

## **5.0 CAPACITY-BUILDING ACTIVITIES**

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## 5.0 CAPACITY-BUILDING ACTIVITIES

### 5.1 SCOR Committee on Capacity Building

The 2006 SCOR meeting approved terms of reference for a SCOR Committee on Capacity Building, whose primary purposes are to oversee all of SCOR's capacity-building activities and to help the SCOR Secretariat manage these activities. The approved terms of reference follow:

- Provide direction for all of SCOR's existing capacity-building activities: participation of scientists from developing countries and countries with economies in transition in SCOR activities, POGO-SCOR Fellowship Program, travel grants, and provision of reports to libraries in developing countries.
- Guide and assist SCOR Executive Director in development of new capacity-building activities, particularly the Regional Graduate Schools of Oceanography activity.
- Assist SCOR-sponsored projects in developing their capacity-building activities.
- Help SCOR arrange funding for existing and new capacity-building activities.
- Assist SCOR in interacting with regional and international groups related to capacity building in ocean sciences, such as the ICSU regional centers, START, IOC regional programs, etc.

The SCOR Executive Committee approved an initial committee membership in July 2007:

Venu Ittekkot (Germany), Chair  
Alfonse Dubi (Tanzania)  
John Farrington (USA)  
Vivian Lutz (Argentina)  
Shubha Sathyendranath (Canada)  
Jilan Su (China-Beijing)  
Tatsuki Toda (Japan)

Ex-officio: Chair of the IMBER Capacity Building Task Team—This was originally Wajih Naqvi (India), but he has been replaced by Jing Zhang (China-Beijing)

The committee held its first meeting on 17-18 October 2008 in Woods Hole. Some committee members will meet with some invited participants on 17-18 October 2009, in Shanghai, China. This meeting will review all SCOR capacity-building activities, as well as holding a focused discussion on how SCOR can pursue capacity building in Asia and Africa.

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## 5.1.1 SCOR Visiting Scholars

### SCOR Visiting Scholars

SCOR began a program in 2009 to enlist the services of ocean scientists from the SCOR community, from both developed countries and developing countries, both recently retired and active, to teach short courses and to provide more extended on-site education and mentorship at developing country institutions. Some countries and/or individual institutions have requirements for their scientists to retire at a given age, sometimes as early as 60 years of age. Many retired ocean scientists are still interested in teaching and mentoring, and are supported by pensions after their retirement, so do not need salary support. Some active scientists can also use some of their already-supported work time to work in a developing country.

Hosting visiting scientists, whether retired or active, can have many benefits to host institutions also, such as inspiring, motivating, and informing students and faculty, and leading to future collaborations between the visiting scientist and the host institution.

The idea of this program is to regularly send ocean scientists interested in short-term visits to developing countries. The program is a partnership, with the host institution providing local accommodation and SCOR finding resources to pay for airfares and other local expenses, as necessary. The participating scientists donate their time. The participating scientists might be onsite for as little as two weeks to as long as visa requirements would allow. The Partnership for Observation of the Global Oceans (POGO) implemented a program focused on ocean observations and modeling (see [http://www.ocean-partners.org/index.php?option=com\\_content&view=article&id=310&Itemid=43](http://www.ocean-partners.org/index.php?option=com_content&view=article&id=310&Itemid=43)). The SCOR program is complementary with the POGO program.

Applicants may already have selected a host institution or SCOR will help identify hosts.

#### Information Required from Potential SCOR Visiting Scholars

Individuals interested in participating in this program should provide the following information:

- Name and contact information of applicant
- Experience in teaching and research – one summary paragraph and short CV
- Languages spoken and written fluently—Many institutions in developing countries seek scientific instruction in English to help prepare them to interact with scientists from the global ocean science community, but may also prefer individuals with some knowledge of their national language.
- Specific teaching and research interests
- Countries/regions of interest
- Willingness to donate time and time of availability
- Coverage by health and accident insurance—Lack of coverage would not rule out any candidate, but would alert SCOR to the need to arrange such insurance.

This information will be made available to potential host institutions, but will not be posted on the Web in open-access format.

#### Information Required From Potential Host Institutions

Institutions interested in hosting a SCOR Visiting Scholar should provide the following information, in a short proposal describing the visiting scientist's term at the host institution:

- Help requested: teaching, mentoring in research, technology assistance, etc.
- Term of service desired, including specific dates
- Local subsistence provided
- Language abilities desired
- Plans by the host institution to build on the training received

Host institutions will be responsible to identify visiting scientists who will best serve the needs of their institutions for capacity building, training, and mentoring.

SCOR will select Scholars through its SCOR Committee on Capacity Building, which will review the applicants and the proposed work assignments at the host institutions. The number of scientists placed each year will depend on the number of applications received and funding available. Criteria for selection will include the following (based on POGO's experience):

- Quality and relevance of the proposal
- Experience of the candidate and fit with the program (language skills, teaching experience, subject areas requested by the institution)
- Needs of the host institution
- Plans by the host institution to build on the training received

SCOR will provide airfares and funds for meals for the visiting scientists, and for insurance costs for those that do not have insurance.

