



# INDS`08

# 2008

@ KLAGENFURT

FIRST INTERNATIONAL WORKSHOP ON NONLINEAR DYNAMICS AND SYNCHRONIZATION

## DAY 1: JULY 18TH, 2008

Time	Location	Event	Session Chair
8:00-8:30	Foyer 1 <sup>st</sup> floor	<b>Registration</b>	
8:30-9:00	HS B	<b>Opening</b>	K. Kyamakya H. C. Mayr (Rector)
9:00-11:00	HS B	<b>Keynote: A Nonlinear Dynamics Perspective of Wolfram's New Kind of Science</b> <i>Prof. Leon O. Chua</i> <i>University of California, Berkeley, USA</i>	W. Halang
11:00-11:20	Foyer 1 <sup>st</sup> floor	<b>Coffee break</b>	
11:20-12:00	HS B	<b>Keynote: From Emergent Crowd Behavior to Self-organized Traffic Light Control</b> <i>Prof. Dirk Helbing</i> <i>Swiss Federal Institute of Technology Zurich, Switzerland</i>	C. Bettstetter
12:00-12:30	HS B	<b>Poster Teaser 1</b>	K. Kyamakya
12:30-13:15	Foyer basement	<b>Lunch</b>	
13:15-14:00	Foyer 1 <sup>st</sup> floor	<b>Poster Session 1: Applications of Nonlinear Dynamics and Synchronization (NDS)</b>	
		Performing Compression and Encryption Simultaneously using Chaotic Map <i>Kwok-Wo Wong, Ching-Hung Yuen</i> <i>City University of Hong Kong, Hong Kong</i>	
		Neural Networks for Approximating the Cost and Production Functions <i>Efthymios Tsionas, Panayotis Michaelides, Angelos Vouldis</i> <i>National Technical University of Athens, Greece</i>	
		Implementation of One Dimensional CNN array on FPGA, Based-on Verilog HDL <i>Alireza Fasih, Jean Chamberlain Chedjou, Kyandoghene Kyamakya</i> <i>University of Klagenfurt, Austria</i>	
		Clustering in VANETs <i>Sadaf Momeni, Mahmood Fathy</i> <i>Iran University of Science &amp; Technology (IUST), Iran</i>	
		Performance Comparison of Band-limited Baseband Synchronous CDMA Using between Walsh-Hadamard Sequence and ICA Sequence <i>Ryo Takahashi, Ken Umeno</i> <i>Center for Intellectual Property Strategies, RIKEN, Japan</i>	
		Evaluation of Nonlinear System Behaviors in Military Supply Chain <i>Sreeram Kumar Bhagavatula, Jean Chamberlain Chedjou, Kyandoghene Kyamakya</i> <i>University of Klagenfurt, Austria</i>	
		A Periodical Time-Variable Effect in OFDM Systems with Aliasing and a Sampling Frequency Offset <i>Ilias Trachanas, Norbert Fliege</i> <i>University of Mannheim, Germany</i>	

