

Busy Spring for the ITS Postgraduate school (NFITS)

During the spring of 2013 the number of activities associated with the ITS Postgraduate school (NFITS) and its members has been significant. This is all thanks to different parties committing to organize events, sharing networks and contacts, and attending these events with the right spirit and engagement. Below is some brief information on a selection of the activities that have taken place.

Study visit to Brussels, April 22nd-24th

The study visit to Brussels aimed to increase our understanding of the role of research and its different programmes within the EU, and the work conducted by the different DGs and their employees. The visit was organized by Eva Boëthius, Stig Franzén and ITS-Sweden, whom had composed an intense and stimulating program enabling presentations from Fotis Karamitsos from DG MOVE, Patrick Mercier-Handisyde from DG RTD, and Vincent Blervaque from ERTICO. Very relevant questions were posed by the members of NFITS and interesting discussions followed in a very informal and open manner.

As a true Swede and dedicated EU-servant, Eva also organized a mingle including a traditional "tipsrunda" in the ITS-Sweden office at the Sweden House one evening and took the opportunity to test and improve our knowledge about EU. This test turned out to be useful, entertaining and highly appreciated. So, a big thanks to Eva and her colleagues in Brussels for arranging the interesting activities so well as to Stig, Christer and Maria for enabling this event.



Photo: The NFITS members that joined the meeting with Fotis Karamitsos at DG MOVE in Brussels. Source: ITS-Sweden.

NFITS yearly gathering May 28-29th in Malmö

The yearly retreat organized by NFITS was this year held at Malmö University (MaH). A lunch-to-lunch social event composed of two main activities: 1) Organized research presentations with dedicated reviewers by both seniors and Ph D students and 2) a workshop discussing the aims, expectations and outcome of the work by NFITS. Many good points from the workshop were noted and will be guidelines in the coming work and plans. One important point raised by the majority of the participants, was the need for more time for free discussions and additional opportunities to meet. Therefore, the Forskarutbildningsråd (FUR) of NFITS has decided to also host a second retreat in the end of 2013 (during week 48) where also the NFITS alumni will play an important role. Specific location and date will be decided and announced in due time.

Doctoral course in *Evaluation of ITS applications* at Lund University Spring 2013

An important part of the work by NFITS is to provide relevant postgraduate courses in the ITS area. During January-June, the course *Evaluation of ITS applications* was organized by Prof. András Varhelyi

and six Ph D students from the member universities attended. The course aim to teach the participants a scientific approach to how ITS applications and their effects can be evaluated with respect to functionality, user related criteria, traffic effects and transport policy goals. The participants applied the evaluation framework and methods taught during the course on several previous EU-projects and analyzed to what extent systematic evaluations had been planned and performed. Later the students were provided with an ITS-application each for which they had to design an evaluation plan. This is the second time this course has been given within NFITS and more information about our courses can be found [here](#):

The European ITS Congress in Dublin June 4th-7th and presentations by NFITS

During the 9th European ITS congress in Dublin and the session "*Economical impact of ITS in freight*", Gideon Mbydzenyuy (NFITS alumni from BTH) held a presentation about "*Estimates of marginal cost savings for intelligent truck parking services in a combined deployment scenario*", which reported on the results and observations from the project [Intelligent Truck Parking](#). Furthermore, in the session "*Avoiding the brain drain in the ITS-industry*", Albania Nissan (KTH) made a presentation about the significant role of education in the ITS domain and the importance of organized postgraduate schools, such as the Swedish initiative to form NFITS.

Thesis defences

During the spring, NFITS had the pleasure to congratulate two NFITS Ph D students to receive a doctoral degree.

- Gideon Mbydzenyuy (BTH) defended his doctoral dissertation "*Quantitative Assessment of Intelligent Transport Systems for Road Freight Transport*" at Blekinge Institute of Technology on May 2nd, 2013.
- Jana Sochor (KTH) defended her doctoral thesis "*User Perspectives on Intelligent Transportation Systems*" at KTH Royal Institute of Technology on May 31st, 2013.

If you are interested in reading the theses or other publications associated with the Ph D students, please visit the publication list on our website <http://www.its-sweden.se/Forskarskolan>.



Photos (from left): Gideon Mbydzenyuy (BTH), Jana Sochor (KTH), Banafsheh Hajinasab Razlighi (MaH), and Athina Tympakianaki (KTH).

Newly enrolled Ph D students

During the spring of 2013, two new Ph D students enrolled NFITS:

- *Athina Tympakianaki* from KTH and who is working with calibration of dynamic traffic assignment (DTA) models.
- *Qichen Deng* from KTH and who is working with platooning and the IQFleet project.

So, Athina and Qichen, welcome to NFITS!

NFITS promotes research visits abroad – Banafsheh visited ETH in Zürich, Switzerland

As already mentioned, NFITS provides different kinds of support for the enrolled Ph D students such as postgraduate courses, access to a larger pool of supervisors and senior researchers for feedback and support when relevant, but also financial support for research related activities. NFITS offers the enrolled Ph D students and the associated universities to apply for travel grants for attending important conferences provided that a peer-reviewed, scientific conference paper has been accepted. Similarly, NFITS also offers grants for research visits abroad of minimum 1 month. Banafsheh Hajinasab Razlighi (MaH) took that opportunity and spent one month with a research group at ETH in Zürich, Switzerland this spring. Below is a short summary of Banafsheh's experience from this research visit:

During April to May 2013, I had this opportunity to have a research visit at The Institute for Transport Planning and System of ETH University at Zürich (IVT ETH). The focus of IVT research center is on the planning and operation of transportation systems and their future requirements. The IVT is part of the Department of Civil, Environmental and Geomatic Engineering of ETH Zurich and is divided into three areas: Traffic Engineering, Transport Systems, and Transport Planning. IVT has also a branch in Singapore and some of the PhD students and researchers of IVT are doing research there.

