



COST



ARTS

1st Summer School

Autonomic Road Transport Support Systems: foundations & techniques

Paris-Marne La Vallée, May, 21-24, 2013

Hosted by  **IFSTAR** and **ENPC**



Introduction

Autonomic Road Transport Support (ARTS) is a COST EU Network, aiming to build up a community investigating the underlying principles, feasibility and implications of self-managing road transport systems. As part of that effort the Network will provide the opportunity, through short, intensive training schools, for scientists and engineers to build up their knowledge and motivation to start a career in this area. The Training School is aimed particularly at early career researchers in traffic engineering, computer science and transport studies, providing intensive training to research students and re-training professions. The course will cover principles, techniques and applications concerned with embedding autonomic properties into road traffic control systems.

Who should attend?

Graduated and PhD students, researchers and young professionals who have a background in Computing/Engineering, with some previous knowledge of Road Transport Systems and ITS.

Objectives

To give attendees:

- a grounding in the (a) modelling of road traffic (b) the principles of autonomic systems (c) techniques relevant to the implementation of autonomic properties in systems, including agent-based and traditional artificial intelligence-based approaches
- an appreciation of (a) the challenges in effective road traffic support (b) relevant current and past research (c) potential and implications of autonomic systems

Organisation

The School is being organized by programme chairs Prof Omer Rana and Dr Neila Bhourri with the support of the local organization committee: Dr Zoi Christoforou from the Ecole des Ponts ParisTech and Dr mahdi Zargayouna from Ifsttar, Marne La Vallée, France.

Duration and Dates:

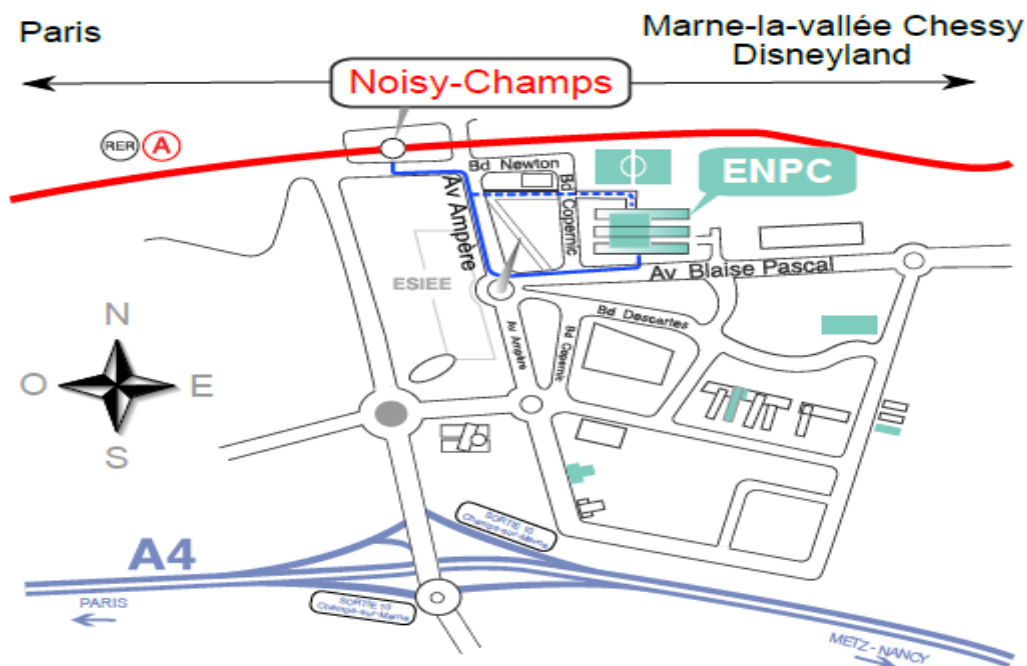
The School will run for four full days, 21st- 24th May. Students are expected to register Tuesday, May 21th at 9.am at ENPC.

Format and Contributors

Each day there will be 2 themes covered, one in the morning and one in the afternoon. Lectures, seminars and practical sessions will be used. Several speakers of international standing in the area will contribute to the course delivery. Currently the list includes Prof Markos Papageorgiou (Motorway Traffic Control), Prof Omer Rana (Stream Processing and Analysis), Dr Jean Patrick Lebacque (Traffic Modelling), Dr. Neila Bhourri (Urban Traffic Control), Prof Daniel Borrajo (Machine Learning and Planning), Prof Lee McCluskey (Domain Modelling and Knowledge Engineering), Prof Franziska Klugl (Multi-agent Systems and Simulation), Prof Manish Parashar (Autonomic Systems), Prof Igor Grabec (Non-parametric Statistical Modelling of Stochastic time series and its application to Forecasting of Traffic Phenomena).

