

DX-09

20th International Workshop on Principles of Diagnosis

June 14-17, 2009

Stockholm, Sweden

Submission Deadline: ~~March 20, 2009~~ March 26, 2009

Workshop Website: <http://www.isy.liu.se/dx09/>

Workshop email: dx09@isy.liu.se

Call for papers

The International Workshop on Principles of Diagnosis is an annual event that started in 1989 rooted in the Artificial Intelligence (AI) community. Papers presented at the workshop cover a variety of theories, principles, and computational techniques for diagnosis, monitoring, testing, reconfiguration, fault-adaptive control, and repair of complex systems. Applications of these theories, principles, and techniques to industry-related disciplines and other real world problems are also important topics of the workshop.

Like the previous workshops in this series, DX-09 encourages the interactions and the exchange of theories, techniques, applications, and experiences amongst researchers and practitioners from different backgrounds: Artificial Intelligence, Control Theory, Systems Engineering, Software Engineering and other related areas, who share an interest in different aspects of diagnosis, and the related fields of testing, reconfiguration, maintenance, prognosis, and fault-adaptive control.

DX is a lively forum that has traditionally adopted a single-track program with a limited number of participants in order to promote detailed technical exchange and debate while at the same time making efforts to develop synergistic approaches to solving real-world problems. One session will be devoted to *The Diagnostic Competition 2009 (DXC'09)* where results and winners will be presented. For more information see: <http://www.dx-competition.org/>

We welcome papers on topics that are related but not limited to the following:

- Formal theories and computational methods for diagnosis, that include monitoring, detection and isolation, testing, repair and therapy, reconfiguration, fault tolerance, diagnosability analysis, and other related topics.
- Modeling for diagnosis that includes symbolic, numeric, discrete, discrete-event, continuous, hybrid, probabilistic, functional, behavioral, qualitative, abstractions, and approximation methods. Effective modeling approaches for large systems are of particular relevance.

- Computational issues that address combinatorial explosion, use of structural and hierarchical knowledge, focusing strategies, resource-bounded reasoning, real time analysis, and other related topics.
- Diagnosis processes that include strategies for measurement selection, sensor placement, test actions design, active testing, embedded diagnosis systems, preventive diagnosis, fault tolerance strategies, fault-adaptive control, and distributed diagnosis.
- Bridge between DX (AI-based diagnosis methods) and other diagnosis methodologies: FDI, control-based techniques, statistical and probabilistic methods, design, model checking, machine learning, non-monotonic reasoning, planning, execution, real-time languages, software verification and validation, debugging, and hardware testing.
- Real-world applications and integrated systems in a wide range of fields including transportation systems, space and aeronautics, process industries, medical domains, and bioinformatics. Case studies of tech transfer that resulted in success or failure are especially welcome.

Location

DX-09 will be hosted by the Department of Electrical Engineering at Linköping University, Linköping, Sweden. The workshop will be held at Skepparholmen Hotell & Konferens. Skepparholmen is situated in Stockholm's inner-archipelago, a mere fifteen minutes from the city center, with a magnificent view over the Baltic Sea and the harbor of Stockholm.

People

Mattias Nyberg, Linköping University, Sweden (chair)

Erik Frisk, Linköping University, Sweden (chair)

Mattias Krysander, Linköping University, Sweden (chair)

Jan Åslund, Linköping University, Sweden (chair)

Anna Pernestål, Linköping University, Sweden

Carl Svärd, Linköping University, Sweden

Håkan Warnquist, Linköping University, Sweden

International Programme Committee

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Philippe Dague, University of Paris South, France

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Éric Fabre, INRIA/IRISA, France

Alban Grastien, NICTA and Australian National University, Australia

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Arjan van Gemund, Delft University of Technology, Netherlands

Alf Isaksson, ABB, Sweden
Johan de Kleer, PARC, USA
Stephane Lafortune, University of Michigan, USA
Jan Lunze, Ruhr-Universität Bochum, Germany
Pieter Mosterman, The MathWorks, Inc., USA
Sriram Narasimhan, Univ. of California, Santa Cruz & NASA Ames, USA
Gregory Provan, Cork College, Ireland
Belarmino Pulido, Univ. de Valladolid, Spain
Marcel Staroswiecki, Lille University, France
Peter Struss, Technical University of Munich, Germany
Markus Stumptner, University of South Australia, Australia
Daniele Theseider-Dupre, Università del Piemonte Orientale, Italy
Louise Travé-Massuyès, LAAS-CNRS, France
Franz Wotowa, Graz University of Technology, Austria
Mariana Zanella, University of Brescia, Italy

Important dates

- Paper submission deadline: March 26, 2009. Submission server closes at 10.00 CET.
- Notification of acceptance and rejections: May 6, 2009
- Preliminary program announcement: May 10, 2009
- Deadline for registration: May 13, 2009
- Deadline for final papers: May 22, 2009
- Workshop: June 14-17, 2009