SCOR can serve as a broker of the partnerships, but the individual and institution will be responsible to ensure a successful outcome. SCOR will monitor the results of each partnership with a questionnaire to the visiting scientist and the host institution after the visit, to determine the effectiveness of the program and ways to make it more useful. SCOR will make every effort to create a sustainable program.

SCOR is developing the concept of Regional Graduate Education Networks for Ocean Science (see [http://www.scor-int.org/RGSO\\_Design\\_Principles.pdf](http://www.scor-int.org/RGSO_Design_Principles.pdf)) and it is anticipated that retired oceanographers could serve as integral parts of education teams in these networks, together with active scientists from both developed and developing countries.

Applications are due by **31 January 2011** and selections for placement in 2011 made by **28 February 2011**.

### SCOR Visiting Fellows

Year	Name	Home Country	Host Country	Dates	Purpose
2009	Paulo Relvas	Portugal	Guatemala	2-16 July	Teach a course On Physical Oceanography
2010	Vadim Mokievsky	Russia	India	Sept. 20-Oct. 20	Conduct field and lab training on Meiobenthos
2010	Kurt Hanselmann	Switzerland	Namibia	Oct. 8-Nov. 7	Teach a course on Chemical and Biological Oceanography

#### 5.1.2 Regional Graduate Schools of Oceanography and Marine Environmental Sciences (RGSO)

This activity has not progressed since the 2008 SCOR meeting, due to a lack of funding and a lack of information on regional interests. The 2009 meeting of the committee will consider the needs and opportunities for RGSOs in Africa and Asia. The following is the current version of SCOR's design principles for a Regional Graduate Network of Oceanography.

#### Design Principles for a Regional Graduate Network of Oceanography (RGNO)

1. The RGNO should be innovative and as such should pioneer a new mode of graduate education in ocean sciences that includes several modes of graduate education:
  - a. students enrolled for the degree to be granted by their home university AND an RGNO made up of a several universities in the region (i.e., a special "Joint Degree");
  - b. rotating special study months (e.g., between traditional semesters or in summers) that are hosted each year by a different university in the region;
  - c. Web-based learning involving faculty and researchers from the RGNO and from universities and institutions in developed countries;
  - d. affiliation of RGNOs with cooperating universities and institutions in developed countries;
  - e. exchange visits of RGNO faculty and graduate students between the RGNO and affiliated universities and institutions in developed countries for purposes of advanced training and/or use of the most advanced instrumentation; and
  - f. dissertation or thesis committees that involve a primary advisor from the student's home university and co-advisor from RGNO participating university, and one committee member from a cooperating developed country university/institution.
2. The RGNO should be situated in a developing region, to make it possible for students to study ocean science issues important for the region, using equipment and facilities available in the region.
3. Every aspect of the program design should emphasize its long-term sustainability.

4. General Masters' and Ph.D. curricula will be designed for use in all the RGNOs, with an emphasis on providing broad oceanographic training. Research will be tailored to the students' and their advisors' interests. Having students involved in research with faculty in the program will be important for building the RGNO.
5. Instruction at the central location will be conducted using a team approach, where a retired ocean scientist would provide the basic background lectures along with a host RGNO faculty group and together they would bring in "active" experts for supplemental lectures/visits/discussions.
6. The RGNO should have its Coordinating Office at a leading institution in the region, which would support the office as their contribution to the RGNO.
7. There will be a central location established for classes, but students will return to their home institution or disperse to other participating institutions to conduct their thesis work. Annual or semi-annual gatherings will be convened for intensive seminars in which students will present their research progress.
8. At least three institutions should be involved in each region, but ideally, more than this. Each participating institution would be responsible to
  - a. Provide one member for a Regional Coordinating Committee to manage the RGNO, and would pay this person's travel to at least one meeting in the region each year. The Coordinating Committee would adapt the global curriculum to the region, design the application process, screen applicants, select instructors for classroom instruction (both retired and active ocean scientists, from within the region and external), and would interact with the International Advisory Committee described below.
  - b. Seek endorsement of the degrees granted from their institutions and their national Ministries of Education.
9. An International Advisory Committee would be formed to provide independent advice to the RGNO and track its performance. SCOR would seek funding for this committee and it would be overseen by SCOR.
10. SCOR will work with the institutions and the Regional Coordinating Committee to raise funding for the program and for scholarships.

## 5.1.3 POGO-SCOR Visiting Fellowships for Oceanographic Observations

This fellowship program continues to attract highly qualified applicants. A report of the results of the 2009 program follows.



[www.ocean-partners.org](http://www.ocean-partners.org)

### 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, which was considerably lower than the number of applicants for the previous year. Applicants wrote from Abu Dhabi, Argentina, Brazil, Cape Verde, Chile, China, India, Indonesia, Iran, 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, and
- the need to maximise regional distribution of the awards.

