Job Announcement

Young, modern, and research-oriented... the University of Potsdam has firmly established itself within the scientific landscape since its founding in 1991. Nationally and internationally renowned scientists teach and perform research here at Brandenburg’s largest university. The University of Potsdam is successful in acquiring third-party funds, delivers outstanding performance in technology and knowledge transfer, and has a very service-oriented administration. With about 21,000 students studying at three campuses – Am Neuen Palais, Griebnitzsee and Golm – the University of Potsdam is a prominent economic factor and engine of development for the region. The University of Potsdam has a total of over 3,000 faculty and staff members and is located in one of Germany’s most scenic areas.

innoFSPEC Potsdam, the Innovation Centre (ZIK) for fibre-based Spectroscopy and Sensing, is a joint initiative of the Physical Chemistry Group at the University of Potsdam (UPPC) and the Leibniz Institute for Astrophysics Potsdam (AIP). In the framework of the BMBF funded project NIR-Spectroscopy for the Characterization of light transport in opaque ultra-concentrated dispersions (NIR-CLOUD) UPPC invites applications for a:

Academic Staff Member
Requisition No.: 301/2021

The position is available from March 15, 2021. The salary is determined by the collective bargaining agreement for public employees in Germany (TV-L 13). The position is for 40 hours per week (100 % of a full-time contract). This is a temporary position limited to up to 31.12.2021 in accordance with Section 2 subsection 1 of the Fixed-Term Employment Contracts in Science and Research Act (WissZeitVG). The position is suitable for part-time employment.

Responsibilities:
The research group “Innovative fiber-optical sensing (InFaSe)” within innoFSPEC has set out to investigate fundamental mechanisms of interaction between light and matter, i.e. absorption, scattering and luminescence. A special emphasis is placed on complex materials like hetero-phase systems (emulsions and suspensions) with structures in the nano- to micrometer regime. For that purpose innovative fiber-optical methods are developed allowing for a physical-chemical characterization of such demanding samples. For example, Photon Density Wave (PDW) spectroscopy is used for the independent and absolute quantification of absorption and scattering properties of strongly light scattering materials.

The position aims at the expansion of our competence in the field of the analytical and numerical description of light transport in strongly scattering and weakly absorbing materials like titania dispersions. One of your tasks within the project NIR-CLOUD will be to further develop our mathematical and theoretical framework that describes light transport under these conditions. You will also apply it using numerical methods, i.e. Monte Carlo simulations. These tools will be used to investigate influences on the light transport like sample boundaries, inclusions, inhomogeneities etc. and hence to achieve a deeper understanding of experimental findings. Vice versa, experimental results can be used to validate the developed models. Finally, the theoretical models will be used in the analysis of experimental results like PDW spectroscopy.
to determine independently and absolutely the absorption and scattering properties of the above mentioned materials.

More details about the ZIK innoFSPEC and InFaSe group can be found under [http://www.innof-spec.de](http://www.innof-spec.de).

**Qualifications:**
Candidates should have a Diploma, Master or PhD in applied mathematics (Angewandte Mathematik), physics (Physik), or a related discipline, including experience in one or more of the following fields:

- Programming for modelling (e.g. C++, QT)
- Modelling of radiative transport in strongly scattering materials (MC-simulation, analytical description)
- Light scattering
- Laser spectroscopy and optical sensing
- Fibre-optics and photonics

All applicants are expected to possess high interdisciplinary research interest, structured working manner and team spirit.

We offer you varied and challenging tasks in a dynamic team as well as attractive working conditions. Find out more about the wide range of offers and benefits for our employees on the internet at [https://www.uni-potsdam.de/de/arbeiten-an-der-up/](https://www.uni-potsdam.de/de/arbeiten-an-der-up/). For further insights into the University of Potsdam, please visit our homepage at [https://www.uni-potsdam.de/en/](https://www.uni-potsdam.de/en/). Ms. Dr. L. Bressel will be happy to provide you with further information regarding the job advertisement via e-mail: bressel@uni-potsdam.de.

Under the laws of the federal state of Brandenburg, employees under this contract are permitted to dedicate at least 33% of their contract time to their own academic qualification.

The University of Potsdam aims to increase the proportion of women in research and teaching and therefore invites qualified female applicants to apply. The University of Potsdam values the diversity of its members and pursues the goals of equal opportunities regardless of gender, nationality, ethnic and social origin, religion/belief, disability, age, sexual orientation or identity. In the case of equal suitability, women within the meaning of Section 7 (4) BbgHG (Brandenburg Higher Education Act) and people with severe disabilities will be given preferential consideration. Applications from abroad and from persons with a migration background are expressly welcome.

**Applications (including motivation letter, CV, certificates, list of publications and presentations) should be submitted before February 15th 2021 to Mrs. Dr. L. Bressel (bressel@uni-potsdam.de) in a single pdf file with the subject line and requisition number.**

Potsdam, January 28, 2021