

Artificial Intelligence for Detection and Attribution of Climate Extremes



20 June - 1 July 2022
An ICTP Hybrid Meeting
Trieste, Italy

Further information:
<http://indico.ictp.it/event/9802/>
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During the last 5-10 years, a large number of extreme weather and climate events in Europe and worldwide have occurred, causing damage to infrastructure and casualties especially in developing countries. This has raised the question about the role of climate change in altering the odds or the magnitude of a number of such events and the new “science of attribution” has begun with several attribution published all around the world. The aim of the school is to define techniques to tackle the problem of attributing meteorological extreme events to climate change by mean of machine learning technologies. Lectures will also focus on determining causal links of extreme events with the underlying climate dynamics as the atmospheric circulation. The school will also discuss and provide the bases for communicating attribution results to the general public, stakeholders and other scientists in an exact although non specialist language.

Topics:

- Dynamics and thermodynamics of extreme events (including heatwaves, cold spells, severe convective events, tropical and extra-tropical cyclones, compound extremes at different scales)
- Statistical tools for extreme event attribution (including rare events algorithms, compound climate extremes, storylines, casual inference, downscaling and bias correction)
- Machine Learning for extreme event attribution (including physics-aware machine learning, explainable artificial intelligence for climate sciences, casual discovery algorithms for extreme events)
- Outreach and communication training (including a creative writing workshop, communication of extreme event attribution to the general public, school outreach activities and outreach videogames)

How to apply:

Online application:
<http://indico.ictp.it/event/9802/>

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.

Directors:

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Speakers:

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Deadline:

24 April 2022



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003469.



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