

3-RD CONFERENCE ON FINITE DIMENSIONAL INTEGRABLE SYSTEMS IN GEOMETRY AND MATHEMATICAL PHYSICS

Będlewo, Poland, July 13–17, 2015

Monday, July 13, 2015

8.30–8.50 REGISTRATION

Morning session

8.50–9.00 OPENING ADDRESS

9.00–9.45 DMITRY V. TRESCHÉV (Moscow, Russia): **Linear symplectic maps and billiard dynamics**

10.00–10.45 VLADIMIR DRAGOVIC (Dallas, USA): **Painlevé VI equations and the Poncelet polygons**

Coffe Break

11.15–12.00 ALEXEY BOLSINOV (Loughborough, United Kingdom): **Argument shift method and sectional operators: applications to differential geometry**

12.15–12.45 ANTON IZOSIMOV (Toronto, Canada): **Singular fibers of integrable systems: a combinatorial point of view**

13.00–15.00 *Lunch*

Afternoon session

15.00–15.45 STEFAN RAUCH-WOJCIECHOWSKI (Linköping, Sweden): **Dynamics of rolling and sliding rigid bodies: Jellett's egg, tippe top (TT), disc (sRD)**

15.55–16.40 MICHAEL SHAPIRO (East Lansing, MI, USA): **Pentagram map**

Coffee break

17.10–17.40 MICHAEL BIALY (Tel-Aviv, Israel): **Effective bounds in E. Hopf rigidity for billiards and geodesic flows**

17.50–18.20 SERGEI SOKOLOV (Moscow, Russia): **Falling motion of a circular cylinder interacting dynamically with point vortices**

Tuesday, July 14, 2015

Morning session

- 9.00–9.45 ANDREY MIRONOV (Nowosibirsk, Russia): **Integrable geodesic flows on 2-torus and the systems of hydrodynamical type**
- 10.00–10.45 GALLIANO VALENT (Marseille, France): **Cubically superintegrable systems in dimension 2 and their geodesic flows**

Coffee break

- 11.15–12.00 MACIEJ BŁASZAK (Poznań, Poland): **Stationary separability of quantum Hamiltonian systems**
- 12.15–12.45 CLAUDIA MARIA CHANU (Turin, Italy): **Modified Laplace-Beltrami quantization of extended systems**

13.00–15.00 *Lunch*

Afternoon session

- 15.00–15.45 LEV LERMAN (Nizhny Novgorod, Russia): **Bifurcations in 3 d.o.f. integrable Hamiltonian systems**
- 15.55–16.40 NGUYEN TIEN ZUNG (Toulouse, France): **On the notion of integrability for stochastic dynamical systems**

Poster Session and Coffee break (Building B, Conference Hall BB)

- 17.25–17.55 SONJA HOHLOCH (Antwerp, Belgium): **From compact semitoric systems to Hamiltonian S^1 -actions and back**
- 18.05–18.35 ANDREY TSIGANOV (Saint Petersburg, Russia): **Killing tensors with non-vanishing Haantjes torsion and integrable systems**

Wednesday, July 15, 2015

Morning session

- 9.00–9.45 HARUO YOSHIDA (Mitaka, Japan): **A trip searching for integrability criteria over 120 years**
- 10.00–10.30 FRANCO MAGRI (Milano, Italy): **The Clebsch top**

Coffee break

- 11.00–11.30 THIERRY COMBOT (Dijon, France): **Integrable polynomial homogeneous potentials in the plane**

11.45–12.15 GUILLAUME DUVAL AND WITOLD RESPONDEK (Rouen, France): **Nonintegrability of the optimal control problem for n -level quantum systems**

12.15–13.20 *Lunch*

13.30 *Depart to Poznań* (bus parked outside the lectures building)

19.30 *Bonfire*

Thursday, July 16, 2015

Morning session

9.00–9.45 ALLAN P. FORDY (Leeds, United Kingdom): **Z_N graded discrete Lax pairs and discrete integrable systems**

