Summer School - Conference on Dynamical Systems and Complexity - 2024, Program

	Wednesday 28/8	Thursday 29/8	Friday 30/8	Saturday 31/8	Sunday 1/9
9:00 - 9:15		**Fundamental Concepts of Chaos and the Importance of Mathematics.** *Bountis T ,* Dept of Mathematics, Uni of Patras	**An introduction to scientific machine learning for the solution of the forward and inverse problems in dynamical systems. Challenges and Perspectives.** *Siettos C ,* Dept of Mathematics and Applications "Renato Caccioppoli", Uni degli Studi di Napoli Federico II, Italy	**Fractal Geometry and its applications.** *Drakopoulos V ,* Dept of Computer Science and Biomedical Informatics, Uni of Thessaly	
9:15 - 9:30					
9:30 - 9:45					
9:45 - 10:00					
10:00 - 10:15					
10:15 - 10:30		**Complex behavior in classical and quantum chaos.** *Robnik M ,* Center for Applied Mathematics and Theoretical Physics, Uni of Maribor, Slovenia			
10:30 - 10:45					
10:45 - 11:00					
11:00 - 11:15		**Περιοδικές Τροχιές στα Δυναμικά Συστήματα.** *Κουκουλογιάννης Β ,* Τμήμα Μαθηματικών, Πανεπιστήμιο Αιγαίου	**An introduction to routes to chaos in dynamical systems,** *Russo L ,* Institute of Science and Technology for Energy and Sustainable Mobility (STEMS), Consiglio Nazionale delle Ricerche, Naples, Italy	**Primes! An Informal Story** *Veerman P JJ ,* Dept of Physics, Portland State University, USA	
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13:00 - 14:30	Lunch - Break	Lunch - Break	Lunch - Break	Lunch - Break	Lunch - Break
14:30 - 14:45	**Gravitational Waves from Binary Black Hole Systems and their Detection,** *Stergioulas N ,* School of Physics, AUTh	**Introduction to quantum chaos.** *Robnik M ,* Center for Applied Mathematics and Theoretical Physics, Uni of Maribor, Slovenia	**On quadrirational pentagon maps.** *Kassotakis P ,* Faculty of Physics, Uni of Warsaw, Poland	**Χρόνος & Πολυπλοκότητα,** *Karakolis Ch*	
14:45 - 15:00					
15:00 - 15:15					
15:15 - 15:30					
15:30 - 15:45		**Hidden attractors: new horizons in exploring dynamical systems.** *Maaita J-O ,* School of Physics AUth	**Limit cycles in two second order differential equations with a van der Pol perturbation.** *Meletlidou E ,* School of Physics, AUTh		
15:45 - 16:00					
16:00 - 16:15	**Μη γραμμική δυναμική του ηλιακού συστήματος.** *Τσιγάνης Κλεομένης ,* Τμήμα Φυσικής ΑΠΘ	**Συντονισμοί και χάος σε χαμιλτονιανά συστήματα,** *Γκόλιας Ι ,* Τμήμα Φυσικής ΑΠΘ			
16:15 - 16:30					
16:30 - 16:45			**Modeling Brain Diseases with Nonlinear Dynamical Systems to Optimize Medical Treatments.** *Manos Th ,* ENSEA, CNRS, UMR8051, CY Cergy-Paris University, France		
16:45 - 17:00					
17:00 - 17:15		**Chaotic dynamics in optical waveguide trimers: from active coupling to PT-symmetry.** *Hizanidis J ,* Dept of Physics, Uni of Crete			
17:00 - 17:30					

	Monday 2/9	Tuesday 3/9	Wednesday 4/9	Thursday 5/9	Friday 6/9
9:00 - 9:15	**Application of non-linear time series analysis in physical, engineering and financial systems.** *Karakasidis Th* , Dept of Physics, Uni of Thessaly	**Principles of Earthquake physics in terms of Complexity and Tsallis Entropy. Quo Vademus?** *Vallianatos F* , Dept of Geology and Geoenvironment, National and Kapodistrian University of Athens	**Complexity through networks and graphs.** *Argyrakis P,* School of Physics AUTh	**What are complex systems and what techniques can we use to analyze them?** *Massoler C* , Dept of Physics, Uni Politècnica de Catalunya	**Complexity in Electromagnetics Computations: Intelligent Metasurfaces and Wave Propagation.** *Yioultsis T* , School of Electrical and Computer Engineering, AUTh
