

Proceedings

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9th International Workshop on  
**Discrete Event Systems**

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**WODES' 08**

May 28-30, 2008  
Göteborg, Sweden

<b>WeO1</b>	RunAn					
<b>Opening Session</b>						
Chair: Lennartson, Bengt		Chalmers Univ. of Tech.				
Co-Chair: Fabian, Martin		Chalmers Univ. of Tech.				
08:40-09:00	WeO1.1					
<i>Opening Remarks.</i>						
Lennartson, Bengt		Chalmers Univ. of Tech.				
Fabian, Martin		Chalmers Univ. of Tech.				
Boel, Rene K.		Univ. of Ghent				
Holmberg, John		Vice Pres. Chalmers Univ. of Tech.				
<b>WeP1</b>	RunAn					
<b>Plenary I: (Invited Session)</b>						
Chair: Kumar, Ratnesh		Iowa State Univ.				
09:00-10:00	WeP1.1					
<i>On Control and Cyber-Physical Systems: Challenges and Opportunities for Discrete Event and Hybrid Systems, p. 1.</i>						
Antsaklis, Panos J.		Univ. of Notre Dame				
<b>WeM1</b>	RunAn					
<b>Supervisory Control (Regular Session)</b>						
Chair: Lafortune, Stephane		Univ. of Michigan				
Co-Chair: van Schuppen, Jan		CWI				
10:20-10:40	WeM1.1					
<i>Covering-Based Supervisory Control of Partially Observed Discrete Event Systems for State Avoidance, pp. 2-8.</i>						
Hill, Richard		Univ. of Michigan				
Tilbury, Dawn M.		Univ. of Michigan				
Lafortune, Stephane		Univ. of Michigan				
10:40-11:00	WeM1.2					
<i>Coordination Control of Discrete-Event Systems, pp. 9-15.</i>						
Komenda, Jan		Czech Acad. of Sciences				
van Schuppen, Jan H.		CWI				
11:00-11:20	WeM1.3					
<i>Yet Another Approach to Compositional Synthesis of Discrete Event Systems, pp. 16-21.</i>						
Malik, Robi		Univ. of Waikato				
Flordal, Hugo		Chalmers Univ. of Tech.				
11:20-11:40	WeM1.4					
<i>Supervisory Control of DES with Distinguishing Sensors, pp. 22-27</i>						
Bouzon, Gustavo		Controlle Soluções em Mecatrônica				
de Queiroz, Max H.		Univ. Federal de Santa Catarina				
Cury, Jose E. R.		Univ. Federal de Santa Catarina				
11:40-12:00	WeM1.5					
<i>Opacity Enforcing Control Synthesis, pp. 28-35.</i>						
Dubreil, Jérémy		INRIA Rennes				
Darondeau, Philippe		INRIA Rennes				
Marchand, Herve		INRIA Rennes				
<b>WeM2</b>	Scania					
<b>Max-Plus Algebra and Max-Plus Systems I (Invited Session)</b>						
Chair: van den Boom, Ton J. J.		Delft Univ. of Tech.				
Co-Chair: Heidergott, Bernd		Vrije Univ. Amsterdam				
Organizer: De Schutter, Bart		Delft Univ. of Tech.				
Organizer: van den Boom, Ton J. J.		Delft Univ. of Tech.				
10:20-11:00	WeM2.1					
<i>Max-Plus Algebra and Max-Plus Linear Discrete Event Systems: An Introduction (I), pp. 36-42.</i>						
De Schutter, Bart		Delft Univ. of Tech.				
van den Boom, Ton J. J.		Delft Univ. of Tech.				
11:00-11:20	WeM2.3					
<i>Performance Analysis of Linear Systems Over Semiring with Additive Inputs (I), pp. 43-48.</i>						
Hardouin, Laurent		Univ. of Angers				
Cottenceau, Bertrand		Univ. of Angers				
Lagrange, Sébastien		Univ. of Angers				
Le Corrond, Euriel		Univ. of Angers				
11:20-11:40	WeM2.4					
