WANTED

Master Thesis in Engineering Polymer Kinetics

Advanced Kinetic Modeling for Bio Polyesters

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 aims at the development of a digital and predictive twin for chemical recycling processes of bio polyesters. Based on an in-house developed and established kinetic model, the goal of this work is to identify deviations between experimental and simulation results to achieve an advanced, comprehensive model describing the melt hydrolysis processes. Building on systematic, widespread experimental data, this project aims to enhance the predictive accuracy of our simulation assisted kinetics model. Moreover, the nuances of the type of bio polyester on the depolymerization outcome in conjunction with depolymerization kinetics will underpin the research of chemical bio polyester recycling.

We are looking forward to hearing from you: personal@chasecenter.at
Reference number: 031
Application: until 30 September, 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.
- Explore how different families of bio polyester and process parameters influence depolymerization progress
- Conduct melt hydrolysis experiments to validate model predictions
- Participation in project meetings & supporting publication of results in scientific journals

Your expertise:

- Passion for kinetic models for chemical depolymerization techniques
- Experience in data analysis methods, modeling, and programming (e.g. Python)
- Benefit: knowledge in polymer chemistry and organic technology laboratories
- 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:

- Optimizing data-driven modeling towards 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 (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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