

# Dr. Rémi Chassagne

## Formation

- 2017 - 2020 **PhD**, *Université Grenoble Alpes, INRAE, UR ETNA*, Grenoble, France, Discrete and continuum modelling of grain size segregation : application to bedload transport.
- 2016-2017 **Master WAPE (water, air, pollution and energy)**, *Université Paris-Saclay*, Geophysical fluid dynamics.
- 2013-2017 **Engineering school ENSTA ParisTech**, *Speciality : fluid mechanics and environment*.
- 2011-2013 **CPGE speciality Math-Physics**, *Pierre de Fermat highschool*, Toulouse, France, two year intensive program preparing the national competitive exam to engineering schools.
- 2011 **Baccalaureat**, *equivalent to A-Levels in maths*, first class honors, Pézenas, France.

## Professional experiences

- 2020 - pres **PostDoc Position**, *LEGI*, Grenoble, France, Analysis of turbulence-particle and particle-particle interactions and their potential coupling in intense sediment transport regime (sheet-flow) using a two-phase flow modeling approach.
- 2017 **Master internship**, *INRIA*, Bordeaux France, Dynamics of ondular waves in river channel.
- 2016 **Fluid mechanics internship**, *LEGI*, Grenoble France, Experimental study of turbulence in stratified fluid in the Coriolis platform.
- 2015 **Aerodynamics internship**, *Techspace Aero, SAFRAN*, Liège, Belgium, Numerical analysis and comparison of turbulence models applied to low pressure compressors in turboreactors.
- 2015 **Intership in physical oceanography**, *Nioz*, Texel, Holland, Numerical and theoretical analysis of internal wave origin and breaking.

## Teaching activities

- 2017 - pres **Project based learning applied to the design of a penstock**, *ENSE3 engineering school*, 40H, TD, L3.
- 2018 - 2019 **Free surface hydraulics**, *Université Grenoble Alpes*, 12H, CM/TD, M1.

## Expertise

Reviewer for international journals, *Journal of Fluid Mechanics*, *Journal of Geophysical Research - Earth Surface*

## Award

Best Talk - Second Prize Award at DEM8 conference (2018)

## Publications

[Publications in international journals](#)

1. Rousseau, H., **Chassagne, R.**, Chauchat, J., Maurin, R, & Frey, P. (under review). Bridging the gap between particle-scale forces and continuum modelling of size segregation : application to bedload transport. *Journal of Fluid Mechanics*.
2. **Chassagne, R.**, Maurin, R., Chauchat, J., & Frey, P. (2020). Mobility of bidisperse mixtures during bedload transport. *Phys. Rev. Fluids* 5, 114307. [doi:10.1103/PhysRevFluids.5.114307](https://doi.org/10.1103/PhysRevFluids.5.114307)
3. **Chassagne, R.**, Maurin, R., Chauchat, J., Gray, J., & Frey, P. (2020). Discrete and continuum modelling of grain size segregation during bedload transport. *Journal of Fluid Mechanics*, 895, A30. [doi:10.1017/jfm.2020.274](https://doi.org/10.1017/jfm.2020.274)
4. **Chassagne, R.**, Filippini, A., Ricchiuto, M., & Bonneton, P. (2019). Dispersive and dispersive-like bores in channels with sloping banks. *Journal of Fluid Mechanics*, 870, 595-616. [doi:10.1017/jfm.2019.287](https://doi.org/10.1017/jfm.2019.287)

#### Communications in international conferences

1. **Chassagne, R.**, Maurin, R., Chauchat, J., & Frey, P. Discrete simulations of an armoured sediment bed during bedload transport. EGU General Assembly Conference, Vienna, Austria (2020).
2. **Chassagne, R.**, Maurin, R., Chauchat, J., Gray, J., & Frey, P. DEM simulations and continuum modeling of size-segregation in bedload sediment transport. DEM8, Twente, Holland (2019).
3. **Chassagne, R.**, Maurin, R., Chauchat, J., Gray, J., & Frey, P. Size-Segregation in bedload sediment transport : from discrete element methods to continuum models. 3rd IMA Conference on Dense Granular Flows, Cambridge, England (2019)
4. Frey, P., **Chassagne, R.**, Maurin, R., & Chauchat, J. Vertical grain size-sorting in bedload transport on steep slopes with a coupled fluid-discrete element model. *River Flow*, Sep 2018, Lyon, France. pp.04013.
5. **Chassagne, R.**, Maurin, R., Chauchat, J., & Frey, P. (2018). Vertical size-segregation in bedload sediment transport : from grain scale to continuum models. EGU General Assembly Conference, Vienna, Austria (2018).
6. **Chassagne, R.**, Cyr, F., Maas, L., Cimatoribus, A., Van Haren, H. & Bourgault, D. On the fate of topographically-trapped internal tides. *NewWave : New challenges in internal wave dynamics*, Lyon, France (2015).