



The Institute of Flight Mechanics and Controls seeks to hire multiple doctoral researchers (salary according to TV-L E13, full time) with start as soon as possible. The position is initially limited to three years.

The duties of the positions include:

- Research of theoretical and practical nature within the projects listed below.
- Publishing results in scientific conferences and journals.
- Opportunity to assist in the institute's teaching (if desired).

**Urban Air Mobility** project in collaboration with leading industry partners.

*Project Goals:*

- Development, implementation and testing of new flight control methods for novel eVTOL demonstrator.
- Development and implementation of new state estimation/sensor fusion methods using data from a local radar-based positioning system.
- Investigation of efficient take-off and landing trajectories with respect to energy consumption, flight time and/or passenger comfort along with safety guarantees in the presence of position uncertainties.

**Sense and Avoid** concept for unmanned automated flight of a Cirrus SR22 aircraft in collaboration with leading industry partners.

*Project Goals:*

- Development of a metric to assess collision risks based on varying information on other air traffic.
- Investigation of trajectory generation and tracking for avoidance of cooperative and non-cooperative dynamic airspace objects.
- Stability analysis and verification methods for certification of the developed concept.

### Requirements

- Engineering or Computer Science Degree (M.Sc.) with excellent grades
- Background/major in one of the following areas: system theory, AI/machine learning, flight dynamics, flight control
- Programming skills
- Excellent communication and writing skills (English)

The iFR is committed to increasing the number of women employed in scientific positions. Women are therefore explicitly encouraged to apply. Severely disabled persons are given priority in the case of equal qualification.

Please address your full application (cover letter, CV, certificates and transcripts) to:

University of Stuttgart  
Institute of Flight Mechanics and Controls  
Pfaffenwaldring 27  
70569 Stuttgart  
Email: [office@ifr.uni-stuttgart.de](mailto:office@ifr.uni-stuttgart.de)

For more information please visit [www.ifr.uni-stuttgart.de](http://www.ifr.uni-stuttgart.de)

# Doctoral Researchers (m/f/d)

TV-L E13, full time

