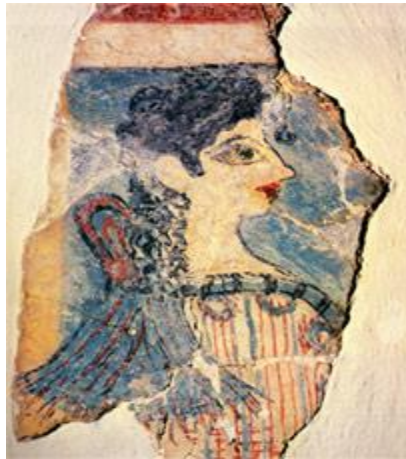


3^D EUROPEAN PhD SUMMER SCHOOL AND CONFERENCE ON
"MATHEMATICAL MODELING OF COMPLEX SYSTEMS"
15 – 26 JULY , 2013



DEPARTMENT OF PHYSICS , UNIVERSITY OF CRETE

<http://nlsconf.physics.uoc.gr/>

LECTURE PROGRAMME



Scientific Organizing Committee:

Prof. Jeff Johnson (British Open University, Past President of European Complex Systems Society), Prof. Dirk Helbing (Chair of Sociology, Modeling and Simulation, ETH, Zürich), Prof. Klaus Mainzer (Technical University, München), Prof. Rosaria Conte (Head of the Laboratory of Agent Based Social Simulation, Rome), Prof. Giorgos Tsironis (Chairman, University of Crete and FORTH), Prof. Tassos Bountis (University of Patras), Prof. Panos Argyrakis (University of Thessaloniki).

Local organizing committee:

G. P. Tsironis (University of Crete and FORTH), N. Katsarakis (TEI of Crete and FORTH)

Sunday 14 July

19:00 – 21:00 **Arrival of participating students**

Monday 15 July

Chairman : G.Tsironis

9:30 – 13:30 ***Morning session***

9:30 - 10:30 Registration

10:30 - 11:00 Opening remarks

11:00 - 11:30 Coffee break

11:30 - 13:30 *“ Nonlinear Dynamics and Complexity “*
David Campbell (Boston University)

13:30 – 14:30 Lunch Break

14:30 -16:30 ***Afternoon session***

14:30 – 16:30 *“ Thinking in Complexity “*
Klaus Mainzer (University of Munich)

Tuesday 16 July

Chairman : T.Bountis

9:30 – 14:00 ***Morning session***

9:30 - 11:30 *“ Dynamics in Complex Networks “*
Panos Argyrakis (University of Thessaloniki)

11:30– 12:00 *Coffee break*

12:00 – 14:00 *“Nonlinear Dynamics and Complexity “*
David Campbell (Boston University)

14:00 – 15:00 Lunch break

15:00 – 17:30 ***Afternoon session***

15:00 – 16:00 *“ Quantum Spins and Thermal Conductivity “*
Xenophon Zotos (University of Crete)

16:00 – 17:30 *Computer Labs - David Campbell*

Wednesday 17 July

Chairman : D.Campbell

9:30 – 14:00

Morning session

9:30 – 11:30

“Dynamics and Complex Networks “
Panos Argyrakis (University of Thessaloniki)

11:30 – 12:00

Coffee break

12:00 – 14:00

“ Thinking in Complexity “
Klaus Mainzer (University of Munich)

14:00 – 15:00

Lunch break - Poster Set up

15:00 – 21:00

Afternoon session

15:00 – 17:00

“ Photonic Complexity“
Stelios Tzortzakis (FORTH, Heraklion)

18:30

Free Evening - Excursion to Thrapsano

Thursday 18 July

Chairman : P.Argyrakis

9:30 – 14:00

Morning session

9:30 – 11:30

“ Mathematical Modeling of Complex Systems “
Tassos Bountis (University of Patras)

11:30 – 12:00

Coffee break

12:00 – 13:00

“On DNA, Maxwell’s Demon and Free Will “
Giorgos Tsironis (University of Crete)

13:00 – 14:00

Discussion

14:00 – 16:00

Lunch break - Poster Session

16:00 – 18:30

Afternoon session

16:00 – 17:00

“ Nonlinear Dynamics and Complexity “
David Campbell (Boston University)

17:00 – 18:30

Computer Labs - David Campbell

Friday 19 July

Chairman : V. Basios

09:30 – 14:00	<i>Morning session</i>
09:30 – 11:30	<i>“Mathematical Modeling of Complex Systems “</i> Tassos Bountis (University of Patras)
11:30 – 12:00	Coffee break
12:00 – 14:00	<i>“Global Systems Dynamics”</i> Steven Bishop (University College London)
14:00 – 16:00	<i>Lunch break</i>
16:00 – 18:00	<i>Afternoon session</i>
16:00 – 16:20	Chimera states in networks of excitable elements and coupled damped pendulums (J. Hizanidis)
16:25– 16:45	Modeling charge transfer in DNA (G. Kalosakas)
16:50– 17:10	Superconducting metamaterials (N. Lazarides)
17:15 – 17:35	Wave localization and propagation in disordered nonlinear systems (G. Kopidakis)
17:40 – 18:00	Linear optical rogue waves in disordered photonic networks(M.Mattheakis)
20:00	School/conference Cultural Event Dinner

