

Schedule

Thursday 13, 9:00–9:30	Opening ceremony Louis Castex, Director of INSA, Michel Roustan, Vice-Director of INSA Scientific council, Lucien Baldas & Etienne Sicard, Directors of INSA International Relationship, Jean-Marie Dilhac, director of DGEI
Thursday 13, 9:30–10:15	13AM1 Noninvertible maps (page iv)
Thursday 13, 10:30–11:15	13AM2 Non linear maps in Economics (I) (page iv)
Thursday 13, 11:30–12:35	13AM3 Hybrid and nonsmooth systems (page iv)
Thursday 13, 14:00–14:45	13PM1 Computer simulations (page v)
Friday 14, 8:30–9:15	14AM1 Fractals (page v)
Friday 14, 9:15–10:00	14AM2 Telecommunications (page v)
Friday 14, 10:30–11:50	14AM3 Synchronization and transmission systems (page v)
Friday 14, 14:00–15:20	14PM1 Non linear maps in Economics (II) (page vi)
Friday 14, 15:30–16:10	14PM2 Bifurcations (page vi)
Friday 14, 16:30–17:30	14PM3 Poster session (page vii)
Friday 14, 17:10–17:30	Closure of the workshop

Technical Program

13AM1: Noninvertible maps

Date: December 13, 9:30–10:15

Room: DGEI 213

Chair: T. Ueta (Tokushima University, Japan)

13AM1-1 Succinct View of the Noninvertible Maps Features

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Christian Mira (Univ. Urbino)

13AM2: Non linear maps in Economics (I)

Date: December 13, 10:30–11:15

Room: DGEI 213

Chair: Clara Gracio (Evora University, Portugal)

13AM2-1 A two sectors growth model in an OLG context

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Anna Agliari (Catholic University- Piacenza)

13AM3: Hybrid and nonsmooth systems

Date: December 13, 11:30–12:30

Room: DGEI 213

Chair: G. Kolumban (Budapest Technical University, Hungary)

13AM3-1 Frequency Quantization in First-Order Digital Phase-Locked Loops with Frequency-Modulated Input

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Stefan Tertinek (University College Dublin), Alexey Teplinsky (National Academy of Sciences), Orla Feely (University College Dublin)

13AM3-2 A Nonlinear Time Varying Map Model for Buck DC-AC Inverters

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Abdelali El Aroudi (Universitat Rovira i Virgili), Eduard Alarcon (Universitat Ploitecnica de Cat)

13AM3-3 FPIC Based Stabilization of a One Dimensional Nonlinear Map Model for a Multi-Cell DC-DC Buck Converter

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Abdelali El Aroudi (Universitat Rovira i Virgili), Fabiola Angulo (Universidad Nacional), Bruno Robert (Université de Reims), Moez Feki (Université de Sfax), Gerard Olivar (Universidad Nacional)

13AM3-4 Ancient results on hybrid systems 18
Cristian Mira (Toulouse)

13PM1: Computer simulations

Date: December 13, 14:00–14:45

Room: DGEI 213

Chair: D. Fournier-Prunaret (Toulouse University, LATTIS-INSA, France)

13PM1-1 Visualization of unstable periodic points embedded in chaotic attractors by the directional coloring 23

Tetsushi Ueta (Tokushima University), Hiroshi Kawakami (Tokushima University)

14AM1: Fractals

Date: December 14, 8:30–9:15

Room: DGEI 213

Chair: C. Mira (Toulouse, France)

14AM1-1 From Iterations to Fractal Geometry: Applications in Electronics 28

Maciej J Ogorzalek (Jagiellonian University)

14AM2: Telecommunications

Date: December 14, 9:15–10:00

Room: DGEI 213

Chair: Y. Nishio (Tokushima University, Japan)

14AM2-1 LR-WPAN and UWB data communication systems: A new possible application for chaotic carriers 30

Géza Kolumbán (Budapest Univ. Tech, Economics), Tamás Krébesz (Budapest Univ. Tech, Economics)

