowship leading to future joint developments in ocean monitoring, such as geophysical parameters and maritime ecosystems such as Mexican coral reefs.

#### Amábile Ferreira - Brazil

Ms Ferreira has been a PhD student at the Federal University of Rio Grande in the Laboratory of Ocean and Climate Studies, Institute of Oceanography since March 2006. Since that time she has been involved in the project PATgonia EXperiment (PATEX) and has conducted much of the bio-optical measurements in six of the seven cruises in the Patagonian shelfbreak region. She is leading a scientific article on the absorption of the Patagonian surface waters which is expected to be published in Deep Sea Research sometime this year. She will be joining the team in the Laboratoire d'Océanologie et de Géosciences (LOG) in France to improve her knowledge in the assessment of water biogeochemical characterisation from optical measurements which is closely related to her research. Dr Alvain is particularly interested in collaborating with Ms Ferreira to develop bio-optical and remote sensing observation from ocean color satellite sensors in order to study optical properties and dominant phytoplankton groups in Patagonian shelf-break waters.

#### Sanober Kahkashan - Pakistan

Ms Kahkashan is a marine chemist research scientist in the Chemical Oceanography Section at the National Institute of Oceanography (NIO) in Pakistan. Her fields of interest are marine pollution monitoring (organic pollutants) and their impact on the marine environment including Polycyclic Aromatic Hydrocarbons (PAHs). She is currently responsible for carrying out extraction, cleanup and fractionation of organic pollutants in marine environmental samples for a project entitled 'Establishment of PAK-EPA Marine Water Pollution Monitoring Center at NIO'. During her time at the University of Rhode Island's Graduate School of Oceanography under the supervision of Dr Rainer Lomann she will be trained in preparing, deploying, analysing and interpreting the result from using passive polyethylene samplers in coastal waters. Polyethylene samplers are very cost-effective and versatile and will provide Ms Kahkashan and NIO an efficient tool to start their own coastal observation programme.

#### Keerthi MG - India

Ms Keerthi is a project assistant in the project 'Dynamics and thermodynamic of the equatorial Indian Ocean: An Argo perspective' at National Institute of Oceanography (NIO), India and has been working on ARGO profiles to understand the ocean dynamics and its response to atmospheric forcing. She is now aiming to pursue a PhD programme using ARGO profiles. Her fellowship period will be spent at IFREMER working under the supervision of Clément de Boyer Montégut who met Ms Keerthi during a research visit to NIO and was impressed with her great knowledge of analyses of observed barrier layer in the tropical Indian Ocean.

#### Ravi Kumar MS - China

Mr Kumar is currently pursuing his PhD at the South China Sea Institute of Oceanology in the area of Biological and Remote Sensing Marine Ecology under the guidance of Prof. D Tang. He is due to spend the fellowship period at the Virginia Institute of Marine Science under the supervision of Dr K Tang where he will receive training on the ecophysiology of *Phaeocystis* and trained to use state-of-the-art instrumentation such as PAM, gas chromatograph and epifluorescence microscopy to conduct hypothesis-driven research aiming to understand the biology and ecology of that algal group.

#### Arvind Singh - India

Mr Singh is a Senior Research Fellow at the Physical Research Laboratory, Goa, India, where he was offered a Graduate Student Fellowship two years ago working with Prof. Ramesh addressing oceanographic problems. Mr Singh will spend three months training in the new subject of 'The role of anaerobic ammonium oxidation (anammox) in nitrogen-loss from Indian coastal waters' under the supervision of Dr Marcel Kuypers at the Max Planck Institute for Marine Microbiology. Both Mr Singh's parent and host institutions see this opportunity as initiating new collaborations between marine scientists in India and institutions in northern Germany.

#### Vladimir-Giovanni Valencia - Mexico

Mr Valencia is currently enrolled in the Physical Oceanography PhD programme at the Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE). He is a member of the Waves Group and has been involved in a project where two High Frequency (HF) radars were installed in the Gulf of Mexico during January-April 2005. One of the interests of the group is to study the processes of generation and propagation of waves and Mr Valencia's training on the Estimation of Directional Wave Spectrum from HF Radar Data under the supervision of Prof. L Wyatt, Sheffield Centre of Earth Observation Science at the University of Sheffield, UK, is seen as benefiting both CICESE and the Waves Group to enable further study of ocean surface wave processes and acquire a broader view with long term measurements and statistics.

#### Johan van der Molen – South Africa

Dr van der Molen is a Post Doctoral Fellow within the African Coelacanth Ecosystem Programme (ACEP) funded by the National Research Foundation (NRF) based at the Council for Scientific and Industrial Research (CSIR) in South Africa. Within ACEP a multi-disciplinary team of researchers will study several aspects of the Natal Bight Ecosystem between 2009 and 2011 and Dr van der Molen's task will be to study the temporal and spatial distribution of the phytoplankton. The fellowship was granted to enable Dr van der Molen to attend a two-week Taxonomy Workshop co-organised by the Sir Alister Hardy Foundation for Ocean Science (SAHFOS)-Marine Biological Association (MBA) Marine Phytoplankton in Plymouth, UK, in July 2009 and thereafter visit the Alfred Wegener Institute for Polar and Marine Research in Germany for two weeks to be trained in molecular techniques under the supervision of Dr Kerstin Töbe. This has been successfully completed with all those involved expressing the wish to maintain contact and investigate future collaborations.

#### Nuno Roberto Vieira – Cape Verde

Mr Vieira is Assistant to the Site Manager of the Tropical Eastern North Atlantic Time-Series Observatory (TENATSO), Instituto Nacional de Desenvolvimento das Pescas, Cape Verde. TENATSO is a unique fixed-point ocean time series, presently implemented as a collaboration between Germany (IFM-GEOMAR), the UK (National Oceanography Centre, Southampton) and Cape Verde. During the fellowship period of three months, Mr Vieira will receive CTD training on maintenance, calibration and data processing at IFM-GEOMAR under the supervision of Dr Gerd Krahnmann. This will provide the Institute with local capacity for ongoing works through the monthly samples and enable both the Institute and TENATSO to respond to enquiries from foreign scientists and programmes.

#### Gonzalo Saldías Yau - Chile

Mr Saldías is pursuing a MS degree at the University of Concepción with the thesis research of river plume dynamics off central Chile. He is hoping to be able to combine the in-situ hydrographic data collected during the past three years over the continental shelf with remote sensing observations. His fellowship will be spent with a research group led by Prof. Ricardo Letelier at the College of Oceanic and Atmospheric Sciences, Oregon State University, USA. Prof. Letelier's group has been monitoring and studying the dynamics of the particular region over several years using satellite data and will train Mr Saldías in the analysis of remote sensing images and share their protocols and analytical tools with him.

### **SUCCESSFUL AMT FELLOWSHIP CANDIDATE – 2009**

#### Charissa Ferrera – The Philippines

Ms Ferrera is a graduate student of the Marine Science Institute of the University of the Philippines and studying carbonate chemistry and organic matter decomposition in the Sulu Sea for her Master's thesis. She is due to arrive at PML during September and begin preparations for the cruise which is due to commence on 13 October.