Venue

The Summer School will be held at ENPC (Ecole des Ponts ParisTech) in Cité Descartes near Paris. Connection by urban trains with the centre of Paris, the Parc Disneyland and the main airports are offered. All practical information about the Paris Area public transportation network is available from www.ratp.fr.



Cost and Financial Support:

The COST Network will provide tuition, lunches and coffee breaks to accepted participants. Accommodation, other meals and travel costs are extra, but we have a limited number of bursaries of 600 Euros per person, available on a competitive basis, to contribute towards the cost of travel and subsistence during your stay. Potential participants must apply for a place on the course, and provide the following information: a support statement of up to 500 words stating their relevant academic background and experience, their current work, and how the course will help them in the future. Additionally, in the case of a research student, a support statement from their supervisor is required.

Places on the course, and bursary support, will be awarded using the following criteria:

- residency in an ARTS COST country - see list of member countries on http://www.cost.eu/domains_actions/tud/Actions/TU1102/
- the 500 word support statement
- anticipated benefit to the applicant from the course
- suitability of the applicant's academic background.

How To Apply: applicants must fill in the Application Form available from www.cost-arts.org. There will be a limit to the number of participants on the course. Applicants are encouraged to apply as soon as possible. DEADLINE FOR RECEIPT OF APPLICATIONS: March 8th 2013.



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Schedule

Day 1: May 21, 2013

- 09:00 -- 09:30 Registration & Coffee/Tea
- 09:30 -- 10:00 Research at IFSTTAR/ENPC
- 10:00 -- 10:30 COST Network introduction & aims (Lee McCluskey)
 - Overall objectives, introduction to working groups, etc
- 10:30 -- 11:00 Objectives of the summer school (Neila Bhourri & Omer Rana)
- 11:00 -- 12:00 Traffic Modelling ... I (Jean Patrick Lebacque)
- 12:00 -- 12:15 Break and Discussion
- 12:15 -- 13:00 Traffic Modelling ... II (Jean Patrick Lebacque)

- 13:00 -- 14:00 Lunch break

- 14:00 -- 15:00 Motorway Traffic Control ... I (Markos Papageorgiou)
- 15:00 -- 15:15 Break and Discussion
- 15:15 -- 16:15 Motorway Traffic Control ... II (Markos Papageorgiou)
- 16:15 -- 16:30 Coffee break
- 16:30 -- 18:00 Poster Session

Day 2: May 22, 2013

- 09:00 -- 10:00 Urban Traffic Control ... I (Neila Bhourri)

10:00 -- 10:15 Coffee Break
10:15 -- 11:15 Urban Traffic Control ... II (Neila Bhourri)
11:15 -- 11:30 Break & Discussion
11:30 -- 12:30 Electric Vehicles & Modelling ... I (Liana Cipcigan)
12:30 -- 12:45 Break & Discussion

12:45 -- 14:00 Lunch break

14:00 -- 15:00 Electric Vehicles & Modelling ... II (Liana Cipcigan)
15:30 -- 16:00 Coffee break
16:00 -- 17:00 Pervasive Systems & Traffic Monitoring ... I (Rene Meier)
17:00 -- 17:15 Break & Discussion
17:15 -- 18:00 Pervasive Systems & Traffic Monitoring ... II (Rene Meier)

Day 3: May 23, 2013

09:00 -- 10:00 Machine Learning & Planning ... I (Daniel Borrajo)
10:00 -- 10:15 Coffee Break
10:15 -- 11:15 Machine Learning & Planning ... II (Daniel Borrajo)
11:15 -- 11:30 Break & Discussion
11:30 -- 12:30 Domain Modelling & Knowledge Engineering ... I (Lee McCluskey)
12:30 -- 12:45 Break & Discussion

12:45 -- 14:00 Lunch

14:00 -- 15:00 Domain Modelling & Knowledge Engineering ... II (Lee McCluskey)
15:30 -- 16:00 Coffee break
16:00 -- 17:00 Stream Processing & Analysis ... I (Omer Rana)
17:00 -- 17:15 Break & Discussion
17:15 -- 18:00 Stream Processing & Analysis ... II (Omer Rana)

Day 4: May 24, 2013

09:00 -- 10:00 Modelling of Stochastic Time Series ... I (Igor Grabec)
10:00 -- 10:15 Coffee Break
10:15 -- 11:15 Modelling of Stochastic Time Series ... II (Igor Grabec)
11:15 -- 11:30 Break & Discussion
11:30 -- 12:30 Multi-Agent Systems & Simulation ... I (Franziska Klugl)
12:30 -- 12:45 Break & Discussion

12:45 -- 14:00 Lunch

14:00 -- 15:00 Multi-Agent Systems & Simulation ... II (Franziska Klugl)
15:30 -- 16:00 Coffee break
16:00 -- 17:00 Autonomic Systems ... I (Manish Parashar)
17:00 -- 17:15 Break & Discussion
17:15 -- 18:00 Autonomic Systems ... II (Manish Parashar)