This year, thirteen fellowships were offered to oceanographers from developing countries and economies in transition. Tragically, one of the successful applicants from Brazil died in the Air France crash in May 2009, which happened en route from Brazil to France. The decision was made not to replace this applicant and thus the final total was twelve. The host institutions were in Australia, France, Germany, Portugal, the UK, and the USA.

As in 2008 a Special POGO-SCOR visiting fellowship for on-board training on an Atlantic Meridional Transect (AMT) Cruise was also offered this year, with the selected candidate, from the Philippines, having the opportunity to visit Plymouth Marine Laboratory (PML) in the UK 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.

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.

All the people involved in each fellowship (the fellowship holder, the supervisor at the parent institute and the supervisor at the host institute) were requested to submit short reports at the end of the training period. A number of reports are expected to be received by the end of January, but those received so far have been enthusiastic. They indicate that these exchanges should lead to effective capacity building at the host institute and facilitate longer term collaborations between the institutes concerned. All conclude that the programme serves a useful purpose.

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 Fellowships**

#### **Parent Institutions of Successful Candidates:**

Brazil	Federal University of Rio Grande
Cape Verde	Instituto Nacional de Desenvolvimento das Pescas
Chile	Pontificia Universidad Catolica de Chile University of Concepción
China	South China Sea Institute of Oceanology, Chinese Academy of Science
India	National Institute of Oceanography Physical Research Laboratory
Mexico	Centro di Investigacion Cientifica y de Educacion Superior de Ensenada (CICESE) The National Commission for the Knowledge and Use of Biodiversity (CONABIO)
Mozambique	National Institute for Hydrography and Navigation
Pakistan	National Institute of Oceanography
South Africa	Council for Scientific and Industrial Research (CSIR)

#### **Host Institutions:**

Australia	Commonwealth Scientific and Industrial Research Organisation (CSIRO)
France	IFREMER

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Germany	Université du Littoral Côte d'Opale AWI Bremerhaven Earth Observation and Mapping IFM - Geomar Max Planck Institute for Marine Microbiology
Portugal	University of Aveiro
UK	Sheffield Centre for Earth Observation Science Sir Alister Hardy Foundation for Ocean Science (SAHFOS)
USA	Oregon State University University of Rhode Island, Graduate School of Oceanography Virginia Institute of Marine Science, College of William & Mary

### **Gender distribution**

Female: 3

Male: 9

## **POGO-SCOR JOINT FELLOWSHIP PROGRAMME**

### Successful 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 Ovservando los Canales Australes). Dr Aiken spent 1½ months at CSIRO, under the supervision of 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. During this time Dr Aiken received specific training in various aspects of Australia's Integrated Marine Observing System (IMOS) and Ship of Opportunity (SOOP) facility that are of relevance to the Chilean project.

#### Sinibaldo Canhanga - Mozambique

Mr Canhanga is a researcher at the National Institute for Hydrography and Navigation (INAHINA) in Mozambique, where he is responsible, amongst other things, for the tide analyses and prediction. He is also on a national group designated to establish numerical models as a tool to support the decision-makers on the best decision for sustainable coastal development. Mr Canhanga has been spending the month of January at the University of Aveiro in Portugal, under the supervision of Prof. J Dias, time being devoted to improving Mr Canhanga's knowledge of the morphodynamic modelling system being used by the Estuarine Group, its potential 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 of two months with Dr Thomas Heege at Earth Observation and Mapping (EOMAP) in Germany was

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 also intended that this fellowship would lead to future joint developments in ocean monitoring, such as geophysical parameters and maritime ecosystems, for example, for 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 PATagonian EXperiment (PATEX) and has conducted many of the bio-optical measurements in six of the seven cruises in the Patagonian shelf break region. She was lead author on a publication in *Deep Sea Research I* in 2009 relating to this research. She spent two months with the team in the Laboratoire d'Océanologie et de Géosciences (LOG) in France, under the supervision of Dr Alvain, improving her knowledge of the assessment of water biogeochemical characterisation from optical measurements, a topic closely related to her doctorate research. Dr Alvain was particularly interested in collaborating with Ms Ferreira to develop bio-optical and remote sensing observation from ocean colour 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'. Ms Kahkashan spent three months at the University of Rhode Island's Graduate School of Oceanography under the supervision of Dr Rainer Lomann. She was trained in preparing, deploying, analysing and interpreting the results 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 the 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. Ms Keerthi spent her three-month fellowship period at IFREMER working under the supervision of Clément de Boyer Montégut on the inter-annual variability of the mixed layer in the Indian Ocean using *in situ* data.

#### 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 recently started his two-month fellowship period at the Virginia Institute of Marine Science

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under the supervision of Dr K Tang, receiving training on the ecophysiology of *Phaeocystis* and use of 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 spent 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 saw this as an opportunity to initiate 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. Unfortunately, Mr Valencia has been unable to secure a visa and thus there is some doubt about this fellowship taking place.

