9th Chaotic Modeling and Simulation International Conference (CHAOS2016)

May 23-26, 2016, Senate House, University of London, UK

Program

Session / Room	Date / Time	Authors / Talk Title / Event	Authors / Talk Title / Event
1st Floor	9:00-10:00	**Monday May 23**	Registration
Chancellor's Hall	10:00-10:30	**Opening Ceremony** New Chaos Publications Handbook of Applications of Chaos Theory The foundations of Chaos revisited: From Poincaré to recent advancements	
	10:30-11:00		Coffee Break
Chancellor's Hall	11:00-11:40	**Plenary Session (Chair: Nikolaos D. Katopodes)** **Marian Wiercigroch** Centre for Applied Dynamics Research, School of Engineering, University of Aberdeen, UK	Unveiling Complexities of Non-smooth Dynamics: Theory and Experiments
Chancellor's Hall	11:40-12:20	**Plenary Session (Chair: Wolfgang Kinzel)** **Valerio Lucarini** University of Hamburg, Germany, University of Reading, UK	Response and Fluctuations in Geophysical Fluid Dynamics
Chancellor's Hall	12:20-13:00	**Plenary Session (Chair: Christos H Skiadas)** **Jean-Marc Ginoux** Université de Toulon, Laboratoire LSIS, UMR CNRS 7296, France	Albert Einstein: a biography through The New York Times
	23.05.16:13:00-14.00		Lunch

SCS1		SPECIAL AND CONTRIBUTED SESSIONS SCS1	
Room 1	23.05.16:14:00-15:00	**Chairs: Péter Koltai & Florian Rupp**	**Numerics of Chaos: Algorithms & Applications I**
		Detecting coherent sets with spacetime diffusion maps	Ralf Banisch
		Transfer Operator Families and Coherent Sets	Andreas Denner
		Determination of the Basin of Attraction by Computing Contraction Metrics	Peter Giesl
Room 2	23.05.16:14:00-15:00	**Chair: Valeriy S. Abramov, Co-Chair: Avadis S. Hacinliyan**	**Fractal Systems**
		Pairs of Vortex-Antivortex and Higgs Boson in a Fractal Quantum System	Valeriy S. Abramov
		Coherence Resonance, Multifractality and Precursors in noise-induced dynamics of thermoacoustic coupling	Lipika Kabiraj, Aditya Saurabh
		Multifractal Analysis of Digital Currency Parities	Avadis S. Hacinliyan, Gokhan Sahin, Haci A. Yildirim, E. Eray Akkaya, A. Cihan Keles,, Berc Deruni
Room 3	23.05.16:14:00-15:00	**Chair: Nikolaos D. Katopodes, Co-Chair: Sergey V. Prants**	**Flows**
		Interfacial Instability of Multi-Phase Flow on a Non-Inertial Frame	Nikolaos D. Katopodes
		Lagrangian simulation of transport in the ocean frontal areas	S.V. Prants, M.V. Budyansky, M.Yu. Uleysky
		Likely chaotic transitions of large-scale fluid flows using a stochastic transport model	Valentin Resseguier, Etienne Memin, Bertrand Chapron
Room 4	23.05.16:14:00-15:00	**Chair: Vladimir Kalashnikov**	**Optical Systems**
		Stochastic Calculations in Nonlinear Vector Optical Systems	Vladimir Kalashnikov, Sergey Sergeyev
		Vector Stochastic Properties of A Fibre Raman Amplifier	Vladimir L. Kalashnikov, Sergey V. Sergeyev
		Performance improvement of Chaos Optical Time Domain Reflectormetry in attenuation measurement	Yuanyuan Guo, Tong Zhao, Xiangyu Dong, Yuncai Wang, Anbang Wang
	23.05.16:15.00-15.30	**Coffee Break**	

