OUR MAIN RESEARCH FACILITIES

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^3/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.

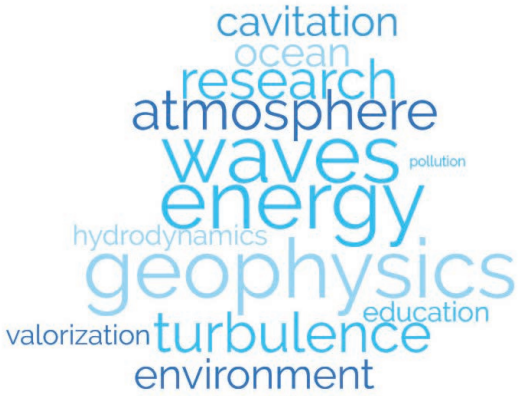
AUTOMATED DATA PROCESSING CENTER

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

LEGI
Domaine Universitaire
CS 40700
38058 **Grenoble** Cedex 9
France

LEGI Contacts
Director: Joël Sommeria
Deputy Directors: Guillaume Balarac, Nicolas Mordant
Administrative officer: Jhoan Gennai

legi-administration@legi.grenoble-inp.fr



Laboratoire des Écoulements Géophysiques et Industriels

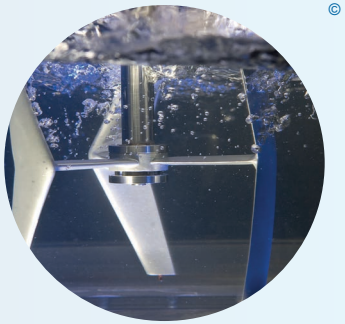
UMR 5519

Fluid mechanics and transport phenomena

applied

to the environment

Wave breaking
© Emmanuel PERRIN/CNRS Photothèque



River and marine turbines
© Hubert RAGUET/CNRS Photothèque

and energy

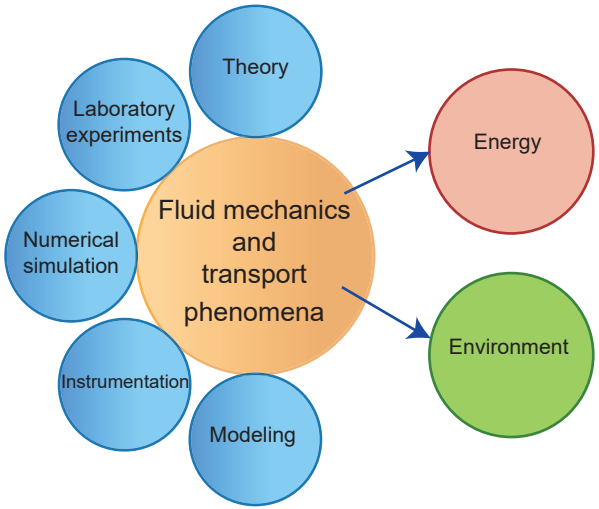
FIELDS OF APPLICATION

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

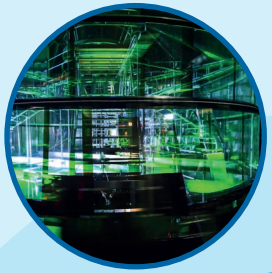


FOUR RESEARCH TEAMS

LEGI

MEIGE
Modeling, Experiments and Instrumentation for Geophysics and Environment

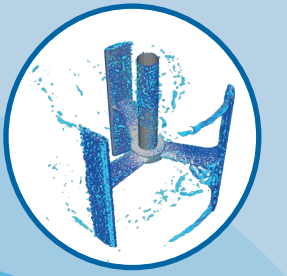
Head:
julien.chauchat@legi.grenoble-inp.fr

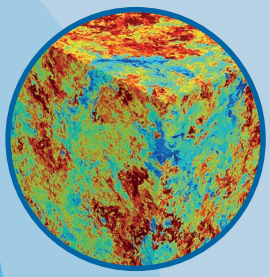

© Cyril FRESILLON/CNRS Photothèque


© Christophe BRUN/LEGI/UGA

MOST
MOdeling and Simulation of Turbulence

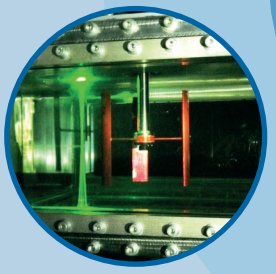
Head:
giovanni.ghigliotti@legi.grenoble-inp.fr


© LEGI (CNRS/G-INP/UGA)


© LEGI (CNRS/G-INP/UGA)

ENERGETICS

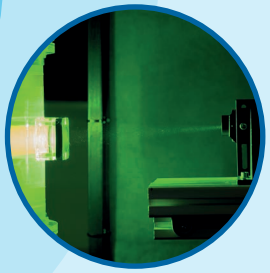
Head:
frederic.ayela@legi.grenoble-inp.fr

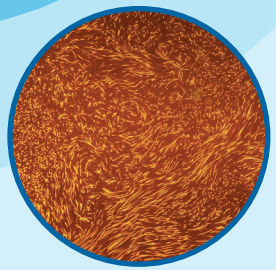

© LEGI (CNRS/G-INP/UGA)


© Nadia CANEY/LEGI/UGA

EDT
Two-phase flows and Turbulence

Head:
henda.djeridi@legi.grenoble-inp.fr


© François BONNEL/IRIS/G-INP


© François BONNEL/IRIS/G-INP