

Shmuel Friedland

Significant papers as in my “Short account of major works”

- On a conjecture of Robertson, *Arch. Rational Mech. Anal.* 37 (1970), 255-261.
- On an inequality connected with the coefficient conjecture for functions of bounded boundary rotations, (with Aharonov), *Ann. Acad. Sci. Fenn. AI* 524 (1972), 14 pp.
- Some inequalities for the spectral radius of nonnegative matrices and applications, (with S. Karlin), *Duke Math. J.* 42 (1975), 459-490.
- Eigenvalue inequalities for Dirichlet problem on spheres and the growth of subharmonic functions, (with W.K. Hayman), *Comment. Math. Helvetici* 51 (1976), 133-161.
- On coefficient region of univalent functions, (with M. Schiffer), *J. Analyse Math.* 31 (1977), 125-168.
- Inverse eigenvalue problems, *Linear Algebra Appl.* 17 (1977), 15-51.
- On inverse problem for nonnegative and eventually nonnegative matrices, *Israel J. Math.* 29 (1978), 43-60.
- A lower bound for the permanent of doubly stochastic matrices, *Ann. of Math.* 110 (1979), 167-176.
- A proof of a generalized van der Waerden conjecture on permanents, *Linear Multilin. Algebra* 11 (1982), 107-120.
- Codimension of degenerate pencils, (with B. Simon), *Linear Algebra Appl.* 44 (1982), 41-53.
- Simultaneous similarity of matrices, *Adv. in Math.* 50 (1983), 189-265.
- On the crossing rule, (with J. Robbin and J. Sylvester), *Comm. Pure Appl. Math.* 37 (1984), 19-37.
- Regular subgraphs of almost regular graphs, (with N. Alon and G. Kalai), *J. Combin. Theory B* 37 (1984), 79-91.
- The formulation and analysis of numerical methods for inverse eigenvalue problems, (with J. Nocedal and M.L. Overton), *SIAM J. Numerical Anal.* 24 (1987), 634-667.
- Dynamical properties of plane polynomial automorphisms, (with J. Milnor), *J. Ergod. Th. & Dynam. Sys.* 9 (1989), 67-99.
- Entropy of polynomial and rational maps, *Ann. of Math.* 133 (1991), 359-368.
- Inverse eigenvalue problems for symmetric Toeplitz matrices, *SIAM J. Matrix Anal. Appl.* 13 (1992), 1142-1153.
- Jorgensen’s inequality for discrete groups in normed algebras, (with S. Hersonsky), *Duke Math. J.* 69 (1993), 593-614.
- Entropy of algebraic maps, *J. Fourier Anal. Appl.*, Kahane’s issue, 1995, 215-228.
- Entropy of graphs, semigroups and groups, *Ergodic Theory of \mathbb{Z}^d -Actions*, editors: M. Pollicott and K. Schmidt, London Math. Soc. Lecture Notes Ser. 228, 319-343, Cambridge Univ. Press, 1996.
- On the entropy of \mathbb{Z} -d subshifts of finite type, *Linear Algebra Appl.* 252 (1997), 199-220.

Significant papers as in my “Short account of major works” (continued)

- Monodromy, differential equations and the Jacobian conjecture, *Annales Polonici Mathematici*, 72 (1999) 219-249.
- Finite and infinite dimensional generalizations of Klyachko theorem, *Linear Algebra Appl.* 319 (2000), 3-22.
- Multi-dimensional capacity, pressure and Hausdorff dimension, *Mathematical System Theory in Biology, Communication, Computation and Finance*, edited by D. Gilliam and J. Rosenthal, IMA vol. 134, Springer, 2003, 183-222.
- Concentration of permanent estimators for certain large matrices, (with B. Rider and O. Zeitouni), *Annals of Applied Probability*, 14(2004), 1559-1576.
- Explicit construction of families of LDPC codes with no 4-cycles, (with J.L. Kim, U.N. Peled, I. Perepelitsa, V. Pless), *IEEE Trans. Inform. Theory* 50 (2004), 1-12.
- Theory of Computation of Multidimensional Entropy with an Application to the Monomer-Dimer Problem, (with U. Peled), *Advances of Applied Math.* 34(2005), 486-522.
- Generalized interval exchanges and the 2-3 conjecture, (with B. Weiss), *Central European Journal of Mathematics* 3 (3), 2005, 412-429.
- Lower bounds for partial matchings in regular bipartite graphs and applications to the monomer-dimer entropy, jointly with L. Gurvits, *Combinatorics, Probability and Computing*, 17 (2008), 347-361.
- On the validations of the asymptotic matching conjectures, (with E. Krop, P.H. Lundow, K. Markström), *Journal of Statistical Physics*, 133 (2008), 513-533.
- On the number of matchings in regular graphs, jointly with E. Krop and K. Markstrom, *The Electronic Journal of Combinatorics*, 15 (2008), #R110, 1-28.
- The pressure, densities and first order phase transitions associated with multidimensional SOFT, jointly with U.N. Peled, *Notions of Positivity and the Geometry of Polynomials*, *Trends in Mathematics*, 179-220, 2011, Springer, Basel AG.
- An Asymptotic Expansion and Recursive Inequalities for the Monomer-Dimer Problem, jointly with P. Federbush, *Journal of Statistical Physics*, 143 (2011), 306–325.
- An explicit expression for the relative entropy of entanglement in all dimensions, jointly with G. Gour, *J. Math. Phys.* 52 (2011), 052201 (13 pages).
* A proof of the set-theoretic version of the salmon conjecture, jointly with E. Gross, *Journal of Algebra*, 356 (2012), 374–379.
- On tensors of border rank l in $\mathbb{C}^{m \times n \times l}$, *Linear Algebra Appl.*, 438 (2013), 713-738.
- Perron-Frobenius theorem for nonnegative multilinear forms, jointly with S. Gaubert and L. Han, *Linear Algebra Appl.*, 438 (2013), 738–749.
- The minimum entropy output of a quantum channel is locally additive, jointly with G. Gour, *Information Theory, IEEE Transactions on*, 59 (2013), 603–614.

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- Universal uncertainty relations, jointly with V. Gheorghiu and G. Gour, *Phys. Rev. Lett.* 111, 230401 (2013), 5 pages.
- The number of singular vector tuples and uniqueness of best rank one approximation of tensors, jointly with G. Ottaviani, *Foundations of Computational Mathematics* 14, 6 (2014), 1209–1242.
- *The computational complexity of duality*, jointly with L.-H. Lim, *SIAM Journal on Optimization*, 26, No. 4 (2016), 2378–2393,