



Technische Universität Berlin offers an open position:

## Research assistant - salary grade E 13 TV-L Berliner Hochschulen

part-time employment may be possible

**Faculty V - Institute of Fluid Dynamics and Technical Acoustics / Laboratory for Flow Instabilities and Dynamics**  
**Reference number:** V-632/24 (starting at 01/02/25 / limited until 31/12 / closing date for applications 06/12/24)

### Working field:

The position involves working on a project within the DFG Emmy-Noether Research Group IGNITION which contributes to the further development of numerical methods of flow control. The specific application within this subproject is the control of thermoacoustic instabilities in laminar and turbulent hydrogen burner configurations.

1. Laminar DNS of laminar hydrogen-air flames
2. LES of turbulent hydrogen-air flames
3. Development of an inverse adjoint-based design method
4. Further development of an in-house numerical flow solver
5. Development of a data assimilation method to determine mean fields from flame data
6. Publication of research results at international specialist conferences
7. Preparation and publication of scientific articles

### Requirements:

- Successfully completed a university degree (Master, Diplom or equivalent) in a suitable subject area
- Profound expertise in the following areas is required:
  - 1. Numerical mathematics (e.g. computational fluid dynamics)
  - 2. Fluid mechanics
  - 3. Machine learning (e.g. physics-informed neural networks (PINNs)) or adjoint methods/theory
  - 4. Programming
- good command of German and/or English required; willingness to learn either English or German is expected

### Desirable:

- Knowledge in Optimization of flow systems
- Knowledge in Finite element method
- Programming experience in Python or Matlab
- Very good communication skills
- Independent intrinsically motivated way of working

Meaningful applications including CV and diploma/degree certificate (current grade summary, if applicable) can be submitted **bundled by email to to Dr. Thomas Kaiser via [fd-TB-office@win.tu-berlin.de](mailto:fd-TB-office@win.tu-berlin.de)**.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guaranty for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: [https://www.abt2-t.tu-berlin.de/menue/themen\\_a\\_z/datenschutzerklaerung/](https://www.abt2-t.tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/).

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities. Applications from people of all nationalities and with a migration background are very welcome.

Technische Universität Berlin - Die Präsidentin - Fakultät V, Institut für Strömungsmechanik und Technische Akustik, FG Dynamik instabiler Strömungen, Dr. Thomas Kaiser, Sekr. HF 1, Müller-Breslau-Straße 8, 10623 Berlin

The vacancy is also available on the internet at <https://www.personalabteilung.tu-berlin.de/menue/jobs/>

