

The Leibniz Institute for Solid State and Materials Research Dresden – in short IFW Dresden – is a non-university research institute and a member of the Leibniz Association. The IFW employs approximately 600 people (m/f/d) and one focus is on the training of young scientists besides enhancing fundamental and applied research development. At the highest international level, the IFW operates modern materials science on a scientific basis and makes the obtained results useful for the economy. The complex and interdisciplinary research work is carried out within the IFW by five scientific institutes, which are supported by a highly developed technical infrastructure. The IFW supports its employees (m/f/d) in reconciling work and family life and regularly submits to the berufundfamilie® audit. Further information at: <http://www.ifw-dresden.de>.

## **Doctoral Researcher Position (m/f/d) In vivo robotic gamete intrafallopian transfer**

The Institute for Integrative Nanosciences (IIN), Leibniz IFW Dresden e.V. is one of the world leaders in the domain of untethered medical microrobotics, in particular in the field of assisted fertilization, and provided pioneering contributions to the design, fabrication and characterization of diverse kinds of microrobots, ranging from catalytic and magnetic to hybrids, the latter ones constituted by motile sperm. Such medical microrobots are promising for performing non-invasive operations inside living organisms such as microbiopsy, cellular transport, drug delivery and in-situ diagnosis. In this particular project we aim to select and transport best quality gametes to the fallopian tube in vivo to favor their natural fertilization and further embryo development. Considering the obstacles and features of the biological tissues where they operate on, smart carriers with different actuation strategies need to be developed, and therefore, we offer a postdoctoral position on that topic.

### **Your profile:**

We are looking for a highly motivated and team-oriented postdoctoral researcher, who holds a masters and PhD degree in materials science or applied physics. Basic knowledge of magnetic microsystems, microrobotics and microfabrication. Experience in synthesizing smart and biodegradable materials is also welcome. The successful candidate should be enthusiastic about fundamental principle of locomotion at the microscale and magnetic/acoustic actuation systems for microstructures steering and with strong practical knowledge that allow him/her to implement and setup the required systems by his/her own. Very good communication skills in written and spoken English are required.

### **Project description:**

The successful candidate will be responsible for developing new microsystems for single cell transport in complex environments and in living mice (animal experiments will be carried out at the MPI-CBG with the appropriated license). Such microsystems should be remotely actuated. He/she will also contribute to the supervision of PhD students, proposal writing, and support other project activities related to microrobots design and fabrication, and animal experiments.

The candidate will be integrated into the Micro- and NanoBiomedical Engineering Group of Dr. Mariana Medina Sánchez, and will be able to develop his/her skills as a young scientist.

### **Conditions:**

The employment contract is starting on 1st of November 2020 and is limited to 12 months. The salary is based upon the TV-L rules (EG 13; 100%; part-time is also possible).

The IFW would like to increase the proportion of women in science. Qualified women are therefore explicitly invited to apply. Severely disabled applicants (m/f/d) are given preferential treatment if they have the same qualifications.

If you are interested in the position, please send your application (in English) including a CV, a motivation letter describing the research career goals, skills and experience, copies of certificates and recommendation letters citing the **reference number 004-20-4400** no later than **15th of October 2020** as a single pdf file (other formats will not be accepted) exclusively to:

[bewerbung@ifw-dresden.de](mailto:bewerbung@ifw-dresden.de)

For further information please contact Dr. Medina Sanchez: [m.medina.sanchez@ifw-dresden.de](mailto:m.medina.sanchez@ifw-dresden.de).