## 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 have been working on a study (2009 to 2011) of several aspects of the Natal Bight Ecosystem. Dr van der Molen's task was 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, which he undertook in July 2009. Thereafter he visited the Alfred Wegener Institute for Polar and Marine Research in Germany for two weeks and was 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 Viera – 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 received CTD training on maintenance, calibration and data processing at IFM-GEOMAR under the supervision of Dr Gerd Krahlmann. This has provided the Institute with local capacity to undertake ongoing tasks, such as monthly sampling, and has enabled both the Institute and TENATSO to respond to enquiries from foreign scientists on an individual basis and in relation to scientific 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, commencing in March 2010. 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 arrived at PML shortly before the cruise departed on 13 October 2009 and spent two months at sea. She spent two weeks at PML after the cruise, undertaking post-cruise sample analysis. Her supervisor at PML reported that she made an excellent contribution to the cruise.

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## 5.1.4 NSF Travel Support for Developing Country Scientists

SCOR has received support from the U.S. National Science Foundation (NSF) since 1984 to provide funding for an important SCOR activity in the area of capacity building. Travel grants are awarded to ocean scientists from developing countries and the former Soviet Union, Eastern Europe, and other countries with economies in transition, to enable them to attend international scientific meetings. The most recent three-year grant began on 1 July 2008, running until 30 June 2011.

The amount of the award from NSF is now \$75,000 per year. Of this, a small amount (\$5,000 per year) is used to offset SCOR Secretariat expenses for contacting meeting organizers and recipients of travel funds, and for making travel arrangements. Recipients of SCOR travel awards are always chosen in consultation with the organizers of meetings that SCOR has agreed to cosponsor; direct applications from individuals are not accepted by the SCOR Secretariat. Priority is given to applicants who are presenting a paper or poster at the meeting or to those who have some special expertise or regional knowledge to bring to a workshop or working group. Preference is also given to younger scientists. In general, care is taken to ensure that the recipients of SCOR/NSF funds are *active* scientists, and that they have not received similar support from SCOR in the previous two years. All travel grant recipients are informed that their support comes from SCOR and that it is made possible through NSF funding.

Since 2001, a portion of total funding has been provided for longer-term courses or fellowships, such as the POGO-IOC-SCOR Visiting Fellowships for Oceanographic Observations, and another portion is used for the SCOR Visiting Scholar program.

### 2011 Requests for Travel Grants

Some of the requests listed below are for meetings in which SCOR is directly involved in planning, so there is no formal written request. \$37,500 can be committed for each 6-month period. Requests come in throughout the year and the Executive Committee considers new requests between meetings. The current SCOR travel grant from NSF ends on 31 May 2011, so any requests approved for the second half of 2011 will depend on renewal of the grant.

<b>Meeting</b>	<b>Dates</b>	<b>Suggested Allocation</b>
<b>January-June</b>		
#1 SCOR Office Expenses for period		\$2500
#2 WG 136 on Climatic Importance of the Greater Agulhas System	TBD	\$10000
#3 Microenvironments Modulating Biological Interactions in the Ocean	Jan. 2011	\$5000
#4 POGO/SCOR Fellowships	Various	\$10000
#5 WG 130 for Zooplankton Production Symposium	March 2011	\$5000
#6 Second ESSAS Open Science Meeting (IMBER)	May 2011	\$4000
Total		\$36500

**July-December 2011**

#7 SCOR Visiting Scholars		\$7500
#8 World Conference on Marine Biodiversity	Sept. 2011	
	Aug.-Sept.	
#9 SOLAS Summer School	2011	\$7500
	11-16	
#10 LOICZ Coastal Systems, Global Change and Sustainability, Yantai, China	September 2011	\$5000
#11 SCOR-related session at 2011 PICES Meeting	Oct. 2011	\$5000
	Summer	
#12 Joint Meeting of SOLAS/IMBER SIC SG1 and SG2	2011	\$4000
	<b>Total</b>	<b>\$29000</b>

**Request #1**

SCOR is allowed \$5000 of the NSF Travel Grant to apply toward SCOR Secretariat expenses related to the grant. We apply these funds to offset the salaries of Lora Carter and Ed Urban, and fees paid to Elizabeth Gross.

**Request #2**

SCOR/WCRP/IAPSO Working Group 136 on Climatic Importance of the Greater Agulhas System will be convening a workshop in East Africa for the purpose of capacity building. They have requested \$15,000-20,000 from SCOR for the activity, but a lower amount is suggested above to make it possible to fund other meetings. The dates are not set yet for the workshop.

From WG 136 report to SCOR: “WG members discussed plans for the next meeting. It was agreed that we want a week-long meeting (possibly longer) in an East African country where local scientists can participate; possibly in conjunction with a local conference (ASCLME, WIOMSA or similar). Discussions led us to the idea that the key to capacity building is threefold: ongoing contact (establish contact now and maintain through Chapman Conference), building collaborations between local and international scientists, and local institutional buy-in. Hermes will lead the organisation of the next WG meeting, with help from a scientist at an East African institution. We are currently seeking a tenth WG member, to replace Obura who stepped down, who will be this local contact. Additional funding will be necessary to hold a long, open meeting. To this end, Book will lead an ONR proposal for a capacity building workshop which, if successful, would also fund some travel for African scientists. **Also, we ask SCOR to sponsor attendance of African scientists at the meeting.** We anticipate needing fifteen to twenty travel grants, worth \$1,000 each.”