Saturday 20 July

Chairman : T.Bountis

9:30 – 11:20	<i>Morning session</i>
9:30 – 10:00	Some recent results on hierarchical chaotic systems: a tribute to J.S. Nicolis' heritage (V. Basios)
10:05 – 10:25	Discrete nonlinear lattices embedded in non-zero temperature heat bath (Th. Oikonomou)
10:30 – 10:50	Dynamical localization in chaotic systems: Spectral statistics and localization measure in kicked rotator as a paradigm for time-dependent and time-independent systems (T. Manos)
10:55 – 11:20	A dynamical study of a system of interacting vortices in a confined Bose-Einstein condensate (V. Koukouloyannis)

Free Afternoon and Evening

Sunday 21 July

FREE DAY - Excursion to Knossos Palace and Heraklion Archaeological Museum

Monday 22 July

Chairman : G.Tsironis

9:30 – 14:00

Morning session

9:30 – 11:30

“ Nonextensive Thermostatistics “
Constantino Tsallis (CBPF, Rio de Janeiro)

11:30- 12:00

Coffee break

12:00 – 14:00

“ Complex Socioeconomic Systems “
Dirk Helbing (ETH, Zurich)

14:00 – 15:30

Lunch break - Poster Session

15:30 – 18:30

Afternoon session

15:30 – 17:30

“ Parity – Time Symmetric Materials: Theory and Experiments “
Tsampikos Kottos (Wesleyan University)

17:30 – 18:30

“Peer Review and Citation Analysis in Physical Review Letters”
Manolis Antonoyiannakis (Physical Review Letters)

Tuesday 23 July

Chairman : C.Tsallis

9:30 – 14:00

Morning session

9:30 – 11:30

“ Mathematical Modeling of Complex Networks “
Baruch Barzel (Harvard and Northeastern University)

11:30– 12:00

Coffee break

12:00 – 14:00

“ Complex Socioeconomic Systems “
Dirk Helbing (ETH, Zurich)

14:00 – 15:30

Lunch Break - Poster Session

15:30 – 19:00

Afternoon session

15:30 – 17:30

“ Parity – Time Symmetric Materials: Theory and Experiments “
Tsampikos Kottos (Wesleyan University)

17:30 – 19:00

“Cretan Mythology and Minoan Crete”
Gareth Owens (TEI of Crete)
“The Complexity of Minoan Civilization”
Kalliroi Nicoli (University of Athens)

Wednesday 24 July

Chairman : M.Velarde

9:30 – 14:00

Morning session

9:30 – 11:30

“ Hypernetworks in Global Systems Science “
Jeff Johnson (British Open University)

11:30 – 12:00

Coffee break

12:00– 14:00

“ The Many Facets of Complexity “
Gregoire Nicolis (University of Brussels)

14:00 – 16:00

Lunch Break - Poster Session

16:00 – 18:00

Afternoon session

16:00 – 18:00

“ Computational Investigation of Complex Biomolecular Units “
Efthimios Kaxiras (Harvard University)

18:00 -20:00

Presentation of J. S. Nicolis Prize,
Tassos Bountis, Kalirroï Nicoli, Gregoire Nicolis

Thursday 25 July

Chairman : J.Johnson

9:30 – 14:00

Morning session

9:30 – 11:30

“ Nonextensive Thermostatistics”
Constantino Tsallis (CBPF, Rio de Janeiro)

11:30 – 12:00

Coffee break

12:00 – 14:00

“ Dynamical Behavior of Complex Systems “
Baruch Barzel (Harvard and Northeastern University)

14:00 – 15:00

Lunch break

15:00 – 17:00

Afternoon session

15:00 – 17:00

“Network Visualization “
Ioannis Tollis (University of Crete)

Friday 26 July

Chairman : T.Kottos

9:30 – 14:00	<i>Morning session</i>
9:30 – 11:30	<i>“ Superconducting Metamaterials “</i> Nikos Lazarides (University of Crete)
11:30 – 12:00	Coffee break
12:00 – 14:00	<i>“ Quantum Computer Hardware “</i> Jurgen Lisenfeld (KIT)
14:00 – 15:00	Lunch Break
15:00 – 18:00	<i>Afternoon session</i>
15:00 – 17:00	<i>“ Soliton – Electron Propagation in Complex Media “</i> Manuel Velarde (University Complutense of Madrid)
17:00 – 18:00	School/conference Closing Award of School Certificate

Secretarial support : Eva Mathioudaki

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