<i>A Fast Approximation Algorithm for the Lyapunov Exponent of Stochastic Max-Plus Systems (I), pp. 49-54.</i>						
Merlet, Glenn		CNRS				
Heidergott, Bernd		Vrije Univ. Amsterdam				
Goverde, Rob		TU Delft				
11:40-12:00						
<i>Control of (max, +) Automata: Logical and Timing Aspects (I), pp. 55-60.</i>						
Komenda, Jan		Czech Acad. Of Sciences				
Lahaye, Sébastien		Univ. of Angers				
Boimond, Jean-Louis		Univ. of Angers				
<b>WeA1</b>	RunAn					
<b>SAT-Solving: Implementation, Applications and Extensions (Invited Session)</b>						
Chair: Sheeran, Mary		Chalmers Univ. of Tech.				
Co-Chair: Akesson, Knut		Chalmers Univ. of Tech.				
Organizers:						
Cimatti, Alessandro		FBK-irst				
Claessen, Koen		Chalmers Univ. of Tech.				
Een, Niklas		Cadence Res. Lab.				
Marques-Silva, Joao		Univ. of Southampton				
Sheeran, Mary		Chalmers Univ. of Tech.				
Sörensson, Niklas		Chalmers Univ. of Tech.				
Voronov, Alexey		Chalmers Univ. of Tech.				
Akesson, Knut		Chalmers Univ. of Tech.				
13:30-14:10	WeA1.1					
<i>SAT-Solving in Practice (I), pp. 61-67.</i>						
Claessen, Koen		Chalmers Univ. of Tech.				
Een, Niklas		Cadence Res. Lab.				
Sheeran, Mary		Chalmers Univ. of Tech.				
Sörensson, Niklas		Chalmers Univ. of Tech.				
14:10-14:30	WeA1.3					
<i>Beyond Boolean SAT: Satisfiability Modulo Theories (I), pp. 68-73.</i>						
Cimatti, Alessandro		FBK-irst				
14:30-14:50	WeA1.4					
<i>Practical Applications of Boolean Satisfiability (I), pp. 74-80.</i>						
Marques-Silva, Joao		Univ. of Southampton				
14:50-15:10	WeA1.5					
<i>Supervisory Control Using Satisfiability Solvers (I), pp. 81-86.</i>						
Voronov, Alexey		Chalmers Univ. of Tech.				
Akesson, Knut		Chalmers Univ. of Tech.				
<b>WeA2</b>	Scania					
<b>Stochastic Control and Analysis (Regular Session)</b>						
Chair: Cao, Xi-Ren		Hong Kong Univ. of Sci. & Tech.				
Co-Chair: Reveliotis, Spyros A.		Georgia Inst. of Tech.				
13:30-13:50	WeA2.1					
<i>IPA for Flow-Control Fluid Queues with Delays, pp. 87-92.</i>						
Adams, Richelle		Univ. of the West Indies				
Wardi, Yorai		Georgia Inst. of Tech.				
13:50-14:10	WeA2.2					
<i>Stochastic Optimization for Control of Maintenance Systems, pp. 93-98.</i>						
Farenhorst-Yuan, Taoying		Vrije Univ. Amsterdam				
Heidergott, Bernd		Vrije Univ. Amsterdam				
14:10-14:30	WeA2.3					
<i>Perturbation Analysis of Markov Chains, pp. 99-104.</i>						
Heidergott, Bernd		Vrije Univ. Amsterdam				
14:30-14:50	WeA2.4					
<i>Optimal Node Visitation in Acyclic Stochastic Digraphs with Multi-Threaded Traversals and Internal Visitation Requirements, pp. 105-112.</i>						
Bountourelis, Theologos		Georgia Inst. of Tech.				
Reveliotis, Spyros A.		Georgia Inst. of Tech.				
14:50-15:10	WeA2.5					
<i>Performance Analysis of Chi Models Using Discrete-Time Probabilistic Reward Graphs, pp. 113-118.</i>						
Trcka, Nikola		Eindhoven Univ. of Tech.				
Georgievska, Sonja		Eindhoven Univ. of Tech.				
Markovski, Jasen		Eindhoven Univ. of Tech.				
Andova, Suzana		Eindhoven Univ. of Tech.				
de Vink, Erik		Eindhoven Univ. of Tech.				

