GRENADES Project: Innovative Process for valorization of cellulose fibers (Seed fund and start-up creation)

Keywords
CNC (Cellulose Nanocrystals), MFC (Microfibrillated Cellulose), Bio-based Fibers, Sustainable Materials

Project Context

In a global context of transition towards sustainable materials, the valorization of cellulose and bio-based fibers has become a major challenge. The GRENADES project aims to develop high-performance nanomaterials from cellulose by a patented innovative process. The goal is to produce cellulose nanocrystals (CNC) while generating a residual fiber fraction with high potential for other applications.

The recruited intern will participate in the valorization of this fiber fraction, developing strategies to convert these fibers into microfibrillated cellulose (MFC). They will contribute to the optimization of experimental processes and the characterization of the physical and mechanical properties of the transformed fibers. The objective is to design sustainable, high-performance materials suitable for industrial applications, while reducing environmental impact and fully valorizing the co-products of the process.

The internship will take place at LGP2, within the MatBio research team, focusing on multi-scale bio-based materials. The duration of the internship is 5 to 6 months, with a planned start in February/March 2026.

Working at LGP2

LGP2, recognized nationally and internationally, specializes in the valorization of plant biomass and the development of bio-based materials. The MatBio team conducts multidisciplinary research, ranging from the study of biomass building blocks to the development of composites and fibrous materials, for applications in packaging, health, and construction. The team also focuses on process engineering to produce high-performance and sustainable (nano)materials.

Candidate requirements

- Final-year engineering or master's student in chemistry, materials science, process engineering, or biopolymers.
- Interest in the valorization of cellulose and bio-based fibers, production of MFC, or sustainable packaging materials.
- Knowledge of fiber mechanical properties, material characterization, and experimental processes is an advantage.
- Autonomy, curiosity, motivation, and the ability to work in a multidisciplinary team are essential qualities for this internship.

To candidate, please send a CV and a motivation letter to:

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Deadline to apply: 15.10.2025