

11th Workshop on Time-Delay Systems

(TDS'13)

**Grenoble, France
4-6 February 2013**

Editors:

**Emmanuel Witrant
Emilia Fridman
Luc Dugard**

**Alexandre Seuret
Olivier Sename**

ISBN: 978-1-62748-325-4

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2013) by Elsevier Limited
All rights reserved.

Printed by Curran Associates, Inc. (2013)

For permission requests, please contact the publisher, Elsevier Limited
at the address below.

Elsevier Limited
The Boulevard, Langford Lane
Kidlington OX5 1GB, United Kingdom

Phone: +44 (0)1865 844640
Fax: +44 (0)1865 843912

Email: eurobkinfo@elsevier.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

11th Workshop on Time-Delay Systems

Technical Program for Monday February 4, 2013

MoAMT1		KILIMANDJARO
Stability and Stabilization of TDS (Regular Session)		
Chair: Mondie, Sabine		CINVESTAV-IPN
11:00-11:20	MoAMT1.1	
<i>Constructive Method of Linear Systems with Delay Stability Analysis</i> , pp. 1-6.		
Medvedeva, Irina	Saint Petersburg State Univ.	
Zhabko, Alexei	Saint Petersburg State Univ.	
11:20-11:40	MoAMT1.2	
<i>Stability Criteria for the Single Delay Equation</i> , pp. 7-11.		
Cuvas, Carlos	CINVESTAV-IPN	
Mondie, Sabine	CINVESTAV-IPN	
11:40-12:00	MoAMT1.3	
<i>Necessary Conditions for the Stability of Multiple Time-Delay Systems Via the Delay Lyapunov Matrix</i> , pp. 12-17.		
Egorov, Alexey	Saint-Petersburg State Univ.	
Mondie, Sabine	CINVESTAV-IPN	
12:00-12:20	MoAMT1.4	
<i>Partial Spectrum Assignment for Systems with Delayed State Feedback</i> , pp. 18-23.		
Cacace, Filippo	Univ. Campus Biomedico di Roma	
Germani, Alfredo	Univ. dell'Aquila	
Manes, Costanzo	Univ. dell'Aquila	
12:20-12:40	MoAMT1.5	
<i>Full-State Feedback of Delayed Systems Using SOS: A New Theory of Duality</i> , pp. 24-29.		
Peet, Matthew M	Arizona State Univ.	
12:40-13:00	MoAMT1.6	
<i>A Bridge between Lyapunov-Krasovskii and Spectral Approaches for Stability of Difference Equations</i> , pp. 30-35.		
Damak, Sérine	Lab. Ampère, INSA-Lyon	
Ferhi, Ali	Lab. Ampère, INSA-Lyon	
Andrieu, Vincent	LAGEP, Univ. de Lyon 1	
Di Loreto, Michael	Lab. Ampère, INSA-Lyon	
Lombardi, Warody	Lab. Ampère, INSA-Lyon	
MoPM1T1		KILIMANDJARO
Robustness Issues in TDS (Regular Session)		
Chair: Michiels, Wim		K.U. Leuven
Co-Chair: Niculescu, Silviu-Iulian		Lab. of Signals and Systems (L2S)
14:30-14:50	MoPM1T1.1	
<i>Robust Smith Predictor Design for Time-Delay Systems with H-Infinity Performance</i> , pp. 102-107.		
de Oliveira, Vinicius	Norwegian Univ. of Science and Tech. (NTNU)	
Karimi, Alireza	Ec. Pol. Federale de Lausanne	
14:50-15:10	MoPM1T1.2	
<i>Substantiating Hill's Method for Linear Periodic Systems with Delay by Fredholm's Theory</i> , pp. 108-113.		
Lampe, Bernhard P.	Univ. of Rostock	
Rosenwasser, Efim N.	Marine Tech. Univ. of Saint Petersburg	
15:10-15:30	MoPM1T1.3	
<i>Computing the H2-Norm of Large-Scale Time-Delay</i>		

Systems, pp. 114-119.

Peeters, Jelle
Katholieke Univ. Leuven
Michiels, Wim
Katholieke Univ. Leuven

15:30-15:50 MoPM1T1.4

PID Tuning under Uncertain Conditions: Robust LMI Design for Second-Order Plus Time-Delay Transfer Functions, pp. 120-125.

Mozelli, Leonardo Amaral
Federal Univ. of São João del-Rei

Souza, Fernando de Oliveira
Federal Univ. of Minas Gerais

15:50-16:10 MoPM1T1.5

Critical Simple Imaginary Characteristic Roots and Invariance Properties for Quasipolynomials: A Missing Link, pp. 126-131.

Li, Xu-Guang
ESIEE Paris and SUPELEC-CNRS

Niculescu, Silviu-Iulian
Lab. of Signals and Systems (L2S)

Cela, Arben
UPE, ESIEE Paris

16:10-16:30 MoPM1T1.6

Robust Stability Conditions for Integral Delay Systems with Exponential Kernels, pp. 132-137.