<b>WeK3</b>	Volvo		
<b>Benchmarking of Software Tools (Invited Session)</b>			
Chair: Giua, Alessandro	Univ. of Cagliari		
Co-Chair: Akesson, Knut	Chalmers Univ. of Tech.		
Organizer: Giua, Alessandro	Univ. of Cagliari		
Organizer: Akesson, Knut	Chalmers Univ. of Tech.		
15:10-15:50	WeK3.1		
<i>STSLib and Its Application to Two Benchmarks (I)</i> , pp. 119-124.			
Ma, Chuan	McMaster Univ.		
Wonham, Walter Murray	Univ. of Toronto		
15:10-15:50	WeK3.2		
<i>Libfaudes – an Open Source C++ Library for Discrete Event Systems</i> , pp. 125-130.			
Moor, Thomas	Univ. of Erlangen - Nuremberg		
Schmidt, Klaus	Univ. of Erlangen - Nuremberg		
Perk, Sebastian	Univ. of Erlangen - Nuremberg		
15:10-15:50	WeK3.3		
<i>Solving Two Supervisory Control Benchmark Problems Using Supremica (I)</i> , pp. 131-136.			
Miremadi, Sajed	Chalmers Univ. of Tech.		
Akesson, Knut	Chalmers Univ. of Tech.		
Fabian, Martin	Chalmers Univ. of Tech.		
Vahidi, Arash	Chalmers Univ. of Tech.		
Lennartson, Bengt	Chalmers Univ. of Tech.		
15:10-15:50	WeK3.4		
<i>Performing Fault Diagnosis for PNs Using G-Markings: A Benchmark Case (I)</i> , pp. 137-143.			
Basile, Francesco	Univ. degli Studi di Salerno		
Chiacchio, Pasquale	Univ. degli Studi di Salerno		
De Tommasi, Gianmaria	Univ. degli Studi di Napoli		
Del Grosso, Domenico	Univ. degli Studi di Salerno		
15:10-15:50	WeK3.5		
<i>A Comparison between Two Diagnostic Tools Based on Automata and Petri Nets (I)</i> , pp. 144-149.			
Lai, Stefano	Univ. of Cagliari		
Nessi, Davide	Univ. of Cagliari		
Cabasino, Maria Paola	Univ. of Cagliari		
Giua, Alessandro	Univ. of Cagliari		
Seatzu, Carla	Univ. of Cagliari		
<b>WeE1</b>	RunAn		
<b>Optimization of Discrete-Event and Hybrid Dynamical Systems (Invited Session)</b>			
Chair: Wardi, Yorai	Georgia Inst. of Tech.		
Co-Chair: Cassandras, Christos G.	Boston Univ.		
Organizer: Wardi, Yorai	Georgia Inst. of Tech.		
15:50-16:10	WeE1.1		
<i>Scalable Optimization Algorithms for Discrete Event Systems with Real-Time Constraints: An Overview of Recent Developments (I)</i> , pp. 150-155.			
Mao, Jianfeng	Boston Univ.		
Cassandras, Christos G.	Boston Univ.		
16:10-16:30	WeE1.2		
<i>Optimal Timing Control of Interconnected, Switched Systems with Applications to Robotic Marionettes (I)</i> , pp. 156-161.			
Martin, Patrick	Georgia Inst. of Tech.		
Egerstedt, Magnus	Georgia Inst. of Tech.		
16:30-16:50	WeE1.3		
<i>IPA for Delay Threshold Violation Using Stochastic Fluid Models (I)</i> , pp. 162-167.			
Panayiotou, Christos	Univ. of Cyprus		
Cassandras, Christos G.	Boston Univ.		
16:50-17:10	WeE1.4		
<i>An Improvement of Policy Gradient Estimation Algorithms (I)</i> , pp. 168-172.			
Li, Yanjie	Hong Kong Univ. of Sci. & Tech.		
Cao, Fang	Hong Kong Univ. of Sci. & Tech.		
Cao, Xi-Ren	Hong Kong Univ. of Sci. & Tech.		
17:10-17:30	WeE1.5		
<i>Monte-Carlo-Based Partially Observable Markov Decision Process Approximations for Adaptive Sensing (I)</i> , pp. 173-180.			
