For the Joint Sino-German DFG Research Project “EnhanceNano” the Chair of Molecular Functional Materials at the Cluster of Excellence “Center for Advancing Electronics Dresden” offers a position as

**Research Associate / PhD Student**

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

**Research area:** Organic Synthesis of Heteroatom-doped antiaromatic nanographenes based on structurally-defined precursors

**Investigators:** Prof. Dr. Xinliang Feng

**research path:** Organic/Polymer Path

**Terms:** 50% of the fulltime weekly hours, starting **May 1, 2018** for three years until the end of the project. The period of employment is governed by the Fixed-Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG).

**Position and Requirements**

The past decade has witnessed a fascinating marriage between polycyclic hydrocarbon chemistry and emerging physics. Interconnected benzene rings, namely graphene, gave rise to Dirac quasiparticles and fractionally-charged quasiparticles. These fields of Nobel recognition underlie well-known hydrocarbon chemistry notions, e.g. pi-conjugation, (hetero)aromaticity and multiradical character, to mention a few. As such, incorporating polycyclic hydrocarbon design principles into model 2D materials, might grant access to new paradigms in topological material design.

In this joint Sino-German proposal, TU Dresden (TUD), a leader in heteroatom-doped nanographene chemistry, and long-term collaboration partners, who are leaders in fundamental and applied surface science, at the Institute of Physics of the Chinese Academy of Sciences (IoPCAS), want to establish a new field of research in heteroatom-doped antiaromatic nanographene science.

The collaborative research project consists of the world-recognized scientists Prof. Xinliang Feng (TUD), Prof. Hong-Jun Gao (IoPCAS), Prof. Shixuan Du (IoPCAS), and Prof. Carlos Andres Palma (IoPCAS). Besides two internal Sino-German project workshops, an international, project related symposium with the participation of international renowned researchers of the field is planned.

The successful applicant will be responsible for: design and synthesis of doped (nitrogen and sulfur) building blocks for graphene nanoribbons with tailored electronic properties; ultra-high purification of building blocks; structural and optoelectronic characterization of building blocks and graphene nanoribbons.

We aim at attracting the best talent in the respective research fields and expect the following: university degree (Master, Diploma) and previous experience in organic synthetic chemistry; 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 clusters; fluency in English - written and oral. Previous experience in the field of polycyclic aromatic hydrocarbon chemistry is a plus.
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 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; promotion of gender equality and family-friendly work environment as well as an individual thesis advisory committee (TAC) for PhD students.
Informal enquiries can be submitted to Prof. Dr. Xinliang Feng, Tel +49 (351) 463 43250; Email: xinliang.feng@tu-dresden.de.
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 and proof of English language skills.
Complete applications should be submitted preferably via the TU Dresden SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf document quoting the reference 0103_EnhanceNano_MFM in the subject header to recruiting.cfaed@tu-dresden.de or via mail to TU Dresden, cfaed, z. Hdn. Frau Dr. Patricia Grünberg, 01062 Dresden. The closing date for applications is 01.03.2018 (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.

About cfaed
Cfaed is a cluster of excellence within the German Excellence Initiative. As a central scientific unit of TU Dresden, it 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. www.cfaed.tu.dresden.de

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. As a modern full-status university with 14 departments it offers a wide academic range making it one of a very few in Germany.