

SOTIRIS KONSTANTINO-U-RIZOS

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EDUCATION

- 2010 - 2014 **PhD in Applied Mathematics**, University of Leeds, UK.
Funded by the University of Leeds (full-time scholarship).
Thesis title: *Darboux transformations, discrete integrable systems & related Yang-Baxter maps*.
Supervisor: A.V. Mikhailov. Adviser: F.W. Nijhoff.
- 2006 - 2009 **MSc in Applied Mathematics**, University of Patras, Greece.
Grade: 8.6/10 (distinction).
Thesis title: *The inverse scattering method for nonlinear evolution equations*.
Supervisor: D.G. Tsoubelis.
- 2002 - 2006 **BSc (Hons) in Mathematics**, University of Patras, Greece.
Grade: 8.18/10 (Ranked 4th).

ACADEMIC POSITIONS

- Nov 2017– Leading researcher (associate Professor), Centre of Integrable Systems, P.G. Demidov Yaroslavl State University, Russian Federation.
Deputy supervisor of the Centre.
Lecturing: *Mathematical Analysis, Ordinary Differential Equations, Partial Differential Equations*.
- DEC 2015– Leading researcher, Institute of Mathematical Physics & Seismodynamics, Chechen State
OCT 2017 University, Russian Federation.
- JUL 2015– Lecturer of Mathematical Physics, Faculty of Mathematics & Computer Technology, Chechen
OCT 2017 State University, Russian Federation.
Lecturing: *Mathematical Analysis I & II, Differential Equations* (BSc) and *Introduction to Integrable Systems* (MSc seminars). Seminars: Series of seminars on Differential Equations.

RESEARCH INTERESTS

Integrability of discrete and continuous systems; integrable discretizations of PDEs; Darboux and Bäcklund transformations; Yang-Baxter maps; Grassmann algebras; noncommutative extensions of discrete integrable systems; classification of discrete integrable systems.

PUBLICATIONS

- JOURNAL ARTICLES [1] S. Konstantinou-Rizos, *On the 3D consistency of a Grassmann extended lattice Boussinesq system*, Nuclear Physics B **951** 114878 (2020)
- [2] S. Konstantinou-Rizos and G. Papamikos, *Entwining Yang-Baxter maps related to NLS type equations*, Journal of Physics A: Math. Theor. **52** 485201 (2019)
- [3] S. Konstantinou-Rizos and T. Kouloukas, *A noncommutative discrete potential KdV lift*, Journal of Mathematical Physics **59:6** 063506 (2018)
- [4] S. Konstantinou-Rizos and A. V. Mikhailov, *Anticommutative extension of the Adler map*, Journal of Physics A: Math. Theor. **49** 30LT03, (2016) **IOPSelect**
- [5] G. Grahovski, S. Konstantinou-Rizos and A. V. Mikhailov, *Grassmann extensions of Yang-Baxter maps*, Journal of Physics A: Math. Theor. **49**, 145202 (2016)

- [6] S. Konstantinou-Rizos, A. V. Mikhailov and P. Xenitidis, *Reduction groups and related integrable difference systems of NLS type*, Journal of Mathematical Physics **56**, 082701 (2015)
- [7] S. Konstantinou-Rizos and A. V. Mikhailov, *Darboux transformations, finite reduction groups and related Yang-Baxter maps*, Journal of Physics A: Math. Theor. **46**, 425201 (2013)
- BOOK [1] D. Bilman and S. Konstantinou-Rizos, *Discrete integrable systems, Darboux transformations and Yang-Baxter maps*, in *Symmetries and Integrability of Difference Equations*, D. Levi et al. (eds.), CRM Series in Mathematical Physics, Springer, DOI: 10.1007/978-3-319-56666-5_5 (2017)
- EDITORIAL [1] V. M. Buchstaber (Ed.), S. Konstantinou-Rizos (Ed.) and A. V. Mikhailov (Ed.), *Recent developments in integrable systems and related topics of mathematical physics*, PROMS, Springer, DOI: 10.1007/978-3-030-04807-5 (2018)

GRANTS

- 2019 University of Essex Visiting Fellowship grant. Four week visit, November 2019.
- 2018 London Mathematical Society Short Visit Grant Scheme 2, Ref. 21717 (completed).
Host: Dr. G. Grahovski, University of Essex, UK.
- 2017 State Programme of the Ministry of Education and Science of the Russian Federation, project 1.10160.2017/5.1. I was the principal author of the grant proposal, and I submitted the application on behalf of the academic/research team.

CONFERENCE ORGANISATION

- OCT 2018 Chairman of the organising committee of the 2nd International Conference of Integrable Systems & Nonlinear Dynamics in Yaroslavl, Russia. Webpage: <https://lomonosov-msu.ru/eng/event/6054/>.
- AUG 2019 Organising committee of the IX-th International Conference SOLITONS, COLLAPSES AND TURBULENCE: Achievements, Developments and Perspectives (SCT-19) in honor of Vladimir Zakharov's 80th birthday in Yaroslavl, Russia. Webpage: <https://lomonosov-msu.ru/eng/event/5298/>.
- OCT 2018 Chairman of the organising committee of the International Conference of Integrable Systems & Nonlinear Dynamics in Yaroslavl, Russia. Webpage: <https://lomonosov-msu.ru/eng/event/5122/>.
- AUG 2017 Organising committee of the International Conference of Math. Physics *Kezenoi-Am 2017* in Grozny, Russia.
- OCT 2016 Organising committee of the International Conference of Mathematical Physics *Kezenoi-Am 2016* in Grozny, Russia.