Chong, Edwin K. P.	Colorado State Univ.		
Kreucher, Christopher	General Dynamics		
Hero, Alfred O.	Univ. of Michigan		
<b>WeE2</b>	Scania		
<b>Controller Synthesis and Implementation (Regular Session)</b>			
Chair: Lesage, Jean-Jacques	ENS-Cachan		
Co-Chair: Roussel, Jean-Marc	ENS-Cachan		
15:50-16:10	WeE2.1		
<i>Asynchronous Implementation of Synchronous Discrete Event Control</i> , pp. 181-186.			
Xu, Songyan	Iowa State Univ.		
Kumar, Ratnesh	Iowa State Univ.		
16:10-16:30	WeE2.2		
<i>Algebraic Synthesis of Transition Conditions of a State Model</i> , pp. 187-192.			
Hietter, Yann	ENS-Cachan		
Roussel, Jean-Marc	ENS-Cachan		
Lesage, Jean-Jacques	ENS-Cachan		
16:30-16:50	WeE2.3		
<i>Extraction and Representation of a Supervisor Using Guards in Extended Finite Automata</i> , pp. 193-199.			
Miremadi, Sajed	Chalmers Univ. of Tech.		
Akesson, Knut	Chalmers Univ. of Tech.		
Lennartson, Bengt	Chalmers Univ. of Tech.		
16:50-17:10	WeE2.4		
<i>Reactive Control System Design Using the Supervisory Control Theory: Evaluation of Possibilities and Limits</i> , pp. 200-205.			
Cantarelli, Matteo	Univ. of Cagliari		
Roussel, Jean-Marc	ENS-Cachan		
<b>ThM1</b>	RunAn		
<b>Confluence of Controls and Computer Science in Discrete Event Systems (Invited Session)</b>			
Chair: Kumar, Ratnesh	Iowa State Univ.		
Co-Chair: Takai, Shigemasa	Kyoto Inst. of Tech.		
Organizer: Kumar, Ratnesh	Iowa State Univ.		
Organizer: Takai, Shigemasa	Kyoto Inst. of Tech.		
08:50-09:30	ThM1.1		
<i>Safety and Transition-Structure Preserving Abstraction of Hybrid Systems with Inputs/Outputs (I)</i> , pp. 206-211.			
Kumar, Ratnesh	Iowa State Univ.		
Zhou, Changyan	Iowa State Univ.		
Jiang, Shengbing	General Motors Corp.		
09:30-09:50	ThM1.3		
<i>Fault Diagnosis with Dynamic Observers (I)</i> , pp. 212-217.			
Cassez, Franck	CNRS		
Tripakis, Stavros	Cadence Design Syst.		
09:50-10:10	ThM1.4		
<i>A Topological Perspective on Diagnosis (I)</i> , pp. 218-224.			
Pinchinat, Sophie	IRISA		
Bauer, Andreas	ANU		
10:10-10:30	ThM1.5		
<i>State Identification Problems for Input/Output Transition Systems (I)</i> , pp. 225-230.			
Krichen, Moez	Verimag		
Tripakis, Stavros	Cadence Design Syst.		
Bensalem, Saddek	Univ. Joseph Fourier		
<b>ThM2</b>	Scania		
<b>Max-Plus Algebra and Max-Plus Systems II (Invited Session)</b>			
Chair: Komenda, Jan	Czech Acad. of Sciences		
Co-Chair: Butkovic, Peter	Univ. of Birmingham		
Organizer: De Schutter, Bart	Delft Univ. of Tech.		
Organizer: van den Boom, Ton J. J.	Delft Univ. of Tech.		
08:50-09:10	ThM2.1		
<i>State Feedback Stabilization of Single-Input Min-Max-Plus Systems (I)</i> , pp. 231-235.			
Tao, Yuegang	Chinese Acad. of Sciences		
Liu, Guoping	Univ. of Glamorgan		
Sun, Dehui	North China Univ. of Tech.		
09:10-09:30	ThM2.2		
<i>Generalised Eigenproblem in Max-Algebra (I)</i> , pp. 236-241.			
Cuninghame-Green, Raymond Albert	Univ. of Birmingham		
Butkovic, Peter	Univ. of Birmingham		

