

Chaotic Modeling and Simulation International Conference (CHAOS2009)

June 1 -5, 2009 Chania Crete Greece

Program

Session / Room	Date / Time	Event	Talk Title / Event
		Monday June 1	
MAICh	17.00-20.00		Registration
		Tuesday June 2	
MAICh	8.30-10.00		Registration
Aristotle	10.00-10.40	Opening Ceremony	
Aristotle	10.40-11.30	Keynote Session (Chair: D. Sotiropoulos) Professor Sergey V. Prants, Pacific Oceanological Institute of the Russian Academy of Sciences	Quantum chaos with atoms in a laser field
MAICh	11.30-12.00		Coffee Break
SCS1		SPECIAL AND CONTRIBUTED SESSIONS SCS1	
Room 1	02.06.09: 12.00-13.40	Chair: Professor Maria D. Ruiz Medina	1. Special Session: Fractal Geometry in Biology
		Margarita Maria Rincon and Maria Dolores Ruiz-Medina	Fractal functional regression for classification of gene expression data by wavelets
		Maria Pilar Frias and Maria Dolores Ruiz-Medina	Functional wavelet-thresholding-based long-range dependence parameter estimation with missing data
		Maria Pilar Frias and Maria Dolores Ruiz-Medina	Functional-scalogram-based estimation of partially self-similar spatiotemporal models
		Fernández Pascual, R. and Ruiz Medina, M. D.	Fractal functional filtering and regularization
Room 2	02.06.09: 12.00-13.40	Chair: P. Goswami	MODELLING AND FORECASTING OF WEATHER PROCESSES: CHAOS AND NONLINEARITY
		P Goswami and K C Gouda	Impact of Choice of Ensemble on Long-range Forecasting of Monsoon Rainfall
		Olivier Talagrand	Assimilation of Observations in a Chaotic System
		J. Kurths, J. Donges, N. Marwan, and Y. Zou	Complex Networks in Climate Dynamics
		K. Rajendran	The Indian summer monsoon and its variability in high resolution Atmospheric Global General Circulation Models
		K. Mohanakumar	Coupling Processes in the Lower and Middle Atmosphere

Room 3		Chair: George Atsalakis	17. Special Session: " Extreme values in financial markets"
		José G. Vargas-Hernández	Economic, Social and Political Scenarios of Mexico in the Next Two Decades
		Serena Brianzoni, Cristiana Mammana, Elisabetta Michetti	Complex dynamics in an asset pricing model with updating wealth
		Yiannis Dimotikalis	Simulation of Multinomial Models for Oligopolistic Competition
		Cristina Coculescu, Radu Despa, Ovidiu Folcut	Possibilities of Incertitude Reflecting and Modeling in Economic Decision Process
Room 4	02.06.09: 12.00-13.40	Chair: A.G. Ramm	CHEMICAL ENGINEERING/CHAOTIC FLOWS
		Pavel Hasal and Ivan Fort	Chaos in mixing vessels
		Edward P. L. Roberts	Lamellar modelling of mixing processes in chaotic flows
		Cristina De Campos, Werner Ertel-Ingrisch, Diego Perugini, Donald B. Dingwell, and Giampero Poli	Chaotic Mixing in the system Earth: mixing Granitic and Basaltic Liquids
		E.P.Prokopiev	Possibilities of Presence of Schlögl Quasichemical Reactions in an Atmosphere of Own Silicon Defects
MAICH	02.06.09: 13.40-15.00		Lunch
Aristotle	02.06.09: 15.00-15.50	Keynote Session (Chair: S. V. Prants) Professor Alexander G. Ramm, Mathematics Department, Kansas State University, USA	<u>Acoustic and electromagnetic wave scattering by many small particles and creating materials with desired properties</u>
Aristotle	02.06.09: 15.50-16.40	Keynote Session (Chair: S. V. Prants) Professor Alfred Inselberg, School of Mathematical Sciences, Tel Aviv University, Israel	<u>Multidimensional Visualization and its Applications</u>
MAICH	02.06.09: 16.40-17.00		Coffee Break
Aristotle	02.06.09: 17.00-17.40	Keynote Session (Chair: A. Ramm) Professor K. S. Tsakalis, The Harrington Department of Bioengineering and Electrical Engineering, Arizona State University	<u>Chaos, Brain and Epilepsy: A Bioengineering approach</u>