Morales-Sánchez, Alejandro
IPICyT

Melchor-Aguilar, Daniel
IPICyT
Alejandro

 MoPM2T1 | | KILIMANDJARO |

Applications with TDS (Regular Session)

Chair: Rasvan, Vladimir
Univ. of Craiova

Co-Chair: Petit, Nicolas
MINES ParisTech

18:00-18:20 MoPM2T1.1

Some Remarks on Smith Predictor-Based Control with Distance Feedback for a 3-Dof Haptic System with Distributed Delays, pp. 209-214.

Liacu, Bogdan
Supélec

Moraescu, Irinel Constantin
Univ. de Lorraine

Niculescu, Silviu-Iulian
Lab. of Signals and Systems (L2S)

Andriot, Claude
CEA, LIST

Dumur, Didier
Supélec

Colledani, Frédéric
CEA, LIST

Boucher, Patrick
Supélec

18:20-18:40 MoPM2T1.2

A Hybrid Approach for the Estimation of Time-Varying Delays of Discrete-Time Systems, pp. 215-220.

Halimi, Meriem
Univ. de Lorraine, CRAN

Millérioux, Gilles
Univ. de Lorraine, CRAN

Daafouz, Jamal
Univ. de Lorraine, CRAN

18:40-19:00 MoPM2T1.3

Control of Drilling Vibrations: A Time-Delay System-Based Approach, pp. 221-226.

Boussaada, Islam
Lab. des Signaux et Systemes (L2S)

Cela, Arben
UPE, ESIEE Paris

Mounier, Hugues
Lab. des Signaux et Systèmes, CNRS, Univ. Paris Sud

Niculescu, Silviu-Iulian
Lab. of Signals and Systems (L2S)

19:00-19:20 MoPM2T1.4

Practical Delay Modeling of Externally Recirculated Burned Gas Fraction for Spark-Ignited Engines, pp. 227-232.

Bresch-Pietri, Delphine	MINES ParisTech
Leroy, Thomas	IFP Energies nouvelles
Chauvin, Jonathan	IFP Energies Nouvelles
Petit, Nicolas	MINES ParisTech

19:20-19:40 MoPM2T1.5

Nicholson's Blowflies Equation and a Delay Independent Aizerman Problem, pp. 233-236.

Rasvan, Vladimir	Univ. of Craiova
------------------	------------------

19:40-20:00 MoPM2T1.6

On Stability of Discrete-Time Delay-Difference Equations for Arbitrary Delay Variations, pp. 237-242.

Stankovic, Nikola	Supélec - CNRS
Olaru, Sorin	Supélec - CNRS
Niculescu, Silviu-Iulian	Lab. of Signals and Systems (L2S)

Technical Program for Tuesday February 5, 2013

TuAMT1 KILIMANDJARO

Infinite-Dimensional Systems (Regular Session)

Chair: Ozbay, Hitay	Bilkent Univ.
Co-Chair: Fridman, Emilia	Tel-Aviv Univ.

08:30-08:50 TuAMT1.1

On the H-Infinity Controller Design for a Magnetic Suspension System Model, pp. 315-319.

Karagul, Erdem	Bilkent Univ.
Ozbay, Hitay	Bilkent Univ.

08:50-09:10 TuAMT1.2

Delay-Dependent Methods: When Does the First Delay Interval Need a Special Analysis?, pp. 320-325.

Liu, Kun	Tel Aviv Univ.
Fridman, Emilia	Tel Aviv Univ.

09:10-09:30 TuAMT1.3

Mass Transport Equation with Moving Interface and Its Control As an Input Delay System, pp. 326-331.

Diagne, Mamadou	Lab. d'Automatique et de Génie des Procédés
Couenne, Françoise	Univ. of Lyon 1
Maschke, Bernhard	Univ. Claude Bernard of Lyon

09:30-09:50 TuAMT1.4

Observers and Initial State Recovering for a Wave Equation: An LMI Approach, pp. 332-337.

Fridman, Emilia	Tel-Aviv Univ.
-----------------	----------------

09:50-10:10 TuAMT1.5

Jensen's and Wirtinger's Inequalities for Time-Delay Systems, pp. 338-343.

Seuret, Alexandre	LAAS-CNRS, Univ. de Toulouse
Gouaisbaut, Frédéric	LAAS-CNRS, Univ. de Toulouse

10:10-10:30 TuAMT1.6

Dynamic Boundary Stabilization of Linear Parameter Varying Hyperbolic Systems: Application to a Poiseuille Flow, pp. 344-349.

Castillo, Felipe	Renault SAS - GIPSA Lab.
Witrant, Emmanuel	GIPSA-Lab. Univ. de Grenoble
Dugard, Luc	GIPSA-Lab. Univ. de Grenoble

TuPM1T1 KILIMANDJARO

Nonlinear Time Delay Systems (Invited Session)

Chair: Califano, Claudia	La Sapienza, Univ. di Roma
Co-Chair: Moog, Claude	CNRS

13:30-13:50 TuPM1T1.1

Input-To-State Stabilization in the L_p Space of Stabilizable Systems Described by Coupled Delay Differential and Difference Equations (I), pp. 422-427.