09:30-09:50	ThM2.3	13:50-14:10	ThA2.2
<i>Randomly Switching Max-Plus Linear Systems and Equivalent Classes of Discrete Event Systems. (I)</i> , pp. 242-247.		<i>Properties of Continuous Petri Nets Controlled Via Model Predictive Control</i> , pp. 293-299.	
van den Boom, Ton J. J.	Delft Univ. of Tech.	Giua, Alessandro	Univ. of Cagliari
De Schutter, Bart	Delft Univ. of Tech.	Mahulea, Cristian	Univ. of Zaragoza
09:50-10:10	ThM2.4	Recalde, Laura	Univ. of Zaragoza
<i>Dioid of Formal Power Series for the Determination of Performance Parameters of Communication Networks</i> , pp. 248-253.		Seatzu, Carla	Univ. of Cagliari
Daniel-Cavalcante, Mábía	State Univ. of Campinas	Silva, Manuel	Univ. of Zaragoza
Santos-Mendes, Rafael	State Univ. of Campinas	14:10-14:30	ThA2.3
10:10-10:30	ThM2.5	<i>Adaptive Petri Nets Implementation. the Execution Time Controller</i> , pp. 300-307.	
<i>Supervision of an Industrial Plant Subject to a Maximal Duration Constraint</i> , pp. 254-259.		Piedrafita Moreno, Ramón	Univ. of Zaragoza
Atto, Abdourrahmane	EMIG Niamey	Villarroel Salcedo, José Luis	Univ. of Zaragoza
Mahamane		14:30-14:50	ThA2.4
Martinez, Claude	IUT Nantes	<i>Modelling Automation Systems by UML and Petri Nets</i> , pp 308-313	
Amari, Sad'd	ENS Cachan	Basile, Francesco	Univ. degli Studi di Salerno
		Chiacchio, Pasquale	Univ. degli Studi di Napoli Federico II
<b>ThP1</b>	RunAn	Del Grosso, Domenico	Univ. degli Studi di Salerno
<b>Plenary II: (Invited Session)</b>		14:50-15:10	ThA2.5
Chair: Giua, Alessandro	Univ. of Cagliari	<i>Synthesis of Controllers Using Symbolic Reachability Graphs</i> , pp. 314-321.	
11:00-12:00	ThP1.1	Abid, Chiheb Ameur	Univ. of Tunis El Manar
<i>Model Checking Embedded and Real Time Systems</i> , p. 260.		Zouari, Belhassen	Univ. of Tunis El Manar
Larsen, Kim G.	Aalborg Univ.		
<b>ThA1</b>	RunAn	<b>ThE1</b>	RunAn
<b>Modeling Systems Biology from the Point of View of Discrete and Hybrid Systems (Invited Session)</b>		<b>Model Checking (Regular Session)</b>	
Chair: Antoniotti, Marco	Univ. Milano-Bicocca	Chair: Faure, Jean-Marc	ENS Cachan
Co-Chair: Kumar, Ratnesh	Iowa State Univ.	Co-Chair: Malik, Robi	Univ. of Waikato
Organizer: Antoniotti, Marco	Univ. Milano-Bicocca	15:30-15:50	ThE1.1
13:30-13:50	ThA1.1	<i>The Use of Language Projection for Compositional Verification of Discrete Event Systems</i> , pp. 322-327.	
<i>Modeling Systems Biology from the Point of View of Discrete and Hybrid Systems (I)</i> , pp. 261-262.		Ware, Simon Ian	Univ. of Waikato
Antoniotti, Marco	Univ. Milano-Bicocca	Malik, Robi	Univ. of Waikato
13:50-14:10	ThA1.2	15:50-16:10	ThE1.2
