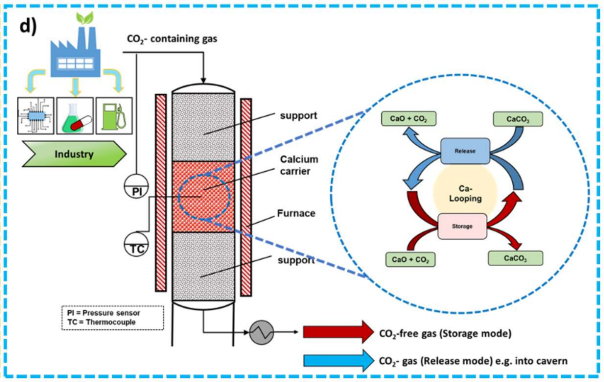
Development and Characterization of Materials for Carbon Capture via Chemical Looping

Topic suitable for Master Thesis / Bachelor Thesis / Plant Design / Project Lab

Project Description

As the world increasingly faces the consequences of climate change, technologies for reducing greenhouse gas emissions are becoming crucial. Carbon Capture and Storage (CCS) technologies, especially Chemical Looping, offer promising approaches for efficiently capturing CO_2. The development of innovative materials for Chemical Looping processes is critical for enhancing their efficiency and feasibility. This master thesis (BSc or Project Lab) focuses on developing and characterizing new materials for use in Carbon Capture technologies through Chemical Looping. Candidates will work closely with a research team to:

- **Material Synthesis**: Develop new material compositions via solid-solid synthesis methods.
- **Characterization**: Analyze the physical and chemical properties of synthesized materials.
- **Kinetic Studies**: Conduct kinetic studies .
- **Simulations**: (Optionally)



Requirements

This project is suited for students in Process Engineering, Technical Chemistry, Materials Science, or Environmental and Systems Sciences, looking to apply their knowledge practically and contribute to sustainable technology development.

Benefits

- **Paid Master Thesis**: Attractive compensation for the thesis duration.
- **Comprehensive Support**: Close guidance from experienced research team.
- **Scientific Publications**: Opportunity to contribute to scientific publications, advancing scientific progress.

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