SCS2		SPECIAL AND CONTRIBUTED SESSIONS SCS2	
1	23.05.16:15:30-17:00	**Chair: Marc SCIAMANNA**	**Complexity of spatio-temporal optical instabilities**
		Landscape and Complexity of Nonlinear Waves	Claudio Conti
		Evolutionary photonics: a review of recent results	Andrea Fratalocchi
		Controllable activation and inhibition of spiking patterns in Vertical Cavity Surface Emitting Lasers	Antonio Hurtado
		Liquid crystals for dynamic control of optical phase and wavefront shaping	Stefania Residori
		Practical applications of spatio-temporal instabilities in optical fibre systems	Sergei Turitsyn
		Dynamical interactions of counterpropagating Airy beams	Delphine Wolfersberger
2	23.05.16:15:30-17:30	**Chairs: Péter Koltai & Florian Rupp**	**Numerics of Chaos: Algorithms & Applications II**
		Lyapunov functions on finite time intervals: theory and a computational method	Sigurdur F. Hafstein
		Data-based methods for Lorenz-86: A simple atmospheric model.	Boumediene Hamzi
		The Numerical approximation of the invariant measure of levy driven stochastic differential equations	Erika Hausenblas
		Coherent Families: Spectral Theory for Transfer Operators in Continuous Time	Peter Koltai
		Morse-Conley-Forman theory for combinatorial vector fields	Marian Mrozek
		Chaotic Attractors in Stochastic Hopf-Bifurcations	Florian Rupp
3	23.05.16:15:30-17:30	**Chair: Rodrigo Miranda & Abraham Chian**	**Lagrangian coherent structures in fluids and plasmas**
		Lagrangian coherent structures in fusion plasmas	Dario Borgogno
		Magnetic coherent structures in space plasmas	Abraham Chian
		Beautiful geometries underlying oceanic nonlinear processes	Ana Mancho
		Lagrangian and Eulerian coherent structures in complex fluids and plasmas	Rodrigo Miranda
		Lagrangian coherent structures in geophysical flows	Maria Olascoaga
		Lagrangian coherent structures in wave generated flows	Hua Xia, N. Francois, H. Punzmann, M. Shats
4	23.05.16:15:30-16:30	**Chair: Olga P. Abramova**	**Fractal Patterns**
		Attractors and Deformation Field in the Coupled Fractal Multilayer Nanosystem	Olga P. Abramova, Andrii V. Abramov
		Exceptional Activity Pattern Detection Application Using Smart Watch Acceleration Sensor	EunKwang Jeon, Min Hong, HwaMin Lee
		Advances in Enhancing Fluid Transfer Capabilities Using Fractal Architecture	Surupa Shaw, Debjyoti Banerjee

4	23.05.16:16:30-17:30	**Chair: Wolfgang Kinzel, Co-Chair: Tatiana F. Filippova**	**Synchronization and Control**
		Differential Equations of Ellipsoidal State Estimates for Bilinear-Quadratic Control Systems under Uncertainty	Tatiana F. Filippova
		Chaos synchronization by resonance of multiple delay times	Wolfgang Kinzel
		Self-organisation of stochastic oscillators in a predator-prey model	Sara Moradi, Johan Anderson, Ozgur. D. Gurcan
		Sub-harmonic frequency lock-in and vortex shedding synchronization due to regular and irregular surface waves	Ezersky Alexander, Hans Gunnoo
	23.05.16: 17.30-18.00		**Welcome Reception**
		Tuesday May 24	
SCS3		**SPECIAL AND CONTRIBUTED SESSIONS SCS3**	
1	24.05.16: 9.00-10.40	**Chair: Antonio Palacios**	**Chaotic Oscillators**
		Inter-layer synchronization in multiplex networks of chaotic oscillators	I. Sendina-Nadal R. Sevilla-Escoboza, I. Leyva, R. Gutierrez, J.M. Buldu, S. Boccaletti
		On The Synchronization Phenomenon of Spin Torque Nano-Oscillators	James Turtle, Pietro-Luciano Buono, Antonio Palacios, Christine Dabrowski, Visarath In, Patrick Longhini
		Synchronization of Small-World Networks with Multi-Scroll Chaotic Oscillators	A.G. Soriano-Sanchez, C. Posadas-Castillo, M.A. Platas-Garza, C. Cruz-Hernandez, A.E. Loya-Cabrera
		A chaotic decomposition method into a linear harmonic oscillator with nonlinear feedback	Pep Canyelles-Pericas, Krishna Busawon
		Relation between the extended time-delayed feedback control algorithm and the method of harmonic oscillators	Kestutis Pyragas, Viktoras Pyragas
		A Network of Coupled Crystal Oscillators for Precision Timing	Pietro-Luciano Buono, Bernard Chan, Jocirei Ferreira, Antonio Palacios, Steven Reeves, Patrick Longhini, Visarath In
2	24.05.16: 9.00-10.30	**Chair: M. Munoz Guillermo**	**Theoretical Aspects of Chaos**
		Transition from Chaos to Order in a Classical Yang Mills Higgs System	A.S. Hacinliyan, B. Deruni, E.E. Akkaya, A.C. Keles
		QUANTIZATION OF ELLIPTICAL STADIUM BILLIARD	T. ARAUJO LIMA, F. M. DE AGUIAR
		Analyzing the existence of chaos in the Matsumoto-Nonaka duopoly	M. Munoz Guillermo, J. S. Canovas
		Innovations and Chaos in Economic Systems	Zakharchenko P.V., Zhvanenko S.A.