		Anticipation and Delocalization in Cellular Models of Pedestrian Traffic <i>Alexander Makarenko, Dmitry Krushinsky, Boris Goldengorin University of Groningen, Netherlands</i>	
		A Stable Path Selection Algorithm for Protecting Optical Networks using OBGP Backup Routing <i>Wen-fong Wang, Lih-Chyau Wuu National Yunlin University of Science &amp; Technology, Taiwan</i>	
		Component-based Face Detection in Colour Images <i>Jamal Dargham, Ali Chekima University Malaysia Sabah, Malaysia</i>	
14:00-14:40	HS B	<b>Keynote: Synchronization in Oscillatory Networks</b> <i>Prof. Juergen Kurths Potsdam University, Germany</i>	C. Bettstetter
14:40-15:20	HS B	<b>Invited Talk: Decisions and Chaos in a Complex Supply Chain</b> <i>H. Brian Hwarng National University of Singapore, Singapore</i>	C. Bettstetter
15:20-15:40	Foyer 1 <sup>st</sup> floor	<b>Coffee break</b>	
15:40-17:20		<b>Parallel Sessions P1 and P2</b>	
20 minutes per talk + 5 minutes discussion	P1: HS B P2: HS C	<b>P1: Nonlinear Dynamics in Supply Chains and Economy</b>	<b>P2: Applications of NDS in Technical Systems – 1</b>
		Non-Linear Dynamics in a Small-Open-Economy Model in the Euro Area <i>Panayotis Michaelides, Angelos Vouldis National Technical University of Athens, Greece</i>	Self-Organizing Sync in a Robotic Swarm <i>Vito Trianni, Stefano Nolfi National Research Council – CNR, Italy</i>
		Self-organized Optimization and Synchronization of Material Flow Networks with Decentralized Control <i>Reik Donner, Stefan Lämmer, Dirk Helbing Dresden University of Technology, Germany</i>	Adaptive Frequency Oscillators and Applications <i>Ludovic Righetti, Jonas Buchli, Auke Ijspeert Swiss Federal Institute of Technology, Switzerland</i>
		Multiple-Model Seismic Structural Control <i>Svetla Radeva, Alexandar Ichtev University of Architecture Civil Engineering &amp; Geodesy, Bulgaria</i>	Controlling EMI with A Chaotic Peak Current-mode Boost Converter <i>Zhong Li, H. Li, W.A. Halang, Juan Gonzalo Barajas Ramirez FernUniversität in Hagen, Germany</i>
		Modelling of a Three-Echelon Supply Chain: Stability Analysis and Synchronization Issues <i>K.R. Anne, J.C. Chedjou, S.K. Bhagavatula, K. Kyamakya University of Klagenfurt, Austria</i>	Application of Asynchronous Channels Method to the W-CDMA Systems <i>Etsushi Nameda, Hideaki Terai, Ming-hui Kao, Ken Umeno ChaosWare Inc., Japan</i>
17:20-18:00	Foyer 1 <sup>st</sup> floor	<b>Cold Beer Session</b>	
19:30-22:30		<b>Social Event</b>	

## DAY 2: JULY 19TH, 2008

Time	Location	Event	Session Chair
9:00-9:40	HS B	<b>Keynote: Towards a more Efficient Complex Problem Solving using Human-centric Type Computing Paradigms</b> <i>Prof. Janusz Kacprzyk</i> <i>Polish Academy of Sciences, Poland</i>	W. Halang
9:40-10:20	HS B	<b>Keynote: The Role of Computational Intelligence in Complex Decision Systems</b> <i>Prof. Da Ruan</i> <i>Belgian Nuclear Research Centre , Belgium</i>	W. Halang
10:20-11:40	Foyer 1 <sup>st</sup> floor	<b>Coffee break</b>	
10:40-11:20	HS B	<b>Keynote: Oscillatory Circuits and Synchronization in RF Circuit Design</b> <i>Prof. Dr.-Ing. Wolfgang Mathis</i> <i>Leibniz University of Hannover, Germany</i>	K. Kyamakya
11:20-12:00	HS B	<b>Keynote: Using Mathematical Modeling to Understand and Treat Periodic Hematological Disease</b> <i>Prof. Michael C. Mackey</i> <i>McGill University, Montreal, Quebec, Canada</i>	K. Kyamakya
12:00-12:30	HS B	<b>Poster Teaser 2</b>	K. Kyamakya
12:30-13:15	Foyer basement	<b>Lunch</b>	
13:15-14:00	Foyer 1 <sup>st</sup> floor	<b>Poster session 2: Theory of NDS</b>	
		Recursive Backstepping for Synchronization of Chaotic Systems <i>Ashraf Zaher</i> <i>Kuwait University, Science College, Kuwait</i>	
		Ultra Fast Object Counting Based on Cellular Neural Network <i>Alireza Fasih, Jean Chedjou, Kyandoghere Kyamakya</i> <i>University of Klagenfurt, Austria</i>	
		Detecting Dynamical Interdependence and Generalised Synchronisation using the Lorenz Method of Analogues <i>Erik Casagrande, David Lowe, Avgis Hadjipapas</i> <i>Aston University, United Kingdom</i>	
		Instability Driven by Dipole Resonances in Cold Atoms <i>Hugo Terças, José Tito Mendonça</i> <i>Instituto Superior Técnico, Portugal</i>	
		Ultrasonic Sensor Data Processing using Support Vector Machines <i>Dino Isa, Rajprasad Rajkumar</i> <i>University of Nottingham, Malaysia Campus, Malaysia</i>	
		System Identification using Symbolic Chaotic Sequence <i>Ajeesh Kurian, Henry Leung</i> <i>University of Calgary, Canada</i>	
		Models of Oscillatory Nonlinear Mappings <i>Wieslaw Sienko, Wieslaw Citko</i> <i>Maritime University, Poland</i>	
		Generation and Circuitry Implementation of N-double Scroll Delayed Chaotic Attractors <i>Lidan Wang, Shukai Duan, Xiaofan Yang</i> <i>Southwest University, P.R. China</i>	
		Cellular Neural Network Trainer and Template Optimization, based on Genetic Algorithm <i>Alireza Fasih, Jean Chedjou, Kyandoghere Kyamakya</i> <i>University of Klagenfurt, Austria</i>	
		Cumulant Analysis of Rössler Attractor <i>Luis A. Beltrán, V. Kontorovich, Z. Lovtchikova</i> <i>CINVESTAV IPN MX, Mexico</i>	