<i>Qualitative Modelling of Biological Regulatory Networks Combining a Logical Multi-Valued Formalism and Petri Nets (I)</i> , pp. 263-268.		<i>Verification of Initial-State Opacity in Security Applications of DES</i> , pp. 328-333.	
Chaouiya, Claudine	Aix - Marseille II Univ.	Saboori, Anooshiravan	Univ. of Illinois at Urbana-Champaign
14:10-14:30	ThA1.3	Hadjicostis, Christoforos	Univ. of Illinois at Urbana-Champaign
<i>From Discrete to Continuous and Back: Abstractions and Mesoscopic Phenomena in Cells (I)</i> , pp. 269-274.		16:10-16:30	ThE1.3
Halasz, Adam Miklos	Univ. of Pennsylvania	<i>Building Effective Formal Models to Prove Time Properties of Networked Automation Systems</i> , pp. 334-339.	
Julius, Agung	Univ. of Pennsylvania	Ruel, Silvain	ENS Cachan
Pappas, George J.	Univ. of Pennsylvania	de Smet, Olivier	ENS Cachan
Kumar, Vijay	Univ. of Pennsylvania	Faure, Jean-Marc	ENS Cachan
14:30-14:50	ThA1.4	16:30-16:50	ThE1.4
<i>Membrane Systems for Systems Biology a Survey (I)</i> , pp. 275-280.		<i>Generalised Nonblocking</i> , pp. 340-345.	
Besozzi, Daniela	Univ. of Milano	Malik, Robi	Univ. of Waikato
Mauri, Giancarlo	Univ. Milano-Bicocca	Leduc, Ryan	McMaster Univ.
Pescini, Dario	Univ. Milano-Bicocca		
Zandron, Claudio	Univ. Milano-Bicocca	<b>ThE2</b>	Scania
14:50-15:10	ThA1.5	<b>Control Applications (Regular Session)</b>	
<i>Discreteness, Hybrid Automata, and Biology (I)</i> , pp. 281-286.		Chair: Zaytoon, Janan	Univ. of Reims
Casagrande, Alberto	Univ. of Udine	Co-Chair: Ricker, S. Laurie	Mount Allison Univ.
Piazza, Carla	Univ. of Udine	15:30-15:50	ThE2.1
Policriti, Alberto	Univ. of Udine	<i>Collision Avoidance in Intelligent Transport Systems: Towards an Application of Control Theory</i> , pp. 346-351.	
<b>ThA2</b>	Scania	Bérard, Béatrice	Univ. Paris Dauphine
<b>Control of Petri Nets (Regular Session)</b>		Haddad, Serge	Univ. Paris Dauphine
Chair: Silva, Manuel	Univ. of Zaragoza	Hillah, Lom Messan	Univ. Pierre et Marie CURIE, Lab.
Co-Chair: Giua, Alessandro	Univ. of Cagliari	Kordon, Fabrice	Univ. Pierre et Marie CURIE, Lab.
13:30-13:50	ThA2.1	Thierry-Mieg, Yann	Univ. Pierre et Marie CURIE, Lab.
<i>The Application of Supervisory Control to Deadlock Avoidance in Concurrent Software</i> , pp. 287-292.		15:50-16:10	ThE2.2
Wang, Yin	Univ. of Michigan	<i>Discrete Event Control of an Unmanned Aircraft</i> , pp. 352-357.	
Kelly, Terence	HP Lab.	Fatemi B., S. Mehdi	Memorial Univ. of Newfoundland
Kudlur, Manjunath	Univ. of Michigan	Millan, James Patrick	National Res. Council
Mahlke, Scott	Univ. of Michigan	Stevenson, Jonathan D.	Memorial Univ. of Newfoundland
Lafortune, Stephane	Univ. of Michigan	Yu, Tina	Memorial Univ. of Newfoundland
		O'Young, Siu	Memorial Univ. of Newfoundland

