School of Engineering Sciences

The newly established **Lab Dresden Centre for Intelligent Materials (DCIM)** offers in the field of *Hierarchical Topologies – structures with material-inherent control functions* a position as

Research Associate / Group Leader

(Subject to personal qualification employees are remunerated according to salary group E 14 TV-L)

starting at the **next possible date** and limited until 31.12.2022. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG).

The Lab Dresden Centre for Intelligent Materials (GCL DCIM) is focused on novel materials which, as a central component of intelligent systems, feel, think and act autonomously through integrated sensory and actuator functionalities. It initially consists of the two research groups *Hierarchical Topologies – structures with material-inherent control functions* and *Materials Informatics – data-driven approaches for materials research* and is intended to establish complementary competencies and to develop promising future research areas.

The research group *Hierarchical Topologies* is concerned with the development of concepts and methods for the creation of novel topologies. Based on complex hierarchical structures, these should make it possible to use existing material-based effects for intelligent constructions with controllable or adjustable properties. The functionality on system level is based on the complex interaction of material-inherent and topology-inherent effects. The work aims at mechanical effects (actively controllable deformations) as well as at non-mechanical functionalities such as magnetic permeability, electrical conductivity or radiation transparency. The solution of these tasks with their numerous conflicting aspects in different disciplines requires a closely networked and interdisciplinary team with the necessary expertise in both materials science and engineering.

You will be part of a team of enthusiastic scientists who will creatively pursue their individual research agenda, inspired by the innovative approach and support of the Centre. Your research environment will include access to state-of-the-art research infrastructure, the promotion of gender equality and a family-friendly working environment.

Tasks: You will be integrated into the activities of the *Materials Informatics* research group and will interact with scientists in the field of computational materials research involved in the Dresden Centre for Computational Materials Science (DCMS). The tasks include - in the field of development and application of data-driven approaches for the description and integration of novel tailor-made materials - besides own research activities, the monitoring of the scientific development of the research group, an active role in the collaboration with internal and external partners in research and industry and the acquisition of external funding. The position offers perfect perspectives for personal development within the framework of a university career from postdoc to group leader. The willingness to prepare an application for an individual junior research group (e.g. Emmy Noether Group, ERC Starting Grant) is expected and supported.

Requirements: a university degree and a doctorate are required, preferably in mechanical engineering, physics or computer science. Personal initiative, the ability to work interdisciplinary and independently as well as team-oriented research and excellent language skills (German, English) are expected. Experience in the field of design and simulation of structures in technical applications, with a special focus on multi-scale, parametric CAD/FEM simulations of anisotropic composite structures, as well as experience in experimental characterisation of plastics are considered advantageous. We are looking for a top notch proactive young scientist who wants to make a name for herself or himself in science.

Applications from women are particularly welcome. The same applies to people with disabilities. Please submit your comprehensive application including a letter of motivation, a two-page research statement about your possible contribution to the scientific activities of the group considering the research environment at TU Dresden and the scientific environment in Dresden, CV, complete list of publications and at least two letters of reference as one single pdf-file until **22.10.2020** (stamped arrival date of the university central mail service applies)preferably via the TU Dresden SecureMail Portal https://securemail.tu-dresden.de by sending it to **dcim@tu-dresden.de** with the subject in the header: **"Application DCIM Hierarchical Topologies, your_surname"** or by mail to **TU Dresden, Fakultät Maschinenwesen, Institut für Werkstoffwissenschaft, Professur für Materialwissenschaft und Nanotechnik, Herrn Prof. Dr. Gianaurelio Cuniberti, Helmholtzstr. 10, 01069 Dresden.** Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: https://tu-dresden.de/karriere/datenschutzhinweis