

Virtual BSC RS/AI4ES Seminar: "Causal Inference and Causal Discovery in Climate Science"

Objectives

You can watch the seminar in this [link](#).

Abstract: Teleconnections are sources of predictability for regional weather and climate but the relative contributions of different teleconnections to regional anomalies are usually not understood and often highly contested. To close this important knowledge gap, progress is needed in analysing and quantifying teleconnection pathways. Here we argue for the use of causal inference theory and causal networks to overcome these challenges. We describe some of the key concepts of this theory and illustrate them with concrete examples of atmospheric teleconnections. We further discuss the particular challenges and advantages these imply for climate science.



Short BIO: Marlene Kretschmer is Postdoc in the Department of Meteorology at the University of Reading. She holds an individual Marie Curie fellowship to apply causal inference methods to evaluate the representation of large-scale drivers of Mediterranean precipitation in seasonal forecast models. Before that she did her PhD in Climate Physics at the Potsdam Institute for Climate Impact Research in Germany, in which she introduced the concept of causal effect networks and other machine learning algorithms to study teleconnection pathways.

Speakers

Marlene Kretschmer is Postdoc in the Department of Meteorology at the University of Reading.
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