

Department of Earth Sciences

Agro-Forestry Research Group



Fernando J. C. Lidon

Fernando H.S. Reboredo

M. Fernanda G. Pessoa

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Objectives

- Biofortification of wheat in iron and zinc
- Biofortification of rice in selenium
- Biological control in fruits from orchards
- Phytoremediation capabilities of *Eucalyptus* spp.
- Symbiotic salt stress in *Casuarina glauca*
- Climate changes (temperature and CO₂) interactions in Coffee plants physiology
- Evaluation of forestry residues

Methodology

- Infra-Red Gas Analysis
- Scanning Electron Microscopy (SEM) coupled with X-ray microanalysis
- Chlorophyll a Fluorescence analysis
- Micronutrients quantification by AAS and XRF
- Colorimetry analysis
- Enzymatic kinetics

Expected Results

- **Biofortification** - To improve the nutritional quality of different fruit crops in order to minimize or reduce nutrient deficiencies in human population;
- **Biological control** – to assess the best natural agents to control pest and diseases in fruits from orchards;
- **Phytoremediation** - To assess the different capabilities of heavy metal uptake by *Eucalyptus* spp in order to be used in contaminated areas;
- **Climate change** - To assess the behavior of Coffee plants with different concentrations of CO₂ and increasing temperatures taking into account the current climate changes;
- **Forestry residues** – To evaluate the amount and bioenergetic potential of forestry residues in the mainland and abroad;

Funding:

FCT; PRODER; COST ACTIONS



Biofortified wheat



Phytoremediation by *Eucalyptus* spp.



Climate change and Coffee plants



Forestry residues