Climate Science for Engineers

Professor

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Institution

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General Information

This course introduces fundamental climatic processes and provides methods for the stochastic generation of climatic variables in a stationary and changing climate. It additionally introduce issues related to greenhouses gas emissions and future climate projections, outlining causes and potential solutions.

The course is in presence, online if requested.

The course will be held in English.

Materials

Lecture notes will be provided before the beginning of the course.

Schedule

Dates	Description
May 27th -10am-1pm	Stochastic rainfall generators. Autoregressive models. Alternating renewal process. Neyman-Scott rectangular pulse. Rainfall disaggregation. Multiplicative Random Cascades.
May 29th -10am-1pm	Climate change and IPCC projections, future scenarios.
June 15th -2-5pm	CO2 emissions. Carbon footprints and climate targets. Geoengineering.
June 16th -2-5pm	Climate downscaling and weather generators. Teleconnections.
	Total: 12 Hours – 2 Credits

Other information

https://www.ipcc.ch/assessment-report/ar6/ ; https://hyd.ifu.ethz.ch/research-data-models/awe-gen.html

For any information www.indicee.unifi.it - dott-dicea@unifi.it