Faculty of Physics

The Chair of Emerging Electronic Technologies (Prof. Yana Vaynzof) at the Institute of Applied Physics affiliated with the Center for Advancing Electronics Dresden (cfaed) is offering a position as Research Associate / Postdoc (subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

Research area: Photoluminescence microscopy on emerging semiconductors
Terms: 2-year appointment starting as soon as possible (max. until December 31, 2023)

The research activities of the Chair of Emerging Electronic Technologies are focused on the development, analysis and optimization of novel solar cell technologies. Photoluminescence (PL) microscopy is a powerful tool to examine the spatial distribution of optical properties of materials. It is particularly useful for the study of emerging photovoltaic systems, such as perovskite or quantum dots. We focus on investigating the physical processes governing the performance of these photovoltaic devices, including interfacial processes, role of defects, microstructure and device energetics. We also investigate the degradation mechanisms of perovskite materials and devices and develop mitigation strategies for enhancing the device stability. Research work on these materials and devices at TU Dresden takes place in the Dresden Integrated Center for Applied Physics and Photonic Materials (DC-IAPP), which is one of the world's leading research institutions in the field of optoelectronic devices based on emerging semiconductors.

Tasks: Construction and automatization of a PL microscope with spectral, temporal and spatial resolution. Research on perovskite and quantum dot materials, including their processing and fabrication, advanced spectroscopic and microscopic characterization (especially via PL microscopy), optimization and analysis. The work includes collaboration with national and international research partners.

Requirements: PhD degree in physics or similar discipline; interest in basic and application-related research; high self-motivation; experimental skills; excellent command of English language; excellent computer skills; expertise in PL microscopy; ready-to-use and up-to-date knowledge of emerging electronics and photovoltaics. For more information please visit the web page of the institute https://tu-dresden.de/mn/physik/iap or contact Prof. Yana Vaynzof (e-mail: yana.vaynzof@tu-dresden.de).

What we offer

You will join a team of enthusiastic scientists who pursue creatively their individual research agenda inspired by the cluster’s innovative approach and support. Your postdoctoral research will be fostered by the cfaed philosophy to promote young researchers, which includes:

- access to state of the art research of leading academic institutes.
- International doctoral program
- promotion of gender equality and family-friendly work environment.
Applications from women are particularly welcome. The same applies to persons with disabilities.

**Application Procedure**

Your application *(in English only)* should include: motivation letter, CV, copy of degree certificate, transcript of grades (i.e. the official list of coursework including your grades) and proof of English language skills. Complete applications should be submitted preferably via the TU Dresden Secure-Mail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) by sending it as a single pdf-document quoting the reference number **PD2108_PLMic** in the subject header to recruiting.cfaed@tu-dresden.de or to TU Dresden, Fakultät Physik, Institut für Angewandte Physik, Professur für Neuartige Elektronik-Technologien, Frau Prof. Yana Vaynzof, Helmholtzstr. 10, 01069 Dresden. The closing date for applications is August 24, 2021. 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](https://tu-dresden.de/karriere/datenschutzhinweis)