The **Center for Advancing Electronics Dresden (cfaed)** offers a fixed-term position as

**Research Associate / PhD student**

(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

**Research area:** Solution-phase doping of Organic Semiconductor Films with immobilizable Dopants for Electronic Devices

**cfaed Investigators:** Prof. Stefan Mannsfeld

**Terms:** 65 % of the fulltime weekly hours, the position is a 3 years appointment (with the option to be extended) and starts **as soon as possible**. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). The position offers the chance to obtain further academic qualification (e.g. PhD).

**Position and Requirements**

The Chair of Organic Devices has the long-term vision to transfer Organic Electronics device technologies from the lab to commercially competitive applications in the consumer markets. Doping of organic semiconductors is a key process for organic electronics devices such as light emitting diodes, transistors, or solar cells. While doping of vacuum-evaporated films is fairly well-established, solution-phase doping of thin organic films is still difficult to control. **The goal of this PhD research is to develop new synthetic and device-fabrication approaches by which organic dopant molecules are anchored to or immobilized on organic semiconductor surfaces.** This will allow the fabrication of improved or even novel organic device architectures.

The successful candidate will:

- synthesize new dopant materials that can be immobilized at device interfaces and surfaces;
- fabricate thin films and electronic devices that employ these new materials and doping processes;
- characterize the thin film morphological properties as function of the dopant inks and deposition/printing parameters to optimize the electronic film properties using various optical and spectroscopic methods;
- electrically characterize the resulting devices using I-V, C-V, C-f measurements etc.

We aim at attracting the best talent in the respective research fields and look for:

- an outstanding university degree (master, diploma or equivalent) in chemistry, physics, electronics, materials science or related field of physical sciences;
- strong knowledge in device physics/semiconductor physics;
- previous experience in fabrication of organic or inorganic thin film electronic devices;
- ideally also prior experience with thin film deposition from vacuum and solution;
- very good interpersonal and communication skills; in particular, the ability to effectively work in collaborative research efforts;
- an independent, target- and solution-driven work attitude;
- inter- and multidisciplinary thinking;
- strong motivation and interest to join one of the most ambitious interdisciplinary research center;
- fluency in English - written and oral.
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 PhD 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;
• individual supervision by a Thesis Advisory Committee;
• promotion of gender equality and family-friendly work environment.

Applications from women are particularly welcome. The same applies to people 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 by sending it as a single pdf-document quoting the reference number PhD1911_Doping in the subject header to recruiting.cfaed@tu-dresden.de or by mail to TU Dresden, cfaed, z. Hdn. Anne Schulze, Helmholtzstr. 10, 01069 Dresden. The closing date for applications is 06.01.2020 (stamped arrival date of the university central mail service applies). 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

About cfaed
cfaed is a central scientific unit of TU Dresden, and brings together 300 researchers from the university and 10 other research institutes in the areas of Electrical and Computer Engineering, Computer Science, Materials Science, Physics, Chemistry, Biology, and Mathematics. cfaed addresses the advancement of electronic information processing systems through exploring new technologies which overcome the limits of today’s predominant CMOS technology. For more information please see www.cfaed.tu-dresden.de

cfaed has created seven new Professorships at TU Dresden to further strengthen cfaed’s research areas. These strategic positions were filled with distinguished scientists to enhance the Cluster’s research output and increase its international reputation.

About TU Dresden
The TU Dresden is among the top universities in Germany and Europe and one of the eleven German universities that were identified as an ‘elite university’ in June 2012 and confirmed in 2019. As a modern full-status university with 18 faculties it offers a wide academic range making it one of a very few in Germany.