Alexander Rasin

11.2024

CURRICULUM VITAE AND LIST OF PUBLICATIONS

- **Personal Details**

  Name: Alexander Rasin

- **Education**

BSc in Mathematics 06.2003	Dnepropetrovsk National University, Ukraine, Department of Mathematics and Mechanics.
MSc in Mathematics 06.2004	Dnepropetrovsk National University, Ukraine, Department of Mathematics and Mechanics, advisor: Prof. V.A. Tychynin Title of thesis: Symmetries and integration of second order nonlinear evolution equations.
PhD in Mathematics 10.2007	University of Surrey, UK, Department of Mathematics, adviser: Prof. P. Hydon. Title of thesis: Conservation laws and symmetries of difference equations.

• **Employment History**

10.2024-now	Senior Lecturer in College of Management.
11.2022- 9.2024	Senior Lecturer in Ariel University.
11.2012-11.2022	Lecturer in Ariel University.
1.2011-11.2012	Post-doc in Weizmann Institute of Science, Israel
10.2007-1.2011	Post-doc in Bar-Ilan University, Israel

• **Professional Activities**

d) Editor or member of editorial board of scientific or professional journal

01.2018 – 9.2024 Associated editor and manager

Name of journal: Functional differential equations.

• Educational activities

(a) Courses taught

Real analysis, Ordinary/Partial differential equation, Multi/Single variable calculus, Complex analysis, Fourier and Laplace transforms, Numerical methods – first degree – Ariel University. Advanced Mathematics. Mathematical programming, Numerical methods – second degree – Ariel University.

(b) Research students

2024 – Ishai Frisch - first degree, Ariel University

2024 – Tina Koripadze - first degree, Ariel University

2024 – Eden Gilad - first degree, Ariel University

2024 – Meital Paritzky - first degree, Ariel University

2019 – Ilana Sinke - first degree, Ariel University

2019 – Noa Efrati - first degree, Ariel University

2018 – Shir David - first degree, Ariel University

2018 – Laura Dahan - first degree, Ariel University

• **Awards, Citations, Honors, Fellowships**

(a) Honors, Citation Awards (including during studies)

2005-2007 Distinguished Student Award, Overseas Research Students Awards Scheme, UK – 20000$.

• **Scientific Publications**

h-index = 10

total citations = 350

Authored books

c) Editorship of collective volumes

Domoshnitsky A., Rasin A, Padhi S. 2020, "Functional Differential Equations and Applications: FDEA-2019", Arial, Israel, Springer Proceedings in Mathematics and Statistics, 2021, 379, pp. v–vi https://link.springer.com/book/9789811662966

Articles

(a) Refereed articles and refereed letters in scientific journals - running numbers

1. Rasin, A.G. (corresponding author) & Schiff, J. Symmetry structure of integrable hyperbolic third order equations. J. Phys. A: Math. Theor.,56, 48 (2023), 485204. IF 2.132.
2. Rasin, A. G. (corresponding author) Computation of generating symmetries. Communications in Nonlinear Science and Numerical Simulation, 118, (2023), 107003. IF 4.186
3. Rasin, A.G. & Schiff, J(corresponding author). Four Symmetries of the KdV equation. J Nonlinear Sci. 32 (5), (2022), 68. IF 3.443.
4. Rasin, A.G. (corresponding author) & Schiff. J A simple-looking relative of the Novikov, Hirota-Satsuma and Sawada-Kotera equations, Journal of Nonlinear Mathematical Physics 26, 4, (2019), 555-568. IF 0.986.
5. Расин А, (corresponding author) Шифф Д, Неизвестные аспекты преобразований Беклунда и ассоциированное уравнение Дегасперис–Прочези. Теоретическая и математическая физика 196 (3), (2018), 449-464.
6. Rasin, A.G. (corresponding author) & Schiff, J. Unfamiliar Aspects of Bäcklund Transformations and an Associated Degasperis-Procesi Equation, Theoretical and Mathematical Physics 196 (3), (2018), 1333-1346. IF 0.984.

