

## Projecto de Investigação/Mestrado

### 1- Tema do Projecto:

## **How world climate changes can affect plant epi/genomes?**

### 2. Identificação do orientador:

Ana Paula Santos, ITQB

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### 3- Plano do Projecto

Global climate change – increased and more variable temperatures, and increased soil salinity are increasing plant stress with direct consequences on crop yield and quality levels. The field of environmental epigenetics refers to external influences on epigenetic marks in the genome. In plants, it is not clear if stress experiences can be memorized and transmitted to subsequent generations. Epigenetic mechanisms, e.g. DNA methylation or post-translational modifications of histone proteins, have been associated with modifications of chromatin structure and may be the key to explain the huge plant plasticity responses to challenge environment conditions. This project will be focused on deciphering DNA methylation changes associated with stress exposure. Rice will be used since in Portugal is mainly affected by salinity and cold (in Tejo/Sado and Mondego riverbeds, respectively). The work will include the analysis of methylation level in plants submitted to distinct stresses through distinct complementary techniques. In order to establish the putative existence of epigenetic stress memories the non-stressed progeny of stressed plants will also be analysed regarding methylation levels.

**4- Duração aproximada e carga horária:** de 6 meses a 1 ano. **Forte possibilidade de obtenção de bolsa através de financiamento da FCT.**

**5- Local de realização:** Genomics of Plant Stress Lab. Instituto de Tecnologia Química e Biológica, Oeiras. Tel: 214469644

**6-** O prosseguimento para estudos de doutoramento será incentivado.

**8-** Enviar CV detalhado para [apsantos@itqb.unl.pt](mailto:apsantos@itqb.unl.pt).