SCS2		SPECIAL AND CONTRIBUTED SESSIONS SCS2	
Room 1	02.06.09: 17.40-19.40	Chair: Jan-Olov Aidanpää	BIFURCATION
		M.S. Zakyntinaki J.R. Stirling, A. López Díaz de Duran, C.A. Cordente Martínez, M. Sillero Quintana, J. Sampedro Molinuevo and G. Rodriguez Romo	Bifurcation and transport in the phase space of a nonlinear model of experimental human balance data
		Jan-Olov Aidanpää	Analysis of multiple solutions in bifurcation diagrams to avoid unexpected dynamics
		Majdi M. Alomari and Jian Gue Zhu	The Influence of Machine Saturation on Bifurcation and Chaos in Multimachine Power Systems
		Ke Qin and B. John Oommen	Distinguishing stochastic from chaotic nature of the data with applications in Mathematica
		Nikolay N. Zavalishin	Exploring stability, bifurcations and chaos in exploited resource-based trophic chains
Room 2	02.06.09: 17.40-19.40	Chair: C.T.J. Dodson	FRACTALS/ATTRACTORS
		Ioannis L. Stratakos, Michael G. Sakellariou	Characterization of multifractal patterns in rock discontinuities.
		Polychronis Manousopoulos, Vassileios Drakopoulos, and Theoharis Theoharis	Point cloud modeling using fractal interpolation
		Hengtai Jan, Ming-Chung Ho, and I-Min Jiang	Detecting weak phase locking in ill-defined attractors
		A.O.Kasyanov, V.A.Obukhovets	Full-Wave Analysis of a Frequency Selective Surfaces with Fractal-Type Elements
		A.M.Selvam	Universal Characteristics of Fractal Fluctuations in Prime Number Distribution
Room 3	02.06.09: 17.40-19.40	Chair: D. Sotiropoulos	PHYSICS /1
		Vanina E.A., Astapova E.S., Veselova E.M.	Ordered Dislocations in Solid after Radiation
		Michał Ławniczak, Oleh Hul, Szymon Bauch, and Leszek Sirko	Experimental and numerical investigation of graphs with and without time reversal symmetry
		Teimuraz N. Matcharashvili, Tamaz L. Chelidze, Natasha N. Zhukova, Eketerine V. Mepharidze	Synchronization of stick-slip acoustic emission caused by small influences
		Inga N. Serga	Dynamic enhancement and chaos elements in theory of a nucleus and electron internal conversion in nuclides
		R. Pakter, S. Marini, and F.B. Rizzato	Limiting curves, confinement and chaos in the dynamics of electrons in a Hall Thruster magnetic field configuration
		Andrew Beckwith	Bounds upon Graviton mass, and making use of the difference between Graviton propagation speed and HFGW transit speed to observe post Newtonian corrections to Gravitational potential fields.

Room 4	02.06.09: 17.40-19.40	Chair: P. Manneville	ENGINEERING
		C. D. Papageorgiou, T. E. Raptis	A TRANSMISSION LINE MODEL FOR THE SPHERICAL BELTRAMI PROBLEM
		H. L. Pécseli, J. K. Trulsen, Ø. Fiksen	Predators in Turbulent Water: An Analytical Model and a Numerical Test
		P. Manneville and L.A. Zepeda Nunez	Sub-critical transitions in coupled map lattices
		Jose Luis Lopez and Jesus Montejo Gamez	Wavefunction approach to Wigner–Fokker–Planck hydrodynamics by dissipation-based logarithmic Schrodinger models
		Athanasios Kalpakas, John Fasoulas and George Rovithakis	Modeling and Verifying an Innovative Biomass-based Thermal Energy System
		Trabelsi Karim, Ben Jemaa Zouhair and Belghith Safya	Sensitivity to parameter variation of time-delay feedback Chua's circuit
MAICh	02.06.09: 20.00-21.00		Welcome Reception
		Wednesday June 3	
SCS3		SPECIAL AND CONTRIBUTED SESSIONS SCS3	
Room 1	03.06.09: 9.00-10.40	Chair: M. Christodoulou	NEURAL NETWORKS
		Anastasios Saraidaros and Athanasios Margaris	Neural Networks and Outliers identification in ATHEX stocks and indices series
		Manolis A. Christodoulou, Dimitris C. Theodoridis, Yiannis A. Boutalis	Neuro-Fuzzy Nonlinear Dynamical System Approximations using High Order Neural Networks
		Manolis A. Christodoulou*, Dimitris C. Theodoridis**, Yiannis A. Boutalis**	Weight Tracking in Nonlinear System Identification via Fuzzy High Order Neural Network Function Approximation
		Athanasios Margaris and Miltiadis Adamopoulos	Identifying Fixed Points of Henon Map Using Artificial Neural Networks
Room 2	03.06.09: 9.00-10.40	Chair: Pier A. Mello	PHYSICS /2
		I. V. Ermakov, G. Van der Sandea, L. Gelens, A. Scirè, P. Colet, C. R. Mirasso, V.Z. Tronciu, and J. Danckaert	Numerical Investigation of Semiconductor Ring Lasers with Two External Cavities
		A. Quirce, A. Hurtado A. Valle, L. Pesquera, M. J. Adams	Experimental study of the nonlinear polarization dynamics induced by orthogonal optical injection in 1550 nm-Vertical-Cavity Surface-Emitting Lasers
		WD Heiss	The onset of chaos in quantum phase transitions
Room 3	03.06.09: 9.00-10.40	Chair: Leonidas Pantelidis	ASTROPHYSICS /COSMOLOGY
		Barbara Pichardo, Octavio Valenzuela, Angeles Perez-Villegas, Edmundo Moreno	Realistic Analytical Milky Way Potential for Orbital Analysis
		Maurice LALOUM	COSMOLOGICAL DARK ENERGY THROUGH NEUTRINO OSCILLATIONS, AND QUANTUM MECHANICS
		Maurice LALOUM	Balance and Structure of the Galaxy, with Antimatter and Dark Matter, Through Thermodynamics of the Cosmic Rays