9:15 - 9:30					
9:30 - 9:45					
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10:00 - 10:15					
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10:30 - 10:45					**Artificial Intelligence, System and Matter Complexity.** *Pitas I* , School of Informatics, AUTh
10:45 - 11:00			**Algorithmic Complexity and the Hard Limits of Artificial Intelligence: a tale of Chaitin's Omega, Fractal Basins & Bayesian Inference.** *Basios V* , Dept of Physics, Uni Libre de Bruxelles, Belgium		
11:00 - 11:15	**Complex Networks Estimation from Multivariate Time Series.** *Kugiumtzis D* , School of Electrical and Computer Engineering, AUTh	**Free-Dimensional aer( )sculptures: the personification of Henri Poincarré's 'representative space'.** *Michalou(di)S I* , Faculty of Arts and Humanity, American University of Cyprus, Cyprus		**Geometry and String Theory Confronting Black Holes and Particle Physics.** *Cvetic M* , Dept of Physics and Astronomy, Uni of Pennsylvania, USA	
11:15 - 11:30					
11:30 - 11:45					
11:45 - 12:00					
12:00 - 12:15				**Chemical Reaction Networks.** *Veerman P JJ* , Dept of Physics, Portland State University, USA	**Energy Transport in 1-D Hamiltonian Lattices: from Physics to Engineering (Non-Analytic Potentials).** *Bountis T* , Dept of Mathematics, Uni of Patras **[and closing remarks]**
12:15 - 12:30					
12:30 - 12:45			**Complex dynamics of superconducting neurons.** *Hizanidis J* , Dept of Physics, Uni of Crete		
12:45 - 13:00					
13:00 - 14:30	Lunch - Break	Lunch - Break	Lunch - Break	Lunch - Break	Lunch
14:30 - 14:45	**Pink Noise is the Canonical Representation of Environmental Variability.** *Halley J* , Dept of Biological Applications and Technology, Uni of Ioannina	**From Network Neuroscience to Network Neurology: 25 years of development and innovation.** *Bezerianos T* , St. Joseph's Hospital and Medical Center, USA, and Uni of Patras	**Nonlinear Non-Hermitian Photonics,** *Makris K,* Dept of Physics, Uni of Crete	**Detecting structural breakpoints and causal interactions in time series of Energy and Financial markets,...** *Papaioannou G* , CRANS, Uni of Patras	
14:45 - 15:00					
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16:00 - 16:15	**Cannibalism in Ecological Models as a Response to Declining Availability of Prey.** *Vachtsevanos, V* , School of Physics, AUTh	**Βιοφυσική και Ιατρική Συστημάτων: Μοντελο-ποίηση της Βιολογικής Γήρανσης και των Ασθενειών.** *Κοσμίδης Κ* , Τμήμα Φυσικής, ΑΠΘ	**Smart algorithms in statistical physics: the percolation problem.** *Argyrakis P,* School of Physics AUTh	**Brain Heart Lung Communication. An organomics approach to complex neurological problems.** *Bezerianos T* , St. Joseph's Hospital and Medical Center, USA, and Uni of Patras	
16:15 - 16:30					
16:30 - 16:45		**Multifractal Analysis of Choroidal SDOCT Images in the Detection of Retinitis Pigmentosa.** *Oikonomou F* , Dept of Physics, Uni of Patras			
16:45 - 17:00					
17:00 - 17:15	**Μοντέλο Πρόβλεψης με Αραίωση και Εφαρμογή στην Πρόβλεψη του ΑΕΠ.** *Σαραντίδου Β* , Τμήμα Μαθηματικών, ΑΠΘ	**A novel epidemiologically informed particle filter for assessing epidemic phenomena.** *Kolias P* , Dept of Mathemtics AUTh	**Planar and three-dimensional retrograde periodic orbits of asteroids.** *Kotoulas Th* , School of Physics, AUTh	**Magnetic Field Influence on Blood Flow in Pathological Vessels: ....** *Kyriakoudi K* , Dept of Mathematics, Uni of Ioannina	
17:00 - 17:30					