



Ernesto Horne

Personal information: Argentinean and French citizen • born 05.02.1985
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Work experience

(2017–) **École Polytechnique**, LadHyX, Paris, France

Postdoctoral research associate in turbulence and geophysical flows

- Conducted fundamental research in geophysical fluid dynamics.
- Developed, constructed and implemented new experimental setups.
- Performed and analysed high resolution direct numerical simulations of fluids.

(2016–2017) **École Centrale**, Lyon, France

Postdoctoral research associate in fluid modelling

- Developed a post processing library for analysing direct numerical simulations.
- Worked in collaborations with experimental and observational researchers for data comparison.

(2007–2009) **Universidad de Buenos Aires**, Geology Department, Argentina

Undergraduate researcher

- Developed observational stations for measuring and analysing volcanic activity.

Education

(2012–2015) **École Normale Supérieure de Lyon**, Physics Lab, France

Doctor of Philosophy, *Geophysical Fluid Dynamics*

"Transport properties of internal gravity waves", *Thesis graded with honours*.

(2005–2012) **Universidad de Buenos Aires**, Physics Department, Argentina

Masters Thesis, *Numerical modelling in fluids*

"Cancellation exponent in rotating flux", graded 10/10.

Degree studies, Sc. Physics (equivalent to Bachelor and Masters degree)

Majors in fluids dynamics and Earth sciences

Awards and scholarships

(10.2018) **Workshop invitation**, EuroTech Postdoc Workshop, TUE, Eindhoven, Netherlands. *All fees considered.*

(08.2017) **Workshop invitation**, Turbulent Flows in Climate Dynamics, Les Houches, France. *All fees considered.*

(08.2016) **Young Researchers' Financial support**, ICTAM Congress, Montreal, Canada. *Travel support.*

(09.2016) **Financial support**, ISSF Symposium, San Diego, USA. *Lodging support.*

(09.2014) **Financial support**, FDSE Workshop, Cambridge, UK. *Inscription fees support.*

(2007–2009) **Scholarship**, VOLUME project, European Comision. Univ. Buenos Aires, Argentina. *monthly income.*

Research activities

- Worked within 5 fundamental and applied research groups.
- Published 9 international peer review and conference articles.
- Exposed results at international conferences and at main seminars in renowned universities.
- Selected for participating in 4 international workshops.
- Reviewer of the Journal of Fluid Mechanics (Cambridge Press).

Soft skills

Leadership

- 2 master research supervisions (2014 and 2019).
- Coach of the Underwater Hockey team of Berlin (2019–).
- Former coach of the Underwater Hockey team of Lyon (2013-2014) and Switzerland (09.2017).

Team work

- Host of multiple collaborations with researchers from different fields and institutes (2013–2019).
- Team player of the Argentinean Underwater Hockey team in three international competitions (2009–).

Adaptability

- Multiple research field campaigns in the Andes and two months season in Antarctic (2007–2009).
- Sailing across the Atlantic, from Ushuaia (Argentina) to La Rochelle (France) (2009).
- Climbing the Mont Blanc (France/Italy) in a two-man expedition (09.2017).

Innovation

- Developing multiple experimental setups from scratch to study natural environmental problems.

Presentation skills

- Frequent oral presentations at 10+ conferences with audiences up to 100 people.

IT-Skills

High-level programming: Proficient in Matlab, Python, Latex and Version Control Systems.

Numeric and scientific computation: Familiar with high-performance computing (Fortran, C++) and large datasets' management. Formed in Message Passing Interface (MPI) for large-scale parallel applications. Experienced with running large numerical simulations.

Website design: Developed an educative physics website and a personal professional website.

Operating systems: Linux, Macintosh, Windows.

Languages

Spanish: Mother tongue.

English: Fluent, 5 years residence in California (1989-1994).

French: Fluent, 7 years residence in France (2012-2019).

German: Beginner, A2 level and multiple travels to Germany.

Teaching

Lectures

- Environmental hydrodynamics (Master 1 course), École Polytechnique, France (2019).
- Physics high school level. ECOS high school, Buenos Aires, Argentina (2011-2012).

Supervision

- M. H. Hamede, Master 2 research internship, École Polytechnique (2019).
- D. Micard, Master 2 research internship, ENS de Lyon (2014).

Other interests

Sports: Biking, climbing, hiking, football, swimming, skiing, Underwater Hockey.

Sailing • Cinema • Photography • Geopolitics • Woodworking.