

 <p>THE UNIVERSITY OF AUCKLAND NEW ZEALAND Te Whare Wānanga o Tāmaki Makaurau</p>	<p>University of Auckland Standard ACADEMIC CV</p>
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NAME: Arkadii Slinko

CURRENT POSITION: Professor

DEPARTMENT: Mathematics

FACULTY: Science

EDUCATIONAL QUALIFICATIONS:

- Ph.D., Sobolev Institute of Mathematics, Novosibirsk, 1973
- MSc., Novosibirsk State University, 1970

PREVIOUS APPOINTMENTS:

- 2009 – present: Associate Professor, Professor, The University of Auckland.
- 1995–2008: Senior Lecturer, The University of Auckland.
- 1992–1994: Lecturer, The University of Auckland.
- 1989–1992: Associate Professor, Lomonosov Moscow State University.
- 1979–1992: Senior Researcher, Institute for System Studies of Academy of Sciences USSR (Moscow)
- 1977–1979: Vice Chairman, Department of Mathematics, Novosibirsk State University.
- 1974–1979: Assistant and Associate Professor, Dept of Mathematics, Novosibirsk State University.

SELECTED VISITING APPOINTMENTS:

- 2013 October: One month invited visiting professorship. University of Padova, Italy.
- 2013 September: One month invited visiting professorship. Dauphine University, Paris, France.
- 2010 August - October. Visiting Professor. Nanyang Technological University. Singapore.
- 2010 November. Visiting Professor. University of Tsukuba. Japan.
- 2006 Visiting Researcher. The Centre for Interuniversity Research in Qualitative Economics (CIREQ) and Department of Economics of The University of Montreal, autumn semester.
- 2006 July, 2003 July: Visiting Researcher, Central Institute for Mathematics and Economics (Moscow).

SIGNIFICANT DISTINCTIONS / AWARDS

- "A" in Economics in the latest (2013) PBRF assessment round.
- 2012 -pr.: Evaluator of COST (European Coop. in Sci. and Tech.) Trans-Domain Proposals.
- 2010: Inaugural Director of the Centre for Mathematics in Social Sciences.
- 2007: Faculty of Science Distinguished Teaching Excellency Award.
- 2006-2011: Member of The Editorial Board. Journal of Generalized Lie Theory and Applications.
- 2003-2005 Independent expert. The European Commission DG Research.
- 2000 Medal of the Latvian Mathematical Society.
- 1990 D.Sc., Sobolev Institute of Mathematics, Novosibirsk.

TEACHING (last five years): A range of courses in Algebra and Combinatorics. I developed a new course MATHS 328 "Algebra and Applications," which is now a core course at stage 3. In 2005 I served as the chair of the review committee of undergraduate courses in Algebra and Discrete Mathematics. In 2008 I served on the review committee of graduate courses in the Department.

RESEARCH SPECIALITIES / CAREER:

Summary Statement: Over the years my research interests have been (most recent first) in: mathematical economics and mathematical politics, combinatorics of simple games and comparative probability orders, computability in algebraic structures, topological algebras, Lie and Jordan algebras and coalgebras.

Conference organisation (last four years):

- 2013: 3rd International Conference on Algorithmic Decision Theory (ADT 2013), November 13-15, Brussels, Belgium Program Committee Member.
- 2012: AAMAS 2012 : 11th International Conference on Autonomous Agents and Multiagent Systems, June 4–8, Valencia, Spain – Program Committee Member.
- 2011: Logic, Game Theory and Social Choice (LGS-7), July 6–8. Bucharest, Romania - Member of the Scientific Committee.
- 2010: The Third International Workshop on Computational Social Choice (COMSOC-2010), September 13–16, Dsseldorf, Germany – Program Committee Member
- 2010: Workshop “Algorithmic Aspects of Game Theory and Social Choice”, Auckland, New Zealand, 18–20 February - Chair of the Organising Committee.