		Collective Motion in The Continents Formation	Dewi Lita Martanti, Fahrudin Nugroho
3	24.05.16: 9.00-10.30	**Chair: Ricardo Lopez-Ruiz, Co-Chair: Marek Lampart**	**Models and Modeling I**
		Verification of the dynamical properties of a bouncing ball model	Marek Lampart, Jaroslav Zapomel
		Existence and stability of coexistence states for a Lotka-Volterra competition model	Yanling Li, Hailong Yuan
		Gas-like Economic Models: from Exponential to Power-Law Distributions	Ricardo Lopez-Ruiz
		Surprising "quantum statistical" derivation of Landau damping: Discussion on simple models	G. Attuel, H. Yahia
	24.05.16: 10:30-11:00		**Coffee Break**
SCS4		**SPECIAL AND CONTRIBUTED SESSIONS SCS4**	
1	24.05.16: 11.00-13.10	**Chair: Jan Awrejcewicz, Co-Chair: Yiannis Dimotikalis**	**Bifurcation, Pendulum**
		Influence of Frequency Excitation on Bifurcational Behaviour in an Experimental 2-DoF Mechanical System with Stick-Slip Friction	Pawel Olejnik, Wojciech Kunikowski, Jan Awrejcewicz
		Bifurcation Analysis of Regulation of Bursting Discharge in DRG Neurons	Olga E. Dick
		Global Analysis of Bifurcations and Chaos in Low-Dimensional Dynamical Systems	Valery Gaiko
		Bifurcation Patterns of Compensated DC-DC Converters with Delays	Dmitrijs Pikulins
		Study of period doubling and homoclinic bifurcations in glow discharge plasma in the presence of a bar magnet	Pankaj Kumar Shaw
		Analysis of two simple pendulae interacting harmonically	Wojciech Szuminski
2	24.05.16: 11.00-13.00	**Chair: Shunji Kawamoto, Co-Chair: Zhouchao Wei**	**Lyapunov, Time Series**
		Testing for Chaos through Lyapunov exponents	Dominique Guegan, Clement Goulet, Philippe de Peretti
		Divergent fluctuations of Lyapunov exponents in Hamiltonian lattices	Juan M. Lopez, Diego Pazo, Antonio Politi
		Generating hidden hyperchaos in a 5D hyperchaotic Burke-Shaw system with three positive Lyapunov exponents	Zhouchao Wei, Wei Zhang, J.C. Sprott, Tomasz Kapitaniak
		Chaos Assessment in Economic Time Series through Multi-Resolution Analysis of the Lyapunov Exponent	Livio Fenga
		Chaotic Time Series by Time-Discretization of Periodic Function and Its Application to Engineering	Shunji Kawamoto
		Chaos and Order in Weather and Climate Dynamics	Dmitry M. Sonechkin

3	24.05.16: 11.00-13.00	**Chair: Christophe Letellier**	**Attractor Forms, Time Series**
		Architecture of chaotic attractors for flows in the absence of any singular point	Christophe Letellier, Jean-Marc Malasoma
		Build Of The Compound Chaotic Multiattractors With The Variable Composite Structure	V.G.Prokopenko
		Construction of compound chaotic multiattractors containing the same type of local attractors with different parameters	V.G.Prokopenko
		Attractors of multivalued maps	Miroslav Rypka
		ON THE SPACE OF TRANSITIVE MAPS	VINOD KUMAR P B
	24.05.16:13:00-14.00		**Lunch**
Excursion	24.05.16: 14.00-19.00		**Half Day Excursion**

