



Karlsruhe Institute of Technology

Karlsruher Institute of Technology  
Personalservice (PSE)

Kaiserstraße 12  
76131 Karlsruhe

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

## **Post-Doctoral Research Position** **Experimental investigation of thermo acoustics of spray flames**

### **Job description:**

The thermo acoustic instabilities of spray flames are still not well understood. This is mainly due to the interaction of the pressure oscillations inside the combustor and the atomization process. It is well known that in particular air blast atomizers are prone to atomization instabilities if the air flow through the atomizer is modulated.

In this context, a test rig was setup at the Institute for Thermal Turbomachinery with the goal to study these effects in detail. In contrast to similar studies, the test rig is equipped with a supply of non-vitiated air with adjustable temperature and pressure. This feature enables to study the pressure scaling of the thermal instabilities, which is of major importance with respect to the application to jet engines.

The global objective of the study is to elaborate the interaction between thermo acoustic instabilities and the atomization process experimentally using the existing combustion rig. Special emphasis should be put on the effect of operating pressure and preheat temperature.

### **Qualification:**

To qualify for the postdoctoral research position, the candidate must have a PhD, a doctoral degree or a foreign equivalent degree. For this position a background in combustion experiments, laser diagnostics and related topics is highly meriting. Candidates should have a good mastering of the English and/or German language, both orally and in writing.

### **Salary:**

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

### **Institute:**

Institut für Thermische Strömungsmaschinen

### **Contract duration:**

The position is limited by a 2 year contract, but may be extended.

### **Starting date:**

as soon as possible

### **Application up to:**

15.07.2018

### **Contact person in line- management:**

For further information please contact Prof. Dr.-Ing. Hans-Jörg Bauer  
Phone:+49 721/608-43241.

### **Application:**

Your application must be written in German or English and include a CV, personal letter and copies of relevant university diplomas to:

**Karlsruhe Institute of Technology**  
**Prof. Dr.-Ing. Hans-Jörg Bauer**  
**Institut für Thermische Strömungsmaschinen**  
**Kaiserstrasse 12**  
**D-76128 Karlsruhe**  
**Germany**  
**Email: [Hans-Joerg.Bauer@kit.edu](mailto:Hans-Joerg.Bauer@kit.edu)**

The application should include a CV, personal letter and copies of relevant university diplomas. Your application must be written in German or English.

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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KIT is certified as a family-friendly university (familienfreundliche Hochschule) and offers part-time employment, leaves for family-related reasons, dual career options, and individual coaching for family-work balance.