We are looking for an

**Internship/Master thesis – followed by potential PhD candidate position**

– **Plasma Torch Simulation Engineer (m/f/d)**

Paul Wurth as a global leader in ironmaking technology is actively working on CO2 reduction approaches for the blast furnace-based iron production route. Therefore, a dedicated R&D group focusing on different CO2 reduction techniques along with the usage of green energy and hydrogen has been set up. One of the most promising research paths for the modernization of the blast furnace steel production route is the EASyMelt concept developed by Paul Wurth and integrating plasma torches.

As a Plasma Torch Simulation Engineer, your primary responsibility will be to design and simulate plasma torches for industrial applications. You will work closely with a team of engineers and researchers to develop innovative solutions for plasma torch technology.

You will join our team ideally at the end of your Master studies for a lead-up internship/Master thesis to build a foundation on plasma simulation. The lead-up knowledge ideally ensures smooth execution of your PhD schedule and funding at our company, supervised and accredited by one of our partner professors at a European university.

**Your main tasks:**

- Develop a numerical model for plasma torches using simulation software such as OpenFOAM or SATURN
- Collaborate with the experimental team to validate the simulation results and improve the accuracy of the models
- Develop and maintain documentation related to the plasma torch simulation process
- Stay up-to-date with the latest advances in plasma physics, computational fluid dynamics, and numerical methods.

**What do we expect?**

- Bachelor’s or Master’s degree in Mechanical Engineering, Chemical Engineering, Physics, or a related field
- Strong understanding of numerical methods, thermodynamics, and fluid dynamics
- Experience in numerical simulations using software such as OpenFOAM, or SATURN
- Familiarity with programming languages such as C++ or Python
- Strong analytical and problem-solving skills
- Ability to work in a team environment
- Proficiency in English. French or German language skills are considered an advantage.

**What do we offer?**

- Interesting development possibilities in an international, innovative and dynamic company
- Attractive remuneration package
- Flexible working hours and entitlement to leave, which exceeds the legal frame
- Exciting and diverse topics and work streams.

Paul Wurth S.A. is an international engineering company with deep roots in Luxembourg. We rely on the competence of our 500 highly motivated employees. We are a global leader in ironmaking technologies, driven by innovation and taking an active role in shaping a sustainable and carbon-free industry.

As part of the global SMS group, a leading technology supplier and plant builder for the metals industry employing 15,000 people worldwide, we are a strong partner for our customers in the steel industry and beyond.

Please apply online:

[https://careers.paulwurth.com](https://careers.paulwurth.com)

More information:

[mehdi.baniasadi@sms-group.com](mailto:mehdi.baniasadi@sms-group.com)