

# 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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