

WORKSHOP ON NONLINEAR SYSTEM IDENTIFICATION BENCHMARKS

3RD EDITION, LIÈGE, BELGIUM, APRIL 11-13, 2018

PROGRAM

WEDNESDAY 11/04/2018

08.30 – 09.00	Registration	
09.00 – 09.30	Welcome & Introduction	J.P. Noël & M. Schoukens
09.30 – 10.30	Keynote 1	E. Chatzi – ETH Zürich, Switzerland Data-Driven Assessment of Engineered Systems: Beyond LTI
10.30 – 11.00	Coffee	
11.00 – 12.30	Session 1	T.O. Heinz, T. Münker and O. Nelles - Identification of Systems with Hysteretic Behavior Using NOBF Local Model Networks K. Karami, D. Westwick and J. Schoukens - Identification of Decoupled Polynomial NARX Models using Simulation Error Minimization J. Decuyper, A. Fakhrizadeh Esfahani, K. Tiels and J. Schoukens - Retrieving highly structured models starting from a black box state-space model: a case study on the Bouc-Wen hysteresis model
12.30 – 13.30	Lunch	
13.30 – 14.30	Keynote 2	A.C. Schouten – Delft University of Technology, The Netherlands Nonlinear cortical responses in EEG evoked by continuous wrist manipulations
14.30 – 15.00	Session 2	B. Peeters and P.Z Csurcsia - The use of exotic multisines in MIMO structural dynamics and acoustic applications
15.00 – 15.30	Coffee	
15.30 – 16.30	Session 3	M. Perne and M. Stepančič - Regressor selection using Lipschitz quotients on the F-16 aircraft benchmark M. Mazzoleni, M. Scandella and F. Previdi - Kernel manifold regression for the coupled electric drives dataset
16.30 – 17.00	Discussion Session 1	
19.00 – ...	Workshop Dinner	Antidote restaurant, Rue Souverain Pont 4

THURSDAY 12/04/2018

09.00 – 10.00	Keynote 3	J.A.K. Suykens – KU Leuven, Belgium Function estimation, model representations and nonlinear system identification
10.00 – 10.30	Session 4	M.R.-H. Abdalmoaty and H. Hjalmarsson - Application of a Linear PEM estimator to a stochastic Wiener-Hammerstein Benchmark Problem
10.30 – 11.00	Coffee	
11.00 – 12.30	Session 5	G. Birpoutsoukis and M. Schoukens - From the Volterra series to a Wiener-Hammerstein model M. Stepančić, M. Perne and J. Kocijan - Regularised NFIR identification with Gaussian process model D. Bouvier, T. Hélié and D. Roze - Phase-based homogeneous order separation for improving Volterra series identification
12.30 – 13.30	Lunch	
13.30 – 14.30	Keynote 4	P. Young – Lancaster University, UK State-Dependent Parameter (SDP) Nonlinear Models and a Hydrological Identification Benchmark
14.30 – 15.00	Session 6	N. Simidjievski, L. Todorovski, S. Džeroski, and J. Kocijan - Nonlinear System Identification with Equation Discovery
15.00 – 15.30	Coffee	
15.30 – 16.30	Session 7	P.Z. Csurcsia, J. Schoukens and B. Peeters - Nonparametric Approximation of the Nonlinear SilverBox Data: a Linear Time-varying Approach J. Schoukens - Simulation and Prediction Errors in the Presence of Model Errors: a Case Study on the Silverbox
16.30 – 17.00	Discussion Session 2	

FRIDAY 13/04/2018

09.00 – 10.00	Keynote 5	J. Gonçalves – University of Luxembourg, Luxembourg Challenges in system identification of biochemical systems
10.00 – 10.30	Session 8	R. Hostettler, F. Tronarp and S. Särkkä - Nonparametric Drift Model for Stochastic Differential Equations
10.30 – 11.00	Coffee	
11.00 – 12.00	Session 9	M. Schoukens and R. Tóth - From Nonlinear Identification to Linear Parameter Varying Models: Benchmark Examples A. Montazeri, M.M. Arefi and M. Kazemi - An Investigation of the Wiener Approach for Nonlinear System Identification Benchmarks
12.00 – 12.30	Discussion Session 3 & Closing	J.P. Noël & M. Schoukens
12.30 – 13.30	Lunch	

The Workshop on Nonlinear System Identification Benchmarks is organized with the support of:



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