



## GOTHAM Summer School Program

**MONDAY, 18 September:** Welcome – Introduction to all topics (ENSO, mid-latitude flow, stratospheric teleconnections, monsoons) and to practical sessions

9:00 AM	9:20 AM	Welcome by organizers*
9:20 AM	10:20 AM	Opening lecture by Stefan Rahmstorf: The Climate Crisis: an Overview
10:20	10:40	COFFEE
10:40 AM	11:20 AM	TOPIC 1 Intro / Bo Wu: ENSO dynamics
11:20 AM	12:00 PM	TOPIC 2 Intro / Dim Coumou: Mid-latitude flow, basics of Rossby waves
12:00 PM	12:40 PM	TOPIC 3 Intro / Scott Osprey: Stratospheric teleconnections, QBO, polar vortex
12:40 PM	2:00 PM	LUNCH
2:00 PM	2:40 PM	TOPIC 4 Intro / Raghavan Krishnan: Indian monsoon, basic drivers and variability
2:40 PM	3:20 PM	Methods Intro / Reik Donner: Advanced Methods for analyzing climate data
3:20 PM	4:00 PM	COFFEE + (put up) posters*
4:00 PM	5:30 PM	Intro to the Practical Sessions and formation of groups Poster teaser session: 90" lightning presentation of students*
5:30 PM	6:30 PM	Ice breaker event and group photo / Short guided tour over the historical campus including a visit of the Grand Refractor
7:00 PM	8:30 PM	Dinner



**TUESDAY, 19 September: Tropics vs Arctic – intro into CPDN**

9:00 AM	10:00 AM	Antje Weisheimer: Seasonal predictions - confidence and multi-decadal variability of skill estimates for the winter NAO
10:00 AM	11:00 AM	Doerthe Handorf: Impact of Arctic climate changes on weather and climate in mid-latitudes – the Role of tropo-stratospheric coupling
11:00 AM	11:40 AM	COFFEE / Poster Session
11:40 AM	12:20 PM	Reik Donner: Complex network based diagnostics and forecasting of ENSO
12:20 PM	1:40 PM	LUNCH
1:40 PM	2:20 PM	Eric Guilyardi: ENSO mechanisms and predictability in models
2:20 PM	3:00 PM	Eric Guilyardi: ENSO, Extreme El Niños, impacts of normal and extreme El Niños
3:00 PM	3:40 PM	David Wallom: Introduction to CPDN
3:40 PM	4:00 PM	COFFEE
4:00 PM	5:30 PM	Generic skills and CPDN practical (David Wallom and Sarah Sparrow)



**WEDNESDAY, 20 September:** Integration of teleconnections, stratospheric teleconnections, networks, causality

9:00 AM	10:00 AM	Ted Shepherd: Integral talk on teleconnections
10:00 AM	10:40 AM	Scott Osprey: Stratospheric teleconnections, polar vortex, QBO
10:40 AM	11:20 AM	COFFEE / Poster Session
11:20 AM	12:00 AM	Reik Donner: Introduction to functional networks
12:00 PM	12:40 PM	Jakob Runge: Introduction to causality
12:40 PM	2:00 PM	LUNCH
2:00 PM	2:30 PM	Catrin Kirsch: Pyunicorn software
2:30 PM	3:00 PM	Jakob Runge: Tigramite software
3:00 PM	4:00 PM	Practicals
4:00 PM	5:00 PM	COFFEE / Poster Session
4:20 PM	6:00 PM	Practicals



## THURSDAY, 21 September: Monsoons, mid-latitudes

9:00 AM	9:40 AM	Tianjun Zhou: Asian monsoon changes: from interannual to decadal time scales	
9:40 AM	10:20 AM	Ramesh Vellore: Indian monsoon, associations with mid-latitude circulation and extreme precipitation	
10:20 AM	11:00 AM	Bo Wu: Impacts of ENSO and warm pool air-sea interactions on the East Asian-western North Pacific monsoon	
11:00 AM	11:40 AM	COFFEE / Poster Session	
11:40 AM	12:20 PM	Dim Coumou: Wave-resonance and co-occurrence of persistent summer extremes	
12:20 PM	1:40 PM	LUNCH	
1:40 PM	2:00 PM	Elena Surovyatkina: Network based monsoon forecasts	
2:00 PM	2:20 PM	Marlene Kretschmer: Causal discovery based polar vortex forecasts	
2:20 PM	3:40 PM	Practicals	
3:40 PM	4:00 PM	COFFEE	
4:00 PM	6:00 PM	GOTHAM ANNUAL MEETING*	Practicals



**FRIDAY, 22 September:** NAO teleconnections, student groups' presentations, wrap up

9:00 AM	10:00 AM	Uwe Ulbrich: NAO teleconnections (PNA etc.), NAO and storm tracks
10:00 AM	10:45 AM	Group presentations
10:45 AM	11:15 AM	COFFEE / Poster Session
11:15 AM	12:15 PM	Group presentations
12:15 PM	1:30 PM	LUNCH
1.30 PM	2.15 PM	Wrap up
3:30 PM	6:30 PM	Boat trip

*\* All lectures will be held in Building A31- Big cupola  
The poster session will be in A31 – West Wing  
All practical sessions in A31 – Big and small cupolas  
Group 1 & 2 (mid-latitudes) - West Cupola  
Group 3, 4 & 5 (stratosphere, ENSO) - Big Cupola  
Group 6 (monsoons) - East Cupola  
The Gotham Annual Meeting will be in A56 – Telepresence Room*