

CPC/CTB Seminar

9:00-10:00am, 24 November 2015

NOAA Climate Test Bed Seminar Series

Speaker:

Prof. Jürgen Kurths
Potsdam Institute for Climate Impact
Research & Humboldt University, Berlin &
King's College, University of Aberdeen, UK

Time:

9:00-10:00am, 24 November 2015

Location:

Conference Room 2155
NOAA Center for Weather and Climate
Prediction
5830 University Research Court
College Park, MD 20740

Remote Access:

[https://www1.gotomeeting.com/
join/714576893](https://www1.gotomeeting.com/join/714576893)
Meeting ID: 714-576-893
Conference call: 1-877-680-3341
Passcode: 858747

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Climate Networks and Extreme Events

ABSTRACT

We analyze climate dynamics from a complex network approach. This leads to an inverse problem: Is there a backbone-like structure underlying the climate system? For this we propose a method to reconstruct and analyze a complex network from data generated by a spatio-temporal dynamical system. This approach enables us to uncover relations to global circulation patterns in oceans and atmosphere. We also evaluate different regional climate models from this aspect. This concept is also applied to Monsoon data; in particular, we develop a general framework to predict extreme events by combining a non-linear synchronization technique with complex networks. Applying this method, we uncover a new mechanism of extreme floods in the eastern central Andes which could be used for operational forecasts.



References

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