Vacancies for assistant/associate tenure track professors Transport & Planning

8th May 2013

Department Transport & Planning

The Faculty of Civil Engineering and Geosciences provides leading, international research and education in road and water engineering, construction, earth sciences, remote sensing, transport and planning, and delta technology. The Department Transport & Planning (T&P) focuses on the planning, design, operation and management of transport systems, addressing road transport, public transport and passenger and freight transport systems. T&P consists of 50-60 staff members, of which 20 permanent. The department is responsible for the T&P track in the Master Civil Engineering, the TU Delft Transport Institute and coordinates the interfaculty Master Transport, Infrastructure & Logistics. The department is the only research group in Civil Engineering in the Netherlands that was awarded the maximum score at all research assessments during the last 15 years. Because of retirement of several staff members, the department Transport & Planning has several open positions for assistant/associate tenure track professors.

Position TT 1: Urban transport systems.

This position focuses on design and analysis of transport networks in cities, agglomerations and conurbations, given typical constraints in these areas. Particular attention is needed for the robustness of transport networks in two ways: on how transport networks can full fill their function under varying network and demand conditions as well as on the interaction with spatial development. Special attention will be given to the potential use of innovative technologies, such as Intelligent Transport and Electric Vehicles. Methodological focus on design methodologies and the use of transport models in the design and analysis of urban transport systems. Educational activities will include the BSc course CT3751 Urban development and transport networks, the MSc course CIE 5750 Transport and Spatial Planning for Conurbations.

Position TT 2: Sustainability of transport systems

This position focuses on the integral design, analysis and assessment of the impact of transport systems and transport infrastructure, such as environmental, spatial and economic impacts, with a particular focus on sustainability in a broad sense. Methodologically, the work focuses on a system perspective on transport systems, modelling of external impacts and socio-economic cost benefit analysis. Educational activities will include the MSc course CIE 4760 Infrastructure projects: assessment and planning, the BSc course Impacts of Transport Infrastructure on economy and environment.

Position TT 3: Geometric Design of Roads and Railways

This position focuses on the design of roads and railways, which, given its far ranging societal impacts (safety, throughput, reliability) and high costs, needs to be founded on a rigorous scientific methodology. The generation of a design traditionally involves a stepwise approach, starting from the behaviour of infrastructure users and their limited capabilities, identifying goals and requirements, defining different alternative design strategies and detailing the design itself. In addition, objective criteria are needed to compare the performance of different design alternatives, in terms of transport volume, traffic safety, modal split, reliability of operations, spatial quality, sustainability and costs.

Specific scientific challenges are the development of the use of advanced traffic and transport (simulation) models, 3-D design, decision support tools (including risk analysis), and the implications for and from ITS. Educational activities include the BSc course CT3711 Geometric Design of Roads and Railways, and contribute to the BSc course Integral Design of Infrastructure, as well as providing support for other courses.

Position TT 4: Public Transport Operations

Public transportation systems are intrinsically associated with a more sustainable motorized urban mobility. However, many cities struggle to offer their citizens a system providing high level of service for big demand volumes. A key challenge is the complexity involved with designing and operating a transit system going from the high-level strategic decisions to the low-level control mechanisms. This profile focuses on the operational level, including the low-level control mechanisms. Topics of interest include (but are not limited to) public transport operations and the reliability thereof, public transport technology, control and dispatching, and disruption management. Educational activities will include the MSc course CIE4811 Design and control of public transport systems, and providing support for the MSc course CIE4822 support Traffic management and control.

Profile

We are looking for talented candidates with an MSc and PhD degree in a relevant subject, preferably Civil Engineering. They should be able to demonstrate outstanding research potential and have published in peer-reviewed, international scientific journals or can show an innovative design and engineering portfolio. They show a holistic, integral approach combined with a strong background in methodologies and modelling and are able to connect scientific methods and results to practical applications. In addition to the position specific educational tasks mentioned, we are also looking amongst the candidates for a coordinator of the BSc course CT1710 Transport & Planning and a coordinator of the BSc final work (CT3000). Candidates will contribute to the initiation, acquisition and execution of research projects, including supervision of BSc, MSc and PhD students. Close cooperation with other members of the scientific staff of the department and wider university is essential. Inspiring lecturing skills and excellent command of the English language are considered crucial. Non-Dutch speaking candidates will commit to learn Dutch within 2 years after appointment.

Our offer

The position offered is a tenure-track position for a period of 5 years, leading to a permanent position assuming good performance in scientific research, project acquisition and education. Depending on your experience you are appointed as assistant or associate tenure track professor (€ 3.259 - € 6.039 per month gross). You will participate in the Tenure Track program to further develop your educational, research and personal skills. You will work in a multidisciplinary team that conducts cutting-edge academic transport research and which has a state of the art transport lab. The team actively connects research results to innovative real world projects and is supervising an increasing number of MSc and PhD students. Positions TT-1 and TT-2 will be supervised by Prof Dr Bart van Arem, TT-3 and TT-4 by Prof Dr Serge Hoogendoorn.

Further information

Further information can be obtained through Prof Dr Bart van Arem (b.vanarem@tudelft.nl) or Prof Dr Serge Hoogendoorn (s.p.hoogendoorn@tudelft.nl).