

PhD position in Plasma Physics

(m/f/d)

PlasmArc  Green

Description of K1-MET and MUL-SMMP

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 COMET Module "PlasmArc4Green" is a joint effort of K1-MET together with renowned international scientific and company partners to gain insights into plasma and arc based "green" metal production processes. The Chair of Simulation and Modelling of Metallurgical Processes at the Montanuniversität Leoben (MUL-SMMP) is an essential partner in this project with long-term experience in the field of simulation and modelling of electric arcs, magnetohydrodynamics and related processes.



Description of position and tasks

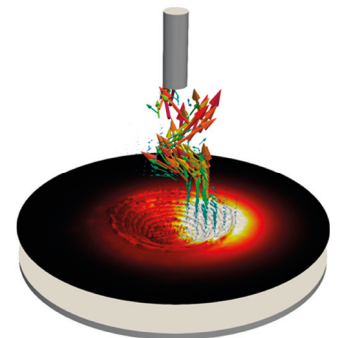
You will be working on the development of ground-breaking simulations of industrial processes of iron- and steelmaking and their validation. The PhD thesis will be part of the K1-MET Module "PlasmArc4Green" and supervised by experts at MUL-SMMP. The PhD topic is "**Plasma simulations**". You will work on the setup and implementation of simulations involving plasma, electric arcs and their interaction with gas, liquid, and solid phases, relevant in metallurgical processes for **green steel production**. The modelling and simulation work will be accompanied by lab experiment activities for the validation of models through experimental data. During your PhD thesis, you will work together with experienced colleagues in the field of plasma physics, process simulation, and plasma experiments, as a part of an international and professional team including academic and industrial partners of K1-MET and MUL. With your work, you will make an important contribution to enhance process understanding and the achievement of new and innovative results in the steel industry.



Competences and experiences

We are looking for the following competences and experiences:

- Full academic qualification (diploma / master) of a scientific discipline in technical or natural sciences (physics, mathematics, engineering, etc.)
- Experience or strong interest in plasma physics
- Experience or strong interest in process simulations, coding (C++, Python, etc.)
- Accessible personality, ability to solve problems constructively as part of a team
- Decent presentation skills and autonomous time management
- Proficiency in English language obligatory, proficiency in German language advantageous



Start of employment:	July 2024
Duration of employment:	limited to 4 years
Type of employment:	Full time (38.5 h/week), flexible working hours
Employer:	K1-MET GmbH, www.k1-met.com
Place of work:	Leoben, Styria, Austria
Compensation:	The gross salary for this PhD position with a Diploma / Master's degree is € 3,591 (14 x p.a., full time according to the collective labour agreement of mining and iron-producing industries).

Does this position sound interesting to you? Then feel free to send your CV, a motivation letter, and your references to plasmarc4green_jobs@k1-met.com, using "PhD position – PlasmArc4Green" as the subject of your email. The position is open starting right away until a suitable candidate is found. As a family-friendly company, K1-MET GmbH guarantees equal opportunities regardless of gender and origin.

Employer

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