**Request #3**  
**MICROENVIRONMENTS MODULATING BIOLOGICAL INTERACTIONS**  
**IN THE OCEAN**

*(or “biophysical interactions in a liter of seawater”)*

**A symposium to be held at the**  
**Aspen Center for Physics (ACP)**  
**Jan 16-22, 2011**

**ORGANIZING COMMITTEE:** Roman Stocker, Thomas Kiorboe, George Jackson, Pete Jumars, Mimi Koehl, Thomas Powers

**REGISTRATION.** Participants register on the ACP web site. The registration fee is \$350, paid to the ACP, and includes morning and evening coffee breaks (but no meals). ACP advertises the meeting, but will link to a web site that we set up, which explains the conference more fully.

**THEMES.** There will be 6-7 main themes, each explored through:

- (i) **one longer invited talk** per theme, which will give a broad introduction to the topic, accessible to a diverse audience (“>50% teaching”)
- (ii) **1-3 shorter invited talks** per theme, to present a different angle. We need to carefully point out that these should NOT be rushed versions of a full talk, but rather like a short Science paper – brief and to the point.
- (iii) an evening discussion in groups of ~15 and morning reports

- 1. Small-scale fluid effects on particle motion – Martin Bees (confirmed)**  
POTENTIAL ADDITIONAL SPEAKERS: Houshuo Jiang, Lee Karp Boss, Eric Lauga, David Dusenbery, Hans Peter Grossart, Tom Powers
- 2. Optimizing foraging: optimal movement behavior in the plankton – Andy Visser (nearly confirmed)**  
POTENTIAL ADDITIONAL SPEAKERS: Per Jonsson (PNAS), Ray Goldstein, Jonathan Pritchford
- 3. Sensing and signaling in aquatic microenvironments - Dick Zimmer (confirmed)**  
POTENTIAL ADDITIONAL SPEAKERS: Mark Hay, Pepe Humphrey; Jeanette Yen; Mimi Koehl, Don Webster; Paul Janmey; Jerry Pollack
- 4. Microscale interactions of organisms with turbulence – J. Jimenez**  
POTENTIAL ADDITIONAL SPEAKERS: Joe Katz, Hide Yamazaki, Mack Durham, Pete Jumars
- 5. Gradients and turbulence near the seabed – Bo Barker Jorgensen**

**POTENTIAL ADDITIONAL SPEAKERS:** Tom Fenchel; Markus Huettel, Michael Kuhl, Paul Hill, Amatzia Genin

**6. Microbiological, evolutionary and molecular evidence for adaptation to microenvironments – Bess Ward**

**POTENTIAL ADDITIONAL SPEAKERS:** Farooq Azam; Paul Falkowski; Ginger Armbrust; Jim Mitchell, Kogure.

**7. Scaling it up: from a liter to an ocean. How do small scales affect larger scales? – Danny Grunbaum (confirmed)**

**POTENTIAL ADDITIONAL SPEAKERS:** Adrian Burd, Jonathan Pritchford; Peter Franks; John Steele; Kelly Benoit-Bird.

**“POSTURING SESSION”:** everyone to choose one theme and say what the main thing is they expect to get out of it at the meeting – or one important decimeter (or liter if you prefer length cubed) question or hypothesis in organism-fluid interactions that remains to be addressed – with  $\leq 3$  min and  $\leq 1$  slide. [motivation: workshops get working well only after everyone has said something in plenary]. Monday morning. Keynote speaker gets first whack.

**EVENING DISCUSSIONS.** Form 3 groups, identify discussion leader for each group and ask invited speakers together with discussion leaders to jointly prepare discussion sessions, to ensure a stimulating discussion. Define the discussion groups for each session ahead of time, such that people can come prepared. Groups identify report writers (e.g. two write it, two prepare a 10 min presentation). Reports to be presented the next morning. Give everyone clear goals for the reports and presentations: a forward-looking perspective on the field: what the key open questions are in light of what is known, and how they should be tackled.

**INTERACTIVE POSTER SESSION.** Small groups travel from poster to poster in an organized manner, the author goes through the poster AND computer talk, to create an active discussion with each successive group. Poster-presenters will need to keep their presentation broad and interesting for a general audience

### **Request #4**

The POGO/SCOR Visiting Fellowships for Oceanographic Observations are described in section 5.1.3 above. This funding would continue SCOR’s involvement in the program.

