Munich Aerospace Open PhD Position

Strategic Challenges for Future Airports: Interdependencies between Aircraft Fleet Development and Airport Operations

Context: Satisfying air transport demand efficiently and enabling the integration of innovative technologies and approaches in the aviation system is among the major challenges for future air transport developments. In order to meet future capacity and quality requirements, the Munich Aerospace research group „Aviation Management“ aims at the development of new innovative concepts for the airport system in interaction with other aviation system components and stakeholders. To support future decisions on new airport concepts and processes, an interdisciplinary research team is set up with the objective to develop integrated assessment capabilities in this field. Scenario and trend analyses are employed to define sound strategic requirements for the air transport system, while simulation models of passenger, cargo and (air-) traffic flow are applied and linked to address all relevant system interdependencies.

Ph.D. topic: Dealing with long-term developments of the air transport system can provide the basis for evaluation and subsequently targeted optimisation of the overall system. The thesis addresses the role of future aircraft fleet development and hence the implications of new aircraft types for the overall aviation system in general and the airport system in particular. To this end, relevant forecasts, trend analyses and scenario studies support to structure and to specify the demand for future aircraft as well as the resulting fleet composition. In this regard, a modelling approach will aim at depicting the interdependencies between system components such as market demand and resulting aircraft orders, fleet growth, and aircraft retirement strategies. The developed model will enable the assessment of multiple measures taken in regard to emission reduction or efficiency improvement. Specific focus will be placed on the integration of new aircraft concepts in existing and developing airport systems and the impact on land-based airport processes.

The project will be pursued in cooperation between **Technische Universität München (TUM), Universität der Bundeswehr (UniBw)** and **Bauhaus Luftfahrt (BHL)**. The scholarship is located at the Economics and Transportation team at **Bauhaus Luftfahrt** in Munich.

Profile: The candidate should hold a Master’s degree (or equivalent) in preferably economics or engineering. Relevant experience in the aviation sector is welcome, but not mandatory. A proactive and independent way of working, team spirit and willingness to interdisciplinary cooperation are required.

The Munich Aerospace scholarship is generally awarded for a **four-year period**. The monthly scholarship is **1,575 €** (taxfree under § 3 Nr. 44 EStG) based on the Munich Aerospace policy. The holder of the position is entitled to participate in training and courses at **Munich Aerospace graduate school**. Additional funding for conferences and publications can be granted.

Interested candidates should submit a full curriculum vitae, covering letter together with academic records to the email address given below.

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