

**Position:** PhD candidate (PhD\_2024\_DTbiocomposite)

**Topic:** Implementation of digital technologies in biocomposite processing and characterization

**Duration:** 36 months

**Starting date:** September 2024

**Main objectives of your thesis:**

- Implementation of machine learning models to predict biocomposite properties.
- Validation of micromechanical models of fiber-reinforced biocomposites for lignocellulosic materials.
- Understanding the starting characteristics of fibers and matrices in interfacial adhesion, intrinsic mechanical properties, and filler distribution and dispersion.
- Successful deployment of digital processing (e.g. additive manufacturing) of biocomposites.

**Academic requirements:**

- BSc. in Chemical, Materials or Industrial Engineering, Biotechnology, or Food Science.
- MSc. in a related field (i.e. Engineering and/or Science).
- Not holding a PhD.
- Minimum average grade (BSc. and MSc.) of 6.5 on a scale from 0 to 10.\*

The applicant must meet the admission requirements for the doctorate, within the deadline for submitting applications, as provided in Article 6 of Royal Decree 99/2011, of 28 January, regulating official doctoral studies, with the following clarifications:

- In bachelor's degree studies of 240 ECTS and in higher qualifications (architects and engineers), applicants must have completed 60 ECTS of a master's degree to study in the doctoral programme.
- In officially recognized bachelor's degree studies with a minimum of 300 ECTS, applicants must already hold the degree.

**Desired skills:**

- Ability to work in a multidisciplinary and dynamic team.
- Communication skills in English, both oral and written.
- Open-mindedness, curiosity, and passion to learn new things.

**Beyond your thesis:**

- Possibility to teach up to 12 ECTS during the PhD period (maximum 6 ECTS/year).
- Possibility to develop an internship (6 months) in a foreign research center (to be defined with the PhD supervisor/s).
- Possibility to work with small industrial equipment and collaborate in research transfer projects related to your thesis.

**University, Department and Research Group**

The candidate will become a member of the Laboratory of Sustainable Materials and Product Design (LEPAMAP-PRODIS), whose members are mainly from the Department of Chemical and Agricultural Engineering and Agrifood Technology (knowledge area of Chemical Engineering),

and the Department of Organization, Business Management and Product Design (knowledge area of Graphic Expression in Engineering), from the University of Girona (Spain).

### How to apply

Applicants must send an email to [lepamap.prodis@udg.edu](mailto:lepamap.prodis@udg.edu) with the subject "PhD\_2024\_DTbiocomposite" and provide the following documents:

1. CV of the applicant.
2. Cover letter, highlighting your interest on the PhD position and how your skills and qualifications will contribute to the project.
3. The personal academic certificates (CAP) of the higher degrees and of the degrees that give access to the doctorate, stating:
  - a. Qualifications obtained.
  - b. The maximum and minimum marks within the corresponding evaluation system.
  - c. The minimum grade required for passing.
  - d. The date of completion of studies.

For degrees obtained at UdG, it is not necessary to provide this documentation.

If the documentation is issued in a language other than Catalan, Spanish or English, the official translation must be attached.\*\*

4. Declaration of equivalence of grades for studies undertaken abroad. See \*.

Other documents may be required in a second phase of the selection process.

### Deadline for applications: 15<sup>th</sup> January 2024

*\*In studies undertaken abroad, the grades of the academic transcript to use in the previous calculations need to have been calculated as set out in the resolutions of 20 June and 21 July 2016 from the Directorate General for University Policy of the Ministry of Education and Vocational Training*

<http://www.educacionyfp.gob.es/servicios-al-ciudadano/catalogo/gestiontitulos/estudios-universitarios/titulos-extranjeros/equivalencia-notasmedias.html>

*The tables of equivalences by country, approved in the latest published update, must always be used. The document obtained must coincide exactly with the information on your academic transcript. The University of Girona will have to give its approval.*

*\*\*The official translation must be done by a translator who is duly authorized or registered on the list of sworn translators and interpreters appointed by the Ministry of Foreign Affairs and Cooperation or in the register of sworn translators and interpreters of the Directorate-General of Language Policy of the Government of Catalonia. The official translation must bear the translator's stamp and registration number.*