

## Master's Program in Environmental Fluid Mechanics

*The research internship subjects below have been selected among those chosen by the students during the last two years. The objective of this list is to provide you with an overview of the variety of possible topics.*

Title of internship	Scientific domain	Laboratory	Advisor(s)
<b>2016-2017</b>			
Influence of the initial and boundary conditions on gravity currents	Fundamental fluid dynamics (experimental)	LEGI, Grenoble, France	Dr Eletta NEGRETTI
Design of sulfides nano-particles for optimal electronic properties energy and environmental applications	Chemical engineering (experimental)	IFP Energies Nouvelles, Lyon, France	Dr. Audrey BONDUELLE Dr. Antoine FECANT
An alternative approach to correct CO <sub>2</sub> fluxes from eddy-covariance measurements in the atmospheric boundary layer	Atmospheric dynamics (experimental)	University of Grenada, Spain	Dr Andrew S. KOWALSKI
The influence of wave speed in idealized vortex dynamics	Fundamental fluid dynamics (numerical)	LEGI, Grenoble, France	Dr Achim WIRTH
Modeling the temperature profile of Martian glaciers at mid-latitudes	Atmospheric dynamics of planets (numerical)	Center for Ice and Climate, University of Copenhagen, Denmark	Dr Nanna KARLSSON Dr Mai WINSTRUP Dr Christine SCHØTT HVIDBERG
North Atlantic chaotic heat content modulated by the atmosphere : an ensemble ocean simulation analysis	Oceanography (numerical)	Institute of Geophysics and the Environment, Grenoble, France	Dr Thierry PENDUFF
Construction of TELEMAC-2D model on the southern Lagoon of Camargue with marine influence	Coastal oceanography (numerical)	LEGI, Grenoble, France	Dr Philippe SECHET
Experimental study of water	Renewable	LEGI, Grenoble, France	Dr Joël SOMMERIA

turbine wakes	energy (experimental)		
Parametric sub-harmonic instability of an internal gravity wave beam	Fundamental fluid mechanics (numerical)	LEGI, Grenoble, France	Dr Chantal STAQUET
<b>2015-2016</b>			
Assessment of air-sea exchanges in the sea-ice covered regions of the Southern Ocean	Oceanography (numerical)	Institute of Geophysics and the Environment, Grenoble, France	Dr Bernard BARNIER Dr Nicolas JOURDAIN
Formulation of gold catalyst	Chemical engineering	CEA Tech/LITEN, Grenoble, France	Dr Sébastien DONET
Experimental study on the generation of internal gravity wave turbulence	Fundamental fluid dynamics (experimental)	LEGI, Grenoble, France	Dr Pierre AUGIER
Physical and numerical modelling of beach nourishments	Coastal oceanography	Deltares, Delft, The Netherlands	Dr Alessio GIARDINO
Reduced-scale modeling of wake effects downstream of a marine turbine	Renewable energy	LEGI, Grenoble, France	Dr Joël SOMMERIA
Reflection of an internal shear layer on a horizontal boundary in a rotating and stratified	Fundamental fluid dynamics (theoretical)	IRPHE, Marseille, France	Dr Stéphane LE DIZES
Wintertime atmospheric circulation in the Passy valley as inferred from field data	Atmospheric dynamics	LEGI, Grenoble, France	Dr Chantal STAQUET
Size segregation in bedload sediment transport in a river	Sediment transport	IRSTEA, Grenoble, France	Dr Philippe FREY
Vertical grid mixing and layer formation in a uniformly stratified fluid	Fundamental fluid dynamics (experimental)	University of Cambridge, UK	Dr Paul LINDEN