Technische Universität Braunschweig - Institute of Flight Guidance

With more than 16,000 students and 3,800 employees, the Technische Universität Braunschweig is one of Germany´s leading institutes of technology. It stands for strategic and performance-oriented thinking and acting, relevant research, committed teaching, and the successful transfer of knowledge and technologies to the economy and society. We consistently advocate for family friendliness and equal opportunities. Our research focuses are mobility, engineering for health, metrology, and city of the future. Strong engineering and natural sciences are our core disciplines. These are closely interconnected with economics, social and educational sciences and humanities. Our campus is located in the midst of one of the most research-intensive regions in Europe. We work successfully together with over 20 research institutions in our neighborhood as we do with our international partner universities. Starting from the earliest possible date, the Institute of Flight Guidance is looking for a

Doctoral candidate (m/f/d) in the field of passive satellite remote sensing of contrails

(EG 13 TV-L, part-time) The position is to be filled on a fixed-term basis for a period of 3 years. The successful applicant will be given the opportunity to pursue a doctorate.

City: Braunschweig; Starting date (earliest): At the earliest possible; Duration: 3 years; Remuneration: EG 13 TV-L; Closing date: 31/03/25

Working field

- You will develop a passive remote sensing method to retrieve the radiative effect of contrails using geostationary imagers (e.g., MTG/FCI, GOES/ABI) and radiative transfer calculations (e.g. libradtran).
- You will apply existing tools to detect contrails and match them to the producing flights, and combine the results with the newly retrieved radiative effect.
- You will apply the model pycontrails/CoCiP and validate its simulated radiative effect against the satellite-based measurements in order to validate the model.
- You will point out weaknesses in pycontrails/CoCiP with respect to modelling the radiative effect and develop and implement model improvements.
- You will publish research findings and participate in national and international conferences.
- You will be involved in teaching at the University (preparation and implementation of courses as well as supervision of students’ work).

Requirements

- You have a degree (Master’s or equivalent) in Physics, Engineering, or Meteorology.
- You have good knowledge of the English language; German is a plus.
- You have good programming skills (e.g., Python) in a Linux environment.
- You have first experience in atmospheric and cloud physics, satellite remote

sensing, modelling or statistical data analysis.
- You are flexible, can perform under pressure and work well in a team.
- You are aiming for a doctorate.

What we offer

- Work on exciting future-oriented research topics in an inspiring work environment as part of the university community
- A vibrant campus life in an international atmosphere with lots of intercultural offers and international cooperations
- Pay in accordance with the collective agreement TV-L (a special payment at the end of the year as well as a supplementary benefit in the form of a company pension, comparable to a company pension in the private sector) including 30 days' vacation per year
- Flexible working and part-time options and a family-friendly university culture, awarded the "Family-friendly university" audit since 2007
- Special continuing education programs for young scientists, a postdoc program, as well as other offerings from the Central Personnel Development Department and sports activities.

Application

We welcome applicants of all nationalities. At the same time, we encourage people with severe disabilities to apply. Applications from severely disabled persons will be given preference if they are equally qualified. Please attach a proof of disability to your application. We are also working on the fulfilment of the Central Equality Plan based on the Lower Saxony Equal Rights Act (Niedersächsisches Gleichberechtigungsgesetz—NGG) and strive to reduce under-representation in all areas and positions as defined by the NGG. Therefore, applications from women are particularly welcome in this case.

The personal data will be stored for the purpose of processing the application. By submitting your application, you agree that your data may be stored and processed electronically for application purposes in compliance with the provisions of data protection law. Further information on data protection can be found in our data protection regulations at https://www.tu-braunschweig.de/datenschutzerklaerung-bewerbungen . Application costs cannot be reimbursed.

Questions and Answers

For more information, please contact Prof. Peter Hecker via email: p.hecker@tu-braunschweig.de

Deadline for applications is 31-Mar-2025

Are you interested? Please send your application preferably via email to p.hecker@tu-braunschweig.de

or via mail to

Technische Universität Braunschweig
Institut für Flugführung
Hermann-Blenk-Str. 27
38108 Braunschweig

More information at https://stellenticket.de/192005/LUH/
Offer visible until 31/03/25