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Project: Master Thesis/ Internship

Development and Evaluation of a Recovery Process for Liquid Waste Streams of an Cellulose and Lignin Production Process



In collaboration with partners, who have developed an innovative method for producing cellulose and lignin from agricultural or forest residuals, our research initiative aims to support the scale-up to a pilot plant. A crucial step for this scale-up is the effective treatment and recovery of the waste liquid streams, integrating principles of the circular economy. This project will focus on establishing a recovery process involving a catalytic bed reactor and a thermal separation unit, addressing the complex composition of the outlet stream. This work presents an opportunity

to engage in cutting-edge research that addresses critical sustainability issues in the chemical production industry. The student will gain valuable experience in pilot plant development and process optimization, while working closely with both academic and industry experts.

Objectives and Tasks:

Process Design: Assist in the design and setup of the recovery system, focusing on optimizing the integration of catalytic and thermal separation steps.

Experimental Characterization: Perform detailed experimental studies to characterize the efficiency and effectiveness of the proposed recovery steps.

Feasibility Analysis: Evaluate the technical and economic feasibility of the recovery process, considering operational costs and environmental impacts.

Requirements:

Experience in reactor engineering and separation technologies is beneficial. Candidates should be motivated to support sustainable process development, have strong problem-solving skills, and be capable of working both independently and as part of a team.