16:10-16:30 ThE2.3  
*Velocity Balancing in Flexible Manufacturing Systems*, pp. 358-363  
 Kobetski, Avenir Chalmers Univ. of Tech.  
 Fabian, Martin Chalmers Univ. of Tech.

16:30-16:50 ThE2.4  
*Decentralized Motion-Coordination Policy for Cooperative Mobile Robots*, pp. 364-369.  
 Roszkowska, Elzbieta Wroclaw Univ. of Tech.

**FrM1** RunAn  
**Diagnosis (Regular Session)**  
 Chair: Pinchinat, Sophie IRISA  
 Co-Chair: Basile, Francesco Univ. degli Studi di Salerno

08:50-09:10 FrM1.1  
*Sufficient Conditions for Diagnosability of Petri Nets*, pp. 370-375.  
 Basile, Francesco Univ. degli Studi di Salerno  
 Chiacchio, Pasquale Univ. degli Studi di Salerno  
 De Tommasi, Gianmaria Univ. degli Studi di Napoli

09:10-09:30 FrM1.2  
*Decentralized Prognosis of Failures in Discrete Event Systems*, pp. 376-381.  
 Kumar, Ratnesh Iowa State Univ.  
 Takai, Shigemasa Kyoto Inst. of Tech.

09:30-09:50 FrM1.3  
*On-Time Diagnosis of Discrete-Event System*, pp. 382-387.  
 Mahajan, Aditya Univ. of Michigan  
 Teneketzis, Demosthenis Univ. of Michigan

09:50-10:10 FrM1.4  
*Decentralized Modular Diagnosis of Concurrent Discrete Event Systems*, pp. 388-393.  
 Zhou, Changyan Iowa State Univ.  
 Kumar, Ratnesh Iowa State Univ.  
 Sreenivas, Ramavarapu S. Univ. of Illinois

10:10-10:30 FrM1.5  
*Classification of Keystroke Dynamics - a Case Study of Fuzzified Discrete Event Handling*, pp. 394-399.  
 Herbst, Gernot Chemnitz Univ. of Tech.  
 Bocklisch, Steffen F. Chemnitz Univ. of Tech.

**FrM2** Scania  
**Modeling and Control (Regular Session)**  
 Chair: Boel, Rene K. Univ. of Ghent  
 Co-Chair: Fabian, Martin Chalmers Univ. of Tech.

08:50-09:10 FrM2.1  
*Enhancing Hybrid State Petri Nets with the Analysis Power of Stochastic Hybrid Processes*, pp. 400-405.  
 Everdij, Mariken National Aerospace Lab. NLR  
 Blom, Henk A.P. National Aerospace Lab. NLR

09:10-09:30 FrM2.2  
*Deriving Kripke Structures from Time Series Segmentation Results (I)*, pp. 406-411.  
 Tadepalli, Satish Virginia Tech.  
 Ramakrishnan, Naren Virginia Tech.  
 Mishra, Bud New York Univ.  
 Watson, Layne T Virginia Tech.  
 Helm, Richard F Virginia Tech.

09:30-09:50 FrM2.3  
*Supervisor Synthesis Based on Abstractions of Nondeterministic Automata*, pp. 412-418.  
 Su, Rong Eindhoven Univ. of Tech.  
 van Schuppen, Jan H. CWI  
 Rooda, J.E. Eindhoven Univ. of Tech.

09:50-10:10 FrM2.4  
*Communication of Distributed Discrete-Event Supervisors on a Switched Network*, pp. 419-424.  
 Schmidt, Klaus Univ. of Erlangen - Nuremberg  
 Schmidt, Ece Guran Middle East Tech. Univ.

10:10-10:30 FrM2.5  
*Relations between Networks of Standard Automata and Networks of I/O Automata*, pp. 425-430.  
 Lunze, Jan Ruhr-Univ. Bochum

**FrP1** RunAn  
**Plenary III: (Invited Session)**  
 Chair: Lennartson, Bengt Chalmers Univ. of Tech.

11:00-12:00 FrP1.1  
*Digital Manufacturing: The Nexus of the Real-Time Information Enterprise and the Digital Factory Using of Flexible Reconfigurable Equipment*, p. 431.  
 Biller, Stephan General Motors R&D Center

**FrA1** RunAn  
**Fault Diagnosis and Identification of Discrete Event Systems (Invited Session)**  
 Chair: Fanti, Maria Pia Pol. of Bari  
 Co-Chair: Seatzu, Carla Univ. of Cagliari  
 Organizer: Fanti, Maria Pia Pol. of Bari  
 Organizer: Seatzu, Carla Univ. of Cagliari