14AM3: Synchronization and transmission systems

Date: December 14, 10:30–11:50

Room: DGEI 213

Chair: M. Ogorzalek (Krakow University, Poland)

14AM3-1 Improvement of synchronization performance for multi-user chaos-based DS-CDMA system 34

Kaddoum Georges (LATTIS/INSA & IRIT/ENSEEIH), Chargé Pascal (LATTIS/INSA), Fournier Prunaret Danièle (LATTIS/INSA), Roviras Daniel (IRIT/ENSEEIH)

14AM3-2 Synchronization Phenomena of Chaotic Map Lattice with Time Varying Coupling 38

Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University), Ruedi Stoop (UZH / ETH Zurich)

14AM3-3 Symbolic Dynamics and Networks Synchronization 42

Acilina Nascimento Caneco (ISEL and CIMA-UE, Portugal), Sara Fernandes (Univ. Evora and CIMA-UE, Por), Clara Gracio (Univ. Evora and CIMA-UE, Portu), Jose Leonel Rocha (ISEL, Portugal)

14AM3-4 A Digital Encoding Method Using Chaos 46

Yanjun Xu (INSA), Pascal Chargé (INSA), Daniéle Fournier-Prunaret (INSA), Abdel Kaddous Taha (INSA)

14PM1: Non linear maps in Economics (II)

Date: December 14, 14:00-15:20

Room: DGEI 213

Chair: Anna Agliari (Piacenza University, Italie)

14PM1-1 On non-uniquely defined forward looking models 50

Laura Gardini (Urbino University), Fabio Tramontana (Ancona University)

14PM1-2 An Economic Model of Coupled Exponential Maps 52

Ricardo Lopez-Ruiz (UNIZAR - Spain), Javier Gonzalez-Estevéz (UNET - Venezuela), Mario G. Cosenza (ULA - Venezuela), Juan R. Sanchez (UNMDP - Argentina)

14PM1-3 Duopoly game with alternative technologies 55

Tonu Puu (Umea University), Laura Gardini (Urbino University), Fabio Tramontana (Ancona University)

14PM2: Bifurcations

Date: December 14, 15:30-16:10

Room: DGEI 213

Chair: Ricardo Lopez-Ruiz (Zaragoza University, Spain)

14PM2-1 Method of Bifurcation Analysis of Hybrid Nonlinear Systems 57

Quentin Brandon (University of Tokushima), Tetsushi Ueta (University of Tokushima), Daniéle Fournier-Prunaret (INSA Toulouse)

14PM2-2 Nonlinear maps with vanishing denominator 61

Reda Mohamed Ferchichi (Univ. Annaba), Ilhem Djellit (Univ. Annaba)

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Jie Xu (INSA), Daniéle Fournier-Prunaret (INSA), Abdel Kaddous Taha (INSA), Pascal Chargé (INSA)		

14PM3: Poster session

Date: December 14, 16:30-17:30

Room: DGEI 213

Chair: Pascal Acco & Pascal Chargé (LATTIS-INSA, Toulouse University, France)

14PM3-1	Behavior of chaotic sequences under a finite representation and its cryptographic applications	68
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Bogdan Cristea (LATTIS-INSA), Pascal Chargé (LATTIS-INSA), Daniéle Fournier-Prunaret (LATTIS-INSA), Fabrice Peyrard (LATTIS-IUT), Jean-Jacques Mercier (LATTIS-IUT)

14PM3-2	The Cauchy's Method as Dynamical System	73
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Djellit Ilhem (Badji-mokhtar University), Sahari Mohamed L. (Badji-mokhtar University)

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Brahim Kilani (Université Badji-Mokhtar), Abdel Kaddous Taha (INSA), Daniéle Fournier-Prunaret (INSA), Ilhem Djellit (INSA)

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Boukemara Ibtissem (University of Annaba), Djellit Ilhem (University of Annaba)

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G Manjunath (INSA), Daniéle Fournier-Prunaret (INSA), Abdel Kaddous Taha (INSA), Pascal Chargé (INSA)