

**IST – LNEC Joint doctoral Initiative****Dissertation Proposal**

<b>TITLE: Modelling infra-gravity waves in coastal areas</b>
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**Short Description**

Infra-gravity (IG) waves are low-frequency waves with periods between 25 and 300 s. In a number of coastal processes they play an important role. Currently, it is widely accepted that the two general mechanisms for the generation of IG waves at near-shore are the bound wave release and the breakpoint modulation. Even so, their propagation and dissipation mechanisms are not clearly understood.

This study aims at improving the present knowledge regarding the importance of IG waves in coastal areas.

The objectives are the following:

1. To analyse the impact of IG waves on extreme sea levels and inundation along the coastline and inside an estuary.
2. To analyse the impact of IG waves on the closure of a small wave-dominated inlet.

These objectives will be achieved using a combination of field data collection and analysis and numerical modelling as well.

**Keywords: Infra-gravity waves; Numerical modelling; Beach profiles; Wave-dominated inlet; Wave-current interactions**

**Supervisors**

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