

WORKSHOP

International Workshop on p -Adic Methods for Modeling of Complex Systems

Convenors:

Sergio Albeverio (Bonn), Branko Dragovich (Belgrad), Sergei Kozyrev (Moskau),
Andrei Khrennikov (Växjö), V. M. Shelkovich (St. Petersburg) †, and Igor Volovich (Moskau)

April 15 - 19, 2013

Monday, April 15, 2013

9.30-10.00	Welcome addresses by Philippe Blanchard (ZiF director) and the convenors
10.00-10.50	I. V. Volovich: Rational numbers and black hole formation paradox
10.50-11.10	- Coffee break -
11.10 - 12.00	A. Khrennikov: On ultrametric structure of unconsciousness
12.00-12.30	A. Bendikov: Hierarchical Laplacian
12.30-14.00	- Lunch break -
14.00-14.50	M. D. Missarov: Renormalization theory and renormalization group in the p -adic mirror
15.00-15.50	B. Diarra: p -Adic dynamical systems of Chebyshev polynomials
16.00-16.20	- Coffee break -
16.20-17.00	A. Kosyak: Induced representations of infinite-dimensional groups
17.00-17.40	S. Jeong: Toward the ergodicity of p -adic 1-Lipschitz functions represented by the van der Put series
18.00	Dinner at ZiF

Tuesday, April 16, 2013

10.00-10.50	I. Ya. Arefeva: p-Adic models as holographic description of String Field Theory inspired Models
10.50-11.10	- Coffee break -
11.10-12.00	B. Dragovich: On p-Adic Genetic Code and Bio-Information
12.00-12.30	L.B. Tyapaev: Dynamical systems and geometrical images of automata
12.30-14.00	- Lunch break -
14.00-14.50	F. Murtagh: The New Science of Complex Systems Through Ultrametric and p-Adic Analysis: Application to Search and Discovery, to Narrative and to Thinking.
15.00-15.50	S. V. Kozyrev: Multidimensional clustering and hypergraphs
16.00-16.20	- Coffee break -
16.20-17.00	P. E. Bradley: Finding the asymptotically optimal Baire distance for multi-channel data
17.00-17.40	A. Koshelev: p-Adic formulation of non-local gravity

Wednesday, April 17, 2013

10.00-10.50	W. Zuniga: Non Archimedean Pseudodifferential Equations of Klein-Gordon Type
10.50-11.10	- Coffee break -
11.10-12.00	A. N. Kochubei: Radial Solutions of Non-Archimedean Pseudo-Differential Equations
12.00-12.30	E. Yurova Axelsson: Criteria of measure-preserving for p-adic dynamical systems in terms of the van der Put basis
12.30-14.00	- Lunch break -
14.00-14.50	B. Tirozzi : Storage and Retrieval of Ultrametric Patterns in a network of CA1 neurons of the hippocampus
15.00-15.50	A. Vourdas: Quantum mechanics on rational numbers
16.00-16.20	- Coffee break -
16.20-17.00	S. Torba: Adeles as a metric space and parabolic type equations on adeles
17.00-17.40	E. Nagel: Fourier theory of differentiable functions

Thursday, April 18, 2013

10.00-10.50	E. I. Zelenov: Qualitative theory of p-adic dynamical systems
10.50-11.10	- <i>Coffee break</i> -
11.10-12.00	M. Skopina: On p-adic wavelets
12.00-12.30	E. King: Frame theory for locally compact abelian groups
12.30-14.00	- <i>Lunch break</i> -
14.00-14.50	S. Evdokimov: Haar multiresolution analysis and Haar bases on the ring of rational adeles
15.00-15.50	T. Digernes: Finite approximations of physical models over p-adic fields
16.00-16.20	- <i>Coffee break</i> -
16.20-17.10	V. S. Anashin: The non-Archimedean theory of discrete non-autonomous dynamical systems

Friday, April 19, 2013

10.00-10.50	A. Escassut: Meromorphic functions $f^{\mathbb{P}^1(\mathbb{F}_q)}$, $g^{\mathbb{P}^1(\mathbb{F}_q)}$ sharing a small function, counting multiplicity
10.50-11.10	- <i>Coffee break</i> -
11.10-12.00	F. Vivaldi: Non-Archimedean phenomena in torus and lattice maps
12.00-12.30	L. Liao: Minimal decomposition of linear fractional transformations on the projective line over \mathbb{Q}_p
12.30-14.00	- <i>Lunch break</i> -
14.00-14.50	Pei-Chu Hu: Bounds of discriminants of number fields
15.00-15.50	S. Albeverio: Complex systems and random walks
16.00-16.20	- <i>Coffee break</i> -
16.20-17.10	Yu. I. Manin: Numbers as functions
17.10-17.40	Discussion. Closing of the Workshop