

AIAEP Introduction

We are glad to introduce the IFIP AIAI 2009 Workshop on *Artificial Intelligence Applications in Environmental Protection* (AIAEP'2009). This is the first edition of this scientific forum under the IFIP framework.

The evolution of the climatic changes from the recent years has raised new challenges for the researchers in the environmental sciences that has to find new solutions to the environmental problems. Artificial intelligence can provide efficient tools for most environmental problems of monitoring, analysis, interpretation, forecasting, management, and control. The development of interdisciplinary research groups between specialists from environmental sciences and artificial intelligence can lead to new ideas and innovative applications in the area of environmental protection systems. We hope that AIAEP'2009 will be a good opportunity for the researchers to exchange ideas and to initiate new collaborations in this interdisciplinary area, as both, Artificial intelligence and Environmental protection are domains of strategic interest.

For this first edition, we received 12 papers and after a reviewing process, 9 papers were selected based on the judgement of two referees from the organising committee. The technical issues addressed by the selected papers for this workshop come from all environmental fields: water resources management, environmental accounting, wastewater treatment, maritime pollution, oil spill pollution, soil erosion risk assessment, air pollution dispersion assessment, detection and classification of waste on irregular terrains, residential fire detection, biological foaming in anaerobic digestion simulation and estimation of permeability of granular soil.

The artificial intelligence tools and techniques that were applied range from data mining, abductive reasoning, decision support systems, knowledge-based systems, expert systems, planning, autonomous

inspection robots, semantic techniques, fuzzy logic to artificial neural networks and neuro-fuzzy systems.

Acknowledgements

We would like to express our acknowledgements to many people and organisations: IFIP AIAI 2009 Technical and Workshop Programme Committees, IFIP, the organizers of the AIAI 2009, Prof. I. Vlahavas, Prof. I. Manolopoulos, and Assist. Prof. L. Iliadis.

The co-chairs like to express their thanks to the Programme Committee and the referees for their invaluable help and advice during the reviewing process. It has been a pleasure to work with them. Also, we like to thank to all the authors for their effort on writing the papers and for sharing their research work of applying Artificial intelligence in Environmental protection. Without their works the AIAEP'2009 workshop could not have been possible.

Mihaela Oprea¹ and Nick Bassiliades²

¹Department of Informatics
University Petroleum-Gas of Ploiesti
Romania.
mihaela@upg-ploiesti.ro

²Department of Informatics
Aristotle University of Thessaloniki
Greece
nbassili@csd.auth.gr

Organization Chairs

- Mihaela Oprea, *University Petroleum-Gas of Ploiesti, Department of Informatics, Romania*
- Nick Bassiliades, *Aristotle University of Thessaloniki, Department of Informatics, Greece*

Programme Committee

- Nick Bassiliades, *Aristotle University of Thessaloniki, Department of Informatics, Thessaloniki, Greece* (nbassili@csd.auth.gr)
- Vladan Devedzic, *Department of Information Systems and Technologies, University of Belgrade, Serbia and Montenegro* (devedzic@sbb.rs)
- Ioannis Douros, *Laboratory of Heat Transfer and Environmental Engineering, Aristotle University of Thessaloniki, Thessaloniki, Greece* (jdouros@aix.meng.auth.gr)
- Karina Gibert, *Statistics and Operations Research Department, Technical University of Catalonia, Barcelona, Catalonia, Spain* (karina.gibert@upc.edu)
- Tony Jakeman, *The Fenner School of Environment and Society, The Australian National University, Canberra, Australia* (tony.jakeman@anu.edu.au)
- Mihaela Oprea, *Department of Informatics, University Petroleum-Gas of Ploiesti, Ploiesti, Romania* (m_oprea@yahoo.com)

- Ignasi Rodríguez-Roda, *Laboratory of Chemical and Environmental Engineering (LEQUIA). University of Girona, Girona. Catalonia, Spain* (ignasi@lequia.udg.es)
- Miquel Sànchez-Marrè, *Knowledge Engineering & Machine Learning Group, Technical University of Catalonia, Barcelona, Catalonia, Spain* (miquel@lsi.upc.edu)
- Athanassios Tsadiras, *Department of Information Technology, Alexander Technology Educational Institute (ATEI) of Thessaloniki, Greece* (tsadiras@it.teithe.gr)
- Grigorios Tsoumakas, *Department of Informatics, Aristotle University of Thessaloniki, Greece* (greg@csd.auth.gr)
- Franz Wotawa, *Institute for Software Technology, Graz University of Technology, Austria* (wotawa@ist.TUGraz.at)