

# Manolis PERROT

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Date of birth: April 25, 1997  
Nationality: French

## Education

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- 2021 – present** ECOLE DOCTORALE MSTII, UNIVERSITÉ GRENOBLE ALPES, Grenoble, France.  
**PhD student in applied mathematics:** *Consistent subgrid scale modelling for ocean climate models.*
- 2016 – 2020** SORBONNE UNIVERSITÉ & ECOLE NORMALE SUPÉRIEURE (ENS)<sup>1</sup>, Paris, France.  
**Bachelor and Master of pure Mathematics**, additional courses in physics and climate sciences.
- 2014 – 2016** CLASSES PRÉPARATOIRES STANISLAS (PCSI – PC\*), Paris, France.  
Successful scientific preparation for the national entrance exams to the ENS, with major in mathematics, physics and chemistry.

## Academic experiences

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- oct. 2021 – present** PhD research supervised by [Eric Blayo](#), [Florian Lemarié](#) and [Etienne Mémin](#) at [Laboratoire Jean-Kuntzmann](#), Grenoble: *Consistent subgrid scale modelling for ocean climate models.*
- oct. 2020 – aug. 2021** (10 months) ENS pre-doctoral internship supervised by [Eric Blayo](#), [Florian Lemarié](#) and [Etienne Mémin](#) at [Laboratoire Jean-Kuntzmann](#), Grenoble: *Stochastic modelling of air-sea turbulent fluxes.*
- 2020** (5 months) M2 Master's thesis (remotely) supervised by [Klas Modin](#) (Göteborg Univ., Sweden): *Some geometric aspects of ideal hydrodynamics.*
- 2018** (5 months) Internship supervised by [Antoine Venaille](#) and [Pierre Delplace](#) at [Physics Laboratory](#) of ENS de Lyon: *Topological transition in stratified fluids* about topological transition (in the sense of condensed matter physics) in stratified and compressible fluids, and origin of Lamb waves in the atmosphere.
- 2017** (3 months) Numerical PDE project supervised by [Emmanuel Dormy](#): *A model of water waves amplification due to wind stress.*
- 2017** (4 months) Bachelor's thesis supervised by [Laurent Charles](#): *Egorov's theorem and mathematical quantization.*
- 2016** (6 months) TIPE experimentations and thesis for the ENS exam entrance: *Electrical resistivity tomography methods applied to the detection of mountain permafrost.*

## Teaching

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- 2021 – 2022** Teaching assistant in linear algebra for civil engineering students (60h).
- 2016 – 2018** (2 years) Oral examiner (*colleur*) in *Classe préparatoire* in Physics.

## Publications and preprints

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- Perrot M., Delplace P., Venaille A. [Topological transition in stratified fluids](#), *Nature Physics* (2019) [[arXiv](#)].
- Perrot M., Modin K., [Eulerian and Lagrangian stability in Zeitlin's model of hydrodynamics](#), *submitted*, 2023 [[arXiv](#)].

## Events and Talks

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- April 2022** Short talk at the research school *Mathematical Advances in Geophysical Flows*, CIRM, Marseille, France : Multi-fluid modelling for Ocean Deep Convection Parameterizations.
- November 2021** Attendee of the winter school *Numerical modelling of Ocean and Atmosphere*, Grenoble, France.
- August 2021** Attendee of the *Workshop on Ocean-Atmosphere interaction*, Ecole de Physique des Houches, France.
- June 2018** Attendee of the *Mathematical Physics Days : Quantum Chaos*, Lyon, France.

## IT skills

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TeX, Python, Linux.

## Languages

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- French: Mother tongue.  
English: Fluent.  
Spanish: Fluent.  
Portuguese: Good working knowledge.

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<sup>1</sup>Selective french school preparing students to research or teaching career. Students are paid during their 4-year tuition