Room 4	03.06.09: 9.00-10.40	Chair: Alfred Inselberg	CHAOTIC SYSTEMC
		Alexander B. Mikishev, Alexander A. Nepomnyashchy and Boris L. Smorodin	Parametric excitation of a longwave Marangoni convection
		Ming-Chung Ho, Ming-Chi Lu, Chia-Ju Liu, Chia-Yi Chou	Function cascade synchronization scheme with fully unknown parameters for chaotic and hyperchaotic systems
		V.Yu.Novokshenov	Multifrequency autoresonance and Whitham averaging of integrable systems
		David Becerra Alonso and Valery Tereshko	Local and Global Lyapunov Exponents in a Discrete Mass Waterwheel
Aristotle	03.06.09: 10.40-11.30	Keynote Session (Chair: G. Rega) Professor Marco Amabili, Department of Mechanical Engineering, McGill University, Canada	<u>Chaotic Vibrations of Circular Cylindrical Shells: Galerkin versus reduced-order models</u>
MAICH	11.30-12.00		Coffee Break
SCS4		SPECIAL AND CONTRIBUTED SESSIONS SCS4	
Room 1	03.06.09: 12.00-14.00	Chair: Hans Liljenstrom, Hans A Braun	18. Special Session-Workshop: "Multiscalar Neurodynamics - from Physiology to Systems Theory"
		Svetlana Postnova and Hans A Braun	Functional Implications of Tonic, Bursting and Chaotic Impulse Patterns on Neuronal Synchronization
		Braun HA and Postnova S	Deterministic and Noise induced Chaos in Neuronal Impulse Patterns
		Epaminondas Rosa	Synchronization in Chaotic Systems: from Plasma to Chua to Neurons
		Hans Liljenstrom	Noise and Chaos in Brain Dynamics
		Christian Finke and Ulrike Feudel	On the Role of Subthreshold Currents in a Mammalian Cold Receptor Model
		Marcel Beuler and Werner Bonath	Architecture of a Digital Neuron-Core for real-time Computation
		Werner Bonath, Marcel Beuler	Architecture of a Digital Neuron-Core for real-time Computation
Room 2	03.06.09: 12.00-14.00	Chair: M. Christodoulou	NONLINEAR SYSTEMS
		A.G. Ramm	Chaos in an infinite-dimensional dynamical system
		Omur Umut	Routh-Hurwitz Conditions and Lyapunov Second Method for a Nonlinear System
		Lianjun Bai, Daniel Coca	Synthesis of Nonlinear Model Predictive Controllers for Chaotic Systems
		Dimitris C. Theodoridis, Yiannis A. Boutalis, Manolis A. Christodoulou	Direct Adaptive Control in Unknown Nonlinear Systems that exhibit Brunovski Canonical Form, using Neuro-Fuzzy High Order Neural Networks, with Robustness Analysis
		Senih Gurses	Nonlinear Head-Neck Dynamics at Small Amplitude Perturbations
		Vinod Patidar, G. Purohit and K K Sud	A numerical exploration of the dynamical behaviour of q-deformed nonlinear maps
Room 3	03.06.09: 12.00-14.00	Chair: C. H. Skiadas	Modeling and Self organization
		Markos Avlonitis and George Efremidis	Modeling and Simulation of Self-Organized Criticality in Landslides
		Stanislav L. Belyakov, Marina L. Belyakova	Handle of self-descriptiveness of network cartographical tools
		Palina P. Tkachova	To a question on self-organizing literary genres: chaos, structure, system, model in the literature, author's innovative genres
		Charilaos Skiadas and Christos H. Skiadas	Chaotic Modeling and Simulation: General Overview and Illustrations
		Wang Zhi-qin Wang Shuang-xin Zhang Xiu-xia Li Han	On Fuzzy Modeling of Superheated Steam Temperature Using Chaos Genetic Algorithm
		Alexey V. Babkin	Estimations of the periodic regularities in time series of water runoff of Neman River for its long range forecasting