Selected Distinguished Visitors:

- 2013: Clemens Puppe, Karlsruhe University of Technology, Germany.
- 2012: Jerome Lang, Dauphine University, Paris, France.
- 2011: Nadja Betzler, Technical University of Berlin, Germany
- 2010: Prof William Zwicker. Union College, New York.
- 2009: Prof Detlef Seese. University of Karlsruhe Germany.
- 2008 & 2006: Prof. Mamoru Kaneko, University of Tsukuba, Japan.

Invited Lectures (last four years):

- 2013: Institute for Mathematical Sciences (Singapore). Program Algorithmic Game Theory and Computational Social Choice (7 Jan - 8 Mar 2013).
- 2012: Dagstuhl Seminar 12101 Computation and Incentives in Social Choice. 4-9 March 2012
- 2011: The Third International Workshop on Logic, Rationality and Interaction (LORI-III), Guangzhou, P.R. China, October 10-13.
- 2010: Dagstuhl Seminar 10101 'Computational Foundations of Social Choice", Dagstuhl, Germany, March, 7–12.

Selected Research Grants / Funding (last four years):

- 2013: 231.000 PLN = \$85.000 NZD: Polands National Science Centre (joint with P. Faliszewski). Duration: 3 years, principal investigator.
- 2012: The initiative group with my participation was awarded a grant from The European Commission to conduct a COST (European Coordination in Science and Technology) Action on Computational Social Choice. Duration: 4 years.
- 2010: \$120,000 AUD - ARC Discovery grant (jointly with Estivil-Castro, Fellows and Rosamond).
- 2010: \$18,500 - Cross Faculty Research Fund (application on behalf of the Centre For Mathematics in Social Sciences))
- 2010: \$5000 - ISAT Bilateral Research Activities Programme With Spain : grant in support for a visit of Prof. Josep Freixas.
- 2010: \$8,500 - Faculty of Science Research Development Grant.

Research Publications summary: 5 books, 80 refereed research papers, 150 publications in total. Below are my refereed research publications for the last five years.

