

## Vacancy Notice 229/2019

The Otto von Guericke University Magdeburg (OVGU) is an internationally oriented and regionally networked university with a strong research profile.

The Faculty of Natural Sciences seeks to fill the following vacancy at the Department for Nonlinear Phenomena:

### Scientific Research Fellow

Date commencing:	Fixed term:	Contract status:
between September and December 2019	36 months	Early Stage Researcher

We offer a position for a talented and ambitious **Early Stage Researcher** (PhD student) in the field of experimental physics of Granular Matter. The project will be conducted in the Department of Nonlinear Phenomena of the Institute of Physics. It is part of the Marie-Curie Initial Training Network **CALIPER**, funded by the European Union (#812638). The consortium of this network comprises 14 partners from academic and private organizations in Europe (<https://caliper-itn.org/>).

Granular materials constitute a special form of matter, present ubiquitously in nature, daily life, as well as in many industrial branches. The physical characterization and understanding of their structure and dynamics is a challenging task still today. The combined efforts of theoreticians and experimentalists are needed to optimize the handling of these fundamental materials. Calibrating computational methods on the basis of qualitative experimental data is a key strategy that will be followed in the network.

The applicant will employ non-invasive imaging techniques to characterize packing properties, interactions and dynamic processes of grains and powders in simple model geometries. The position provides the opportunity to obtain a PhD.

#### Skills we are looking for:

We are looking for outstanding candidates with the ability to excel in research and to collaborate in an international team. The candidates must be highly motivated to learn and gain new experience, as well as becoming expert in experimental techniques and data analysis. **Specific skills** needed for the position are:

- *Physics background:* you are holding a **master's degree in physics or related fields**. You should have a basic understanding of granular materials and suspensions.
- *Experimental expertise:* You should bring a strong interest in **designing and conducting non-routine experiments**, and in becoming acquainted with **up to date imaging methods**.
- *Software, data processing, and programming background:* you have at least **basic programming skills**. Experience with **image processing software** (IDL, Matlab, Python or similar) will be a strong plus. You should have first experience with **numerical simulations** or be motivated to become acquainted with Discrete Element Method-based software packages.
- *Personality and ability to communicate:* you should have a goal-oriented and **well-organized personality**, you should have the capability to **learn rapidly and sustainably**, and you should be able to **communicate effectively** in English.

#### We offer:

- *A Research Project with High Value:* you will perform cutting-edge experiments with granular particles, slurries and suspensions. Therefore, you will significantly contribute to a profound understanding of granular dynamics, with huge impact on fundamental sciences as well as industrial applications.
- *Team and Location:* you will join an experienced research team at the Institute of Physics of Otto von Guericke University (OvGU), and you will be embedded in an international project team with outstanding academics and industrialists. You will be enrolled at OvGU and enjoy a number of international exchange visits (secondments) during the project. Magdeburg is situated in the heart of Germany, it is the capital of the Federal State Sachsen-Anhalt
- *Impact and Internationality:* you will interact with companies that are active all around the globe, including market leaders in major industries (chemical, food & pharma, process, minerals, plastics)
- *A Full Time Position:* German PhD student for 36 months standard duration
- *A Fully Financed Research Project:* you will receive a fixed monthly salary according to Marie-Curie ITN allowances. A travel budget is available for secondments, visits, as well as presentations at conferences. There is budget for performing the research (office, access to computer clusters, etc.). Mobility and **additional family allowance** as for all other EC-financed ITNs is available as well.

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#### Eligibility criteria

As the project is funded within the Marie Skłodowska–Curie Actions (MSCA), researchers can be of any nationality but need to demonstrate transnational mobility. To be eligible applicants **must satisfy the requirements** that apply to all Marie Skłodowska–Curie Early Stage Researchers, therefore on the date of appointment (their start date) applicants:

- **must not** have more than 4 years of research experience.
- **must not** hold a PhD.
- **must not** have resided or carried out their main activity (work or study) in the country where the post is based for more than 12 months in the previous 36 months.
- **must** be available to start the PhD in September–December 2019.

#### Selection and application process

- Applicants will be reviewed **without regard to sex, race or nationality**. Applications from **female scientists and engineers** and **ethnic minorities** are particularly encouraged.
- Applicants must **fulfill the EC eligibility criteria** set by the European Commission (see above)
- **Important:** In order to apply, send **a one-page CV** and **a one-page motivation letter** (pdf preferred) via email to [ralf.stannarius@ovgu.de](mailto:ralf.stannarius@ovgu.de). Mention the project title “**3D Imaging of granular flow and packing structures**”, and briefly address each skill as listed above. Pack your application into a **single .zip file** named as “**FAMILYNAME\_FIRSTNAME.zip**”. The email size shall by no means exceed 10 MB.
- Include the names and contact information of **up to three references** in your application; if possible add letters.
- All other formats and document content (e.g., longer CVs) **will NOT BE CONSIDERED** for the application process.
- By sending your **CV and motivation letter** you agree that this information – while kept strictly confidential – will be processed and stored by the Institute of Physics and the Human Resources Department of Otto von Guericke University for the **time span of the recruitment process**.
- Selection will be made through structured skill-based review evaluation from CV and motivation letter. After selection for the shortlist, an (online) interview conducted by at least two people, preferably from the **Caliper** network, will follow. Additional information may be requested for the interview.
- As there are multiple positions available in Caliper, applicants are advised to indicate whether they have applied to or plan to apply to other positions in this consortium.

#### Travel

In this ITN consortium, each recruited researcher will be seconded to other beneficiaries and/or to partner organisations. For this project, currently two secondments of at least 3 months duration each are planned. Also, attendance in off-site training events and meetings is expected. All travel is fully funded.

Additional family allowance is provided if the applicant can provide evidence of eligibility (marriage (equivalent) and/or dependent children) at the beginning of the appointment.

Please send your complete application as detailed above until **August 25, 2019** by email, quoting the network title **CALIPER** and the project name

**3D Imaging of granular flow and packing structures**

to Prof. Ralf Stannarius, [ralf.stannarius@ovgu.de](mailto:ralf.stannarius@ovgu.de).