



UMR 5519

## CORIOLIS PLATFORM

13 m diameter, 6 rotations per min.  
Turbulence with rotation in stratified fluids,  
environmental fluid dynamics, sediment transport.

## WAVE FLUME

36 m long, 1.3 m deep.  
Hydrodynamics of the surf zone, morphodynamics of sandy  
beaches, dynamics of gravity waves,  
interactions soil-structure-flow.

## WIND TUNNEL WITH A LOW LEVEL OF TURBULENCE

Speed up to 60 m/s.  
Parietal turbulence control, diffusion of a passive scalar,  
turbulent transport, developed turbulence,  
vorticity measurement, active grid.

## HYDRODYNAMIC TUNNEL

Power 165 kW, max. flow rate 0,65 m<sup>3</sup>/s.  
Cavitating and supercavitating high-speed flows,  
test bench for hydrokinetic water turbines.

## PREVERO LOOP FOR CAVITATION EROSION

Power 80 kW, max. pressure 40 bar.  
Cavitation erosion, heat transfer and nucleate boiling in  
mini-channels, hydraulic testing.

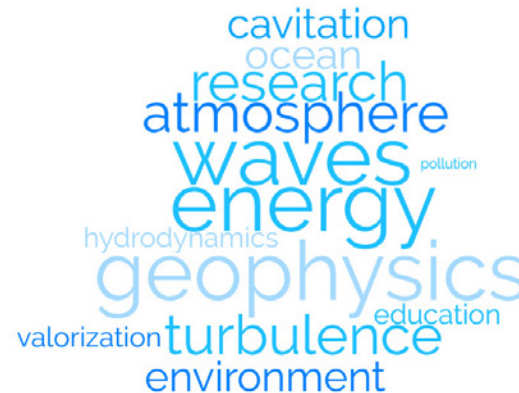
## AUTOMATED DATA PROCESSING CENTER

28 nodes, 1.8 petabytes of data.  
Highly parallel numerical simulations and experimental  
data processing.

### LEGI Contacts

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*Fluid mechanics  
and transport phenomena*

*applied*

*to the  
environment*



Wave breaking  
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River and marine turbines  
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*and energy*

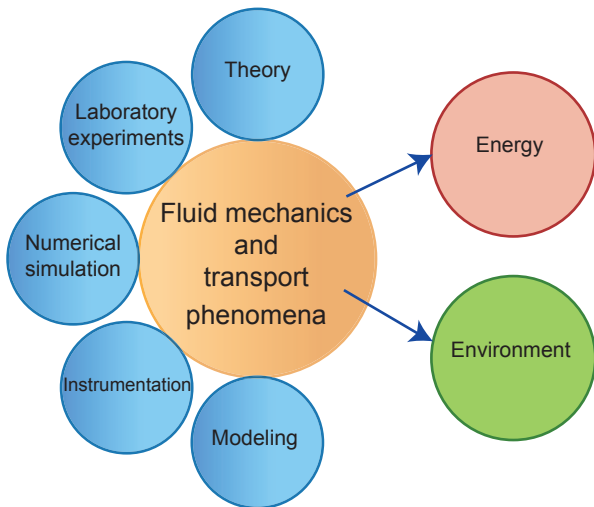
## FIELDS OF APPLICATION

### ● ENVIRONMENT:

- Air pollution
- Transport and mixing in the atmosphere and ocean
- Sediment transport processes
- Environmental engineering
- Coastal erosion

### ● ENERGY:

- Renewable energies: hydrokinetic and wind turbines
- Heat transfer
- Hydraulic machinery and cavitation
- Two-phase flows
- Turbulence
- Numerical simulations of complex industrial flows
- Bioreactors
- Aero-acoustics and health

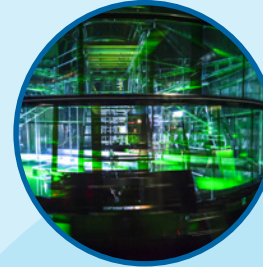


## FOUR RESEARCH TEAMS

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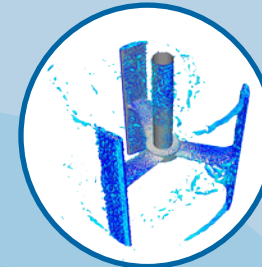
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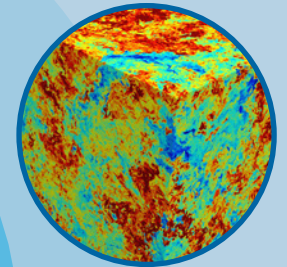
**MEIGE**  
Modeling,  
Experiments and  
Instrumentation  
for Geophysics  
and Environment

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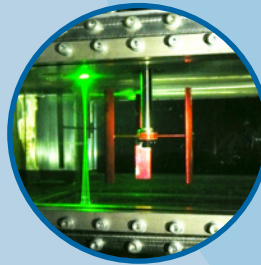
**MOST**  
MOdeling  
and Simulation  
of Turbulence

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**ENERGETICS**

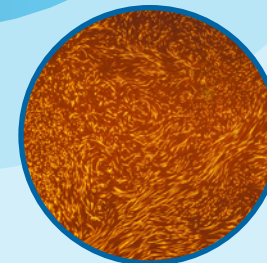
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**EDT**  
Two-phase flows  
and Turbulence

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