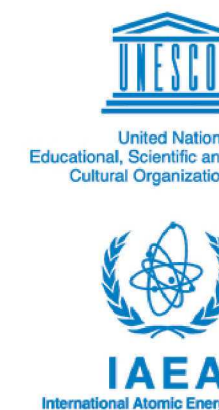




The Abdus Salam  
International Centre for Theoretical Physics



Workshop on  
Aerosol-Climate Interactions: Mechanisms,  
Monitoring, and Impacts in Tropical Regions  
11 - 15 February 2008

Hurghada, Egypt

The Earth System Physics Section at the Abdus Salam International Centre for Theoretical Physics (ICTP), in cooperation with the Egyptian Meteorological Authority and Cairo University, is organizing the above Workshop to be held in Hurghada, Egypt from 11 to 15 February 2008. The workshop organizers are A.S. Zakey (ICTP, Italy), E. Coppola (ICTP, Italy), S. Rauscher (ICTP, Italy), A. Nenes (Georgia Institute of Technology, U.S.A.), M. Essa (Egyptian Meteorological Authority), and M. Abdel-Wahab (Univ. of Cairo, Egypt).

### Introduction

According to the most recent report by the Intergovernmental Panel on Climate Change, atmospheric aerosols are one of the sources of the greatest uncertainty within the context of climate change. Estimates have shown that aerosols exert a radiative forcing of the same magnitude as greenhouse gases (GHG), but of the opposite sign -- i.e., they have a cooling effect. The radiative effect of aerosols can be both direct (through the scattering and absorption of solar radiation) and indirect (by causing changes in the amount, distribution, and characteristics of cloud cover and precipitation). In comparison to GHGs, aerosols remain in the atmosphere for a relatively short time and their concentrations are more spatially varied. Therefore, the assessment of the climatic impact of aerosols is dependent upon understanding the sources and distribution of aerosols on multiple temporal and spatial scales. The climatic impacts of aerosols may be strongest felt in developing nations, where industrialization and land use change (and therefore aerosol emissions) are accelerating in concert with population growth. These increased aerosol emissions may have important local and regional consequences for climate and human health. In addition, precipitation may decrease in tropical and subtropical regions due to spatial variations in aerosols on a global scale.

### Programme

This intensive one-week workshop will be focused on aerosol-climate processes of relevance to tropical regions with special attention to climate change due to aerosols. The workshop will discuss the following topics:

- \* **Air quality/Aerosol modeling**
- \* **Aerosol Observation (Monitoring - Emissions)**
- \* **Cloud-Aerosols interaction**
- \* **Radiation-Aerosol interaction**
- \* **Understanding and quantifying the effects of aerosols on land cover (e.g., desertification) and water quantity**
- \* **Aerosol-climate change impacts**

Emphasis will be given to issues associated with the representation of aerosol-climate interactions in regional climate models. These include numerical model design (i.e., the parameterization of aerosols in a simple chemistry model) and aerosol interactions with surface fluxes and convection processes.

### Participation

The workshop is open to young researchers and PhD students working in the areas of atmospheric physics and dynamics, climatology and oceanography, **from countries in the tropics** that are members of the United Nations, UNESCO or IAEA. The principal objective of the ICTP is to help research workers from developing countries, through a programme of training activities within a framework of international cooperation. Participants should have an adequate working knowledge of English, as the workshop will be conducted entirely in English.

Due to budget limitations, **the number of participants will be strictly limited to 24.**

Every effort should be made by candidates to secure support. However, limited funds are available for some participants (for accommodation or airfare), who are nationals of, **and working in**, a developing country, and who not more than 40 years old. Participants are required to take part in all aspects of this activity for its entire duration. There is no registration fee.

Candidates should complete and submit the **Online Application** that can be found at: <http://agenda.ictp.it/smr.php?1973>. Kindly send all file attachments in Word or Acrobat format.

July 2007

### ORGANIZERS

*A.S. Zakey (ICTP, Italy)*

*E. Coppola (ICTP, Italy)*

*S. Rauscher (ICTP, Italy)*

*A. Nenes*

*(Georgia Institute of Technology, U.S.A.)*

*M. Essa*

*(Egyptian Meteorological Authority)*

*M. Abdel-Wahab*

*(Univ. of Cairo, Egypt)*

### INVITED LECTURERS INCLUDE:

*P.J. Adams (Carnegie Mellon University, U.S.A.)*

*F. Dulac (Lab. des Sciences du Climat et de l'Environnement, France)*

*F. Giorgi (ICTP, Italy)*

*C. Liou (Lab. Aerologie, France)*

*A. Nenes (Georgia Institute of Technology, U.S.A.)*

*M. Perrone (Università degli Studi di Lecce, Italy)*

*M. Rupakheti (Asian Institute of Technology, Thailand)*

*M. Sofiev (Finnish Meteorological Institute, Finland)*

*F. Solmon (Lab. Aerologie, France)*

*A.S. Zakey (ICTP, Italy)*

### DEADLINE

for requesting participation

**15 October 2007**

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Regions*

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