PRESENTATIONS

INVITED TALKS

- OCT 2019 *Integrable discretisations of nonlinear PDEs and related Yang-Baxter maps*, Liverpool Hope University, UK.
- FEB 2019 *Darboux transformations and related discrete integrable systems and Yang-Baxter maps*, Lomonosov Moscow State University, Russia.
- JAN 2019 *Darboux transformations, Yang-Baxter maps and their noncommutative extensions*, Heriot-Watt University, Edinburgh, UK.
- JAN 2019 *Grassmann extensions of discrete Integrable Systems and their associated Yang-Baxter maps*, University of Leeds, UK.
- JAN 2019 *Darboux transformations and Yang-Baxter maps*, University of Essex, UK.

- JUN 2017 *Grassmann extension scheme: a noncommutative dpKdV system*, International conference “Recent Advances in Hamiltonian and Nonholonomic Dynamics,” Moscow Institute of Physics and Technology, Moscow, Russia.
- FEB 2017 *Lifts to noncommutative extensions of Yang-Baxter maps*, International conference “Dynamics in Siberia”, Sobolev Institute, Novosibirsk, Russia.
- JUN 2016 *Darboux & Bäcklund transformations: discrete systems, matrix refactorisation problems and Yang-Baxter maps I & II*, Abecedarian of International SIDE summer school, Montreal, Canada.

SELECTED CONTRIBUTED TALKS

- JUL 2018 *A Grassmann-extended discrete potential KdV*, International Workshop on “Classical and Quantum Integrable Systems CQIS-2018,” Protvino, Russia.
- MAY 2017 *Discrete integrable systems and lifts to Yang-Baxter maps: Grassmann extension scheme*, VIII-th Int. Conf. “SOLITONS, COLLAPSES AND TURBULENCE: Achievements, Developments and Perspectives,” L.D. Landau inst. of Theoretical Physics, RAS, Moscow, Russia.
- JUL 2016 *Noncommutative extensions of Yang-Baxter maps associated to NLS type equations*, International conference “SIDE 12,” (Symmetries and Integrability of Difference Equations) Montreal, Canada.
- MAR 2016 *Grassmann extensions of Yang-Baxter maps related to NLS type equations*, International conference “Dynamics in Siberia,” Sobolev Institute, Novosibirsk, Russia.
- SEP 2015 *Integrability properties of NLS type equations via Darboux transformations, and related Yang-Baxter maps*, International conference “Toric Topology, Number Theory and Applications,” Khabarovsk, Russia.
- JUL 2014 *Integrability of discrete systems and complete integrability of Yang-Baxter maps*, 1st Early Career South East Mathematical Physics Seminar, Kent, UK.
- JUL 2013 *Darboux transformations, discrete integrable systems and related Yang-Baxter maps*, International workshop “Discrete Integrable Systems,” (a follow-up meeting) Isaac Newton institute, Cambridge, UK.
- JUN 2013 *Darboux transformations and related Yang-Baxter maps*, International conference “15th Geometry, Integrability and Quantization,” Varna, Bulgaria.

POSTERS

- APR 2013 *Yang-Baxter maps and reduction groups with degenerate orbits*, BAMC International conference, Leeds, UK.
- JUN 2012 *Implicit Yang-Baxter maps and reduction groups with degenerate orbits*, International conference “SIDE 10,” Ningbo, China.

PREVIOUS TEACHING EXPERIENCE

POSTGRADUATE TUTOR, UNIVERSITY OF LEEDS, UK

- 2013 - 2014 *Linear Differential Equations and Transforms, Nonlinear Differential Equations (Dynamical Systems), Numbers & Vectors and Number Systems.*
- 2012 - 2013 *Calculus and Mathematical Analysis, Mathematics I and Modelling with Differential Equations.*
- 2011 - 2012 *Calculus and Mathematical Analysis, Introductory Linear Algebra, Mathematics I and Modelling with Differential Equations.*

MATHS SUPPORT TUTOR, UNIVERSITY OF LEEDS, UK

- 2013 - 2014 Support to University of Leeds students with difficulties in mathematics, Maths Support Centre, University of Leeds.

POSTGRADUATE TUTOR, UNIVERSITY OF PATRAS, GREECE

- 2009 - 2010 *Ordinary Differential Equations I, Partial Differential Equations I, Partial Differential Equations II* and (lab) *Adv. Math. & App. with Mathematica & Maple.*
- 2008 - 2009 *Ordinary Differential Equations I, Partial Differential Equations II* and (lab) *Adv. Math. & App. with Mathematica & Maple.*
- 2007 - 2008 *Special Relativity, Partial Differential Equations II* and (lab) *Adv. Math. & App. with Mathematica & Maple.*

SCHOLARSHIPS/ DISTINCTIONS

- 2010 The University of Leeds “William Wright Smith Scholarship” (full time PhD scholarship granted by the University of Leeds) and “J.E. Crowther scholarship” (contribution to fees).
- 2004 Scholarship from the Greek State Scholarships Foundation for my performance in my 2nd year of my undergraduate studies.
- 2003 Scholarship from the Greek State Scholarships Foundation for my performance in my 1st year of my undergraduate studies.

ADDITIONAL SKILLS

- LANGUAGES Greek (Native Speaker), English (Fluent), Russian (Fluent);
- COMPUTER SKILLS Mathematica, Maple, \LaTeX ;
- REFEREEING Referee of “Journal of Physics A: Mathematical and Theoretical,” “Journal of Difference Equations and Applications;”
- REVIEWING Reviewer at Zentralblatt Math (zbMATH).