13:30-13:50 FrA1.1  
*Fault Diagnosis and Identification of Discrete Event Systems Using Petri Nets (I)*, pp. 432-435.  
 Fanti, Maria Pia Pol. of Bari  
 Seatzu, Carla Univ. of Cagliari

13:50-14:10 FrA1.2  
*Online Diagnosis of Discrete Event Systems Based on Petri Nets (I)*, pp. 436-442.  
 Basile, Francesco Univ. degli Studi di Salerno  
 Chiacchio, Pasquale Univ. degli Studi di Salerno  
 De Tommasi, Gianmaria Univ. degli Studi di Napoli

14:10-14:30 FrA1.3  
*Fault Diagnosis in Discrete Event Systems Modeled by Petri Nets with Outputs (I)*, pp. 443-448.  
 Ru, Yu Univ. of Illinois at Urbana-Champaign  
 Hadjicostis, Christoforos Univ. of Illinois at Urbana-Champaign

14:30-14:50 FrA1.4  
*On-Line Identification of Petri Nets with Unobservable Transitions (I)*, pp. 449-454.  
 Dotoli, Mariagrazia Pol. di Bari  
 Fanti, Maria Pia Pol. of Bari  
 Mangini, Agostino Marcello Pol. di Bari  
 Ukovich, Walter Univ. of Trieste

14:50-15:10 FrA1.5  
*Fault Model Identification with Petri Nets*, pp. 455-461.  
 Cabasino, Maria Paola Univ. of Cagliari  
 Giua, Alessandro Univ. of Cagliari  
 Hadjicostis, Christoforos Univ. of Illinois at Urbana-Champaign  
 Seatzu, Carla Univ. of Cagliari

**FrA2** Scania  
**Modular and Decentralized Control (Regular Session)**  
 Chair: Cury, Jose E. R. Univ. Federal de Santa Catarina  
 Co-Chair: Schmidt, Klaus Univ. of Erlangen - Nuremberg

13:30-13:50 FrA2.1  
*On Maximal Permissiveness of Hierarchical and Modular Supervisory Control Approaches for Discrete Event Systems*, pp. 462-467.  
 Schmidt, Klaus Univ. of Erlangen - Nuremberg  
 Breindl, Christian Univ. of Stuttgart

13:50-14:10 FrA2.2  
*New Results on the Nonconflict Test of Modular Supervisors*, pp. 468-473.  
 Pena, Patricia N. Federal Univ. of Minas Gerais  
 Carrilho da Cunha, Antonio Military Inst. of Engineering  
 Eduardo Cury, Jose E. R. Federal Univ. of Santa Catarina  
 Lafortune, Stephane Univ. of Michigan

14:10-14:30 FrA2.3  
*Controller Synthesis for an I/O-Based Hierarchical System Architecture*, pp. 474-479.  
 Perk, Sebastian Univ. of Erlangen - Nuremberg  
 Moor, Thomas Univ. of Erlangen - Nuremberg  
 Schmidt, Klaus Univ. of Erlangen - Nuremberg

14:30-14:50 FrA2.4  
*Multi-Decision Decentralized Control of Discrete Event Systems:  
 Application to the C&P Architecture*, pp. 480-485.  
 Chakib, Hicham Univ. of Sherbrooke  
 Khoumsi, Ahmed Univ. of Sherbrooke

14:50-15:10 FrA2.5  
*Asymptotic Minimal Communication for Decentralized Discrete-  
 Event Control*, pp. 486-491.  
 Ricker, S. Laurie Mount Allison Univ.

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**FrC1** RunAn

**Closing Session**

Chair: Lennartson, Bengt Chalmers Univ. of Tech.  
 Co-Chair: Åkesson, Knut Chalmers Univ. of Tech.

15:20-15:40 FrC1.1  
*Closing Remarks.*  
 Lennartson, Bengt Chalmers Univ. of Tech.  
 Silva, Manuel Univ. of Zaragoza