Room 4	03.06.09: 12.00-14.00	Chair: P. Mello	Dynamical Systems
		Oana Rachieru	Distinguishing stochastic from chaotic nature of the data with applications in Mathematica
		Sharko Yulia	Gradient vector fields with impulse action on manifold
		Nadia-Mirela Stoian	The Fokker-Planck equation for an isolated N- particle system
		Jiri F. Urbanek, Jaroslav PrUcha	Dynamical Processes Chaos Relativity to Environment Implement Scope - DYVELOP
		O. D'Huys, V. Flunkert , J. Danckaert, I. Fischer, E. Schöll	Bubbling in Delay-Coupled Lasers
MAICh	03.06.09: 14.00-15.00		Lunch
Excursion	03.06.09: 15.00-21.00		Excursion to Elafonisi
		Thursday June 4	
SCS5		SPECIAL AND CONTRIBUTED SESSIONS SCS5	
Room 1	04.06.09: 9.00-10.40	Chair: M. Toda, Co-Chair M. Hnatic	DYNAMICAL SYSTEMS/TIME SERIES
		Mikito Toda	Dynamical Reaction Theory and Time Series Analysis
		L.Ts. Adzhemyan, M. Hnatic, J. Honkonen	Improved ϵ -expansion in theory of turbulence Calculation of Kolmogorov constant and skewness factor
		Boris Khots, Dmitriy Khots	Chaos from the Observer's Mathematics point of view
		Victor Grigoras, Carmen Grigoras	Linear Communication Channel Based on Chaos Synchronization
		Angeliki Papana, Dimitris Kugiumtzis	Rendering Statistical Significance of Information Flow Measures
Room 2	04.06.09: 9.00-10.40	Chair: Vic Law	PLASMA/DATA ANALYSIS
		C. L. Xaplanteris and E. Filippaki	Chaotic behavior of plasma surface interaction. A table of plasma treatment parameters useful to the restoration of metallic archaeological objects
		V J Law, J Tynan, G Byrne, D P Dowling, and S Daniels	The application of multivariate analysis tools for non-invasive performance analysis of atmospheric pressure plasma
		N. Jevtic, J.S. Schweitzer	Identifying Chaotic and Quasiperiodic Time-Series Candidates for Efficient Nonlinear Projective Noise Reduction
		Atsalakis George, Tsakalaki Katerina and Skiadas Christos	Forecasting chaotic time series by simulating annealing
Room 3	04.06.09: 9.00-10.40	Chair: Anatoly A. Kolesnikov	15. Special Session: 1. Problems of nonlinear system's synthesis
		Anatoly A. Kolesnikov	Nonlinear system's synthesis – the central problem of modern science and technology: synergetics conception. Part I: General Statements(plenary report)
		Anatoly A. Kolesnikov	Nonlinear system's synthesis – the central problem of modern science and technology: synergetics conception. Part II: Strategies of Synergetics control(plenary report)
		Anatoly A. Kolesnikov	Nonlinear system's synthesis – the central problem of modern science and technology: synergetics conception. Part III: Synergetics synthesis of nonlinear systems with state observers(plenary report)

Room 4	04.06.09: 9.00-10.40	Chair: C. Skiadas	MATHS/MODELING
		A.S.Hacinliyan, E.E.Akkaya, I.Kusbeyzi, O.O.Aybar	Maxwell-Bloch Equations as Predator-Prey System
		Loskutov E.M., Molkov Ya.I., Mukhin D., Feigin A.M.	The Bayesian approach to modeling random dynamical systems from observed time series
		Muvasharkhan J., Amangaliyeva M.M., Akhmanova D.M., Jenaliyev M.T., Ramazanov M.I., Tuimebayeva A.E.	The boundary value problems for spectrally loaded heat operator
		Irene Starchenko, Vitaliy Omelchenko, Denis Dushenin	Deterministic Chaos Parameters of Human Brain Bioelectrical Activity (norma and Pathology)
Aristotle	04.06.09: 10.40-11.30	Keynote Session (Chair: J. Awrejcewicz) Professor Giuseppe Rega, Department of Structural Engineering and Geotechnical Engineering, University of Rome 'La Sapienza', Italy	<u>Experimental unfolding and theoretical model of the transition to complex dynamics in sagged cables</u>
MAICh	04.06.09: 11.30-12.00		Coffee Break
Aristotle	04.06.09: 12.00-12.50	Keynote Session (Chair: D. Sotiropoulos) Professor Pol D. Spanos, Department of Mechanical Engineering and Materials Science, Department of Civil and Environmental Engineering, Rice University, Houston	Simulation Algorithms for Nonlinear Stochastic Dynamics Problems
Aristotle	04.06.09: 12.50-13.40	Keynote Session (Chair: D. Sotiropoulos) Professor Jan Awrejcewicz, Department of Automatics and Biomechanics, Technical University of Lodz, Poland	<u>Deterministic Chaos Machine: Experimental vs. Numerical Investigations</u>
MAICh	04.06.09: 13.40-15.00		Lunch
SCS6		SPECIAL AND CONTRIBUTED SESSIONS SCS6	
Room 1	04.06.09: 15.00-16.40	Chair: C.T.J. Dodson	MECHANICS/ 1
		Miroslav Byrtus and Vladimir Zeman	Dynamics of gear drive systems with impacts: ways leading to chaos
		Alexander F. Vakakis Lawrence A. Bergman D. Michael McFarland	Nonlinear Targeted Energy Transfer in Dynamical Systems
		Vladimir L. Kalashnikov	Chaotic Mode-locking of Chirped-pulse Oscillators
		Vyacheslav. M. Somsikov	The irreversibly Mechanics of the Systems of Structured Particles
		Leonidas Pantelidis	On the dynamics of interacting classical spins

