Workshop on Theoretical Ecology:

Natural Resource Management and Conservation Biology

22 April - 3 May 2002
(Miramare - Trieste, Italy)

The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy, is organizing the **Workshop on Theoretical Ecology: Natural Resource Management and Conservation Biology**, to be held from **22 April - 3 May 2002**. It will be directed by Professors G.A. Canziani (Universidad Nacional del Centro de la Provincia de Buenos Aires at Tandil, Argentina), G.A. De Leo (Universitá di Parma, Italy) and A. Dobson (Princeton University, USA).

The **Workshop on Theoretical Ecology: Natural Resource Management and Conservation Biology** is being built on the structure of the Mathematical Ecology Courses and Workshops that have been held over the last 18 years, founded by Tom Hallam, Simon Levin and Lou Gross at ICTP. They have been immensely important in developing intellectual capacity in Mathematical Ecology throughout Latin America, Africa, Asia and Eastern Europe, mainly by bringing together researchers from developed and developing nations.

The theoretical problems involved in natural resource management are rapidly emerging as a deep area of intellectual inquiry. The problems involved are inherently non-linear, and rapidly can become complex, as witnessed by the emerging areas of Biocomplexity, Bioeconomics, Environmental Economics and Sustainability Science. Capacity building in these areas will be central to the sustainable management of natural resources. These are problems that ultimately effect the quality of life for everyone on the planet.

The Workshop will focus on two main topics: **natural resource management and conservation biology**. The two areas are closely related and a number of theoretical problems have both their origins and applications in both areas. The workshop will be organized as a series of background keynote lectures on specific topics and examples. These will be given by the three organizers and by widely known guest lecturers. In addition, the participants will be encouraged to present a short talk describing their own work. The formal lectures will be complemented by topic-oriented working groups, each of which will bring together groups of people to develop ways of examining specific problems in natural resource management that are of special interest to developing countries.

Topics covered will include:

- population dynamics and harvesting,
- population viability analysis,
- bioeconomics,
- biocomplexity,
- ecological community structure,
- fragmentation and persistence,
- reserve network design,
- cost-benefit analysis.

Participants are expected to have a mathematical background at least equivalent to a M.Sc. degree in Mathematics or Statistics, as well as some background or expressed interest in biology. Individuals with more limited mathematical training, but more extensive biological training (e.g. background at least equivalent to a M.Sc. in Ecology) or more extensive economics training (e.g. background at least equivalent to a M.Sc. in Economics), are also welcome to apply.

Techniques and concepts will be employed from both continuous and discrete mathematics, but the primary tools will be from the subjects of ordinary, partial and stochastic differential equations, difference equations, linear algebra, control and game theory, and stochastic processes.

The Workshop is intended for mathematicians, ecologists, biologists, economists, and agricultural scientists who are working and interested in problems related to **Natural Resource Management and Conservation Biology**. It is open to research workers from all countries of the world that are members of the United Nations, IAEA or UNESCO. The main purpose of the ICTP is to help research workers from developing countries, but graduate students and post-doctoral scientists from developed countries will also be welcome to attend the activity. As the Workshop will be conducted in English, participants should have an adequate working knowledge of that language.

As a rule, travel and subsistence expenses of the participants should be borne by the home institutions. However, limited funds are available for some research workers from developing countries. As scarcity of funds allows travel to be granted only in a few exceptional cases, every effort should be made by candidates to secure support for their fares (or at least half-fare) from their home country. It is stressed that participants whose travel expenses are paid by the ICTP are required to attend the entire Workshop.

The closing date for requesting participation is: *16 February 2001.*

Participants requesting financial support: 14 December 2001.

Participants not requesting financial support: 16 February 2002.

The "Request for Participation" form, to be found at the back of the Bulletin, (also obtainable via e-mail: **smr1404@ictp.trieste.it**, by typing on the subject line: get index, or by the WWW at http://www.ictp.trieste.it) should be completed, signed and posted to:

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DIRECTORS

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Deadline:

14 December 2001