

International Workshop on Hybrid Systems
Modeling, Simulation and Optimization
May 14-16, 2008
Koç University, Istanbul

Wednesday, May 14

11:00 - 13:00 Registration

13:00 - 13:10 Welcome and Opening Remarks

–Yaman Arkun, Provost, Koç University

13:10 - 14:30 Session W1

–“Iterative Relaxation Abstraction for Verification and Design of Hybrid Systems”,
[Bruce H. Krogh](#), Department of Electrical and Computer Engineering, Carnegie
Mellon University, Pittsburgh, PA, USA

–“An Introduction of Hybrid Systems with Memory”, *H. Oktem*, A. Hayfavi, N.
Caliskan, N. Gokgoz, Institute of Applied Mathematics, METU, Ankara, Turkey

14:30 - 14:45 Coffee Break

14:45 - 15:45 Session W2

–“Reformulations, relaxations and cutting planes for generalized disjunctive
programming”, Nicholas Sawaya, [Ignacio E. Grossmann](#), Department of Chemical
Engineering, Carnegie Mellon University, Pittsburgh, PA, USA

15:45 - 16:00 Coffee Break

16:00-17:30 Session W3

–“Multi-Dimensional Particle Swarm Optimization”, *Serkan Kiranyaz*¹, Turker Ince²,
Alper Yildirim³, Moncef Gabbouj¹, ¹Tampere University of Technology, Tampere,
Finland, ²Izmir Economy University, Izmir, Turkey, ³TUBITAK, Ankara, Turkey

–“Modeling Hybrid Systems using Constraint Logic Programming”, *Ammar
Mohammed*, Computer Science Department, Koblenz-Landau University,
Universitaetsstrasse 1, 56070 Koblenz, Germany

–“Reformulations and Numerical Methods for Control Problems with Integer-Valued
Functions”, *Sebastian Sager*, Christian Kirches, Hans Georg Bock, Interdisciplinary
Center for Scientific Computing (IWR), University of Heidelberg, Germany

Thursday, May 15

09:30 - 11:00 Session T1

- “Time-stepping methods for large scale differential variational inequalities (DVI) in nonsmooth dynamics”, [Mihai Anitescu](#), Mathematics and Computer Science Division, Argonne National Laboratory, USA
- “Time-optimal Control of Automobile Test Drives with Gear Shifts”, *Christian Kirches*, Sebastian Sager, Hans Georg Bock, Interdisciplinary Center for Scientific Computing (IWR), University of Heidelberg, Germany

11:00 - 11:15 Coffee Break

11:15-12:45 Session T2

- “Analysis and numerical solution of hybrid differential algebraic systems”, [Volker Mehrmann](#), Institut für Mathematik, Technische Universität Berlin, Germany
- “A Switching Control Approach to Stabilization of Parameter Varying Time Delay Systems”, Peng Yan¹, *Hitay Ozbay*², ¹Enterprise Design Engineering, Seagate Technology, 1280 Disc Drive, Shakopee, MN 55379, USA, ²Department of Electrical and Electronics Engineering, Bilkent University, Ankara, 06800, Turkey

12:45-13:30 Lunch Break

13:30 - 15:30 Session T3

- “MPEC Strategies for Optimization of Chemical Process Dynamics”, B. T. Baumrucker, [Lorenz T. Biegler](#), Department of Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA, USA
- “Dynamic Modeling and Optimization of Circadian Clock”, *Ugur Kaplan*, I.Halil Kavakli, Metin Turkay, College of Engineering, Koc University, Istanbul, Turkey
- “Simulation of Mating Behavior in Flies”, Mehmet Kayım, *Aykut Kence*, Department of Biology, Middle East Technical University, Ankara, Turkey

15:30 - 15:45 Coffee Break

15:45 - 17:15 Session T4

- “Semismooth Hybrid Automata”, [Paul I. Barton](#), Mehmet Yunt, Chemical Engineering Department, Massachusetts Institute of Technology, Cambridge, MA, USA

- “A Model of Angiogenesis by Hybrid Systems with Delay on the Piecewise Constant part”, *Bulent Karasozen*, Hakan Oktem, Mustafa Kahraman, Department of Mathematics and Institute of Applied Mathematics, METU, Ankara, Turkey

19:00-23:00 Conference Dinner

Friday, May 16

09:30 - 11:00 Session F1

- “Constrained and Distributed Hybrid Control”, [Francesco Borrelli](#), Department of Mechanical Engineering, University of California at Berkeley, USA
- “Fuzzy L1 Norm Strategy for Model Based Control”, *Zehra ZEYBEK*, Ankara University, Department of Chemical Engineering, 06100 Tandoğan, Ankara, Turkey

11:00 - 11:15 Coffee Break

11:15-12:15 Session F2

- “Modeling and Optimal Control for Freeway Onramp Metering Based on the Piecewise Affine System”, *Liguo Zhang*, School of Electronic and Control Engineering, Beijing University of Technology, Beijing, China
- “A Mode-Based Hybrid Controller Design for Agile Maneuvering Unmanned F-16 Aircraft”, Nazim Kemal Ure, *Gokhan Inalhan*, Faculty of Aeronautics and Astronautics, Istanbul Technical University, Istanbul, Turkey

12:15-13:00 Lunch Break

13:00 - 14:30 Session F3

- “Differential Variational Inequalities and friends”, [David Stewart](#), Department of Mathematics, University of Iowa, IA, USA
- “Use of Hybrid System Modeling Technique for Robot-Assisted Rehabilitation Systems”, *Duygun Erol*, Department of Electrical and Electronics Engineering, Yeditepe University, Kayisdagi, Istanbul, Turkey

14:30 - 15:00 Concluding Remarks, Farewell

Sponsors



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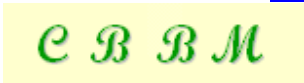


- [The European Office of Aerospace Research & Development \(EOARD\)](#)

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