10.00–10.45 HENRYK ŻOŁĄDEK (Warsaw, Poland): **The Hess–Appelrot system**

Coffee break

11.15–12.00 MICHAEL GEKHTMAN (Notre Dame, IN, USA): **Cluster structure on the Drinfeld double of $GL(n)$**

12.15–12.45 GERARD MISIOLEK (Notre Dame, IN, USA): **Integrable geodesic flows on diffeomorphism groups**

13.00–15.00 *Lunch*

Afternoon session

15.00–15:45 MACIEJ P. WOJTKOWSKI (Olsztyn, Poland): **Integrability via reversibility**

15.55–16.40 BORIS KRUGLIKOV (Tromsø, Norway): **On the integrability of some rank 2 sub-Riemannian structures**

Poster Session and Coffee break (Building B, Conference Hall BB)

17.10–17.40 ANDREAS VOLLMER (Jena, Germany): **Determining algorithmically the number of polynomial integrals for a Hamiltonian flow**

17.50–18.20 VSEVOLOD SHEVCHISHIN (Moscow, Russia): **Differential invariants for cubic integrals of geodesic flows on surfaces**

Morning session

- 9.00–9.45 MARK LEVI (PSU, PA, USA): **Traveling waves in chains of oscillators**
10.00–10.45 YURI N. FEDOROV (Barcelona, Spain): **Analytic solutions of the Somos 6 recurrence via hyperelliptic Prym varieties**

Coffee break

- 11.15–12.00 JONATHAN M. KRESS (Sydney, Australia): **Invariant classification and limits of superintegrable systems**
12.15–12.45 KONRAD SCHÖBEL (Jena, Germany): **An algebraic geometric classification of superintegrable systems**

13.00–15.00 *Lunch*

Afternoon session

- 15.00–15:30 ARTUR SERGYEYEV (Opava, Czech Republic): **New integrable $(3 + 1)$ -dimensional systems from compatibility of contact Hamilton–Jacobi equations**
15.40–16.10 KONSTANTIN ALESHKIN (Moscow, Russia): **Euler equations on the general linear group, cubic curves, and inscribed hexagons**
16.20–16.50 DAISUKE TARAMA (Kyoto, Japan): **Stability analysis for certain generalized free rigid bodies**

16.50 CLOSING

Coffee break

POSTERS

1. ANNA GIERZKIEWICZ (Kraków, Poland): **Integrability of the Szekeres system**
2. TAMÁS F. GÖRBE (Szeged, Hungary): **The trigonometric BC(n) Sutherland system: action-angle duality and applications**
3. ÓSCAR GUAJARDO (Mexico City, Mexico): **Straightenings of Lie supergroups**
4. HASSAN JOLANY (Lille, France): **Tian's stability in geometric invariant theory**
5. ELENA KANTONISTOVA (Moscow, Russia): **Topology of integrable Hamiltonian systems on revolution surfaces**
6. ARTUR KULESHOV (Kaliningrad, Russia): **On projective differential geometry of three-regular family of hyperplane elements**
7. JOSEPH PALMER (San Diego, USA): **The moduli space of semitoric systems**
8. GEORGII SECHKIN (Moscow, Russia): **Topology of dynamics of a nonhomogeneous rotationally symmetric ellipsoid on a smooth plane**
9. COREY SHANBROM (Sacramento, USA): **Periodic orbits in the Kepler-Heisenberg problem**
10. GLEB SMIRNOV (Trieste, Italy): **On the monodromy of almost toric fibrations on the complex projective plane**
11. WOJCIECH SZUMIŃSKI (Zielona Góra, Poland): **Note on integrability of certain homogeneous Hamiltonian systems**
12. WOJCIECH SZUMIŃSKI (Zielona Góra, Poland): **Non-integrability of constrained double pendula**
13. MIKHAIL TUZHILIN (Moscow, Russia): **Singularities of 4-dimensional integrable Hamiltonian systems: the saddle-saddle case**
14. CHRISTOPHE WACHEUX (Lausanne, Switzerland): **About the image of the moment map of semi-toric systems**