7. Rasin, A.G. (corresponding author) & Schiff, J. Bäcklund Transformations for the Boussinesq Equation. J. Phys. A: Math. Theor.,50, 32 (2017), 325202. IF 2.132.
8. Rasin, A.G. (corresponding author) & Schiff, J. Bäcklund Transformations for the Camassa–Holm Equation. J Nonlinear Sci 27 (1), (2017), 45-69. IF 3.621.
9. Rasin, A. G. (corresponding author), & Schiff, J. The gardner method for symmetries. J. Phys. A: Math. Theor.,46, 15 (2013), 155202. IF 2.132.
10. Rasin, A. G. (corresponding author) Conservation laws and symmetries of asymmetric equations on the quad-graph. Functional differential equations19 (3-4), (2012) p. 341-349
11. Rasin, A. G. (corresponding author) Infinitely many symmetries and conservation laws for quad-graph equations via the Gardner method. J. Phys. A: Math. Theor., 43, (2010), 277-281. IF 2.132.
12. Rasin, A. G., (corresponding author) & Schiff, J. Infinitely many conservation laws for the discrete KdV equation. J.Phys. A: Math. Theor., 42, (2009), 175205. IF 2.132 .
13. Rasin, O. G., (corresponding author) & Hydon, P. E. Conservation laws for integrable difference equations. J. Phys. A: Math. Theor., 40, (2007), 12763-12773. IF 2.132.
14. Rasin, O. G., (corresponding author) and Hydon, P. E. Symmetries of integrable difference equations on the quad-graph. Stud. Appl. Math., 119, (2007), 253-269. IF 3.
15. Sahadevan, R. (corresponding author), Rasin, O. G., and Hydon, P. E. Integrability conditions for nonautonomous quad- graph equations. J. Math. Anal. Appl., 331, (2006), 712-726. IF 1.014 .
16. Rasin, O. G. (corresponding author), and Hydon, P. E. Conservation laws for NQC-type difference equations. J. Phys. A: Math. Gen, 39, (2006), 14055-14066. IF 1.933 .
17. Rasin, O. G. (corresponding author), and Hydon, P. E. Conservation laws of discrete Korteweg-de Vries equation. SIGMA Symmetry Integrability Geom. Methods Appl. 1 (2005), Paper 026, 6 pp. (electronic). IF 1.040.

18. Tychynin, V. A. (corresponding author), and Rasin, O. G. Nonlocal symmetry and generation of solutions for reaction-diffusion equations. Rep. Math. Phys. 55, 2 (2005), 297-302. IF 0.870
19. Tychynin, V. (corresponding author), and Rasin, O. Nonlocal symmetry and generating solutions for the inhomogeneous Burgers equation. Pr.Inst.Mat.Nats.Akad.Nauk Ukr.Mat.Zastos., 50, Part 1. 2004, pp. 277-281.

• Lectures and Presentations at Meetings and Invited Seminars not Followed by Published Proceedings

(a) Invited plenary lectures at conferences/meetings

2016

Traveling wave solutions for the Camassa-Holm and the Degasperis-Procesi equations, Natural Science Symposium, Ariel University
Israel.
http://www.ariel.ac.il/images/stories/site/departments/sciences/pdfs/Conference_Abstract_2016.pdf

2009

Symmetries of integrable difference equations, Discrete Integrable Systems, Isaac Newton Institute, Cambridge, UK.
http://www.newton.ac.uk/seminar/20090318140014501

(b) Presentation of papers at conferences/meetings

2022

Four Symmetries of the KdV equation.
Functional Differential Equations and Applications FDEA 2022, Ariel University, Israel.
https://www.ariel.ac.il/wp/alexander-domoshnitsky/festival-of-mathematics-2022/

