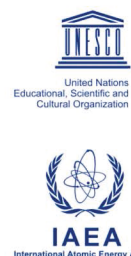




The Abdus Salam  
**International Centre  
for Theoretical Physics**  
www.ictp.it



# Advanced Workshop on *Past and Future Climate Shifts: "Decadal Climate Variability and Predictability"* November 16 - 24, 2015 (ICTP, Trieste, Italy)

The Abdus Salam International Centre for Theoretical Physics (ICTP, Trieste, Italy) is organizing the **Advanced Workshop on *Past and Future Climate Shifts: "Decadal Climate Variability and Predictability"***, to take place from November 16 - 24, 2015.

## Overarching Goal:

**To observe and monitor the near term evolution of the climate system - combination of both natural processes and anthropogenic forcing and their combined imprint at decadal scale, to develop predictive understanding of the underlying phenomena and mechanisms and subsequently to model and predict their consequences and impacts.**

Recent years have seen the proliferation of new instrumental observations, particularly in the ocean and from space. These contribute to advancements in coupled modelling and climate prediction, including initialized decadal prediction, assessed as part of the international CMIP effort. In recent years the reconstruction of past, pre-instrumental climate variability from high-resolution proxies has also advanced and provided new information on decadal variability during the pre-industrial era. These proxy-based reconstructions also serve as validation for a concerted CMIP effort on coupled model simulations of last millennium climate variability, conceived to assess the response of surface temperature and precipitation to solar variability, volcanic forcing, and changes in land use and to contrast this response with the response to anthropogenic greenhouse gas emission and industrial aerosols. The analysis of these experiments has provided both useful understanding of the response to external natural forcing but also revealed perplexing model inconsistencies that require further analysis and study.

WCRP and its core projects, particularly CLIVAR, have identified the need to advance the study of decadal climate variability and predictability (DCVP) and to continue experimental climate prediction. Given these considerations, a workshop on DCVP to discuss the progress, identify the remaining challenges and lay out the way to address them is timely.

## Workshop Sessions:

1. Present the state of the art in this research area in terms of:
  - The space-time properties of DCV and the impacts during the industrial (instrumental) and pre-industrial era.
  - The quality of model simulations of DCV
  - The existing hypotheses and evidence on physical/dynamical mechanisms of DCV
  - The predictability and prediction of DCV
  - Economics of DCV
2. Focus on specific/regional phenomena of DCV, which have large global and regional manifestation:
  - The present warming hiatus
  - Atlantic decadal variability: The North Atlantic Oscillation and Atlantic Multidecadal Variability
  - Pacific decadal and longer variability
  - Regional Climate Impacts (Monsoons, Sahel, regional climate etc.)
3. Forum for discussion on the outstanding issues and challenges on DCVP and how to address those and make progress in a timely manner.

## Meeting Format:

*Monday, 16 - Thursday, 19 November* - open attendance workshop:

- Days 1-2 - Session 1 overview talks
- Days 3-4 - Session 2 regional phenomena with ample time for discussions and poster sessions
- Day 4 - half a day to address Objective 3.

Each session to include 1 or 2 invited talks (35+5 min each) and presentations (15+5 min each). Each session will end with a questions and a discussion led by the session conveners.

*Friday, 20 - Saturday, 21 November* - CLIVAR DCVP WG Meeting (**by invitation ONLY**)

*Friday, 20 - Saturday, 21 & Monday, 23 - Tuesday, 24 November* - Training Activity (open, limited lab. workstation space)

A **training activity** will be held after the workshop for students and early career scientists. This will include an intensive lab/training component.

## PARTICIPATION:

The Workshop is open and intended for scientists and post-graduate fellows working in the areas of Climatology, Atmospheric Science and Oceanography from all countries, which are members of the United Nations, UNESCO or IAEA. The main purpose of the Abdus Salam ICTP is to help researchers from developing countries through a program based on international co-operation. The activity will be conducted in English. Limited funds are available for some applicants who are nationals of, and working in, developing countries and will be granted only to those attending the entire activity. **Registration is free-of-charge for all attendees.**

**APPLICATION DEADLINE: *August 31, 2015***

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

**ICTP activity website:** <http://indico.ictp.it/event/a14266/>

inclusive of a **step-by-step instruction guide**.

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

## Call For Papers

For those interested in making an oral or poster presentation, a one-page abstract (size A4) should be uploaded **directly to the on-line application**. (Please upload file attachments in **.pdf**)

**ACTIVITY SECRETARIAT:** Secretary-in-charge, Lisa Iannitti  
phone: +39-040-2240227, E-mails: [iannitti@ictp.it](mailto:iannitti@ictp.it), [smr2716@ictp.it](mailto:smr2716@ictp.it)

## Co-Sponsors:



香港中文大學環境、  
能源及可持續發展研究所  
Institute of Environment,  
Energy and Sustainability, CUHK



香港中文大學  
The Chinese University of Hong Kong

## ORGANIZERS

**In-Sik Kang**  
(SNU, Seoul, Korea)

**J. Kinter**  
(COLA/GMU, U.S.A.)

**E. Schneider**  
(COLA/GMU, U.S.A.)

**S. Schubert**  
(GMAO/NASA, U.S.A.)

**S. Barker**  
(Cardiff U., UK)

**E. Cook**  
(LDEO/Columbia U., U.S.A.)

**Y. Kushnir**  
(LDEO/Columbia U., U.S.A.)

**G. Lau**  
(Chinese U., Hong Kong)

**A. Pirani**  
(CLIVAR)

**D. Smith**  
(UK Met. Office)

**R. Farneti**  
(ICTP, Italy)

**F. Kucharski**  
(ICTP, Italy)

ICTP Home page: <http://www.ictp.it/>

v. April 2015

