

*We are a young, innovative university in the middle of the Metropole Ruhr. Excellent in research and teaching, we think in terms of possibilities instead of limits and develop ideas with a future. We live diversity, promote potential and are committed to educational equity worthy of the name.*

The **University of Duisburg-Essen** (Duisburg campus) in the Faculty of Engineering, and in particular in the **Laboratory for General and Theoretical Electrical Engineering** offers the following opening:

**Post Doctoral Position (f/m/d) at universities  
(pay group 13 TV-L, 100%)**

The General and Theoretical Electrical Engineering (ATE) lab is a part of engineering faculty and has various innovative research projects related to electromagnetic field in frequency ranges from DC up to optical ranges. The current project is a part of the ATE-BioEM center, which is responsible for the projects dealing with iteration of electromagnetic fields with bio organisms.

**Your main responsibilities**

Participation in the research project conceptual development of a highly sensitive biosensor based on a quantum dot-coated microresonator for exosome characterization and specification with the main focus on:

- Modelling and simulation of the corresponding biosensor
- Simulation and characterization of exosomes
- Result classification based on an artificial neural network algorithm

**Your profil**

- Very good PhD in electrical engineering/physics/nanophotonic covering at least one of the following research areas: Nanooptics/Nanophotonics, Computational Electromagnetics, Multiphysics Simulations, Bioelectromagnetics
- Own publications of research results in high-ranking, scientific journals
- Excellent English skills, both written and spoken
- Willingness and pleasure in scientific work in a team are absolutely necessary

**We offer:**

- A varied, diverse range of tasks in a lively field of work
- An innovative research project at the cutting edge of science with the opportunity to publish several high quality publications
- A pleasant working atmosphere in a dynamic team
- A broad range of training and further education opportunities, individual training
- Attractive sports and health offers

**Occupation date:** 01.09.2024

**Contract period:** until 30.11.2025 (project duration)

**Working time:** 100 per cent of a full-time position (part-time employment is possible)

**Application deadline:** 31.05.2024

Please send your application with the usual documents, quoting the reference number 268-24, to Dr. Mandana Jalali, University of Duisburg-Essen, Faculty of Engineering, 47048 Duisburg, phone +49 (0)203 -379 -3183, e-mail: [ate-bioemcenter@uni-due.de](mailto:ate-bioemcenter@uni-due.de).

For information about the faculty and the lab, visit:

<http://www.ate.uni-due.de> -<http://www.uni-due.de/ate-bioemcenter>

The University of Duisburg- Essen pursues the goal of promoting the diversity of its members (s. <https://www.uni-due.de/diversity>).

It aims to increase the proportion of women among the scientific staff and therefore strongly encourages relevantly qualified women to apply. Women with equal qualifications are given preferential consideration in accordance with the NRW Equal Opportunities Act.

Applications from suitable severely disabled persons and persons of equal status within the meaning of Section 2 (3) SGB IX are welcome.