Room 2	04.06.09: 15.00-16.40	Chair: Y. Dimotikalis	ENGINEERING /TECHNOLOGY
		Banlue Srisuchinwong	Chaos in a Fractional-Order Jerk Model using Tanh Nonlinearity
		Shiuan-Ni Liang and Boon Leong Lan	Dynamics of a bouncing ball
		Huaying Zhong	Triangulation Pattern Based Approach to Free Form Surface Modelling
		Poulou Marilena, Stavrakakis Nikolaos	A Klein-Gordon-Schrodinger system in an unbounded domain.
		Levent Yilmaz	Fuzzy Awakening in Meander Loops Modeling
		Masoud Sadrinasab	Three Dimensional Numerical Modeling Study of the Coastal Upwelling in the Persian Gulf
Room 3	04.06.09: 15.00-16.40	Chair: A. Ramm	MECHANICAL ENGINEERING III
		M. Amabili, K. Karagiozis, M. P. Païdoussis	Chaotic Vibrations of Circular Cylindrical Shells Conveying Flowing Fluid
		Themistoklis Sapsis and Pierre Lermusiaux	Reduced order evolution equations for stochastic fluid flows
		George P. Pavlos, A.C. Iliopoulos, L.P. Karakatsanis, V.G. Tsoutsouras, M.A. Athanasiou, E. G. Pavlos	Non-equilibrium Collective Processes in Far from Equilibrium Distributed Systems. Theory and Practice.
		Themistoklis Sapsis and George Haller	Clustering of inertial particles in 3D steady flows
		Wang Shuang-xin Li Han Zhang Xiu-xia Wang Zhi-qin	Nonlinear Predictive Load Control of Boiler-Turbine-Generating Unit Based on Chaos Optimization
Room 4	04.06.09: 15.00-16.40	Chair: Gennady E. Veselov	15. Special Session: 2. Non linear dynamics: mechatronics and power systems
		Gennady E. Veselov	Synergetics control of multilinked robotics systems(plenary report)
		Anatoly A. Kolesnikov, Andrew A. Kuzmenko	Synergetic approach to traditional control laws multi-machine power system modification
		Vilor L. Zakovorotny	System dynamical rebuilding interacting with environment during its evolution(plenary report)
		Anatoly A. Kolesnikov, Andrew A. Kuzmenko	Synergetic approach to traditional control laws multi-machine power system modification
		Alexander A. Kolesnikov, Alexander A. Kolesnikov	New model of nonlinear oscillations generators
Room 5	04.06.09: 15.00-16.40	Chair: M. D. Ruiz Medina	BIOLOGY/ GENETICS
		Pier Paolo Delsanto and Antonio Gliozzi	Fractal Dimensions Effects in Biology Resulting from a Phenomenological Univesalities Approach
		Zeev M. Frenkel, Valery M. Kirzhner, and Abraham B. Korol	Complex multilocus population dynamics under mixed reproduction systems
		James Robert Stirling, Maria Zakyntinaki, Ignacio Refoyo, Javier Sampedro	Using tools from nonlinear dynamics to model and analyze the heart rate kinetics in response to exercise
		Alexander N. Silchenko and Peter A. Tass	Computational modeling of bi-directional communication between neurons and astrocytes
		Irene Starchenko, Vitaliy Omelchenko, Denis Dushenin	Deterministic Chaos Parameters of Human Brain Bioelectrical Activity (norma and Pathology)
MAICh	04.06.09: 16.40-17.00		Coffee Break