Wednesday May 25

		CMSIM Members Meeting	
	25.05.16: 9.00-9.45		
Chancellor's Hall	25.05.16: 9:45-10:30	**Plenary Session (Chair: Dimitrios Sotiropoulos)** **Vic J Law** School of Mechanical and Materials Engineering, University College Dublin, Ireland	Plasma hysteresis and instability: A memory perspective
	25.05.16: 10:30-11:00		**Coffee Break**
Chancellor's Hall	25.05.16: 11.00-11.45	**Plenary Session (Chair: Vic J Law)** **Natalia Janson** Loughborough University, UK	Highly organized behaviour induced by noise in nonlinear networks and its control

Chancellor's Hall	25.05.16: 11.45-12.30	**Plenary Session (Chair: Christos H Skiadas)** **Gheorghe D. Mateescu** Department of Chemistry, Case Western Reserve University, USA	In vitro direct and in vivo indirect evidence for the existence of water monomers and the need of chaotic modeling to understand their role in life processes
	25.05.16: 12.30-13.00	**CMSIM Committee Meeting**	
	25.05.16: 13:00-14.00		**Lunch**
SCS5		**SPECIAL AND CONTRIBUTED SESSIONS SCS5**	
1	25.05.16: 14.00-15.10	**Chair: Ihor Lubashevsky, Co-Chair: Beatrice Venturi**	**Models and Modeling II**
		Stochastic Process with Chaotic Dynamics: Human Complex Behaviour in Multi-Factorial Decision-Making	Ihor Lubashevsky, Sergey Maslov, Namik Goussein-zade
		CHAOTIC SOLUTIONS AND GLOBAL INDETERMINACY IN A RESOURCE OPTIMAL MODEL	Beatrice Venturi
		On the Extension of the Nonlinear Feedback Loop in a Seven-dimensional Lorenz Model	Bo-Wen Shen
		Anthropogenic Seismicity in Colombia: quantitative probabilistic approach	Sebastian Gómez Alba, Carlos A. Vargas Jimenes
2	25.05.16: 14.00-15.10	**Chair: Marek Lampart, Co-Chair: Yiannis Dimotikalis**	**Time Series**
		Dynamical properties of traffic time series	Tomas Martinovic, Marek Lampart
		Exploring Strange Behaviour of Binomial Distribution Fitting to Online Ratings Data	Yiannis Dimotikalis
		Symbolic chaotic dynamics in radio communication systems	Mykola Kushnir, Sergii Galiuk, Paul Horley, Dmytro Vovchuk
3	25.05.16: 14.00-15.10	**Chair: Angela Jimenez-Casas**	**Models and Modeling III**
		Interplay of Turing and Wave instability in a three variable reaction-diffusion model	Jorge Carballido-Landeira, Igal Berenstein
		A Diamond growth model with VES production function. The role of the elasticity of substitution	Grassetti F., Mammana C., Michetti E.
		Asymptotic Behaviour of the Nonlinear Dynamical System Governing a Thermosyphon Model	Angela Jimenez-Casas
		Lump solitons in a higher-order nonlinear equation in 2+1 dimensions	P. G.Estevez, J. M. Cervero, E. Diez, E. Diaz, F. Dominguez-Adame

