

Advanced School on Tropical-Extratropical Interactions on Intra-Seasonal Time Scales



16 - 27 October 2017
Trieste, Italy

Further information:

Activity URL: <http://indico.ictp.it/event/7998/>

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An increasing appreciation of intra-seasonal interactions between the tropics and extra-tropics has raised the possibility of increased predictability of significant circulation and weather anomalies in many regions. This school will introduce this new perspective to the students, giving them hands-on experience in the computer lab.

Description:

This school will introduce this new perspective to the students, giving them hands-on experience in the computer lab.

During the first week of the School, the lecturers will review the state of knowledge of Tropical-Extratropical interactions, with an emphasis on basic dynamics, and on hypotheses that can be tested with the forecasts and re-forecasts from a number of operational centers and possibly experiments with the ICTP climate model. Lectures will be held in the mornings.

In the afternoons, the students (participants) will form teams to design lab projects to explore the relationships discussed in the morning, using the S2S forecast database and possibly design experiments with the ICTP climate model (SPEEDY).

During the second week, the lecturers will cover more advanced research, and the participants will continue their projects, in consultation with the lecturers.

The topics center on the role of intra-seasonal interactions between the tropics and extra-tropics in increased potential predictability of significant circulation and weather anomalies in many regions.

Topics:

- Observed characteristics of intra-seasonal tropical diabatic heating and related global teleconnections;
- Mid-latitude forcing of African rainfall, of the MJO and of tropical convection in general;
- Evidence for combined tropical - midlatitude intraseasonal oscillations;
- Role of air-sea fluxes and SST feedbacks;
- Roles of troposphere - stratosphere feedbacks;
- Methods for analyzing and predicting tropical - midlatitude interactions, including statistical and dynamical approaches;
- Computer lab sessions: The participants will analyze the tropical - extratropical interactions using some basic methodologies applied to the S2S database of operational forecasts: http://www.wmo.int/pages/prog/arep/wrrp/new/documents/3_3_S2Sdatabase.pdf. The possibility of designing and running experiments with the ICTP climate model (SPEEDY: <https://www.ictp.it/research/esp/models/speedy>) is also available.

Directors:

David M. Straus, George Mason University, USA
Cristiana Stan, George Mason University, USA
Andrew Robertson, IRI Columbia University, USA
Fred Kucharski, ICTP, Italy

Local Organizer:

Fred Kucharski, ICTP, Italy

Lecturers:

Lecturers: to be announced:

How to apply:

Online application:
<http://indico.ictp.it/event/7998/>

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.

Deadline:

15 July 2017



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