I was working with the researchers of Transport planning section during my stay. This section is managed by Prof. Kay W. Axhausen. One of the main projects of this center is a multi-agent simulation toolkit called MATSim which is a joint project between ETH and TU Berlin. MATSim is an activity-based, open source, multi-agent simulation toolkit implemented in JAVA and designed for large-scale scenarios which supports multimodal transportation. The MATSim system is being used for analyzing various traffic scenarios for Switzerland and the Swiss population, e.g. travel behavior modeling for scenarios with unpredictable events, and simulation of carpooling scenarios and innovative transportation modes.

As I am working on multi-agent based simulation models of commuting in urban areas, I found the IVT center a very active research environment in my field and MATSim a very relevant toolkit to my work.

During my visit at IVT, I had helpful meetings with the senior researchers and PhD students at IVT and discussed several aspects of my research. As result, I gained more knowledge about the travel behavior modeling. Also, I learned more about the functionalities of MATSim and reviewed the factors influencing the choice of travel. Moreover, we discussed the importance of those factors in the model and how these factors could be supported by MATSim. Getting inspiration from the research projects at IVT, I found that innovative transportation services such as Demand Responsive Transport Services (DRT) and carpooling can be very interesting topics to include in my study. We also discussed how the travel behavior data can be gathered and what the possible sources of information are. The IVT offered me the possibility to use Swiss population data which is very comprehensive and includes the details of population and network data. They were also very positive for a follow-up research visit and collaboration.

With the knowledge I gained from my research visit, I am going to extend the MATSim simulation model with regard to the requirements of innovative transportation modes scenarios.

Planned NFITS activities for the fall 2013

During the fall 2013, additional licentiate and thesis defences will be organized and information about these will be published accordingly on our [News site](#):

Also the NFITS course *Quantitative analysis of transport and traffic systems* organized and held by Linköping University will start in September.

And remember to make room in your calendar for the retreat during week 48 for which more information will follow. But if you have the interest and possibility to participate, let us know already now. You will find contact information here: <http://www.its-sweden.se/Forskarskolan>.

Finally, we would like to thank all of you whom have been involved in NFITS.

Especially, we would like to thank VINNOVA, Trafikverket, ITS-Sweden and our ambitious Ph D students.

Have a lovely summer!

About the Swedish ITS Postgraduate school - NFITS

The area of Intelligent Transportation Systems and Services (ITS) is known to be multi-disciplinary where different areas of competence meet to achieve sustainable, safe and cost-effective traffic and transport systems. The research frontier in the ITS area has earlier primarily been divided according to the different disciplines while there has been a need for research projects and researchers which go beyond their specific domain with a wider perspective to address relevant issues in a larger context than before.

Based on this need of a broaden multi-disciplinary research scope and in conjunction with the discussions of the organization of the ITS World Congress 2009 in Stockholm, the idea of a Swedish ITS Postgraduate School (NFITS) was formed. The establishment of NFITS was then made by VINNOVA (The Swedish Governmental Agency for Innovation Systems), Banverket (The Swedish Rail Administration) and Vägverket (The Swedish Road Administration) together with ITS-Sweden and a number of Swedish companies and Swedish universities.

One main purpose of the ITS Postgraduate School is to provide for a good, multi-disciplinary research education based on the different areas of competence of the participating universities. Another important objective is to initiate and run research projects highly relevant for the industry and the society defined in cooperation with the companies involved in the ITS Postgraduate School. Below is a list of the Ph D students associated with NFITS. * indicates that the student joined NFITS during 2013, while ** indicates that the student left NFITS after graduation (licentiate, or doctoral).

Gideon Mbiydzenyuy**	Blekinge Institute of Technology
Åse Jevinger	Blekinge Institute of Technology
Shoaib Bakhtyar	Blekinge Institute of Technology
S.M. Zeeshan Iqbal	Blekinge Institute of Technology
Tor Skoglund	Chalmers University
Niklas Strand	Chalmers University
Jana Sochor**	KTH Royal Institute of Technology
Mahmood Rahmani	KTH Royal Institute of Technology
Athina Tympakianaki*	KTH Royal Institute of Technology
Qichen Deng*	KTH Royal Institute of Technology
Lars Backåker**	Linköping University
Andreas Allström	Linköping University
Ellen Grumert	Linköping University
Annika Larsson	Lund University
Omar Bagdadi**	Lund University
Banafsheh Hajinasab Razlighi	Malmö University
Taline Jadaan	Viktoria Institute

The ITS Postgraduate School is mainly funded by VINNOVA and Trafikverket (formerly known as Banverket and Vägverket) which are represented in NFITS by Eva Schelin (VINNOVA) and Bengt Hallström (Trafikverket). The work in NFITS is planned and executed by a research council (Sw. Forskarutbildningsråd, FUR) which currently is composed of the following members:

Christer Karlsson, ITS-Sweden
Johan Holmgren, Blekinge Institute of Technology
MariAnne Karlsson and Stig Franzén, Chalmers University
Harilaos Koutsopoulos and Albania Nissan, KTH Royal Institute of Technology
Jan Lundgren and Johanna Törnquist Krasemann, Linköping University
András Várhelyi, Lund university
Paul Davidsson and Jan Persson, Malmö University

NFITS is coordinated by ITS-Sweden. The main and assisting director for the ITS Postgraduate School are Prof. Jan Lundgren and Dr. Johanna Törnquist Krasemann, Linköping University.

More information can be found here: <http://www.its-sweden.se/Forskarskolan>.