Life cycle analysis of alternative fibres in the development of high technical strength and high added value papers

In the framework of a collaborative project with a European industrial partner producing high technicity papers, the LGP2 laboratory (Laboratory of Pulp and Paper Science and Graphic Arts, UMR CNRS-Grenoble INP 5518) offers a 6-month internship for M2 students. The objective of this project is to propose solutions that can be transferred on an industrial scale in the short term, to a company seeking to improve the end-use properties of the materials produced by committing to an eco-design approach. This study is part of a larger project and follows a previous collaboration with the same partners. Despite positive results and patent filing, there are still questions and challenges to overcome for the up-scaling of these results on production paper machine. It will build on the results already obtained, with the objective to optimize and transfer the most promising results to a pilot and industrial scale.

This internship project will include the following tasks:

- Knowledge of the subject: analysis of previous work carried out and of the results already obtained within the framework of the project, critical analysis of the paths selected for the current project, proposal of a work plan
- Study and proposal of alternative fibres for the production of paper sheets.
- Sustainability study: perform a sustainability study to identify the best solutions by using a life cycle assessment software and propose various scenarios

In addition, this internship project will be performed to answer the need of our industrial partner and will require exchange of the progress of the project.

This study combining multiple aspects of an engineer project is dedicated to the development of new products and processes and requires multiple skills:

- Ability to conduct a life cycle analysis and knowledge of the Simapro software
- Ability to analyse and synthesise a large amount of data
- Writing and interpersonal skills

Candidate profile: M2 student with knowledge in processes and materials and good project management skills. A good level of English is required.

Duration of the contract: 6 months / Location: Grenoble (LGP2 laboratory)

To apply: resume, cover letter, reference letters and academic transcripts (from the last three years of study) should be sent to Clémentine DARPENTIGNY (clementine.darpentigny@grenoble-inp.fr) and Evelyne MAURET (evelyne.mauret@lgp2.grenoble-inp.fr).

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