WANTED

Master Thesis in Chemistry and Chemical Technology

Modeling the depolymerization of polyhydroxyalkanoates in melt hydrolysis

CHASE is seeking a skilled and motivated young scientist willing to work on future proof topics dealing with sustainability and circular economy. You will be part of a multi-disciplinary team and acquire first-hand information on your selected topic and beyond.

We are offering positions for students with a finished BSc degree in the field of Chemistry, Physics, Polymer- or Process Engineering for pursuing their diploma/master thesis on a part-time basis (10 to 20h/week), limited to 12 months, to strengthen our team at the headquarters in Linz with immediate entry.

CHASE is a European Research and Technology Organization for Chemical Systems Engineering with its headquarters in Austria. We enable companies in the chemical process industry to make their production more energy-efficient, more resource-saving and more sustainable.

This master thesis explores the kinetics of polyhydroxyalkanoates (PHA) depolymerization during melt hydrolysis, with a focus on building upon and refining existing simulation-assisted kinetic models. By leveraging detailed data on depolymerization products, this project aims to enhance the predictive accuracy of simulation assisted kinetics model, particularly for low molecular weight and water-soluble depolymerization products. Moreover, the nuances of the type of polyhydroxyalkanoates on the depolymerization outcome in conjunction with depolymerization kinetics will underpin the research of bio polyester recycling.

We are looking forward to hearing from you: personal@chasecenter.at
Reference number: 021
Application: until 30 June, 2026

CHASE your future

You will contribute to the following tasks:

- Refine and expand existing depolymerization models, focusing on accurately predicting water-soluble products and solid, polymeric residue.
- Conduct melt hydrolysis experiments to validate model predictions
- Explore how different types of PHA influence depolymerization outcomes

Your expertise:

- Passion for kinetic models for chemical depolymerization techniques
- Experience in laboratory data analysis and kinetic modeling
- Benefit: knowledge in polymer chemistry and organic technology
- Good analytical and problem-solving skills
- Independent and structured workflow
- Effective communication skills in both English and German

CHASE your career

We are committed to providing a framework for your professional growth:

- Contribute to data-driven modeling enabling a circular economy of biopolymers
- Collaborate with leading experts to advance your skills in kinetic modeling, analytical methods and polymer chemistry
- Earn a competitive salary while making impactful contributions to innovative research. The expected monthly salary is EUR 2.407,00 plus collective agreement increase per 01.01.2026 (on a basis of 40h/week).
- Support sustainable recycling solutions by refining models that enhance predictive accuracy in polymer depolymerization

For further information, please contact:
Gunnar Spiegel, Area Manager - Circular Process Streams
gunnar.spiegel@chasecenter.at

We look forward to receiving your application (cover letter, CV, academic certificates, employment references), including the reference number of the job posting, to the following email address: personal@chasecenter.at

By submitting your application documents, you expressly consent to the transmission of your application documents to the partners involved in CHASE.

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