2021,

The Gardner Method for Additional Symmetries
Symmetry 2021 - The 3rd International Conference on Symmetry, Online, Israel
https://symmetry2021.sciforum.net/event/Symmetry2021

2019,

Bäcklund Transformations Novikov and Associated Novikov Equations Functional Differential Equations and Applications FDEA 2019, Ariel University, Israel.
https://www.ariel.ac.il/wp/math/en/fdea2019/?lang=en&preview_nonce=8cfb402b85

Bäcklund Transformations Novikov and Associated Novikov Equations The 16th Conference "Mathematics in Technical and Natural Sciences", Zakopane, Poland.
http://www.wms.agh.edu.pl/konferencje/mntp/Agenda_16thMTNS.pdf

2018,

Bäcklund Transformations and Infinitesimal Symmetries
The 32nd International Colloquium on Group Theoretical Methods in Physics, Prague, Czech Republic.
http://kmlinux.fjfi.cvut.cz/~burdices/Group32/new-booklet.pdf

2017

Bäcklund Transformations for the Boussinesq Equation and Merging Solitons 8th Israeli-Czech Workshop, Ariel University, Israel.
https://drive.google.com/file/d/0B87lCDUlEP6LZF9McGQyT3BJLWsxQTB1M0ZncXVOc3ZMQndJ/view?usp=sharing

2014

The Bäcklund transformations for the Camassa-Holm equation., 5th Israeli-Czech Workshop, Ariel University, Israel.
http://www.ariel.ac.il/projects/math/fdea2014/con2014.pdf

2005

Method for finding conservation laws for partial difference equations, Symmetry in Nonlinear Mathematical Physics, Kiev, Ukraine.
https://www.imath.kiev.ua/~appmath/Abstracts2005/Rasin.html

2003

Nonlocal symmetry and generation of solutions for inhomogeneous Burgers equation, Symmetry in Nonlinear Mathematical Physics, Kiev, Ukraine.
https://www.imath.kiev.ua/~snmp2003/abstract2003/Tychynin.html

(c) Presentations at informal international seminars and workshops

2018

Israeli-Bulgarian Workshop on Applied Mathematics, Ariel, Israel.

2016

Geometric and Algebraic Aspects of Integrability, Durham Symposium, Durham, UK.

2008

Geometric Numerical, Oberwolfach Seminar, Integration, Oberwolfach-Walke, Germany.

2007

Workshop, Manifolds and Geometric Integration Colloquia (MaGIC), AtnaSjoen, Norway.

(d) Seminar presentations at universities and institutions

2024

Shamoon College of Engineering

2021

Ariel University, Israel.

2016

University of Kent, Canterbury, UK.

2016

Ariel University, Israel.

2014

Ariel University, Israel.

2012,

Machon Lev, Israel.

2012

Bar-Ilan University, Israel.

2012

Ariel University, Israel.

2011

Weizmann Institute, Israel.

2011

University of Surrey, Guildford, UK.

2010

University of Surrey, Guildford, UK.

2007

University of Bergen, Bergen, Norway.

2006

University of Durham, Durham, UK.

Additional Information

- I've applied for ISF grant in 2018 and 2021.
- Member of Editorial Board and Manager of the journal Functional Differential Equations published at Ariel University
- I regularly referee articles for the following mathematical journals:
    - Journal of Nonlinear Science
    - SIGMA,
    - Results in Physics,
    - J. Phys. A: Math. Theor,
    - Proceedings Royal Society A.
    - Journal of Nonlinear Mathematical Physics
    - Functional Differential Equations
- I regularly referee the thesis of post-graduate students.
- I have significant experience in working with computer algebras: Maple, Matlab, Mathematics.
- I've almost finished preparing lecture notes for the course "Mathematical analysis for computer science".
- I have experience in understanding and researching Jewish religious texts: Torah, Talmud, Rishonim, Acharonim.
- Language skills: Hebrew, Russian, English.
- Family status: married with 7 children.