

The *Laboratory of Measurement and Sensor Systems of the Institute of Circuits and Systems* offers a position as

### **Research Associate: Optogenetics**

(In case the personal prerequisites are met, according to salary group E13 TV-L)

starting as soon as possible. The position entails up to 100 % of the fulltime weekly hours. The position is limited for 3 years, initially. The period of employment is governed by Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz-WissZeitVG). The position offers the chance to obtain further academic qualification (e.g. PhD / habilitation thesis).

**Tasks:** Optogenetics is based on the application of transgenic ion channels that can be activated by light. Within the context of a third-party project, we aim to control and monitor the activity of individual neurons by light and to investigate circuits in the central nervous system. You will employ fast ferroelectric liquid-crystal light modulators to achieve spatio-temporal stimulation of single cells with subcellular resolution. You will exploit the potential of wavefront shaping by calculating computer generated holograms and care about aberration control. Your tasks comprise the realization of the optical setup, conducting experiments with our partner from the Center of Regenerative Therapies Dresden and statistical data processing. The optical setup has to be designed, characterized and calibrated to enable its application at our partner institute. Furthermore, your scope of activity involves publications in international research journals, presentations at international conferences as well as supervising Bachelor and Master Students.

For further information about the project see also:

[https://tu-dresden.de/ing/elektrotechnik/iee/mst/forschung/forschungsprojekte/Optogenetische\\_Untersuchung\\_neuronaler\\_Netzwerke?set\\_language=en](https://tu-dresden.de/ing/elektrotechnik/iee/mst/forschung/forschungsprojekte/Optogenetische_Untersuchung_neuronaler_Netzwerke?set_language=en)

**We offer:** A diverse, ambitious research topic; an interdisciplinary team; creative possibilities; visits of international conferences and contacts to excellent partners in research and industry. Within our group, you will find profound support as well as professional training.

**Requirements:** University degree in electrical engineering, mechanical engineering, physics, biophysics or similar studies with knowledge in optics, signal processing; ability for working autonomously and goal-driven within a team; great commitment, analytical thinking and taking joy in practical work and basic research are expected. Knowledge in statistical analysis and Matlab are advantageous.

Applications from women are particularly welcome. The same applies to people with disabilities. Please submit your comprehensive application including the usual documents by mail to:

Prof. Juergen Czarske, TU Dresden, Fakultät Elektrotechnik und Informationstechnik,  
Professur für Mess- und Sensorsystemtechnik, Helmholtzstr. 18, 01069 Dresden

or preferably via as a single pdf-document to:

[grp-mst-sekretariat@msx.tu-dresden.de](mailto:grp-mst-sekretariat@msx.tu-dresden.de)

Please submit copies only, as your application will not be returned to you.