1. Slinko, Arkadii and White, Shaun (2013) Is it ever safe to vote strategically? *Social Choice and Welfare*, 10.1007/s00355-013-0785-4, pp.1-25.
2. On the Number of Facets of Polytopes Representing Comparative Probability Orders (with Ilya Chevyrev and Dominic Searles), *Order*, Volume 30, Issue 3 (2013), pp 749-761.
3. Three Hierarchies of Simple Games Parameterized by “Resource” Parameters (with T. Gvozdeva and L. A. Hemaspaandra). *International Journal of Game Theory* 42 (2013), pp 1-17.
4. Weightedness and structural characterization of hierarchical simple games. (with A. Hameed and T.Gvozdeva), *Mathematical Social Sciences* 65 (2013), pp. 181-189.
5. On the Computation of Fully Proportional Representation (with Nadja Betzler and Johannes Ullman). *Journal of Artificial Intelligence Research* 47 (2013), 475–519.
6. Simplicial Complexes Obtained from Qualitative Probability Orders (with Paul Edelman and Tatyana Gvozdeva), *SIAM J. Discrete Math.*, 27(4) (2013), 1820–1843.
7. On swap distance geometry of voting rules (with Svetlana Obraztsova, Edith Elkind, Piotr Faliszewski) accepted for full publication and oral presentation in the proceedings of the Twelfth International Conference on Autonomous Agents and Multiagent Systems (AAMAS2013), 383-390.
8. Achieving Proportional Representation is Easy in Practice. (with Piotr Skowron and Piotr Faliszewski) accepted for full publication and oral presentation in the proceedings of the Twelfth International Conference on Autonomous Agents and Multiagent Systems (AAMAS2013), 399-406.
9. Piotr Skowron, Piotr Faliszewski, Arkadii Slinko, Fully Proportional Representation as Resource Allocation: Approximability Results. *IJCAI 2013*, pp. 353–359.
10. Piotr Krzysztof Skowron, Piotr Faliszewski, Arkadii M. Slinko: Achieving fully proportional representation is easy in practice. *AAMAS 2013*: 399-406.
11. Weightedness and structural characterization of hierarchical simple games. (with A. Hameed and T.Gvozdeva), *Mathematical Social Sciences* (2012), doi:10.1016/j.mathsocsci.2012.11.007
12. On the Number of Facets of Polytopes Representing Comparative Probability Orders (with Ilya Chevyrev and Dominic Searles), *Order*, 2012. DOI 10.1007/s11083-012-9274-0.
13. Clone structures in voters’ preferences (with E. Elkind, P. Faliszewski). *ACM Conference on Electronic Commerce 2012*: 496-513.
14. Rationalizations of Condorcet-consistent rules via distances of Hamming type (with P. Faliszewski and E. Elkind), *Social Choice and Welfare*, 39 (2012), pp 891-905.
15. Cloning in Elections (with P. Faliszewski and E. Elkind). *JAIR*, 42 (2011), pp. 529-573.
16. Three Hierarchies of Simple Games Parameterized by “Resource” Parameters (with T. Gvozdeva and L. A. Hemaspaandra). *International Journal of Game Theory*, 2011, DOI 10.1007/s00182-011-0308-4.
17. Homogeneity and Monotonicity of Distance-Rationalizable Voting Rules, (with E. Elkind, P. Faliszewski), *Proc. of 10th Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS 2011)*, Tumer, Yolum, Sonenberg and Stone (eds.), May, 26, 2011, Taipei, Taiwan, pp. 821-828.
18. Weighted and Roughly Weighted Simple Games (with Tatiana Gvozdeva), *Mathematical Social Sciences* 61 (2011) 20–30.
19. Proportional Representation and Strategic Voters (with Shaun White), *Journal of Theoretical Politics*, 2010, 22(3): 301–332.
20. On the role of distances in defining voting rules. (with E. Elkind and P. Faliszewski) Wiebe van der Hoek, Gal A. Kaminka, Yves Lespérance, Michael Luck, and Sandip Sen, eds. *AAMAS 2010: Proceedings of the Ninth International Conference on Autonomous Agents and Multi-Agent Systems*. IFAAMAS: International Foundation for Autonomous Agents and Multiagent Systems, Toronto, Canada, May 10–14, pp. 375–382. 2010.