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## **Request #5**

From: Phil Culverhouse [mailto:P.Culverhouse@plymouth.ac.uk]  
Sent: Tuesday, July 20, 2010 11:32 AM  
To: Ed Urban  
Cc: Mark Benfield  
Subject: SCOR WG130 meeting March 2011

Dear Ed,

Mark and I wonder if SCOR might be able to cover the travel and subsistence costs of four people to our next SCOR WG130 meeting.

They would be invited from the plankton sorting centres in Poland (Plankton Sorting Center in Szczecin ), Ukraine and India to the (Zooplankton Productivity Meeting (ZPS) meeting in Pucon March 2011. It appears that they do the bulk of US and EU zooplankton sample processing.

Our reason is that these people are key to zooplankton identification in the coming decade and we want to get them to contribute to SCOR WG130 discussions on automation and human experts etc.

In addition I would like to add Bob Williams, who retired 10 years ago but is still very active within the SCOR WG130, but will have no resources to draw upon to attend the SCOR WG130 meeting planned to run during the ZPS meeting. It is his Ocean Weather Station India sample set that we are processing at three sites to establish a global intercalibration methodology.

I am currently seeking names to contact.

Regards,

Phil

## **Request #6**

The IMBER ESSAS group has requested funding for its second open science meeting, to support travel of developing country scientists (see IMBER report to SCOR in Tab 3).

## **Request #7**

The SCOR Committee on Capacity Building requests \$7500 for the SCOR Visiting Scholars program.

**Request #8**

From: Solan, Dr Martin [mailto:m.solan@abdn.ac.uk]  
Sent: 12 March 2010 14:34  
To: Peter H. Burkill  
Subject: World Conference on Marine Biodiversity

Dear Peter,

The University of Aberdeen, in partnership with the University of St Andrews, is delighted to be bringing the World Conference on Marine Biodiversity to Scotland from 26-30 September 2011.

The conference will provide the premier platform for discussion, dissemination, policy analysis and development of the key issues surrounding marine biodiversity, as well as providing an opportunity for the marine community to further influence the key thinkers and policy makers worldwide.

In your capacity as a SCOR member, I would be interested in exploring ways in which SCOR may become involved either through sponsorship or in any other way.

I look forward to hearing from you,

Martin Solan.  
(Conference co-chair)

--

Dr. Martin Solan,  
Oceanlab,  
Institute of Biological and Environmental Sciences, University of Aberdeen,  
Main Street, Newburgh, Aberdeenshire, Scotland.  
AB41 6AA

**Request #9**

Dr Ed Urban  
Executive Officer  
Scientific Committee on Oceanic Research  
College of Earth, Ocean, and Environment  
Robinson Hall  
University of Delaware  
Newark, DE 19716 USA

17 June 2010

Dear Ed,

The Surface Ocean Lower Atmosphere Study (SOLAS) will be holding its fifth International Summer School in Cargese Corsica over the period 29 August- 10 September 2011. The SOLAS Summer School is a smashing success, but it depends upon the generosity of international sponsors and national funding agencies.

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In previous Summer Schools, we are proud to have hosted participants from over 30 different nations of the world, and SOLAS would like to increase the participation and exposure of our science to more students from nations with economies in transition.

SOLAS places particular emphasis on the Summer School, as the development of the current generation of young researchers are vital to the success of the project. We believe that the young researchers have the capacity to make immediate significant progress in response to the significant environmental and societal challenges.

With this in mind, SOLAS kindly requests support from SCOR for the International Summer School to cover the travel costs for students from nations with economies in transition. We expect that a contribution of \$10k will partially or fully support the participation of up to 8-10 students from the developing world.

I thank SCOR for their continued support of SOLAS and for your consideration in this matter.

Yours sincerely



Dr. Emilie Brévière  
Executive Officer, SOLAS  
International Project Office

## Request #10

**From:** hartwig.kremer@loicz.org [mailto:hartwig.kremer@loicz.org]  
**Sent:** Thursday, July 29, 2010 1:01 PM  
**To:** ed.urban@scor-int.org  
**Cc:** christiane.hagemann@loicz.org  
**Subject:** Antwort: RE: Antwort: WG 132 Meeting in Greece - and LOICZ Funding

Dear Ed,

Attached is the outline of the LOICZ OSC (12-15 Sep. 2011) and a very first draft of session arrangements (though the meeting will be onday shorter so we will have three parallel sessions at least)

For this undertaking I would like to officially seek SCOR support (and may be co convenorship for a session???) mainly to support early stage and developing country scientists. Please let me know what I need to do to formalize this request.

I hope this will give you a first impression.

Best

Hartwig

Hartwig H. Kremer PhD  
Chief Executive Officer, LOICZ  
GKSS-Forschungszentrum Geesthacht GmbH

GKSS Research Centre GmbH  
LOICZ IPO (International Project Office)  
Max-Planck-Strasse 1  
D-21502 Geesthacht,  
Germany

First Announcement and Call for Papers

**LOICZ Open Science Conference 2011**

## **Coastal Systems, Global Change and Sustainability**

12-15 September, 2011, Yantai, China

A holistic understanding on which to ground good governance and informed ecosystem-based management is necessary for the sustainable use of our coastal resources. LOICZ (Land-Ocean Interactions in the Coastal Zone) addresses the integration and future perspectives of changing coastal areas at its international Open Science Conference (OSC) on Coastal Systems, Global Change and Sustainability, from 12-15 September, 2011, in Yantai, China. The conference is organised in close cooperation with the Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, and the LOICZ Regional Nodes in Yantai, Singapore, and Chennai.

