

***In-depth characterization of multiple bio-sourced feedstock for hydrodeoxygenation: from fundamentals to industrial optimization***

**Position Description**

The doctorate position for the exercise of activities of scientific research is placed in the context of efficient and flexible co-processing of advanced unconventional feedstocks (ADFNCs) financed by national funds PRR (M2N\_GraPhy). This comprises bio-oil from biomass and non-recyclable plastics pyrolysis in parallel with vegetable oils and animal fats into high quality aviation and marine fuels by hydroconversion. The ADFNCs are diverse in their nature and physicochemical properties. Accurate analytical techniques to the successful physicochemical characterization of each ADFNCs as well as reaction products when feedstock is either individual or co-processed are needed to develop efficient processes.

The main objective is to develop rapid and accurate analytical methods for a comprehensive separation, identification and quantification of these ADFNCs constituents and corresponding hydroconversion products. Namely, via FT-IR/NIR and two-dimensional gas chromatography coupled with mass spectrometry (GC-2D/MS). These techniques will be carried out at top technology apparatus being acquired specifically to this project. Experience or background on either FTIR/NIR or GCxGC-MS is relevant for this position but not mandatory. We offer a multidisciplinary and international working environment with excellent potential for scientific and personal development.

**Qualifications and Candidate Profile**

To qualify for the position, the main requested qualities for the candidate are:

- Doctoral degree in Chemistry, Chemical Engineering or related scientific area.
- Recognition of academic degrees is mandatory. For further information, visit DGES portal at the following address: <http://www.dges.gov.pt>
- Interest in organic and analytical chemistry.
- Experimental rigor, interest in experimentation and multidisciplinary research.
- Good communication and writing skills.
- Be able to work independently but also in close collaboration with the team members.
- Plan and organize work, take own initiatives and responsibility, be analytical and creative and be able to deliver results in time.

**General Information**

- Application deadline: 31-05-2023
- Starting date: June 2023
- Location: IST – Instituto Superior Técnico, Lisboa, Portugal
- Duration: of the unspecified fixed-term work contract is the duration of the project, which is, expectedly, 33 months
- More information about the position and application can be found in the notice of opening at <https://www.euraxess.pt/jobs/104791>
- For any questions, please send an email to [filipa.ribeiro@tecnico.ulisboa.pt](mailto:filipa.ribeiro@tecnico.ulisboa.pt)

**Application**

If you are interested in working with us, please apply by means of an application form, available at <https://ist-id.pt/concursos/emprego-cientifico-projetos/>