4	25.05.16: 14.00-15.10	**Chair: Jan Andres, Co-Chair: Jose C. Sartorelli**	**Theoretical Aspects of Chaos**
		Randomization of the Sharkovsky-type theorems	Jan Andres
		Invariant measure of a bounded iteration in R^d	G. Cirier
		Symmetry breaking and odd resonances	Jose C. Sartorelli, Gabriela I. Depetri, Boris Marin, Murilo S. Baptista
		A Generalized Stability Theorem for Non-autonomous Bidirectional Discrete Systems with Application	Lequan Min, Hongyan Zang
	25.05.16: 15:00-15:30		**Coffee Break**
SCS6		**SPECIAL AND CONTRIBUTED SESSIONS SCS6**	
1	25.05.16: 15.30-17.00	**Chair: Chris G. Antonopoulos, Co-Chair: Sungsoo Na**	**Biology, Chemistry and Chaos**
		Modelling the Brain: From Dynamical Complexity to Neural Synchronisation, Chimera-like States and Information Flow Capacity	Chris G. Antonopoulos
		Various unfolding behaviour of proteinaceous materials depending on loading stiffness conditions	Myeongsang Lee, Gwonchan Yoon, Hyun Joon Chang, Yoonjung Kim, Sungsoo Na
		A Novel S-box Algorithm Based on Chaotic Behavior of Soil Radon Gas	Fatih Ozkaynak
		Interaction Studies of a Thermo-sensitive Polymer synthesized In-vitro on the Kinetics of Belousov-Zhabotinsky Reaction	Ghulam Mustafa Peerzada, Nadeem Bashir, Showkat Ahmad Akhoon
		Kinetic Glassy Transition in Ultrathin C60 Film on WO2/W(110) surface	Sergey Bozhko
2	25.05.16: 15.30-17.40	**Chair: Alexander B. Ezersky, Co-Chair: Vic J Law**	**Chaotic Dynamics**
		Chaotic and ballistic dynamics in time-driven randomized and quasiperiodic lattices	Thomas Wulf
		Complex Dynamics In Hybrid Totalistic Cellular Automata Rule 3, 13 and 10	Lingna Zhao, Fangyue Chen, Bo Chen, Genaro J. Martinez
		Freezing, accelerating and slowing directed currents in real time with superimposed driven lattices	Aritra K. Mukhopadhyay
		A Study of Dynamics of the Tricomplex Polynomial η^p+c	Pierre-Olivier Parise, Dominic Rochon
		Chaotic synchronization between two dc glow discharge plasma sources via non intrusive coupling	Neeraj Chaubey, S. Mukherjee, A. N. Sekar Iyengar, A. Sen
		Impact of Interaction between Surface Waves and von Karman Street to the Bottom Sediments Transport	Isabelle Garcia-Hemrosa, Hans Gunnoo, Nizar Abcha, Alexander B. Ezersky

3	25.05.16: 15.30-17.40	**Chair: Ezequiel del Rio**	**Experiments and Chaos**
		Experimental results on chaotic intermittency	Ezequiel del Rio, Sergio Elaskar
		A Comparative Study on Experimental Realizations of Multiscroll Chaos Generators	Recai KILIC, Nimet KORKMAZ, Ismail OZTURK
		Efficient Selective Image Encryption with Public Key based on DNA Coding and Chaotic Maps	Ping Zhen, Xin Jin, Geng Zhao, Lequan Min
		Fermi acceleration in a FU-model with a structured particle	Kellen M. Siqueira, Marcus A. M. de Aguiar
		In-situ uncertainty identification on many solver adaptive space-trees in the ExaHyPE project	Dominic Etienne Charrier, Tobias Weinzierl
		Experimental Detection of Wave Chaos in Quasi-Optical Microwave Cavity Resonator	E.M. Ganapolskii, Zoya E. Eremenko, Ekaterina S. Kuznetsova
		Integrability checks for Nonlinear dynamical problems	Cristina Sardon
4	25.05.16: 15.30-17.40	**Chair: Gabriel V. Orman, Co-Chair: Christos H Skiadas**	**Stochastic and Complex Dynamics**
		In short about some stochastic techniques useful in the systems analysis	Gabriel V. Orman, Irinel Radomir, Sorina-Mihaela Stoian
		A first and second order approximation model for the first exit time densities problem	Christos H. Skiadas
		Entropy-complexity analysis in some globally coupled systems	Antoine Chrisment, Marie-Christine Firpo
		Universality and Statistical Nature of Turbulence, Quantum Mechanics, and Chaos	Siavash H. Sohrab
		Non-relativistic and relativistic ensemble predictions for the motion of a low-speed weak-gravity system	Shiuan-Ni Liang, Boon Leong Lan
		DYNAMICAL COMPLEXITY IN TIME SERIES FROM KEPLER FIELD: FROM ASTROPHYSICAL NOISE TO EXOPLANETS	Daniel Brito de Freitas
PS	25.05.16: 17:40-18:00	**POSTER SESSION** (The list is at the end of the program)	**POSTER SESSION**
	25.05.16: 20.00-23.00		**Farewell Dinner**

