

## Simulation Engineer (m/f/d)



### Fehrmann Tech Group – 125 years of leadership

Innovation in our DNA, passion for future technologies + 125 years of successful entrepreneurship – that is what Fehrmann stands for. Across five divisions, we develop and produce technological solutions and new materials with which we are a global leader. Whether high-performance aluminum alloys for 3D printing and casting or high-tech windows for ships, buildings, and industrial plants, whether AI for material development and augmented reality for windows – we always pursue the claim to be a world leader.

We have a strong team with a high passion for our customers and our products as well as excellent know-how. We value each other, communicate frequently and decide quickly. We maintain an exchange with all colleagues from the subsidiaries of the Fehrmann Tech Group and attach great importance to a very high level of collegiality and collaboration.

Our BlueSc.ai division deals with the complexity of material development for Additive Manufacturing and the development of data-based AI algorithms to support material development and reduce the number of experiments. Are you a highly motivated individual, who is enthusiastic about metal additive manufacturing and would like to make a significant contribution to this development? To grow our BlueSc.ai team, we are **now** looking for a **full-time Simulation Engineer** and look forward to receiving your application.

#### You are:

**Precise:** You work economically and efficiently to achieve your goals, whilst not losing sight of the company's requirements.

**Analytical:** You understand relationships, can derive patterns abstractly and then translate them in a structured way.

**Data driven:** You can generate, interpret, and manipulate data sets and enjoy their analysis.

**Digital:** You recognize the potential of digitization and enjoy streamlining processes.

**Curious:** You are always up to date and keep track of innovations in your field and beyond.

**Creative:** You like to think outside the box and are not afraid to test and implement unconventional and new ideas.

**Communicative:** You are a team player and feel at home in an innovative and fast-growing company. You can present your concepts and ideas in a comprehensible and confident manner, justifying them convincingly.

#### Your tasks:

- Simulations across the entire process chain of additive manufacturing from alloy and powder production to the printing process and the product
- Development and implementation of simulations in the field of CFD (Computational Fluid Dynamics), FEM (Finite Element Methods) and other multi-physics simulations
- Implementation of simulations in the field of thermodynamics, material, and heat transfer processes
- Research and selection of suitable models and software for the implementation of the simulations
- Determination and optimization of parameters for powder production

- Execution of complex simulation calculations as well as optimization of simulation models of the additive manufacturing process: in particular on the topics of the melt pool, heat distribution and process-induced defects
- Validation of simulation results with physical experiments
- Cooperation and interdisciplinary exchange with the entire additive manufacturing team

#### **Your qualification:**

**Education:** You have completed a Master's degree in Engineering (e.g. Mechanical Engineering, Mechatronics or Materials Science) or Mathematics or Science with a focus on numerical simulation

**Experience:** You have experience in the field of numerical simulations and ideally have (basic) knowledge in the mentioned material / manufacturing science topics. You have gained experience in industry with 2-3 years of professional experience or directly transferable experience from academia. You should have experience in the application of one or more simulation programs such as e.g. ABAQUS / ANSYS / Simufact / COMSOL / Flow3D / openFoam; Experience with CALPHAD based material modeling (e.g. Thermo-Calc) would be a bonus.

**Knowledge:** A solid grounding in the fundamentals of numerical simulations for use in multi-scale & coupled multi-physics simulations as well as user knowledge of CFD (often for complex non-linear, transient, turbulent models) and FEM. Knowledge in atomization technology and additive manufacturing technologies would be desirable.

**Working method:** A structured, pragmatic and committed way of working characterizes you.

**Personality:** You are a reliable team player with enthusiasm for challenges and with willingness to break new ground. You are curious and have above-average commitment.

#### **We offer you:**

- ✓ working in a highly innovative, fast-growing family business
- ✓ close cooperation with the management and cooperation in the company's development
- ✓ an open and trusting corporate culture
- ✓ development opportunities with long-term perspectives
- ✓ committed, helpful and competent colleagues
- ✓ family-friendly working hours
- ✓ very good transport links (7 min. to the S-Bahn Veddel) in Hamburg, Germany
- ✓ support for company pension schemes

#### **Are you interested?**

Please send your online application with CV and complete certificates stating your salary expectations and your possible starting date to: [career@fehrmann.tech](mailto:career@fehrmann.tech)

We look forward to meeting you!