

## Postdoc – FMJH

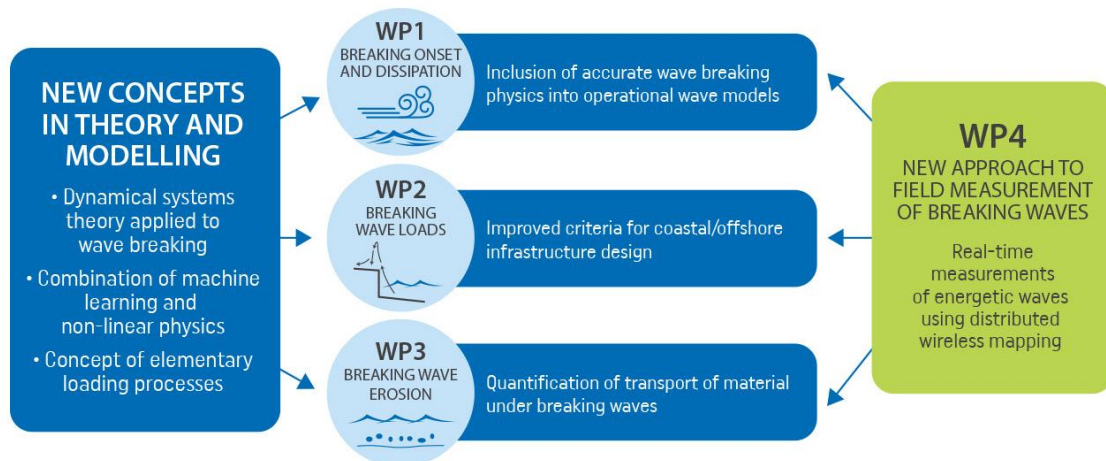
### Three-dimensional wave breaking

**Host:** ENS Paris-Saclay (Frédéric Dias)

HIGHWAVE (2019-2026) covers simultaneously past, present and future energetic ocean waves. The project research, associated with sustainable environmental science and technology, will help future generations to improve environmental practice. HIGHWAVE is a cutting-edge mathematical project that uses real-time raw data harvested in situ by the project team to develop new models and new algorithms. These new models will provide information about air and water exchange in oceanic environments, boulder deposits, erosion and structural damage.

The postdoc will be based in Centre Borelli of ENS Paris-Saclay. Its wave group (8 PhD students, 5 postdocs, 1 engineer) has an international reputation in the study of waves, computational fluid mechanics and statistics. It is split over University College Dublin, Ireland and ENS Paris-Saclay. The research station is based on the Aran Islands, west coast of Ireland.

The work packages (WPs) of the project are summarized below:



The present postdoc position deals with WP1.

The key task of WP1, namely the design of a new set of equations capable of describing a sea state with both unbroken and broken waves, builds on numerical simulations performed with a CFD solver. The postdoc will use the Basilisk code to quantify how much energy is dissipated when three-dimensional waves break.

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