SCS7		SPECIAL AND CONTRIBUTED SESSIONS SCS7	
Room 1	04.06.09: 17.00-19.00	Chair: A. J. Lawrance	11. Special Session: "Advances in Chaotic Communications: Exact Theory and New Approaches"
		A. J. Lawrance	Chaos communication: an overview of exact and optimum results using statistical theory
		G. Kaddoum, P. Charge, D. Roviras, D. Fournier-Prunaret	Asynchronous chaos-based DS-CDMA over multi-path channels: Analytical bit error rate
		T. Papamarkou	Two Aspects of Optimum CSK Communication: Spreading and Decoding
		Y. Xu, P. Charge & D. Fournier-Prunaret	Chaos-based communication utilizing attractor statistic detection
Room 2	04.06.09: 17.00-19.00	Chair: L. Pantelidis	APPLICATIONS
		A.G. Bagdov, Yu.S. Safaryan, D.R. Karapetyan, H.A. Martirosyan, G.S. Mikaelyan	The Application of Nonlinear Waves Methods to markov Diffusion Stochastic Processes in Economics, Genetics, Astrophysics, Seismology, Phychology
		Vaggelis D. Sotiropoulos and Anastasios D. Sotiropoulos	Music Composition from the Cosine Law of a Frequency-Amplitude Triangle
		J.A. Valdivia, J. Rogan, V. Munoz, B. Toledo, A. Varas, M.D. Cornejo, J. Villalobos, R. Zarama	Chaos and criticality in city traffic under resonant conditions
		Cristian-Iulian RÎNCU, Vasile-Gabriel IANA, Alexandru ȘERBĂNESCU	Implementation of Cryptographic Techniques Based on Dynamical Systems
		Ali Moghani	Color Reconstruction and Image Segmentation by Logic Theory via Variant Operator
		H. Hajkarami, H. Samandari, S. Ziaei-Rad	Analysis of chaotic vibration of a nonlinear seven degrees-offreedom full vehicle model
		M. R. Sorouhesh , A. Moghani and A. Zaeembashi	Computing Fujita's Unite Subduced Cycle Index Table for the Non-rigid Group p-Xylene
Room 3	04.06.09: 17.00-19.00	Chair: Alexey S. Mushenko	15. Special Session: 3. Nonlinear dynamics: vehicles control
		Alexey S. Mushenko, Olga Zenkina	Synergetics control of aircraft lowering while chaotic wind disturbances
		Anatoly A. Kolesnikov, Phuong Nguyen	Synergetics synthesis of amphibian control under heavy sea
		Anatoly A. Kolesnikov, Victor A. Kobzev, Leonid G. Fortinov	Natural treatments to humanity, hydro aviation and synergatics
		A.Ya. Bondarets, O.D. Kreerenco	The neural networks application for estimation of wheels braking actual parameters for an airplane on the runway covered with precipitations
PS	04.06.09: 19.00-20.00	POSTER SESSION	
		Angeles Perez-Villegas & Barbara Pichardo	Order and Chaos in the Hubble Diagram: I. Normal Spiral galaxies
		Th. Umeshkanta Singh, H. H. Jafri, and R. Ramaswamy	Strange Nonchaotic Limit Sets
		Panagiotis E. Antoniou, Athanasia Kotini, Elina Mavraki, Photios A. Anninos, Haritomeni Piperidou	Correlation dimension of Magnetoencephalographic signals as a marker for brain pathogeny.
MAICh	04.06.09: 21.00-24.00		Farewell Dinner

Friday June 5			
SCS8		SPECIAL AND CONTRIBUTED SESSIONS SCS8	
Room 1	05.06.09: 9.00-10.40	Chair: G. Rega	ENTROPY / MODELING
		Karsten Keller, Mathieu Sinn	Kolmogorov-Sinai entropy from the ordinal viewpoint
		C.T.J. Dodson	On the entropy flows to disorder
		J. L. Garcia Guirao, M. Lampart	Positive Entropy of a Coupled Lattice System Related with Belusov-Zhabotinskii Reaction
Room 2	05.06.09: 9.00-10.40	Chair: A. J. Lawrance	ELECTROPHYSICS/ MAGNETISM
		David C. Ni and Chou Hsin Chin	Symmetry Broken in Low Dimensional N-body Chaos
		Aleksandr Yu. Shvets and Volodymyr Pechernyi	Chaotic dynamics of some nonideal electroelastic system
		A.Ya. Bondarets, O.D. Kreerenko	The neural networks application for estimation of wheels braking actual parameters for an airplane on the runway covered with precipitations
		Monica Hanslien and Ola Skavhaug	Elimination of cardiac chaos by low-volt defibrillation using three electrodes
		Abid Karim	Chaos in Semiconductor Laser Amplifiers
Room 3	05.06.09: 9.00-10.40	Chair: Charilaos Skiadas	OSCILLATORS/DYNAMIC MODELING
		Artem Yu. Nikishov	CMOS Ultrawideband Microwave Chaotic Oscillator
		Tilemahos J. Kalvouridis and Meropi Paraskevopoulou	Basins of Convergence in the Restricted Five-Body Problem of Ollöngren
		Sebastian Sudheer	Hybrid projective synchronization of two-cell Quantum-CNN oscillators by adaptive method
		Odysseus Tsakiridis, Evangelos Zervas, Vasilis Stefanidis	EPAD Chaotic Oscillator
		V.V. Belyi	Non Local Fluctuations in the Oscillation Systems
Room 4	05.06.09: 9.00-10.40	Chair: A. A. Potapov	15. Special Session: 4. Nonlinear dynamics: fractals and chaos
		A.A. Potapov, A.A. Pahomov	The methods of the digital processing of small-contrast scenes for the real-time recognizing system
		Alexander A. Potapov	Fractals and Fractal Operators for Non-Linear Radio Physics Problems:Fractal Radio Systems Designing
		Potapov A.A., Matveev E.N.	Modelling and computation of fractal antennas: circle monopole, the life-flower antenna
		A.V. Laktyunkin, A.A. Potapov, V.A. Kotelinikov	Frequency and Spatial Features of Waves Scattering on Fractals
		Anton F. Kononov, Anastasia S. Kapustina	Controlled chaos for secure communications

