# INTERNSHIP OFFER
# BE-2025-017-UGE

Ghent University, Belgium | ON-SITE

## INTERNSHIP HOST

Name of Company
Ghent University
Faculty of Engineering and Architecture - Department of Materials, Textiles and Chemical Engineering - Industrial Catalysis and Adsorption Technology

Website
www.ugent.be

Address of Company
Gent
Belgium

Number of Employees
15000

Business or Product
education, research and services

## STUDENT REQUIRED

General Discipline
Chemistry and Chemical Engineering

Field of Study

chemical engineering

Completed Years of Study
3

Language Required
English  Good (B1, B2)

Required Qualifications and Skills
Troubleshooting | Teamwork | Laboratory Work | Chemical Processing | Chemical Engineering
You must have distinguished yourself in your studies.
You have strong experimental skills and are well organized.
You are a team player and have strong communication skills.
You preferably have experience in catalysis and/or catalyst development and/or adsorption.

Student Status Requirements
Student status during the entire stay is mandatory: please include a Certificate of Enrollment with the nomination

Other Requirements/Information
interview required.

## INTERNSHIP OFFER

8 - 12 weeks

300 EUR per Week

150 EUR per Week

Latest Possible Start Date
28-Jul-2025

Within Months
Jun-2025 - Sep-2025

Company Closed WIthin
19-Jul-2025 - 27-Jul-2025

Deductions Expected
0

Payment Method
Bank Transfer

Arranged by
Trainee with the help of the LC.

Estimated Cost of Living including Lodging
300 EUR / Week

Working Environment: Research and development

Working Hours / Week: 40.0

The trainee will be involved in one or more ongoing research projects. PhD-student(s) will coach/guide him/her through the different activities.

The Industrial Catalysis and Adsorption Technology research group (INCAT) is part of the Materials, Textiles and Chemical Engineering department (MaTCh, EA11) of the Faculty of Engineering and Architecture of Ghent University. Our research focuses mainly on the development of catalysts and adsorbents with a strong focus on renewable resources and environmental management. This involves the catalytic conversion of biomass-derived streams, their upgrading and separation into useful chemicals, with a strong application-oriented goal.

INCAT currently develops various catalysts (nanozeolites, hybrid catalysts, mixed oxides, layered double hydroxides, nanoparticles supported onto oxides) for use in heterogeneous catalysis. Catalysts are being tested in various liquid phase and gas phase reactions (e.g. lignin depolymerisation, alcohol dehydration, hydrodeoxygenation of furfural and its aldol condensates aiming to find optimal performance by fine-tuning catalyst properties and process conditions and to get insight in the reaction mechanism.

INCAT also maps the relationship between adsorbent/ion exchanger properties and their performance for optimization and adsorbent development to improve their performance. The currently studied applications include the removal of natural organic matter fractions from surface water and the recovery of added-value low molecular weight aromatics from biomass streams.

INCAT currently also acquires extensive experimental data sets on phase equilibria involving biomass derived molecules, i.e., vapour-liquid (VLE), liquid-liquid (LLE). Based upon these data, the thermodynamic non-ideality of mixtures containing such molecules is quantified in thermodynamic models. The main focus lies on group-contribution methods and special attention is paid to effects of neighbouring functional groups. Finally, the novel thermodynamic models are implemented in the commercial software package Aspen Plus, separation trains are simulated and their performance is compared in terms of meeting market demands for product specifications, energy demand, sustainable solvent usage, etc.

For each of these research topics, we have the experimental setups and dedicated characterization techniques in-house.

## ADDITIONAL INFORMATION

Deadline for Nomination - 15-Mar-2025

If trainee does not have EEA or Swiss nationality and wants to stay more than 90 days, he/she must register as an exchange student at the university.

Date - 08-Nov-2024

On Behalf of Receiving Country - IAESTE Belgium