Aalto University is a new university with over a century of experience. Created from a high-profile merger between three leading universities in Finland – the Helsinki School of Economics, Helsinki University of Technology and the University of Art and Design Helsinki – Aalto University opens up new possibilities for strong multidisciplinary education and research. The university has 20 000 students and a staff of 5 000 including 350 professors.

Aalto University School of Engineering, Department of Civil and Environmental Engineering invites applications for:

DOCTORAL STUDENT POSITION in Energy Efficient Traffic with Crowdsensing (TrafficSense)

Research Group
The above mentioned position is located in the Transportation Engineering research and teaching group in the Department of Civil and Environmental Engineering, see http://civil.aalto.fi/en/research/transportation/. Transportation Engineering research and teaching group has already for over 40 years made academic research in order to develop the transportation system in a continuously changing environment. The main research areas are the modeling and the analysis of transportation and its impacts. Traffic simulation and intelligent transportation systems are also focus areas. For more general information of the research and teaching of the Department, go to http://civil.aalto.fi/en/.

Requirements
Required background: A Master's degree in Transportation Engineering or related sciences.

Important skills: Understanding of multimodal traveling behavior*,* use of modeling/simulation/optimization, programming skills, fluency in English, scientific writing, active reporting and interaction with project members.

The position is contract-based; a one-year contract is granted first, followed by a possible extension for three-year period depending on the achievements during the first contractual period. In maximum four years, the doctoral student is required to 1) complete the doctoral dissertation (4 peer reviewed journal articles), finish relevant courses for 40 ECTS credits, 3) work in the TrafficSense project under supervision of Professor Tapio Luttinen and advisor Dr. Iisakki Kosonen, and 4) participate in teaching. The applicant must fulfill the requirements for entitlement to do postgraduate studies at Aalto University: https://into.aalto.fi/display/endoctoraleng/Applying+for+doctoral+studies

Research
The goal of TrafficSense (Energy Efficient Traffic with Crowdsensing) project is to improve the energy efficiency of multimodal traveling with mobile services based on mobile sensing of travelers. The present smart phones have dozens of sensors (GPS, accelerometers, etc.), which can be used to detect travelers routes, modes of traveling etc. This data can be used to develop services to support less energy intensive modes of transport like public transport and DRT (demand responsive transport), walking, cycling etc*.* http://cse.aalto.fi/en/research/groups/distributed_systems/projects/trafficsense/ The student works with a multidisciplinary group with an emphasis on transportation engineering.

3. Analyze and predict the traffic situation

2. Predict current routes

4. Plan alternative trip chains

1. Learn regular routes from trip observations

5. Notify users about problems and options down the road

Better bus connection
Opportunity to ridesharing
or remote parking

Congestion
Accident
Full parking lot
Missing bus

Salary
Aalto University applies the salary system of Finnish universities.

For more information
For further details contact Dr. Iisakki Kosonen, tel. +358 50 5250457, or Head of Department, Professor Tapio Luttinen, tel. +358 50 512 2716. E-mails: firstname.lastname@aalto.fi.

How to apply
The applications for the doctoral student position are to be submitted through the eRecruitment system **no later than on the 10th of December, 2014**:
http://www.aalto.fi/en/about/careers/jobs/view/342/.

Required application documents (pdf files):
1) CV
2) A certified copy of master´s and bachelor´s degree certificate and official transcript of records, and their translations, if the originals are not in Finnish, Swedish or English. (Minimum average grading requirements: https://into.aalto.fi/display/endoctoraleng/Application+instructions)
3) A list of publications
4) A summary of the master thesis and accounts for suitability of the candidate for this doctoral student position. Maximum one A4 page is allowed for the document.
5) Proof of proficiency in Finnish, Swedish or English if the applicant is not a native speaker of or educated in any of them. (Language skill proof requirements: http://www.aalto.fi/en/studies/admissions/tech/masters_degree/language_requirements/)

All material should be submitted in English. The application materials will not be returned.

Aalto University reserves the right for justified reasons to leave the position open, to extend the application period and to consider candidates who have not submitted applications during the application period.

In Espoo, November 13th, 2014