Room 5	05.06.09: 9.00-10.40	Chair: Alexander Glushkov	MATHS/ 1
		Trabelsi Karim, Ben Jemaa Zouhair and Belghith Safya	Sensitivity to parameter variation of time-delay feedback Chua's circuit
		Valeriy I. Klenov	Evaluation for Threat of Debris Flows: Virtual Nature Systems Approach
		I.Knyazeva, N.Makarenko	Markovian forecast of extreme events by methods of symbolic dynamics
		Hassan N. Noura, Safwan El Assad	Periodicity of One Dimensional Chaotic Map
Aristotle	05.06.09: 10.40-11.30	Keynote Session (Chair: S. V. Prants) Professor Pier A. Mello, Institute of Physics, Universidad Nacional Autonoma de Mexico	<u>Quantum Scattering and Transport in Classically Chaotic Cavities: An overview of Old and New Results</u>
MAICh	05.06.09: 11.30-12.00		Coffee Break
SCS9		SPECIAL AND CONTRIBUTED SESSIONS SCS9	
Room 1	05.06.09: 12.00-13.40	Chair: P. Manneville	MATHS/ 2
		V. Jasaitis, F. Ivanauskas	Front dynamics with delays in a bistable system of the reaction-diffusion type: role of symmetry of the rate function
		Chris King	Exploding the Dark Heart of Chaos
		V.A. Krysko, J. Awrejcewicz, M. Zhigalov, V. Soldatov, E.S. Kuznetsova, S. Mitskevich	Dynamic Stability Loss of Closed Circled Cylindrical Shells Estimation Using Wavelets
		Anastasios D. Sotiropoulos and Vaggelis D. Sotiropoulos	Composing Chaotic Music from a Varying Second Order Recurrence Equation
Room 2	05.06.09: 12.00-13.40	Chair: Alexander Glushkov	25. Special Session: "Quantum chaos in physics of atoms, molecules, nuclei and particles"
		Alexander V. Glushkov	Stochastic photon-correlation effects and quantum chaos in atomic and nuclear systems
		Alexander V. Glushkov, Valery Khokhlov, Nikolay Serbov, Andrey A. Svinarenko and Yuliya Ya. Bunyakova	Non-linear prediction method in short-range forecast of atmospheric pollutants: Low-dimensional chaos
		Andrey A. Svinarenko, Alexander V. Glushkov, Nikolay Serbov and Tat'yana Lukash	The sea and ocean 3D acoustic waveguide: stochastic modeling and chaos phenomena
		Olga Yu. Khetselius	Atomic parity non-conservation in atoms and dynamical enhancement of weak interaction: Quantum chaos
		Anna V. Ignatenko	Chaotic phenomenon in a multi-wave ionization of non- Rydberg atoms
Room 3	05.06.09: 12.00-13.40	Chair: Leonty K. Samoylov	15. Special Session: 5. Nonlinear dynamics: data processing
		Kuznetsov N.V., Leonov G.A., and Seledzhi S.M.	Complicated behavior of dynamical systems. Mathematical methods and computer experiments.
		Leonty K. Samoylov	The account of influence of time delays of processing of signals in digital control systems
		Leonty K. Samoylov, Dmitry S. Samoilo	Dynamic generalization of cartographical maps
		Stanislav L. Belyakov, Marina L. Belyakova	Handle of self-descriptiveness of network cartographical tools