14:00-14:40	HS B	<b>Keynote: Modeling of Oscillations and Synchronization Phenomena in Large Scale Neuronal Networks</b> <i>Dr. Nikolai Rulkov</i> <i>University of California, San Diego, USA</i>		H. Unger
14:40-15:20	HS B	<b>Keynote: Self-organized Quasiperiodic Dynamics in Ensembles of Nonlinearly Coupled Oscillators</b> <i>Dr. Michael Rosenblum</i> <i>Potsdam University, Germany</i>		H. Unger
15:20-15:40	Foyer 1 <sup>st</sup> floor	Coffee break		
15:40-17:20		Parallel Sessions P3 and P4		
20 minutes per talk + 5 minutes discussion	P3: HS B P4: HS C	<b>P3: Theory of Synchronization</b>	<b>P4: Applications of NDS in Technical Systems – 2 (Computational Intelligence Issues)</b>	P3: N. Rulkov P4: A. Bouchachia
		A Linear Path Towards Self-Synchronization: Analysis of the Fully Locked Transition of the Kuramoto Model <i>David Roberts, Razvan Teodorescu</i> <i>Los Alamos National Laboratory, USA</i>	Ensemble Learning for Time Series Prediction <i>Abdelhamid Bouchachia, Saliha Bouchachia</i> <i>University of Klagenfurt, Austria</i>	
		Ragged Synchronizability and Clustering in a Network of Coupled Oscillators <i>Przemyslaw Perlikowski, Andrzej Stefanski</i> <i>Technical University of Lodz, Poland</i>	Feature Extraction for the Prognosis of Electromechanical Faults in Electrical Machines Through the DWT <i>Jose Antonino-Daviu, M. Riera-Guasp, M. Pineda-Sánchez, J. Pons-Llinares, R. Puche-Panadero</i> <i>Universidad Politecnica de Valencia, Spain</i>	
		Designing Couplings for Synchronization <i>Ioan Grosu, Servilia Oancea</i> <i>University of Medicine and Pharmacy "Gr.T.Popa", Romania</i>	Networks of Mixed Canonic-Dissipative Systems and Dynamic Hebbian Learning <i>Julio Rodriguez, Max-Olivier Hongler</i> <i>Ecole Polytechnique Federale de Lausanne, Switzerland</i>	
		Adaptive Synchronization of Lorenz System and Its Uses in Cryptanalysis <i>Ying Liu, Wallace Tang</i> <i>City University of Hong Kong, Hong Kong</i>	About a New Kind of Autonomous, Self-Adapting Agents and the Library Game Environment <i>Herwig Unger, Daniel Berg</i>	
17:20-17:30	HS B	<b>Closing Session: Feedback and diverse Announcements</b>		K. Kyamakya
17:30–18:30	Foyer 1 <sup>st</sup> floor	Cold Beer Session		