

The 11th Mini-EURO Conference:

1. Introduction

The 11th Mini-EURO Conference on Artificial Intelligence on Transportation Systems and Science was organized by Helsinki University of Technology, Laboratory of Transportation Engineering from 3 to 6 August 1999 at the Helsinki University of Technology campus area in Otaniemi (see also <http://www.hut.fi/Units/Transportation>).

The Conference was the post-serial Conference to the 9th Mini-EURO Conference organized in University of Belgrade in Budva September 1997. The aim of the conference was to bring together research scientists and students in the field of artificial intelligence in transportation engineering and science. The scope included all aspects of AI. Especially, the program committee was interested in papers concerning the applications of fuzzy logic, neural networks and genetic algorithms.

Sessions of the conference covered fuzzy set theory, traffic and transport planning, fuzzy traffic signal control, transport telematics, neural networks, traffic modeling, genetic algorithms, intelligent agents, public transport and traffic safety.

The conference was opened by invited lecture "The Self-Organizing Map method and its many applications" given by academic professor Teuvo Kohonen (HUT, Laboratory of Computer and Information Science, Neural Networks Research Centre).

The conference was a fruitful, interesting, enjoyable and rich experience for all participants, due to a very successful scientific part and attractive social activities. Before the 11th Mini-EURO Conference was organized EURO-Meeting of Transportation Group. Many participants attended both to the Meeting and to the Conference.

2. The Scientific Program

List of research papers:

1. Bielli M., Carotenuto P., Gentile C. and Landolfi O. (Italy)
Telematics Systems in the Italian Transportation Research Projects
2. Bingham E. (Finland)
Reinforcement Learning in Neurofuzzy Traffic Signal Control
3. Böcker J., Lind J., Zirkler B. (Germany)
Optimising the Train-Coupling and -Sharing System with a Multi-Agent Approach
4. Dia H. (Australia)
An object-oriented Neural Network Approach to Short-Term Traffic Forecasting
5. Dougherty M (Sweden), Van der Voort M. (Netherlands)
An Automata Theory for Autos
6. Felici G., Rinaldi G., Sforza A. (Italy), Truemper K. (USA)
Intelligent Traffic Control via Logic Programming
7. Gartner N.H., Stamatiadis C. (USA)
Advanced Traffic Signal Control Strategies for Intelligent Transportation Systems: A Multi-Level Design
8. Henn Vincent (France)
Fuzzy User Equilibrium Assignment Based on a Dynamic Route Choice Model
9. Kaczmarek M. (Poland)

Fuzzy Approach to Coordination of Arterial Traffic

10. Kalic M. (Yugoslavia)
Fuzzy System Sensitivity Analysis: An Example of Trip Generation in Air Transportation
11. Kikuchi S. and Miljkovic D. (USA)
Estimation of Origin-Destination Traffic Volumes along a Transit line: Use of Fuzzy Optimization Method
12. Kikuchi S. and Miljkovic D. (USA)
Optimization of Infrastructure Parameters Considering Interests of Many Stakeholders: Use of Fuzzy Multi-Objective Optimization Method
13. Könönen V., Mäenpää M., Nevala R. (Finland)
Development of Fuzzy Signal Controller
14. Kurri J. (Finland)
Fuzzy Car Route Choice With Non-Dynamic Stated Preference Data
15. Miljkovic D. and Kikuchi S. (USA)
A Process to Chain the Causes of a Traffic Accident and Remedies: Use of Dempster-Schafer Theory
16. Niittymäki J. (Finland)
Installation and Experiences of Field Tests of Fuzzy Signal Controller
17. Nishimura E., Imai A. and Papadimitriou S. (Japan)
Berth Allocation Planning in the Public Berth System by Genetic Algorithms
18. Roozmond D.A. (Netherlands)
Using Intelligent Agents for Urban Traffic Control Systems
19. Sayers T., Andersson J. (UK)
Using a Multi-objective Genetic Algorithm to Optimise the Parameters of a Fuzzy Logic Traffic Control System
20. Suominen P., Pursula M., Niittymäki J. (Finland)
The Aptimization of Membership Functions of Fuzzy Traffic Signal Control Using Genetic Algorithms
21. Turunen E.
Using Fuzzy Similarity in Solving Traffic and Transportation Problems
22. Uno N. and Iida Y. (Japan)
A Dynamic Control Model for Urban Expressway: An Application of Genetic Algorithm
23. Zak J. (Poland)
The Application of Rough Sets Theory in the Fleet Management of Transportation Companies

3. The Social Program

During the conference week a friendly atmosphere was always present, thanks to a rich and varied social program. There was also a special programme for accompanying persons. The social program included Finnish sauna, tram sightseeing and a conference dinner in Hvitträsk, the home and studio of three famous Finnish architects, Eliel Saarinen, Armas Lindgren and Herman Gesellius.

4. The Reviewing Process

This feature issue on Artificial Intelligence on Transportation Science on Systems contains 8 selected papers presented during the conference week. Papers went through a strict review process. The papers are:

Bingham E. *“Reinforcement Learning in Neurofuzzy Traffic Signal Control”*

Böcker J., Lind J., Zirkler B. *“Using A Multi-Agent Approach to Optimise the Train-Coupling and –Sharing System”*

Dia H. *“An Object-Oriented Neural Network Approach to Short-Term Traffic Forecasting”*

Malavasi G., Ricci S. *“Simulation of Stochastic Elements in Railway Systems Using Self Learning Processes”*

Niittymäki J., *“Installation and Experiences of Field Tests of Fuzzy Signal Controller”*

Nishimura E., Imai A., Papadimitriou S. *“Berth Allocation Planning in The Public Berth System by Genetic Algorithms”*

Roozmond D. A. *“Using Intelligent Agents For Pro-Active, Real Time Urban Intersection Control”*

Wahle J., Annen O., Schuster Ch., Neubert L., Schreckenber M. *“A Dynamic Route Guidance System Based on Real Traffic Data”*

Acknowledgements

We would like to express our gratitude to all these who helped to organize this conference. In particular, we are indebted to EURO for giving the opportunity to organize this conference. We would like to warmly thank the members of the Scientific and Organizing Committees. The special thanks we would like to remain to all our referees.

To edit such Feature Issue would not have been possible without the valuable help of many referees. The excellent work they have done is gratefully acknowledged. Our thanks goes also to prof. Jyrki Wallenius, associate editor of EJOR, who invited and helped us to act as guest editors. The work what we have done was not possible without the help of Ms. Kaisa Ronkainen.