

Research position for Process Simulation

(m/f/d)

Company description

K1-MET GmbH is an internationally renowned metallurgical competence centre for ferrous and nonferrous metallurgy in Austria working on research topics such as energy efficiency, circular economy, and climate neutral metal production, as well as digitalization of the metal-producing sector. The University of Technology Vienna (TUW) is a public research university focused on engineering, computer science, and natural sciences. The Institute of Chemical, Environmental & Bioscience Engineering (ICEBE) carries out projects in chemical engineering, dealing with the development and technology of material conversion. The research work is interdisciplinary and unifies aspects of mechanical engineering, chemistry, physics, biology, and electrical engineering.

Description of position and tasks

You will be working on the development of novel experimental techniques and simulations in the field of particle conversion, iron ore reduction, and simulation of industrial processes. The research work will be carried out at TUW-ICEBE, within the Research Unit Thermal Process Engineering and Simulation. You will work on particle resolved simulations for the thermochemical conversion of solids, investigating various phenomena like thermal degradation, combustion, calcination, or the dynamics in large-scale industrial aggregates. To validate the simulations, you will work on the design and performance of suitable experiments. The overall goal is the comprehensive modelling of particle-scale resolved thermochemical conversion of solids. In the project, you will work with experienced colleagues in the field of simulation and experimental design. You will become part of a diverse, international, professional team which includes academic and industrial partners in national research projects of K1-MET and TUW. With your work, you will make an important contribution to enhance process understanding and the achievement of new innovative results in the steel industry. This position is open for applicants with a Diploma, Master's or PhD degree, and could be filled by an applicant with interest in a PhD, but also by an applicant with an existing PhD degree in form of a postdoc position. The position will be split between K1-MET and TUW-ICEBE.

Competences and experiences

We are looking for the following competences and experiences:

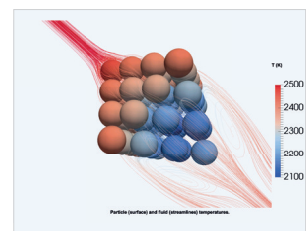
- Full academic qualification (Diploma / Master's or PhD degree) of a scientific discipline in technical or natural sciences (mechanical engineering, chemical engineering, physics, technical chemistry or related fields)
- Experience / skills in basic and detailed process engineering
- Interest in design and construction of new experimental equipment, manual and craft skills desired
- Experience in modelling and simulation, basic understanding of computational fluid dynamics (e.g. Open-FOAM)
- Experience in experimental work, systematic approaches for experimental design (e.g. DoE)
- Social competences, accessible personality, ready to work in an international team
- Decent presentation skills and autonomous time management desired
- Proficiency in English language obligatory, proficiency in German language advantageous

Start of employment: as soon as possible
 Duration of employment: limited until June 2027 with option for extension of contract
 Type of employment: full time position, flexible working hours
 Employer: K1-MET GmbH, www.k1-met.com
 TU Wien, <https://www.tuwien.at>

Place of work: Vienna, Austria

Compensation: The gross salary for this position with a Diploma / Master's degree is € 3,400, with a PhD degree € 4,571 (14 x p.a., full time according to the collective labour agreement of mining and iron-producing industries and universities).

Does this position sound interesting to you? Then feel free to send your CV, a motivation letter, and your references to office@k1-met.com, using "Research position – Solid Conversion Modelling" as the subject of your email. The position is open starting right away until a suitable candidate is found. K1-MET GmbH and TU Wien are equal opportunity employers – we encourage female researchers to apply.



Employer

K1-MET GmbH
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www.k1-met.com

K1-MET Head office

Stahlstrasse 14
 4020 Linz
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Contact K1-MET

DI Dr. Christine Gruber
 Management Area Simulation
 & Data Analyses

Contact TUW-ICEBE

Assoc. Prof. DI Dr. Michael Harasek
 DI Dr. Markus Boesenhofer
<https://www.tuwien.at/tch/icebe>