21. Good Rationalizations of Voting Rules (with E. Elkind and P. Faliszewski) Twenty-Fourth Conference on Artificial Intelligence (AAAI-10), Maria Fox and David Poole(eds.), Proceedings of the Twenty-Fourth AAAI Conference on Artificial Intelligence, Atlanta, Georgia, USA, 11-15 July, 2010, p.774–779.
22. Three Hierarchies of Simple Games Parameterized by “Resource” Parameters (with T. Gvozdeva and L. A. Hemaspaandra). In: Proceedings of the Third International Workshop on Computational Social Choice (COMSOC-2010). Eds. V. Conitzer and Joerg Rothe. Dusseldorf, Germany, 13–16 September, 2010, p. 259–270.
23. Distance Rationalization of Voting Rules (with E. Elkind and P. Faliszewski). In: Proceedings of the Third International Workshop on Computational Social Choice (COMSOC-2010). Eds. V. Conitzer and Joerg Rothe. Dusseldorf, Germany, 13–16 September, 2010, p. 379–390.
24. Additive Representability of Finite Measurement Structures. In: “The Mathematics of Preference, Choice, and Order: Essays in Honor of Peter C. Fishburn”. Eds. SJ Brams, WV Gehrlein and FS Roberts. Springer, 2009.
25. Orders on Subsets Rationalised by Abstract Convex Geometries (with Matthew Ryan and Walter Bossert), *Order*, 2009, 26(3): 237– 244.
26. Axioms for a Class of Algorithms of Sequential Decision Making (with M. Agastya) In: F. Rossi and A. Tsoukis (Eds.): “Algorithmic Decision Theory.” Proceedings of the ADT 2009, LNAI 5783, pp. 353–364. Springer Heidelberg (2009).
27. On distance rationalizability of some voting rules (with P. Faliszewski and E. Elkind) In: Proceedings of the 12th Conference on Theoretical Aspects of Rationality and Knowledge. pp 108–117. California, 2009
28. Swap bribery (with P. Faliszewski and E. Elkind) In: M. Mavronicolas and V.G. Papadopoulou (Eds.): “Algorithmic Game Theory.” Proceedings of the Second International Symposium, SAGT 2009, LNAI 5814, pp. 299–310. Springer Heidelberg (2009).
29. Approximability of Dodgson’s rule (with John McCabe-Dansted and Geoffrey Pritchard), *Social Choice and Welfare*, 2008, 31(2): 311–330. Springer online (2007) DOI: 10.1007/s00355-007-0282-8.
30. Self-Selective Social Choice Functions (with S. Koray), *Social Choice and Welfare*, 2008, 31(1): 129–149.
31. Non-dictatorial Social Choice Rules Are Safely Manipulable (with Shaun White). Proceedings of the 2nd International Workshop on Computational Social Choice (COMSOC–2008). Eds. Ulle Endriss & Paul W. Goldberg. University of Liverpool, 2008. pp. 403–414.
32. Ranking Committees, Income Streams or Multisets (with M. Sertel), *Economic Theory*, 2007, 30(2): 265–287.
33. Comparative Probability Orders and the Flip Relation (with M. Conder and D. Searles), Proceedings of The 5th International Simposium on Imprecise Probability: Theories and Applications (ISIPTA 07), Eds. G. de Cooman, J. Veinaraova, M.Zaffalon. Prague, Czech Republic, 2007, 67–76.
34. On Complexity of Lobbying in Multiple Referenda (with Robin Christian, Mike Fellows and Fran Rosamond), *Review of Economic Design*, 2007, 11(3): 217–224.
35. Flippable Pairs and Subset Comparisons in Comparative Probability Orderings (with Robin Christian and Marston Conder), *Order*, 2007, 24(3): 193-213.
36. Orders on Multisets and Discrete Cones (with Marston Conder and Simon Marshall), *Order*, 24(4): 277–296.
37. How the Size of a Coalition Affects its Chances to Influence an Election, *Social Choice and Welfare*, 2006, 26(1): 143–153.
38. Exploratory Analysis of Similarities between Common Social Choice Rules (with J. McCabe-Dansted), *Decision and Negotiation*, 2006, 15(1), 77–107.
39. On the Average Minimum Size of Manipulating Coalition (with G. Pritchard), *Social Choice and Welfare*, 2006, 27(2), 263–277.
40. Relative Uncertainty Aversion and Additively Representable Set Rankings (with W. Bossert), *International Journal of Economic Theory*, 2006, 2: 105–122.

41. Answers to Two Questions of Fishburn on Subset Comparisons in Comparative Probability Orderings (with R. Christian), Proceedings of The 4th International Symposium on Imprecise Probabilities and Their Applications (ISIPTA 05), Pittsburg, Pennsylvania, 2005, 117–124.
42. How Large Should a Coalition Be to Manipulate an Election? *Mathematical Social Sciences*, 2004, 47(3): 289–293.
43. Comparing the rules Chamberlin's way (with Geoff Pritchard), Proceedings of the International Conference "Mathematical Modelling of Social and Economical Dynamics" (MMSED-2004), Moscow, 2004, pp. 337–340.
44. 1,2,4,8, What comes next? *Extracta Mathematicae*, 2004, 19:155-161.
45. A Counterexample to Fishburn's Conjecture on Finite Linear Qualitative Probability (with Marston Conder), *Journal of Mathematical Psychology*, 2004, 48(6), 425–431.
46. Exploratory data Analysis of Common Social Choice Functions (with W. Leung). II International Conference on the Problems of Control (17–19 June, 2003), Vol.1., 224–228, Moscow, December, 2003.