The aim of the LOICZ OSC 2011 is to bring together the international research community working on land-ocean issues, show-case the width and scope of ongoing research, help to build a community in this highly interdisciplinary field, and to inspire new research, theory building and applied science. The conference is integrative in nature, amalgamating different experiences and disciplinary “angles” worldwide to generate new levels of understanding and improve decision making in policy and practice. LOICZ particularly invites innovative approaches, coastal practitioners and early stage researchers (see Young LOICZ Forum).

### **Scope and Programme**

The LOICZ OSC will be arranged around the overarching topic on “Coastal Vulnerability and Sustainability to support Adaptation to Global Change”. Bearing in mind the grand challenges presented in ICSU’s visioning process (<http://www.icsu-visioning.org>), LOICZ invites contributions to the following scientific themes and foci useful to investigate vulnerability, dynamics and resilience of land-ocean systems at local, regional and/or larger scales:

- Social-Ecological Systems and Scales
- Vulnerability and Resilience
- Adaptive Capacity and Mechanisms
- Earth Observation and Monitoring
- Modelling and Scenario Building
- Coastal Economics, Ecosystem Goods and Services
- Science-Practice-Policy Interface and Knowledge Transfer
- Coastal Governance
- River-Mouth Systems

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- Coastal Urbanisation and Megacities
- Fluxes and Biogeochemistry
- Small Island States
- The Arctic Coast.

## Young LOICZ Forum

In order to build strategic capacities for sustainable coastal zone management and effective responses to global environmental change in the Asia-Pacific region, LOICZ is organising a special event of the OSC 2011: the Young LOICZ Forum (YLF) for early career scientists (ECS) from APN and developing countries. This well-targeted programme offers young people the opportunity to learn about drivers and pressures on coastal systems and to better define their future professional role in coastal management. Comprehensive educational activities provide the next generation of scientists and decision makers with relevant knowledge and practical skills, opportunities to interact and network with their peers, and to transfer and apply global change mitigation measures and sustainable coastal zone management in the Asia-Pacific region.

The YLF is a well-balanced combination of OSC sessions and specific targeted activities for ECS, bringing together senior scientists and ECS from APN countries for both formal training and informal discussions on relevant GEC topics. The training programme includes multi-lecturer tutorials and open-discussions to provide cross-disciplinary learning; original workshops, e.g., on Proposal Writing, Science Communication, Coastal State Indicators, provide both scientific knowledge and practical skills. Special attention is given to career advice for ECS, including acquiring transferable and soft skills, training-through-research and one-to-one mentorship (one senior scientist will be appointed to each ECS). A job shop offers the opportunity to network with and meet potential employers; field visits and other special events will support cultural understanding. Other YLF features are a special demonstration of the use of coastal pedagogic material for school children in various local languages, a carbon offset activity, and best oral and poster presentation awards. The selection of funded ECS candidates (i.e., young scientists <35 years from APN countries) will be based on geographical and gender balance, scientific quality, with a special focus on integrative aspects of the OSC themes.

## Support

Chinese National Science Foundation  
International Cooperation Bureau, CAS  
LOICZ International Project Office  
GKSS Research Centre, Germany  
Yantai Institute of Coastal Zone Research, CAS  
Yantai Municipal Government  
Intergovernmental Oceanographic Commission (IOC)

## Programme Committees

### *International Steering Committee*

Ping SHI, China (Chair)  
Tim CARRUTHERS, USA

Zhongyuan CHEN, China  
 Valerie CUMMINS, Ireland  
 Antonio DIEGUES, Brazil  
 Marion GLASER, Germany  
 Bruce GLAVOVIC, New Zealand  
 Hartwig KREMER, Germany  
 Remi LAANE, Netherlands  
 Alice NEWTON, Norway  
 Mark Pelling, UK  
 Ramachandran RAMESH, India  
 Dennis SWANEY, USA  
 Juergen WEICHSELGARTNER, Germany  
 Eric WOLANSKI, Australia  
 Masumi YAMAMURO, Japan

### ***Local Organising Committee (LOC)***

Ping SHI (Yantai Institute of Coastal Zone Research, China)  
 Dongyan LIU (Yantai Institute of Coastal Zone Research, China)  
 Song QIN (Yantai Institute of Coastal Zone Research, China)  
 Lingyu GAO (Yantai Institute of Coastal Zone Research, China)  
 Zhongyuan CHEN (East Normal University, China)  
 Huasheng HONG (Xiamen University, China)

