



**Announcement for Training programme in  
Calculation of Regional-Scale Primary Production for Indian Ocean Waters,  
and Applications to Ecosystem Dynamics**

**Under the Auspices of  
Nippon Foundation – Partnership for Observation of the Global Oceans  
(NF – POGO)  
Visiting Professorship and Associated Training Opportunity  
In Association with  
National Institute of Oceanography, India**

**Conducted by: Professor (Dr.) Trevor Platt (FRS, FRSC), Bedford Institute of Oceanography,  
Canada**

**Venue: National Institute of Oceanography, Kochi, India**

**Dates: Part I: Dec 2004 (nominal, duration one month);  
Part II: February – March 2005 (nominal, duration two months)  
(exact dates will be announced later)**

**Background:** A joint initiative of the Nippon Foundation and the Partnership for Observation of the Global Oceans (POGO) has established a Visiting Professorship in Oceanography. Two such temporary Chairs will be named each year.

In this, the first, year of the Programme, NIO-Kochi has made a successful proposal to host an NF-POGO Visiting Professor for three months. Dr. Trevor Platt will be the Visiting Professor, and during his stay at NIO-Kochi he will offer training in the use of remotely-sensed data on ocean colour as a tool for the analysis of the marine ecosystem. Dr. Platt will be assisted by a small team of other experts. Initially, the course will cover the bio-optical bases of ocean colour, the retrieval of pigment biomass, the calculation of primary production and the interactions between physical and biological processes in the ocean. This material will be then used as the starting point for the quantitative analysis of marine ecosystems at all trophic levels, with particular reference to the Arabian Sea and the Bay of Bengal.

**Course content:** The syllabus will include:

- Theory and application of submarine optics, especially that part relevant to pigments of phytoplankton and the colour of the ocean
- Use of remotely-sensed data on ocean colour as a basis for the calculation of primary production at the regional scale
- Application of results of these calculations to analysis of the regional ocean ecosystem at all trophic levels
- Response of the biological system to climate change and potential feedbacks
- Interactions between mixed-layer dynamics and ecosystem processes
- Fundamentals of analysis and modelling of ecosystem variables
- Interpretation of results in context of larger questions of the day, including collapsing fisheries
- Preparation of results for publication in the open literature

**Format of the course:** Lectures on theoretical fundamentals will be complemented by practical demonstrations of analyses of satellite data on ocean colour, *in situ* field sampling and laboratory analyses of water properties important for the interpretation of remotely-sensed data on ocean colour (phytoplankton

absorption, photosynthesis-irradiance parameters, pigment composition using HPLC). In addition, participants will work with the Professor on the design and execution of one or more small research projects, as well as on the analysis and interpretation of data, on presentation of results at seminars and on preparation of research papers. Application of relevant mathematical methods for the analysis of marine ecosystems will be encouraged. The goal is for the trainees and professor to work together as a team, and to develop strategies for establishing long-term successful observations and research in biological oceanography of the Indian Ocean region.

**Eligibility and prospects:** The course is open to a limited number of participants from the Indian sub-continent and surrounding regions, for whom travel and subsistence costs will be defrayed. The course will be aimed at doctoral students and young researchers with a leaning towards quantitative analyses of biological data from the marine environment, and an interest in physical-biological interactions. The course is seen as the beginning of a long-term, sustained effort at capacity building in the region. The activities of the participants will be monitored for some years after the end of the course. It is also anticipated that the strongest participants will have further opportunities for advanced training and scientific exchange with centres of excellence in India and abroad: it is expected that the legacy of the course will endure far into the future.

**Application and selection procedure:** Applications are invited from research institutes and universities in India and neighbouring countries. Those institutes interested in sending participants to the course are requested to forward the CV's of proposed candidates, along with a statement of their current activities and long-term goals.

In the selection of participants, preference will be given to young researchers near the outset of their careers. All participants will be expected to be present in Kochi for the entire duration of each period of the course. Where possible, participants will bring relevant data from the region, and will be encouraged to analyse and publish them. The intention is to help develop a core group of researchers who will continue to study the ecosystems of Indian waters into the future, and who will also help train the next generation of scientists in biological oceanography in the region.

**Recommended format for Application:**

- Name
- Designation
- Affiliation and mailing address
- Phone, Fax, Email
- Passport details (in case of foreign applicants)
- Qualifications (Degree, Subjects, Specialisation, Grade)
- Professional experience (Designation, From, To, Organisation)
- Summary of the work being carried out currently (100 words)
- Long-term goals (100 words)
- List of publications (including papers, reports, proceedings, dissertation, articles)
- Signature (with date)
- Recommendation of the Head of the Institute/Dept. (including any partial/complete financial support offered).
- Signature (with date) of the Head

The applications may be forwarded to:

Dr. Rahul Sharma, National Institute of Oceanography (NIO)  
Dona Paula - 403 004, Goa, India, e-mail: [rsharma@darya.nio.org](mailto:rsharma@darya.nio.org)

With electronic copies to  
Dr. KKC Nair, National Institute of Oceanography, Kochi  
e-mail: [sic@niokochi.org](mailto:sic@niokochi.org); [kcnair2004@yahoo.com](mailto:kcnair2004@yahoo.com)

and

Ms. Shino Takahashi, POGO Secretariat, e-mail: [nipponproject@mar.dfo-mpo.gc.ca](mailto:nipponproject@mar.dfo-mpo.gc.ca)

**Deadline** for applications is 30 September, 2004.

Applicants will be notified if they have been selected or not, by mid October, 2004.