

# INSTITUT D'ÉTUDES SCIENTIFIQUES DE CARGÈSE

## Cargèse International School 2019

## The Mathematics of Climate and the Environment

September 09 - 13, 2019

Web site

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This summer school will be part of the Institut Henri Poincaré (IHP) trimester “The Mathematics of Climate and the Environment”; the trimester aims to explore the climate system and the developments in mathematics that seem most promising in advancing the climate and environmental sciences. The summer school will provide a background to young researchers in order to fully benefit from the subsequent events held at the IHP in Paris. Four mini-courses will introduce the participants to the physics of climate and to state-of-the-art mathematical approaches used in climate and environmental studies. The lecturers will provide an introduction to a selection of specific topics that will be useful to both young and established researchers working on the subject. While our selection of topics has a strong mathematical flavor, the whole summer school will also be accessible to students with a physics and/or computer science background.

### Main topics will include

- Physical bases of climate and its variability
- Mathematical methods in climate and geophysical fluid dynamics, including dynamical systems, numerical methods and their climate applications
- Big data, data assimilation and uncertainty quantification
- Coupled climate-ecology-economy modeling

### Eminent scientists in the field will animate the school/workshop. These include:

Marc Bocquet (École des Ponts ParisTech), Victor Brovkin (MPI for Meteorology, Hamburg), Joan Bruna (Courant Inst, New York), Hendrik A. Dijkstra (IMAU, Utrecht), Thomas Dubos (Ecole Polytechnique, Paris), Michael Ghil (ENS, Paris), Alexis Hannart (Ouranos, Montréal), Hervé Le Treut (IPSL, Paris), Maria Nikolaidi (Univ. of Greenwich, UK)

### Scientific Committee

Michael Ghil (ENS, Paris, co-chair), Hervé Le Treut (IPSL, Paris, co-chair), Mickaël D. Chekroun (UCLA), Anne-Laure Dalibard (JLL, Sorbonne Université), Patrice Klein (Caltech), Valerio Lucarini (U. Reading), and Sabrina Speich (ENS, Paris)

### Organization Committee

Charlotte Saint-léger, Sylvie Lhermitte (IHP)

### Application and registration

[http://www.geosciences.ens.fr/CliMathParis2019\\_Cargese/](http://www.geosciences.ens.fr/CliMathParis2019_Cargese/)

Contact : [cliMathParis2019@ihp.fr](mailto:cliMathParis2019@ihp.fr)

Deadline : April 30, 2019

