



INTERNATIONAL SCHOOL AND WORKSHOP



NONLINEAR MATHEMATICAL PHYSICS AND NATURAL HAZARDS

*November 28 – December 02, 2013,
Bulgarian Academy of Sciences, Sofia*

Supported by:

- ▣ UNESCO Regional Bureau for Science and Culture in Europe, VENICE;
- ▣ SOUTHEASTERN EUROPEAN NETWORK IN MATHEMATICAL AND THEORETICAL PHYSICS (SEENET-MTP);
- ▣ BULGARIAN ACADEMY OF SCIENCES (BAS);
- ▣ INSTITUTE FOR NUCLEAR RESEARCH AND NUCLEAR ENERGY (INRNE)

*Conference venue: Kedar Hotel, Dom na Uchenia,
1113 Sofia, Geo Milev, 50 Shipchenski Prohod Blvd.,
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Arrival day: 28.11.2013; Departure day: 02.12.2013*

Organizing Committee:

Boyka Aneva (Bulgaria), Giuliano F. Panza (ICTP, Trieste, Italy), Peter Varga (Hungary), Ivanka Paskaleva (Bulgaria), Mihaela Kouteva-Guentcheva (Bulgaria), Mario Scalet (UNESCO Venice office).

PROGRAMME

Thursday, 28.11.2013		Arrival day
18:00	Registration of Participants	
Friday, 29.11.2013		
9:00 am	Opening of the meeting <i>UNESCO Representative, Representatives of the Bulgarian Academy of Sciences, Representative of the Organising Committee</i>	
<u>SESSION SEISMIC HAZARD AND SEISMIC RISK</u>		<i>CHAIRMAN: G.Chouliaras</i>
9:30 – 10:15	G.F.Panza, A.Peresan, A.Magrin, F.Vaccari (ICTP), The Hazard in Using Earthquakes Probabilities for Seismic Hazard Assessment.	
10:15 – 11:00	G.Marmureanu, C.O.Cioflan, Al. Marmureanu, C. Ionescu, (National Institute for Earth Physics (NIEP)), Nonlinear Seismology the Actual Seismology in this Century.	
11:00 – 11:30	Coffee break	
11:30 – 12:15	D.Dojcinovski (IZIIS, Skopje), Seismic Monitoring of Structures – a Tool for Urban Seismic Hazard Reduction.	
12:15 – 12:45	K. Hadjiyski, S. Simeonov (NIGGG-BAS) Seismic monitoring and Instrumentation for Earthquake Engineering Application in Bulgaria	
13:00	Lunch	
<u>SESSION CHAOTIC DYNAMICS</u>		<i>CHAIRMAN: R.Constantinescu</i>
15:00 – 15:30	A.Nicolaidis (Aristotle University of Thessaloniki), The Chaotic versus Regular Behavior in Yang-Mills Theories.	
15:30 – 16:00	K.Kukic (University of Belgrade), V.Dragovic (Mathematical Institute, SANU), The Application of the Discriminantly Separable Polynomials in Dynamical Systems.	
16:00 – 16:30	Coffee break	
<u>DEVELOPMENT SESSION</u>		<i>MODERATOR: M.Scalet</i>
16:30 – 18:30	Round Table Discussion Perspectives of collaboration on Disaster Risk Assessment and Management in South East Europe and joint EU projects. Moderated by UNESCO.	
19:00	Welcome cocktail	
19:30	Dinner	

Saturday,
30.11.2013

SESSION SOLITON PHYSICS AND INTEGRABILITY

CHAIRMAN: A.Nicolaidis

9:15 – 10:00	A.Zabrodin (ITEP, Moscow) , Spectra of integrable quantum magnets via classical many-body systems.
10:00 – 10:30	R.Constantinescu (University of Craiova) , Symmetries and Invariant Solutions for Evolutionary Equations.
10:30 – 11:00	V.Gerdjikov (INRNE-BAS) , Riemann-Hilbert Problems, Families of Commuting Operators and Soliton Equations.
11:00 – 11:30	Coffee break
11:30 – 12:00	D.Mladenov (University of Sofia) , Bianchi cosmological models as integrable geodesic flows.
12:00 – 12:30	T.Popov (INRNE-BAS) , Parastatistics and Homotopy Algebras.
12:30 – 13:00	N.Nikolov (INRNE-BAS) , An operadic bridge between renormalization theory and vertex algebras
13:00	Lunch

SESSION STOCHASTIC DYNAMICS AND SELFORGANIZING SYSTEMS

CHAIRMAN: A.Zabrodin

15:30 – 16:15	G.Schuetz (FZ Julich) , The Space-time Structure of Extreme Current Events in the ASEP.
16:15 – 17:00	G.Pruessner (Imperial College, London) , Self-Organised Criticality: It's Past and a Recent Field Theory.
17:00 – 17:30	Coffee break
17:30 – 19:00	<u>POSTER SESSION</u>
19:30	Conference Dinner

Sunday,
01.12.2013

**SESSION NONLINEAR SEISMOLOGY
AND EARLY WARNING SYSTEMS**

CHAIRMAN: A. Peresan

9:30 – 10:15	M.Radulian (NIEP) , Nonlinear dynamics in Vrancea source: numerical simulation.
10:15 - 11:00	C.Ionescu, Al.Marmureanu, G.Marmureanu (NIEP) , Romanian-Bulgarian early warning system (EWS) developed for strong Vrancea earthquakes.
11:00 – 11:30	Coffee break

SESSION SEISMIC MONITORING AND NETWORKING

CHAIRMAN: D.Dojcinovski

11:30 – 12:00	M.Popa (NIEP) , Romanian Network for Seismic and Crustal Movement Monitoring.
12:00 – 12:30	D. Cernih (Seismological Observatory, Skopje) , Seismic Monitoring and Data Processing in Seismological Observatory in Skopje – Republic of Macedonia – basis for a complex geophysical monitoring.

13:00

Lunch

SESSION PROGNOSTIC SEISMIC HAZARD ASSESSMENT

CHAIRMAN: G. Marmureanu

16:15 – 17:00	G.Chouliaras (Institute of Geodynamics, Athens) , Statistical Seismology and Earthquake Prediction in Greece.
17:00 – 17:30	Coffee break
17:30 – 18:15	A.Peresan (ICTP), A.Nekrasova, V.Kossobokov (MITP-RAN), G.F.Panza (ICTP) , Predicting Earthquakes and Related Ground Shaking: Testing and Validation Issues.

18:30

Closing

19:30

Dinner

Monday,
02.12.2013

Departure