### **Draft Programme** *(subject to change)*

#### **Sunday, 11 September, 2011**

09:30-16:00	Field Trip
16:30	Registration open
19:00	Icebreaker

#### **Monday, 12 September, 2011**

8:30	Registration open
9:00	Opening Ceremony
10:00-17:30	Keynotes, Parallel sessions, Moderated Plenary Discussion
19:00	Welcome Reception

#### **Tuesday, 13 September, 2011**

08:30-17:30	Keynotes, Parallel sessions, Moderated Plenary Discussion
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#### **Wednesday, 14 September, 2011**

08:30-17:30	Keynotes, Parallel sessions, Moderated Plenary Discussion
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#### **Thursday, 15 September, 2011**

08:30-12:30	Keynotes, Parallel sessions, Moderated Plenary Discussion
13:00	Awards and Closing Ceremony
14:00	Post-Conference Field Trip: Penglai Pavillion

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**Request #11**

SCOR-related session at 2011 PICES Meeting.

**Request #12**

The joint ocean carbon implementation group of SOLAS and IMBER has requested funding for its Subgroups 1 and 2 to bring developing country scientists to their joint meeting in summer 2011 (see IMBER report to SCOR in Tab 3).

### 5.1.5 SCOR Reports to Developing Country Libraries

One report was sent to developing country libraries since the 2009 Executive Committee Meeting:

- *Carbon and Nutrient Fluxes in Continental Margins: A Global Synthesis*

#### SCOR List of Developing Country/Country in Transition Libraries

Argentina	Universidad Nacional del Sur Bahía Blanca, Argentina
Bangladesh	Library SPARSO Dhaka, Bangladesh
Brazil	FURG Departamento de Oceanografia Rio Grande, Brazil  Instituto Oceanográfico Universidade de São Paulo São Paulo, Brazil  Dept. of Oceanography and Hydrology University of the State of Rio de Janeiro
Bulgaria	State Fisheries Inspectorate (SFI) Fisheries and Aquaculture Department Sofia, Bulgaria
Chile	Departamento de Oceanografia Universidad de Concepción Concepción, Chile  Servicio Hidrografico y Oceanografico Valparaiso, Chile
China-Beijing	Library of Ocean University of Qingdao Qingdao, China  Institute of Oceanology Chinese Academy of Sciences Qingdao, China  Second Institute of Oceanography State Oceanic Administration Hangzhou, China
Croatia	Rudjer Boskovic Institute Zagreb, Croatia

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Cote d'Ivoire	Centre de Recherches Oceanologiques (CRO) Abidjan, Côte d'Ivoire
Cuba	Centro de Investigaciones Pesqueras (CIP) Ministerio de la Industria Pesquera (MIP) Habana, Cuba
Egypt	National Institute of Oceanography and Fisheries Cairo, Egypt
Estonia	Estonian Marine Institute (MEI) Tallinn, Estonia
Fiji	Pacific Islands Marine Resources Information System (PIMRIS) The University of the South Pacific Suva, Fiji Islands
Ghana	Institute of Aquatic Biology Achimota, Ghana
India	National Institute of Oceanography Goa, India  Physical Research Laboratory Ahmedabad, India
Indonesia	Centre for Oceanology Indonesian Institute of Sciences Jakarta, Indonesia
Kenya	Kenya Marine and Fisheries Research Institute (KMFRI) Mombasa, Kenya
Korea	Korea Ocean Research and Development Institute (KORDI) Seoul, Korea
Lithuania	Ichthyobank Vilnius, Lithuania
Malaysia	ICLARM - The World Fish Center Penang, Malaysia
Mexico	Universidad Nacional Autónoma de México (UNAM) México, D.F., México  Biblioteca CICESE Ensenada, Mexico
Morocco	Institut National de Recherche Halieutique (INRH) Casablanca, Morocco
Pakistan	National Institute of Oceanography Karachi, Pakistan
Peru	Instituto del Mar del Perú (IMARPE) Callao, Peru
Poland	Institute of Oceanology

	Polish Academy of Sciences Sopot, Poland
Philippines	College of Science, University of the Philippines Quezon City, Philippines
Romania	Romanian Marine Research Institute Constanta, Romania
Russia	P.P. Shirshov Inst. of Oceanology Russian Academy of Sciences Moscow, Russia  All Union Research Inst. of Fisheries and Oceanography V Moscow, Russia
South Africa	University of Cape Town Cape Town, South Africa
Thailand	Dept. of Marine Sciences Chulalongkorn University Bangkok, Thailand
Tunisia	Institut National des Sciences et Technologies de la Mer (INSTM) Salammbô, Tunisia
Turkey	Institute of Marine Sciences Middle East Technical University Icel, Turkey
Ukraine	Southern Scientific Research Institute of Marine Fisheries and Oceanography (YugNIRO) Laboratory of Pacific and Indian Oceans Fish Resources and Fishery Statistics Crimea, Ukraine  Marine Hydrophysical Institute Ukrainian Academy of Sciences Sevastopol, Ukraine
Vietnam	National Institute of Oceanography Nha Trang, Vietnam