Stuttgart, 23.11.2020

PhD position

Multiscale Modelling of Thermo-Chemical Non-Equilibrium Gas Mixtures

The goal of this thesis will be the modelling of thermo-chemical non-equilibrium effects of gas mixtures within particle based multiscale simulation methods. These include Bhatnagar-Gross-Krook, Fokker-Planck and Particle-In-Cell methods. The aim is to develop methods that enable completely new fields of application in non-equilibrium gas and plasma dynamics.

Applications range from space topics such as atmospheric entry simulation or propulsion technologies, through micro- and nanodevices to plasma coating technologies. The student can and should advance the applicability of particle-based simulations into a broad field of application.

We are looking for a candidate with interest in physics and mathematics, ideally with a background in numerical simulation and programming.

Funding will be provided for 4 years. Payment is made according to TV-L E13. During the first 12 months an 80% position will be assigned, which will be increased to 100% from the 2nd year on.

The position is part of the numerical simulations group at the Institute of Space Systems (IRS), University Stuttgart and funded by the ERC Strating Grant „MEDUSA“ as part of the research group for multiscale particle methods of Dr. Marcel Pfeiffer.

If you are interested, please submit your complete application, including one-page motivation letter, academic CV as well as academic certificates and transcript of records, via mpfeiffer@irs.uni-stuttgart.de. If you have any questions regarding this application, please contact Dr. Marcel Pfeiffer via the email address given above.

Start of work: mid to late-January

We cannot reimburse any costs arising from the performance of job interviews.

The information on the handling of application data in accordance with Art. 13 DS-GVO can be found via https://uni-stuttgart.de/datenschutz

The University of Stuttgart seeks to increase the number of women in areas, where they are underrepresented. Women are therefore expressly encouraged to apply. Severely handicapped persons are given priority if they have the same aptitude. Recruitment is carried out by the central administration. The University of Stuttgart strives for gender and diversity equality. We welcome applications from all backgrounds.