



Friedrich Schiller University is a traditional University with a strong research profile based in the heart of Germany. As a University covering all disciplines, we offer a wide range of subjects. Our research is focused on the areas Light–Life–Liberty. We are closely networked with non-research institutions, research companies and renowned cultural institutions. With around 17.000 students and more than 10.000 employees, our University plays a major role in shaping Jena's character as a cosmopolitan and future-oriented city.

The **Institute of Physical Chemistry**, the group of **Applied Physical Chemistry & Molecular Nanotechnology** seeks to fill as soon as possible a position of

Research Associate / PhD student on the topic of 2D materials

We offer a part-time position (65%, 26 hours per week, salary group E 13 TV-L) based on a fixed-term contract initially limited up to 3 years.

The successful candidate will join a highly motivated and interdisciplinary experimental research group led by Professor Andrey Turchanin (<https://www.apc.uni-jena.de/>). The group focuses on physical, chemical, and materials science aspects related to the nanoscience and nanotechnology of inorganic and organic two-dimensional (2D) materials. Key research areas of the group include tailored growth of innovative 2D materials, nanoscale characterization of their physical and chemical properties using state-of-the-art spectroscopy and microscopy techniques, and characterization of their functional properties in electronic, photonic, and optoelectronic devices including field-effect transistors, memristors, photodetectors, chemical and biochemical sensors.

Your responsibilities:

The PhD project will focus on the study of monolayers of transition metal dichalcogenides (TMDs), including their lateral and van der Waals heterostructures. Depending on your academic background, the project focus can be placed to one or more of the following research areas:

- Growth of 2D TMDs with tailored properties by various methods of chemical vapor deposition (CVD/MOCVD).
- Characterization of 2D TMDs using advanced spectroscopy and microscopy techniques such as X-ray photoelectron spectroscopy (XPS), atomic force microscopy (AFM), scanning tunneling microscopy (STM), Raman spectroscopy and microscopy, and photoluminescence measurements.
- Clean room microfabrication and characterization of field-effect transistors and photodetectors based on 2D TMDs by studying their electric transport, photoconductivity properties and bioresponse.

Your profil:

- You hold an M.Sc. or Diploma degree in Chemistry, Physics, Materials Science, Electrical Engineering, or a related discipline.
- You have strong communication skills in English, both written and spoken.
- You are eager to work in an interdisciplinary, dynamic, and international team.
- Practical experience in the methods listed under the responsibilities section, as well as in cleanroom microfabrication techniques, would be an advantage for this PhD project.

Not sure if you meet all our requirements? Don't hesitate to apply! We're excited to learn more about you and your unique qualifications.



We offer:

- an excellent research environment within national and international networks
- excellently equipped labs
- excellently equipped office area
- qualification, consultation, and additional support services from the Jena Graduate Academy
- a family friendly work environment
- Remuneration based on the provisions of the Collective Agreement for the Public Sector of the Federal States (TV-L) at salary scale 13 - depending on the candidate's personal qualification, including a special annual payment in accordance with the collective agreement
- 30 days of vacation per calendar year plus two days off on December 24 and 31

The advertised position is limited up to 3 years, with an availability of respective funds an extension is possible. The position is a part-time appointment rated at 65%, i.e. 26 hours per week.

Along with your application please submit:

- Letter of interest (ca. 1-2 pages) expressing your motivation to join our group
- Your Curriculum Vitae
- Degree certificate/Transcript of records

Are you eager to work with us? Then send your application per e-mail to

Prof. Dr. Andrey Turchanin

E-mail: andrey.turchanin@uni-jena.de