

PROGRAM

Bifurcation Theory, Integrable Systems, and the Bispectral Problem Sofia University, Bulgaria, May 15-19, 2010

Saturday, May 15

- 8⁴⁰ – 9³⁰ **Ivan Todorov** (Institute for Nuclear Research and Nuclear Energy, Sofia, Bulgaria)
Four dimensional vertex algebras and conformal field theory models
- 9⁴⁰ – 10³⁰ **Yulij Ilyashenko** (Cornell University, USA, and Steklov Math Institute, Russia)
Limit cycles of quadratic vector fields: survey of some new results
- 10³⁰ – 11⁰⁰ Coffee break
- 11⁰⁰ – 11⁵⁰ **Nicholas Ercolani** (University of Arizona, USA)
Some new developments in 2D quantum gravity
- 11⁵⁰ – 13³⁰ Lunch break
- 13³⁰ – 14¹⁰ **Dmitry Novikov** (Weizmann Institute of Science, Israel)
Infinitesimal Hilbert 16th problem: effective upper bounds
- 14²⁰ – 15⁰⁰ **Vladimir Dobrev** (Institute for Nuclear Research and Nuclear Energy, Sofia, Bulgaria)
Intertwining operator realization of non-relativistic holography
- 15⁰⁰ – 15³⁰ Coffee break
- 15³⁰ – 16¹⁰ **Valentina Petkova** (Institute for Nuclear Research and Nuclear Energy, Sofia, Bulgaria)
Topological defects in Liouville theory
- 16²⁰ – 17⁰⁰ **Radoslav Rashkov** (Sofia University, Bulgaria)
On some integrable structures in string/gauge theory duality
- 17¹⁰ – 17⁵⁰ **Iana Anguelova** (Stony Brook University, USA)
Twisted and quantum vertex algebras via enhanced (A, H, S) vertex algebras

Sunday, May 16

- 8⁴⁰ – 9³⁰ **Pierre van Moerbeke** (Brandeis University, USA, and Université de Louvain, Belgium)
Non-intersecting Brownian motions, critical diffusions and integrable systems
- 9⁴⁰ – 10³⁰ **Alexander Varchenko** (University of North Carolina, USA)
Quantum integrable model of an arrangement of hyperplanes
- 10³⁰ – 11⁰⁰ Coffee break
- 11⁰⁰ – 11⁵⁰ **Iain Gordon** (University of Edinburgh, UK)
Generalized Calogero–Moser spaces and Hecke algebras

- 11⁵⁰ – 13³⁰ Lunch break
- 13³⁰ – 14¹⁰ **Yosef Yomdin** (Weizmann Institute of Science, Israel)
Center-focus problem for Abel equation, moment vanishing problem, and reconstruction of semi-algebraic sets from moment measurements
- 14²⁰ – 15⁰⁰ **Pavao Mardesic** (Université de Bourgogne, France)
Darboux relative exactness and pseudo-abelian integrals
- 15⁰⁰ – 15³⁰ Coffee break
- 15³⁰ – 16¹⁰ **Henryk Zoladek** (University of Warsaw, Poland)
Application of the WKB method in some hypergeometric equations which arise in number theory
- 16²⁰ – 17⁰⁰ **Iliya Iliev** (Institute of Mathematics, Bulgarian Academy of Sciences, Sofia, Bulgaria)
Stability of periodic traveling waves and abelian integrals
- 17¹⁰ – 17⁵⁰ **Marcin Bobiński** (University of Warsaw, Poland)
On the reduction of the degree of linear differential operators
- 19⁰⁰ Conference dinner

Monday, May 17

- 8⁴⁰ – 9³⁰ **Tudor Ratiu** (Ecole Polytechnique Federale de Lausanne, Switzerland)
Variational principles, liquid crystals, control, and imaging
- 9⁴⁰ – 10³⁰ **Alexander Veselov** (Loughborough University, UK)
On pole configurations of monodromy-free potentials
- 10³⁰ – 11⁰⁰ Coffee break
- 11⁰⁰ – 11⁴⁰ **Joceline Lega** (University of Arizona, USA)
Spectral stability of local deformations of an elastic filament
- 11⁵⁰ – 12³⁰ **Alexey Borisov** (Scient. & Publ. Center Regular and Chaotic Dynamics, Izhevsk, Russia) and **Ivan Mamaev** (Institute of Computer Science, Izhevsk, Russia)
Multiparticle systems. Algebra of integrals

Afternoon Trip to Vitosha Mountain

Tuesday, May 18

- 8⁴⁰ – 9³⁰ **F. Alberto Grünbaum** (University of California, Berkeley, USA)
Matrix valued Szego orthogonal polynomials and quantum random walks
- 9⁴⁰ – 10³⁰ **Emma Previato** (Boston University, USA)
Sigma-function solutions of the Toda lattice
- 10³⁰ – 11⁰⁰ Coffee break

- 11⁰⁰ – 11⁵⁰ **Oleg Chalykh** (University of Leeds, UK)
Bispectral operators and Calogero–Moser spaces
- 11⁵⁰ – 13³⁰ Lunch break
- 13³⁰ – 14¹⁰ **Dimitar Grantcharov** (University of Texas at Arlington, USA)
Highest weight modules of the quantum queer superalgebra
- 14²⁰ – 15⁰⁰ **Todor Milanov** (University of Michigan, Ann Arbor, USA)
Simple elliptic singularities and quasi-modular forms
- 15⁰⁰ – 15³⁰ Coffee break
- 15³⁰ – 16¹⁰ **Ivan Horozov** (Universität Tübingen, Germany)
Refinement of the Parshin symbol for surfaces
- 16²⁰ – 17⁰⁰ **Stefan Ivanov** (Sofia University, Bulgaria)
Extremals for the Sobolev inequality on the quaternionic Heisenberg group and the quaternionic contact Yamabe problem

Wednesday, May 19

- 8⁴⁰ – 9²⁰ **Loek Helminck** (North Carolina State University, USA)
The algebraic and geometric structure of multicomponent Toda hierarchies, part 1
- 9³⁰ – 10¹⁰ **Gerard Helminck** (University of Amsterdam, The Netherlands)
The algebraic and geometric structure of multicomponent Toda hierarchies, part 2
- 10¹⁰ – 10⁴⁰ Coffee break
- 10⁴⁰ – 11²⁰ **Vladimir Dragovic** (Mathematical Institute, Serbian Academy of Sciences and Arts, Serbia)
Pencil of conics, Darboux coordinates, and a new view on the Kowalevski top
- 11³⁰ – 12¹⁰ **Vassil Kanev** (University of Palermo, Italy)
Unirationality of Hurwitz spaces of coverings of degree ≤ 5
- 12¹⁰ – 13³⁰ Lunch break
- 13³⁰ – 14¹⁰ **Tsvetana Stoyanova** (Sofia University, Bulgaria)
An application of the Morales–Ramis theorems to Painlevé transcendents
- 14²⁰ – 15⁰⁰ **Doychin Tolev** (Sofia University, Bulgaria)
Kloosterman sums and the distribution of squarefree numbers

Конференцията ще се проведе в **зала 325** на ФМИ.

Всички желаещи да слушат докладите са добре дошли!