2nd ICTP Summer School on Theory, Mechanisms and Hierarchical Modelling of Climate Dynamics: Convective Organization and Climate Sensitivity

1 - 12 July 2019
Trieste, Italy

Further information:
http://indico.ictp.it/event/8669/
smr3304@ictp.it

The school will focus on the organization of convection in the tropics and its possible implications for climate sensitivity. Some idealized convection permitting models show spontaneous clustering of convection can occur, drying the tropical atmosphere and increasing infrared emission to space. This effect could imply a strong negative feedback on the climate that may be missing or poorly represented in global climate models. However, there is open debate concerning the mechanisms involved, the implications for climate, the evidence in the observations, the role of shallow clouds and convection, the spatial scales of instability and the connection of this idealized aggregation to common examples of tropical organization such as the Madden Julian Oscillation or tropical cyclones.

The event will consist of a one-week school, with some introductory lectures and the chance to work with observations and model output to address questions related to convective organization. In the second week, participants will benefit from open debate with over 20 of the world's leading scientists in the field. Experts will work with student groups to summarize the debates in position papers, including results from the first week's exercises.

Topics:

- Models of radiative-convective equilibrium
- Convective organization in high resolution models
- Evidence for organization in observations
- Implications for climate and climate sensitivity
- Representation in global models and their parameterization schemes
- Connection to MJO, hurricanes and other examples of convective organization

How to apply:

Online application:
http://indico.ictp.it/event/8669/

Female scientists are encouraged to apply.

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

Directors:

Sandrine Bony
LMD, France
Cathy Hohenegger
MPI, Germany
Chris Holloway
Reading U., U.K.
Caroline Muller
LMD, France
Adrian Tompkins
ICTP, Italy

Speakers include:

Biasutti, Michela, IRI Columbia U., USA
Bordoni, Simona, Caltech, USA
Bretherton, Chris, Seattle U., USA
Chaboreau, Jean-Pierre, Toulouse U./CNRS, France
Cronin Timothy, MIT, USA
Craig, George, LMU, Germany
Emanuel, Kerry, MIT, USA
Gezahegn, Addisu, LMD, France
Grabowski, Wojciech, UCAR, USA
Khairoutdinov, Marat, Stonybrook U., USA
Khouider, Boualem, Victoria U., Canada
Mapes, Brian, Miami U., USA
Marshall John, MIT, USA
Moncrieff, Mitch, UCAR, USA
Neelin, David, UCLA, USA
Pincus, Rob, NOAA, USA
Randall, David, CSU, USA
Sherwood,Steve, UNSW,Australia
Stevens, Bjorn, MPIM, Germany
Stirling, Alison, MET Office, U.K.
Vallis, Geoff K., Exeter U., U.K.
Wing, Allison, FSU, USA
Woolnough, Steve, Reading U., U.K.
Yang, Da, Berkley U., USA
Zuidema, Paquita, RSMAS Miami, USA

Deadline:

1 March 2019

World Meteorological Organization

WCRP World Climate Research Programme

The Abdus Salam International Centre for Theoretical Physics
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