A PhD position on the simulation of metal-based additive manufacturing processes is available at the Institute for Multiscale Simulation at the Friedrich-Alexander-University Erlangen-Nürnberg.

**Environment**

At the MSS, we investigate the multiscale physics of particulate systems. The MSS hosts an interdisciplinary research team with a unique combination of scientists working numerically, theoretically and experimentally.

**Topic**

The aim of the project is to derive optimal strategies for metal-based additive manufacturing processes by means of coupled SPH-DEM simulations. This includes the investigation of laser-, scan-, powder-, as well as temperature-related process factors under consideration of realistic material parameters and system geometries. Therefore, the MSS developed a C/C++ software that is ready to be applied to powder-based or wire-based additive manufacturing processes by utilizing high-performance compute facilities like those of the Jülich Supercomputing Centre. The required large-scale simulations will be conducted in close collaboration with experimental work at the FAU.

**Profile**

You are highly motivated and you are deeply committed to research. You are able to work independently and as part of a team. You are equipped with an analytical and critical mind-set and you communicate clearly and concisely.

**Qualification**

- master's degree in physics or related
- background in computational physics
- programming skills (e.g. C/C++, Python, Matlab)
- experience in particle simulations (SPH, DEM)

**Application**

- one single pdf including your research statement, your CV and, if applicable, a list of your publications
- Please send your application to Prof. Thorsten Pöschel mss-recruitment@fau.de

Applications will be considered until the position is filled.