

IST – LNEC Joint Doctoral Initiative

Thesis Topic Proposal Form

TITLE: Sediment control at lateral water intakes through submerged vane-fields.
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Short Description (max. 500 characters)
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Lateral intakes used to withdraw water from movable bed rivers should prevent sediments from entering the structure. Submerged vanes are frequently used for this purpose but their design lacks sound understanding of the associated morphodynamics. To close this gap, the project endorses the following tasks:

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| <ol style="list-style-type: none">1. Systematic experimentation on the optimization of vane-fields' configurations for different water intake discharge-ratios and stages of bed mobility, including clear water and live bed situations.2. Experimental and numerical (CFD) characterization of flow structures and turbulence at optimal vane-fields used at water intakes. |
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Keywords: vane-fields; water intakes; movable bed channels

SUPERVISORS

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Planned start date: 1 st March 2018
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Start institution: IST
