3574 6179 PhD student mathematics - capacity railway networks (m/f/d) As a university of excellence, the Technical University of Dresden (TUD) is one of the most powerful research institutions in Germany. Founded in 1828, today it is a globally oriented, regionally anchored top university that wants to make innovative contributions to solving global challenges. In research and teaching, it combines engineering and natural sciences with the humanities and social sciences and medicine. This variety of subjects, which is outstanding nationwide, enables the university to promote interdisciplinarity and to bring science into society. TUD sees itself as a modern employer and wants to offer all employees in teaching, research, technology and administration attractive working conditions and thus promote, develop and integrate their potential. TUD stands for a university culture that is characterized by cosmopolitanism, appreciation, innovative spirit and participation. It understands diversity as a cultural matter of course and as a quality criterion for a university of excellence. Accordingly, we welcome all applicants who want to get involved with us and with us for the success of all with their performance and personality.  
  
At the Faculty of Transport Sciences "Friedrich List", Institute for Aviation and Logistics, is, subject to available funds, at the professorship for traffic flow theory as part of the research of the DFG project "Timetable-based determination of the capacity of railway networks taking into account the operating quality" on May 1st, 2023 a job as  
  
Research Associate / Doctoral Student (m/f/d)  
(if the personal requirements E 13 TV-L are met)  
  
to be filled for 3 years (duration of employment according to WissZeitVG). There is the opportunity for your own further academic qualification (usually doctorate).  
The team at the Professorship for Traffic Flow Theory focuses in particular on the development of prototypes (practical, high-performance optimization algorithms, their implementation and user-friendly processing). Together with the DLR Braunschweig, a method for the timetable-based determination of the capacity of railway networks, taking into account the operational quality, is to be developed and validated as part of this DFG-funded project. Based on demand structures, system routes are to be designed as placeholders for later train journeys. Using these system routes, a timetable-based determination of the network capacity is to be determined on the basis of the operating quality. This type of network-wide capacity is new in the field of railway operations science and should be scientifically underpinned accordingly. Network algorithms, flows and linear programming should be used to process this task. There are already many prototypical implementations and corresponding libraries available at the professorship. Scientific university degree in mathematics, computer science, engineering or similar suitable subjects; team-oriented action and communication skills; sound knowledge of operation research (network algorithms, flows, linear programming) and railways, especially in timetable planning. Knowledge of Linux and C++ is advantageous.  
TUD strives to increase the proportion of women and therefore expressly asks them to apply. The university is a certified family-friendly university and has a dual career service. Applications from severely disabled people are particularly welcome. If they are equally qualified, they will be given preferential treatment by law to those of equal status in accordance with SGB IX. mathematician None 2023-03-07 15:57:52.901000