



Workshop on 'Theoretical Ecology and Global Change' March 2 - 13, 2009

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing a **Workshop on 'Theoretical Ecology and Global Change'**, to be held from **March 2 - 13, 2009**, at ICTP, Trieste, Italy.

The theoretical problems involved in conservation biology and natural resource management are rapidly emerging as a deep area of intellectual inquiry. These problems are inherently non-linear, and can rapidly become complex, as found in the emerging areas of Biocomplexity, Bioeconomics, and Sustainability Science. Capacity building in these areas will be central to the sustainable management of natural resources and the conservation of ecosystems.

The workshop will focus on mathematical models related to problems in natural resource management, climate change and conservation biology in the context of ecological networks. It will consist of a series of intensive lectures along with hands-on computer demonstrations and group exercises. Specifically, group sessions will be organized in which participants from different regions of the world will address specific issues in conservation and natural resource management in changing environments. Each group will give an oral presentations of the outcome of their work at the end of the workshop.

Topics covered will include:

- Population dynamics and optimal management of renewable resources;
- Population viability and risk analysis;
- Biocomplexity and the structure of ecological networks; ecological community structures;
- Fragmentation and persistence;
- Effects of climate change on species distributions, infectious diseases and ecosystems.

A series of **background keynote lectures** on specific topics and examples will be given by the four organizers and the guest lecturers. In addition, the participants will be encouraged to present a short talk describing their own work. If you wish to make a **oral** or **poster presentation** please specify upload a **one-page abstract** to the on-line application form.

Participation in the computer laboratory demonstrations and exercises, as well as the training sessions on using R in Ecology (statistics and population dynamics) is a requirement.

PARTICIPATION

The workshop is intended for scientists and graduate students interested in the following fields: ecology, biology, environmental science (with emphasis on quantitative mathematical methods), economics, mathematics, physics, statistics and numerical computation. It is open to scientists from all member countries of the United Nations, UNESCO and IAEA. The main purpose of the Abdus Salam ICTP is to help researchers from developing countries through a program based on international co-operation, and limited funds are available to support the attendance of such applicants, to be selected by the Organizers. Scientists from developed countries are also welcome to attend. The activity will be conducted in English. **Registration is free-of-charge.**

APPLICATION

The "On-line Application" form can be accessed at:

web page address: <http://www.ictp.it/~smr2022>

& ICTP agenda page: http://cdsagenda5.ictp.trieste.it/full_display.php?id=a08145

(Please save and upload file attachments in either: **RTF format, .doc or .PDF**)

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(U. of Michigan, USA)

Local Organizer

F. Giorgi (ICTP, Italy)

Workshop Lecturers

- **Stefano Allesina** (Nat. Center for Ecological Analysis & Synthesis, NCEAS, USA)
- **Jennifer Dunne** (Santa Fe Institute, USA)
- **Jordi Bascompte** (Estación Biológica de Doñana, CSIC, Spain)
- **Paul Moorcroft** (Harvard University, USA)
- **Lauren Buckley** (NCEAS and University of North Carolina, USA)
- **Tom Hallam** (U. of Tennessee, USA)
- **Benjamin Bolker** (U. of Florida, USA)
- **María Josefina Hernández** (U. Central de Venezuela)
- **Ray Hilborn** (U. of Washington, USA)
- **Jon-Paul Rodriguez** (IVIC, Venezuela)
- **Robert May** (U. Of Oxford and Imperial College London, UK) (to be confirmed)

On-line Application Deadline

November 30, 2008