Room 4	05.06.09: 12.00-13.40	Chair: C.T.J. Dodson	ECONOMY/ FINANCE
		Carmen Pellicer-Lostao and Ricardo Lopez-Ruiz	Introducing Chaos in Economic Gas-Like Models
		Panayotis G. Michaelides, Athena Belegri-Roboli and Gerasimos Arapis	Early Nonlinear Modelling in Economic Analysis: The Hicks Model for Greece Revisited
		Loretti I. Dobrescu, Mihaela Neamtuy, Dumitru Oprisz	Hick Samuelson Keynes dynamic economic model with discrete time and consumer sentiment
		Daniela Marinescu, Dumitru Marin, Ioana Ramniceanu	The Taxation and the Attitude towards Risk
		Ioana Ramniceanu, Daniela Marinescu, Dumitru Marin	The Equivalence of the Agents in Time
Room 5	05.06.09: 12.00-13.40	Chair: A. N. Valyaev, Co-Chair: A. Moghani	DYNAMICAL SYSTEMS
		Valyaev A.N., Krylov A. L., Semenov V.N., Dolgenkov I.V., Dolgikh A.P.	Prediction of irradiation doses for population under implementation of Russian Federal Program: "Development of Russian atomic energy industrial complex (ARFP) on 2007-2020 years".
		L. Mahdavian	Interaction Study SnO ₂ & WO ₂ Nanofilm and Ethanol in the Gas Phase: Monte Carlo & Langevin Dynamic Simulation
		Hussam Dahwa Abdulla, Martin Polovincak, Vaclav Snasel	Using a Nonnegative Matrix Factorization (NMF) for Clustering Data
		Majid Karami and Ali Moghani	Computing the Dominant Subgroups of the Full Non-rigid Group of Hexamethylethane
		Ali Kotti, Safya Belghith, Zouhair Ben Jemaa,	Spatiotemporal-Chaotic Sequences for Asynchronous DS-UWB Communication System
		Arash Hatami, Aria Alasty and Hassan Salarieh	Chaotic Vibration of the First Mode of a Nonlinear Viscoelastic Beam under Moving Mass Excitation
MAICh	05.06.09: 13.40-15.00		Lunch
SCS10		SPECIAL AND CONTRIBUTED SESSIONS SCS10	
Room 1	05.06.09: 15.00-17.00	Chair: Jozsef Rohacs	24. Special Session: Transportation systems
		Ko van der Weele, Giorgos Kanellopoulos, and Christos Tsiavos	Critical Flow and Chaotic Pattern Formation in Granular Transport
		Graeme Hill, Neil Thorpe, Margaret C. Bell	Chaos in Traffic Analysed by a Distributed Network of Sensors
		Jozsef ROHACS	A new car-following model for highway traffic safety investigation
		J.A. Valdivia, J. Rogan, V. Munoz, B. Toledo, A. Varas, M.D. Cornejo, J. Villalobos, R. Zarama	Chaos and criticality in city traffic under resonant conditions
Room 2	05.06.09: 15.00-17.00	Chair: Alexander Glushkov	25. Special Session: "Quantum chaos in physics of atoms, molecules, nuclei and particles"
		Olga Khetselius, A.V. Glushkov, L.Lovett and V.Buyadzhi	Dynamics of multi-layers neural networks on the basis of photon echo: Effects of chaos and stochastic resonance
		Andrey V. Loboda	Quantum stochastic modeling of energy transfer and an account of the rotational and V-T relaxation effect in multi-photon excitation and dissociation of molecules
		A.V. Loboda, A. Fedchuk, N.V. Mudraya, T.Perelygina	Quantum computation of populations dynamics of the resonant levels for atomic ensembles in a laser pulse: optical bi-stability effect
		Valentin V. Sokolov	Electron Quantum Transport through a Mesoscopic Device: Dephasing and Absorption Induced by Interaction with a Complicated Background

Room 3	05.06.09: 15.00-17.00	Chair: C.T.J. Dodson	STOCHASTIC/CHAOTIC SYSTEMS
		Gabriel V. Orman and Irinel Radomir	Stochastic Models in Systems Analysis
		K.Rypdal, B. Kozelov, M. Rypdal, T. Zivkovic	Stochastic Modeling of Fluctuations in Solar Wind-Magnetosphere Interaction
		Dorota Aniszewska and Marek Rybczuk	Chaos in multiplicative systems
		Francisco Torrens and Gloria Castellano	Modelling Complex Multicellular Tumour-Immune Systems
		George Mataliotakis and Charilaos Skiadas	Modeling and Analysis of Life Table Data
		Livija Cveticanin	Chaos in the Duffing's type system with fractional-order term
Room 4	05.06.09: 15.00-17.00	Chair: Vyacheslav L. Romanov Co-Chair: Anatoly A. Kolesnikov	22. Special Session: "Innovation society - correlation of self-organization and management"
		Yulia Zubok, Vladimir Chuprov	Risks: Institutional and Self-regulating Management Mechanisms
		Tatiana A. Kolesnikova, Natalya A. Kolesnikova	The problem of social self-organization of modern risk society: Social invariants -attractors
		Polikarpov V.S., Polikarpova, E. V.	Selforganization and management in development of innovation society during the transition from instable to stable development of society
		Marina Maksimova	Innovations in synergetics of socio-humanitarian processes
Room 5	05.06.09: 15.00-17.00	Chair: D. Sotiropoulos	
		Christophe Baehr and Olivier Pannekoucke	Some Issues and Results on the EnKF and Particle Filters for Meteorological Models
		Bernd Binder	Geodesic Holonomy Attractor between Surfaces of Different Curvature Signs Relevant to Spin Transport
		Huang Weihong	Mutual implication relationship among complete chaotic maps that preserve a same invariant density
		Christos H. Skiadas	A Simulation of Von Karman Vortex Streets by using the Reflection-Translation Theory
		Alexander Shermenev	Nonlinear Shallow Water Equation in Polar Coordinates
Aristotle	05.06.09: 17.00-17.30		Closing Ceremony
Excursion	06.06.09	Saturday June 7	Excursion to Knossos