The Faculty 4 (Production Engineering – Mechanical Engineering & Process Engineering) of the **University of Bremen** is offering -- conditional to the release of budgetary funds

1 Full PhD Position (TV-L 13)

Working for a doctorate in the Engineering Sciences (Dr.-Ing.)

starting April 1st, 2017 until March, 31st, 2019.

We invite highly motivated and outstanding graduate students (MSc or equivalent) graduating in 2016 with a sound background in physics, computational electrodynamics and related areas to apply.

The project is funded by Deutsche Forschungsgemeinschaft (DFG).

Project: Efficient recursive algorithms in the invariant imbedding T-Matrix Method for computation of light scattering

Optical methods for particles and particle system characterization involve a variety of light scattering interactions. Efficient numerical simulation tools can help to understand the light scattering interactions, to design new optical characterization methods and especially to invert a measured light scattering signal to find the particle characteristics that is of interest.

The objective of the project is development of the invariant imbedding method such that it becomes a suitable light scattering method to overcome the still existing limitations of the T-Matrix Method meaning that it will be extended to large and inhomogeneous scatterers but still keeps the advantages of the original versatility of the T-Matrix Method such as simple variation of incident field and combining T-Matrices for complex particle systems.

Qualifications
Applicants should have a good honours degree (MSc or equivalent) in **engineer** (mechanical engineering), **physics**, or **electrical engineering.**

Experiences in the area of electromagnetics or light scattering simulation, optics or laser-optical particle sizing technique would be an advantage.

Excellent communication skills in English are essential as well computer literacy. Some basic knowledge of the German language would be of advantage. Fluency in the German language is not essential but applicants should be willing to learn German.

Further information may be obtained via email or by phone.

The University of Bremen intends to further increase the share of women in academic employment; women are explicitly encouraged to apply. Applicants with a migratory background and international applications are highly welcome. Disabled candidates will receive preferred consideration over equally qualified contenders.

The application should include a detailed CV and scans of the usual supporting documents along with a brief explanation of how your skills and interests match the post.

Please send you application with the usual documents until February 28th, 2017 specification of position code **A5/17** to

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