Pepe, Pierdomenico	Univ. of L'Aquila
--------------------	-------------------

13:50-14:10 TuPM1T1.2

Accessibility of Driftless Single Input Nonlinear Time-Delay Systems (I), pp. 428-433.

Califano, Claudia	La Sapienza, Univ. di Roma
Li, Shunjie	Nanjing Univ. of Information Science and Tech.

Moog, Claude	IRCCyN - Ec. Centrale de Nantes
--------------	---------------------------------

14:10-14:30 TuPM1T1.3

Computing an Input-Output Representation of a Neutral State-Space System (I), pp. 434-439.

Halas, Miroslav	Slovak Univ. of Tech.
-----------------	-----------------------

14:30-14:50 TuPM1T1.4

Control of Haptic Systems with Time-Varying Delay: A Novel Approach (I), pp. 440-445.

Dang, Quoc Viet	Univ. de Valenciennes et du Hainaut-Cambrésis
-----------------	---

Vermeiren, Laurent	Univ. de Valenciennes et du Hainaut-Cambrésis
--------------------	---

Dequidt, Antoine	Univ. de Valenciennes et du Hainaut-Cambrésis
------------------	---

Dambrine, Michel	Univ. de Valenciennes et du Hainaut-Cambrésis
------------------	---

14:50-15:10 TuPM1T1.5

State Space Realization for Systems with State Dependent Delay (I), pp. 446-451.

Verriest, Erik I.	Georgia Inst. of Tech.
-------------------	------------------------

15:10-15:30 TuPM1T1.6

Average Consensus in Switching Nonlinearly Coupled Networks with Time-Varying Delays, pp. 452-456.

Proskurnikov, Anton	St.-Petersburg State Univ.
---------------------	----------------------------

TuPL4T4 AUDITORIUM

Plenary 4: Pr. Pierdomenico Pepe ()

Chair: Fridman, Emilia	Tel-Aviv Univ.
------------------------	----------------

Co-Chair: Niculescu, Silviu-Iulian	Lab. of Signals and Systems (L2S)
------------------------------------	-----------------------------------

16:00-17:00 TuPL4T4.1

Input-To-State Stability of Nonlinear Functional Systems, pp. 523-534.

Pepe, Pierdomenico	Univ. of L'Aquila
--------------------	-------------------

TuPM2T1 KILIMANDJARO

Control and Observation of TDS (Regular Session)

Chair: Manes, Costanzo	Univ. dell'Aquila
------------------------	-------------------

Co-Chair: Gutman, Per-Olof	Tech. - Israel Inst. of Tech.
----------------------------	-------------------------------

17:00-17:20 TuPM2T1.1

Kalman Filtering for Discrete-Time Networked Control Systems with Incomplete Observations: A Dropping Over-Delayed Packets Approach, pp. 535-540.

Zhang, Yiming	Inst. de Recherche en Systèmes Electroniques Embarqués
---------------	--

Sircoulomb, Vincent	IRSEEM
---------------------	--------

Langlois, Nicolas	IRSEEM / ESIGELEC
17:20-17:40	TuPM2T1.2
<i>A Chain Approach for State Observation of a Class of MIMO Nonlinear Systems with Time-Varying Output Delays</i> , pp. 541-546.	
Cacace, Filippo	Univ. Campus Biomedico di Roma
Germani, Alfredo	Univ. of L'Aquila
Manes, Costanzo	Univ. of L'Aquila
17:40-18:00	TuPM2T1.3
<i>Tube-Based Direct Model Reference Adaptive Control in the Presence of State Time Delays</i> , pp. 547-552.	
Mirkin, Boris	Tech. -- Israel Inst. of Tech.
Gutman, Per-Olof	Tech. - Israel Inst. of Tech.
Shtessel, Yuri B.	Univ. of Alabama at Huntsville
18:00-18:20	TuPM2T1.4
<i>Integral Retarded Velocity Control of DC Servomotors</i> , pp. 553-558.	
Ramirez, Adrian	CINVESTAV-IPN
Garrido-Moctezuma, Rubén Alejandro	CINVESTAV-IPN
Mondie, Sabine	CINVESTAV-IPN
18:20-18:40	TuPM2T1.5
<i>Stabilization of N-Order Unstable Linear Delayed Systems with Possible Complex Conjugate Poles</i> , pp. 559-564.	
Hernandez Perez, Miguel Angel	Inst. Pol. Nacional, SEPI, ESIME Culhucan
del Muro Cuéllar, Basilio	Inst. Pol. Nacional
18:40-19:00	TuPM2T1.6
<i>Fault Detection in Linear Systems Subject to Uncertain Parameters and Time-Delay</i> , pp. 565-570.	
Souza, Fernando de Oliveira	Univ. Federal de Minas Gerais, Brazil
Rocha, Jansenn Silveira	Univ. Federal de Minas Gerais, Brazil
Mozelli, Leonardo Amaral	Federal Univ. of São João del-Rei
Palhares, Reinaldo Martinez	Univ. Federal de Minas Gerais, Brazil