Thursday May 26

SCS7		SPECIAL AND CONTRIBUTED SESSIONS SCS7	
1	26.05.16: 9.00-10.40	**Chair: Dimitrios Sotiropoulos**	**Chaotic Dynamics**
		Entropy, chaos and independence in symbolic dynamics	Fryderyk Falniowski, M. Kulczycki, D. Kwietniak, J. Li
		Diagnosis of Dynamic Regimes of Chaotic Systems by Methods of Topological Data Analysis (TDA)	Irina Makarenko, Irina Knyazeva, Fedor Urtiev
		Complex Dynamics In Hybrid Totalistic Cellular Automata Rule 2 and 39	Meng Mengmeng, Fangyue Chen, Bo Chen, Genaro J. Martinez
		Study on Novel Chaos Generalized Synchronization Discrete Systems with Application	Haoze Tan, Jing Zhang, Deyi Liu, Luyi Sun, Qiuyuan Tan, Lequan Min
		The Estimation of Transmission Information Quality in Secure Communication Systems Based on Deterministic Chaos	Dmytro Vovchuk, Petro Ivaniuk, Serhii Haliuk
		Dynamical Heterogeneity and Aging in Turbulence with a Nambu-Goldstone Mode	Fahrudin Nugroho, Halim Hamadi, Yusril Yusuf, Pekik Nurwantoro, Ari Setiawan
		Heat bath. The case of Thermal ocean currents as open thermodynamic systems	Dimitios Dellaportas, Anna Alexandratou
2	26.05.16: 9.00-10.40	**Chair: Vic J Law**	**Laser, Optical Filters, Random Numbers**
		Flattening Power Spectrum of Chaotic Semiconductor laser Using an Optical Filter	Hong Han, Longsheng Wang, Tong Zhao, Anbang Wang, Yuncai Wang
		Experimental demonstration of photonic random bit generator by sampling laser chaos in the optical domain	Pu Li, Yuncai Wang
		Fault Location in TDM-PON with High Spatial Resolution Utilizing the Delay Signature of Chaotic Laser	Tong Zhao, Yuanyuan Guo, Hong Han, Xiaoming Chang, Yuncai Wang, Anbang Wang
		Fast True Random Number Generation with Optical Heterodyne Chaos at 5x80 Gb/s	Longsheng Wang, Anbang Wang, PuLi, Yuncai Wang
		Dynamical Complexity Induced by Frequencydependent Optical Feedback in Dual-section Passive Mode-locked Quantum-dash Laser at ~ 1.55 μm	Pramod Kumar, Haroon Asghar, Wei Wei, Declan Marah, Ehsan Sooudi, John G. Mclnerney

3	26.05.16: 9.00-10.40	**Chair: Alexander A. Potapov, Co-Chair: Aleksandr Yu. Shvets**	**Fractal Communication, Pendulum Systems**
		New Conception of Fractal Radio Device with Fractal Antennas and Fractal Detectors in the MIMO Systems	Alexander A. Potapov
		Frequency Coherence Function of a Radar Channel Forming Images of a Fractal Surface and Fractal Objects	Alexander A. Potapov, Alexander V. Laktyun'kin
		Scaling of the Fractals Antennas	Alexander A. Potapov, Victor A. Potapov
		The investigation of dynamics of non-ideal pendulum systems without any limitations of their parameters	Aleksandr Yu. Shvets
		The influence of delay factors on the genesis of deterministic chaos in non-ideal pendulum systems	Aleksandr Yu. Shvets, Alexander M. Makaseyev

26.05.16: 10:30-11:00		**Coffee Break**

SCS8	**SPECIAL AND CONTRIBUTED SESSIONS SCS8**	

1	26.05.16: 11.00-12:00	**Chair: Shunji Kawamoto, Co-Chair: Dimitrios Sotiropoulos**	**Models and Maps**
		2-D and 3-D Solvable Chaos Maps	Shunji Kawamoto
		The Structure of Robust Chaos in Two-dimensional Discontinuous Piecewise Maps	Ali Nadaf, Sandy Rutherford, Ralf Wittenberg
		The Ground Motion Spectrum of a Logistic Map Fault Slip Resembles that of a Constant Slip	Dimitrios Sotiropoulos
		Spectral properties of a spinet billiard	M. Pereira, F. M. de Aguiar
2	26.05.16: 11.00-12:00	**Chair: Yiannis Dimotikalis**	**Synchronization**
		The features of acoustic emission chaos at autowave solid-state chemical reactions	Klimchuk E.G., Parakhonskii A.L.
		Impulsive Synchronization between Chen-Lee Circuits for Chaos-based Secure Communications	Alexander George Mountogiannakis, Amalia Miliou
		Fatigue Data Editing for fatigue Time History signal based on Wavelet Transform	Mohd Faridz Mod Yunoh, Shahrum Abdullah, Zukifli Mohd Nopiah, Mohamad Hanif Md. Saad & Mohd Zaki Nuawi

