



Karlsruhe Institute of Technology

Karlsruher Institute of Technology  
Personalservice (PSE)

Kaiserstraße 12  
76131 Karlsruhe

<http://www.pse.kit.edu>

## PhD Position (f/m)

### Development of compact, Laser-Wakefield-Accelerator-based radiation sources

#### Job description:

The Laboratory for Applications of Synchrotron Radiation (LAS), located at Campus South of KIT, is exploring novel concepts for compact EUV/soft X-Ray radiation sources based on Laser-Wakefield-Accelerators (LWFA) and superconducting short-period undulators with a transverse field gradient. The projects progress in close collaboration with the University of Jena, which operates a LWFA. LAS is also closely connected to the Institute for Beam Physics and Technology (IBPT) located at Campus North of KIT. In this context we offer a PhD position dedicated to the first experimental verification of novel concepts and investigation of their potential extension towards LWFA-driven Free-Electron Lasers (FEL). We offer at any time exciting PhD theses in the field of accelerator and laser physics, using and advancing state-of-the-art technologies and collaborating in an international environment.

- We envision the following concrete tasks
- fully characterise an existing superconducting transverse-gradient undulator
- optimise and develop further the relativistic electron beam transport line
- explore possible conceptual enhancements towards LWFA-driven FELs

#### Qualification:

The ideal candidate would:

- have fun in developing and testing new, unusual concepts
- be willing to push first ideas forward via numerical simulations to experiments
- have a MSc./Diplom degree in physics
- have general knowledge in accelerator physics and optics or is a quick study

#### Salary:

The remuneration occurs on the basis of the wage agreement of the civil service in TV-L.

#### Institute:

Laboratory for Applications of Synchrotron Radiation (LAS)

#### Contract duration:

limited, 3 years

#### Starting date:

as soon as possible

#### Application up to:

31.05.2017

#### Contact person in line-management:

For further details please contact Dr. Axel Bernhard, Tel.:0721/608-42136.

#### Application:

Your application should include a CV, names of referees, study performance overview and (if already available) master certificate.

Please send the application to **Anne Stößer**, email: [anne.stoesser@kit.edu](mailto:anne.stoesser@kit.edu)

KIT is an equal opportunity employer. Women are especially encouraged to apply. Applicants with disabilities will be preferentially considered if equally qualified.

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