

2016 IEEE Workshop on Complexity in Engineering - COMPENG 2016

Catania (IT), July 4-5 2016

Program of the workshop

Monday 4 July 2016

10.00 Registration opens

10.30-11.00 Welcome

11.00-12.40 Plenary talks - Chair: Luigi Fortuna

11.00-11.50 plenary 1 Dr. Angelo A. Tuccillo (ENEA, FSN Department, C. R. Frascati, Italy): "Divertor Tokamak Test: A Complex Medium Size Experimental Fusion Plant"

11.50-12.40 plenary 2 Prof. Maide Bucolo (Universita' degli Studi di Catania, Italy): "Complexity in BioMicrofluidics Engineering"

12.40-14.00 Lunch

14.00-15.50 Plenary talks - Chair: Arturo Buscarino

14.00-14.50 plenary 3 Dr. Ciro Del Negro (Istituto Nazionale di Geofisica e Vulcanologia, Catania, Italy): "Engineering Complex Systems for Near-Real-Time Forecasting of Volcanic Hazards"

14.50-15.50 plenary 4 Prof. Giuseppe Nunnari (Universita' degli Studi di Catania, Italy): "Multifractal analysis of wind speed data"

15.50-16.10 Coffee break

16.10-18.30 Contributed talks - Chair: Riccardo Caponetto

R. Setola, G. Oliva, M. Tesei, Input-output Inoperability Model with Operative Conditions

E.B. Tchawou Tchuisseu, D. Gomila, P. Colet, Effects of Dynamic Demand Control Appliances on the Grid Frequency Stabilization

O. Sokolova, N. Korovkin, Power grid sustainability to solar storm effects as a function of state parameters

A. Cascio, D. Cavallaro, G. Greco, M. O. Spata, System complexity reduction approach in the modelling of a discrete power device

S. Rinaldi, F. Della Rossa, The fate of conflicts among N armed groups: Scenarios from a new paradigmatic model

E. Pugliese, R. Meucci, S. Euzzor, J.A.C. Gallas, Complex dynamics of a dc glow discharge: from a single element to synchronization

V. Zago, G. Bilotta, A. Cappello, R. A. Dalrymple, L. Fortuna, G. Ganci, A. Hercul, C. Del Negro, Simulating complex fluids with Smoothed Particles Hydrodynamics

20.00 Social dinner

Tuesday 5 July 2016

8.30-9.00 Registration opens

9.00-10.40 Plenary talks - Chair: Mattia Frasca

9.00-9.50 plenary 5 Prof. Mustak E. Yalcin (Istanbul Technical University): "Applications of Cellular Automata with Random Memory: Random Number Generator and Physical Unclonable Function"

9.50-10.40 plenary 6 Prof. Roberto Setola (Universita' Campus Bio-Medico di Roma, Italy): "How to evaluate the risk for interdependent Critical Infrastructures scenarios"

10.40-11.00 Coffee break

11.00-13.00 Contributed talks - Chair: Giuseppe Nunnari

F. Della Rossa, G. Mastinu, Multiple attractors in a vehicle and driver model

M. Pavone, A Review of Queueing-Theoretical Models and Large-Scale Coordination Algorithms for Autonomous Mobility-On-Demand Systems

R. Sacile, C. Bersani, S. Terribile, A Leontief Input-Output model-based decision support system for railway safety and maintenance operations

E. Costamagna, A Further Investigation about a Simple Model of the Hunting Behavior of Some Old Locomotives

F. Garofalo, F. Lo Iudice, E. Napoletano, Modeling the tendency toward herding in an artificial financial market

L. Carlone, G. Calafiore, C. Tommolillo, A Convex Relaxation Approach for 2D Pose Graph Optimization with Large Noise and Outliers

13.00-14.30 lunch

14.30-16.30 Contributed talks - Chair: Maide Bucolo

R. Meucci, S. Euzzor, E. Pugliese, S. Zambrano, Optimal Phase Control in the Duffing Oscillator: Energy Considerations

S.F. Abdalah, H. Al Hussein, K. A. Al Naimee, A. Al Khursan, A. H. Khedir, R. Meucci, F.T. Arecchi, Spiking synchronization in Quantum Dot Light Emitting Diodes

A. Buscarino, R. Caponetto, L. Fortuna and M.G. Xibilia, Real Time Experimental Identification of Chaotic Circuits

A. Colombo, F. Della Rossa, F. Dercole, C. Piccardi, Measuring Robustness of Nonlinear Models via Randomized Continuation

G. C. Calafiore, M. Ghirardi, A. Rizzo, Robust Dynamic Traffic Assignment under Demand and Capacity Uncertainty

F. Cairone, P. Anandan, M. Bucolo, Modelling Two-Phase Microfluidic Dynamics

16.30-16.50 coffee break

16.50-18.50 Contributed talks - Chair: Maria Gabriella Xibilia

F. Della Rossa, F. Dercole, C. Piccardi, Reciprocity supports selfish cooperation in heterogeneous social networks

A. Rizzo, L. Zino, Prediction of spread of epidemics in activity-driven networks

A. Buscarino, L. Fortuna, M. Frasca, L.V. Gambuzza, G. Nunnari, Synchronization of chaotic systems with time-varying interactions

P. DeLellis, A. Di Meglio, F. Lo Iudice, Evolving topologies in artificial financial networks

C. Foglietta, S. Panzieri, A. Baiocco, S. D. Wolthusen, Data Attacks Against Hierarchical State Estimation

M. T. Rashid, Design Nano-Robot Like Sperm Based On Piezoelectric Technique

18.50-19.00 Closing remarks