3	26.05.16: 11.00-12:00	**Chair: Tatyana S. Krasnopolskaya**	**Chaos in Biology and Organisms**
		Self-organization in homeostasis of blood-vascular system of organism	Valeriy Grytsay
		Large number of steady states for animal populations in spatially heterogeneous environments	Diana Knipl
		Cardiorespiratory System with Strong Interaction	Tatyana S. Krasnopolskaya, Evgeniy D. Pechuk
		Visualization of erratic heart rhythms after heart transplantation by network tools	Danuta Makowiec, Joanna Wdowczyk
SCS9		**SPECIAL AND CONTRIBUTED SESSIONS SCS9**	
1	26.05.16: 12:00-13:15	**Chair: Avadis Hacinliyan, Co-Chair: Vic J Law**	**Models and Related Systems**
		Steady-state bifurcation for a biological depletion model	Jianhua Wu, Yane Wang, Yunfeng Jia
		Jerky Systems Derived From Sprott D and Sprott C Systems	Avadis Hacinliyan, Engin Kandiran
		On a nonlinear equation with partial derivatives disturbed by a viscoelastic factor	MEFLAH Mabrouk
		Innovation diffusion: a two-parameter competition model of mobile market	A.A. Balyakin, V.G. Zhulego
		Conception of a Cryptosystem by Blocks Using Chaotic Maps	Ibtissem TALBI, Soraya BOUGHABA
2	26.05.16: 12:00-13:00	**Chair: Alexander Valyaev**	**Risk Analysis**
		Some risk assessments at nuclear power plants (NPP).	Alexander Valyaev, Gurgen Aleksanyan, Alexey Valyaev, Oleg Arkhipkin
		Safety and risk analysis of an operational heater using bayesian network	Hamza Zerrouki, Abdallah Tamerabet
		The invariant representation model of a situation for the automatic summarization system	Elena Y. Buriak, Olga V. Lazarenko, Dmitrii I. Panchenko
3	26.05.16: 12:00-13:15	**Chair: Hugo Leiva, Co-Chair: Evgeni Kreerenko**	**Various Chaos Cases**
		THE PROCEDURE OF THE SYNTHESIS OF AUTOMATIC CONTROL OF THE AIRCRAFT CARRIER OF AEROSPACE COMPLEX WITH STRAPDOWN INERTIAL NAVIGATION SYSTEM (SINS)	Kreerenko Evgeny, Kreerenko Olga
		Controllability of the Semilinear Heat Equation with Impulses and Delays on the State	Hugo Leiva
		Semiautonomous Multiparametric Control in Electroacoustic Music: A primary approach to numerical procedural art	Edmar Soria
		Statistical Properties of Soft Mode Turbulence at The High Control Parameter in Nematic Liquid Crystal	Alvera Wulandhanik, Fahrudin Nugroho
		Interaction between a Single Soliton and an External Driving Wave Governed by Forced Benjamin-Ono Equation	Jiazhong Zhang, Peihua Feng, Yan Liu

	26.05.16: 13:00-14.00		**Lunch**
1	26.05.16: 14.00-14.30	**Members and Committee Meeting**	
	26.05.16: 14.30-15:00	**Closing Ceremony**	
	26.05.16: 15.00-15.30	**Fair Trade Tea and Coffee**	
Excursion	27.05.16	**Friday May 27 (9:00-18:00)**	**Full Day Excursion**

