

Stellenausschreibung

Reg.-No. 218/2019 & 219/2019

Deadline 31.08.2019



**FRIEDRICH-SCHILLER-
UNIVERSITÄT
JENA**

The Friedrich Schiller University Jena connects: People and ideas, science and business, universities and non-university research. Rooted in the heart of Germany and linked to the whole world, it shapes Jena's character as a future-oriented and cosmopolitan city. At the Institute for Applied Physics (IAP) of the Friedrich Schiller University Jena has

Two open positions for scientific employees (PhD or Postdoc) in the frame of an ERC Advanced Grant:

"Performance Scaling of Ultrafast Thulium-doped fiber lasers" (doctoral or postdoctoral student) m/f/d (218/2019)

You will study fundamental aspects of femtosecond long-wavelength fiber lasers. The shift of the emission to longer wavelengths can unleash a hidden performance scaling potential of ultrafast fiber lasers, as nonlinear and thermal limitations scale favorably. We believe that Thulium-doped fiber lasers emitting at around 2 μ m wavelength will eventually outperform their matured and record-holding Ytterbium-doped counterparts in the future and with that open up a variety of exciting application fields.

"Frequency conversion of long-wavelength ultrafast lasers" (doctoral or postdoctoral student) m/f/d (219/2019)

Since a direct (i.e. a laser-based), high-power emission of coherent light with a wavelength coverage comparable to that of a synchrotron is impossible, nonlinear frequency conversion driven by a high-power solid-state laser appears to be the most elegant solution to achieve a high photon flux in important spectral regions such as the mid-infrared, the THz- and the soft-X-ray range. Most remarkably, frequency conversion into these spectral regions would strongly benefit from a driving laser wavelength longer than the standard Titanium:Sapphire or Ytterbium-based near-infrared emission. You will study fundamental scaling laws and develop most promising frequency conversion schemes towards highly application relevant spectral regions with unprecedented output properties.

The successful candidates will work at the Institute for Applied Physics (IAP) of the Friedrich Schiller University Jena in the frame of an ERC Advanced Grant "SALT". The IAP focuses on basic and applied research in the fields of micro- and nanooptics, fiber- and waveguide optics, ultrafast optics, quantum optics and optics. The research group "Fiber & Waveguide Lasers" develops new concepts for solid-state lasers such as fiber lasers and deals – amongst others – with innovative fiber designs, coherent combination of ultrashort laser pulses and frequency conversion to spectral regions ranging from the THz to the X-ray. For more information please visit www.iap.uni-jena.de

Our requirements:

- Diploma or Master's degree in physics / optics, corresponding a doctorate (PhD) in the field of laser physics for postdoctoral positions, is required
- open communication and the ability to work in a team
- solid language skills in German and English

We offer:

- an exciting field of activity with creative leeway



- multidisciplinary research environment
- world-wide unique laboratory infrastructure and equipment
- university health promotion and a family-friendly working environment with flexible working hours
- attractive fringe benefits, e.g. Capital Assets, Job Ticket (benefits for public transport), occupational pensions (VBL)
- salary in accordance with the terms of the collective agreement for the public service of the Länder (TV-L) in accordance with personal qualifications up to EG13

The position is initially offered for a limited period of time, dependent on the project duration, with the possibility of an extension if appropriate. The postdoctoral positions are full-time positions (100%) and 75% of the TV-L are doctoral positions.

Severely handicapped people are given preference in case of equal qualifications, aptitude and professional qualifications.

If you are interested, please send your documents mentioning the registration number until 31.08.2019 to:

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In the case of an application by letter we ask you to submit your documents only as copies, as those are properly destroyed after the application process. Please also note our application hints at: www.uni-jena.de/stellenmarkt_hinweis.html.