PS	**Poster Titles**	**Poster Authors**
	A Predictable Chaos	Marek Berezowski
	Effect of delayed feedback on thermoacoustic oscillations	Lipika Kabiraj, Beatriz M. Moran, Aditya Saurabh, C. O. Paschereit
	Derivation of the generalized nonlinear Schr?dinger equation of cosmogonical body formation and its application in exoplanet investigation	Alexander M. Krot
	Global modelling from unstable periodic orbits: Feasibility and the influence of the data on model quality	Christophe Letellier, Sylvain Mangiarotti, Luis A. Aguirre
	Effect Of Swirl On Aerodynamic Behavior in a Mixture Combustor (Air-C12h23)	Roudane Mohamed, BOUZAR Hind
	Role of noise threshold in the time statistics of avalanches recorded during plastic deformation	I.V. Shashkov, M.A. Lebyodkin, T.A. Lebedkina, V.S. Gornakov
	Metal-Insulator Phase Transition in a Nanocrystal: A Quantum Chaos Approach	S. Behnia, J. Ziaei, S. Fathizadeh
	The Mechanisms of Freedom, Uncertainty and Randomness in Strictly Formal Disharmonized Phenomena	Alexander V. Sosnitsky
	A Comparison between the most regular entropies employed to study bio-signals: Gait record study	Nargess Matin Azad, Ali Esteki
	Dynamics of Proton and Electron conductivity in DNA Chains	Sohrab Behnia, Samira Fathizadeh
	On The Optimality of Generalized Fractional Cubic Spline with Applications	Faraidun K. Hamasalh, Amina H. Ali

Determination of cell wall properties using a micro-mechanical compression model of apple tissue	Metadel K. Abera, Wondwosen A. Aregawi, Pieter Verboven, Bart Nicolai
Stability and chaos in a prey-predator model	Karima Bencharif
Study of Solar radiation dynamics using non-linear model	Ojo Olusola Samuel, Adelakun Adedayo Oke
Hopf Bifurcation Analysis in Generalized Lorenz Model	Anna Wawrzaszek, Agata Krasinska, Wieslaw Macek
Zero-Hopf Bifurcation in the Rossler Second and 3D Lotka-Volterra System	Rizgar H. Salih
Quantum-Size Effects in Thermoelectric Parameters of Nanostructures IV-VI	I.K. Yurchyshyn
Physics from Weak Chaos and Symmetry	Muhammad Yusuf and Tasrief Surungan
Interaction of scroll waves in an excitable medium: Reconnection and repulsion	Nirmali Prabha Das
Quantum chaos in planar hydrogen like atom confined in time-dependent billiards	Saparboy Rakhmonov, Olga Karpova, Jambul Yusupov
Design and Implementation of Multi-Stage Chaotic Ring Oscillator Based Random Number Generator in 45nm CMOS Process	JINCE JACOB, K. K. ABDUL SALAM
Amplified response in coupled chaotic oscillators by induced heterogeneity	E. Padmanaban, Suman Saha, M. Vigneshwaran, Syamal K. Dana
The research of phase transformations order-disorder in NiAl and CuZn alloys of equiatomic compositions	Aleksandra A. Chaplygina, Michail D. Starostenkov, Pavel A. Chaplygin
Tests to reduce toxicity of Lead by interaction selective: Lead/Zinc and Lead/Copper; In vitro Tests using Phaseolus-vulgaris plant	N.SAHRAOUI, T.BENAMRANE
Study of accidents scenarios related to chemical process	Benamrane B.T., Bourmada N., Sahraoui N
Bifurcation based parameter selection of PB model in DNA	R. Panahinia, S.Behnia
Attractors in Natural Convection	Sabiha.Aklouche-Benouaguef, Belkacem.Zeghmati
Numerical visualization of attractor in material scale analysis and characterization	Fairouz Bettayeb, Boubaker Boussiala, Amar Boutaghane
TRACE OF NEURAL NETWORK IN CHAOTIC ATTRACTOR	Ghaith Bouallegue, Kais Bouallegue
Attenuation of Dissipative Device Involving Coupled Wave Scattering and Change in Material Property	Nawaz, Rab
Seasonal dynamics of radio refractivity for selected locations in Nigeria using BDS Test	Ogunjo S. T., Fuwape I. A. Oluyamo S. S. Akinpelu S. B.
Hyperchaos in a Simple Four Dimensional Sprott B system	Ojoniyi Olurotimi, Njah Abdullahi
Homogenization method for the quadratic polynomial chaotic system	Hongan Zang, Huiang Huang, Hongyu Cai, Leqan Min