

Tim Austin: Publication List

All of the following can be accessed via math.ucla.edu/~tim.
ArXiv paper IDs are shown in brackets where available.

Appeared

1. “On contractive families and a fixed-point question of Stein”, *Mathematika* 52 (2005), no. 1-2, 115–129 [math.MG/0608523]
2. “A pair of non-homeomorphic product measures on the Cantor set”, *Math. Proc. Cambridge Philos. Soc.* 142 (2007), no. 1, 103–110 [math.CA/0608553]
3. “The emergence of the deterministic Hodgkin-Huxley equations as a limit from the underlying stochastic ion-channel mechanism”, *Annals of Applied Probability* 18 (2008), no. 4, 1279–1325 [math.PR/0609068]
4. “On exchangeable random variables and the statistics of large graphs and hypergraphs”, *Probability Surveys* 5 (2008), 80–145 [0801.1698]
5. “The wreath product of \mathbb{Z} with \mathbb{Z} has Hilbert compression exponent $2/3$ ”, with Assaf Naor and Yuval Peres, *Proc. Amer. Math. Soc.* 137 (2009), no. 1, 85–90 [0706.1943]
6. “Relatively finite measure-preserving extensions and lifting multipliers by Rokhlin cocycles”, with Mariusz Lemańczyk, *J. Fixed Point Theory Appl.* 6 (2009), no. 1, 115–131 [0905.3111]
7. “The Euclidean distortion of the lamplighter group”, with Assaf Naor and Alain Valette, *Discrete and Computational Geometry* 44 (2010), no. 1, 55–74 [0705.4662]
8. “On the testability and repair of hereditary hypergraph properties”, with Terence Tao, *Random Structures and Algorithms* 36 (2010), no. 4, 373–463 [0801.2179]
9. “On the norm convergence of nonconventional ergodic averages”, *Ergodic Theory and Dynamical Systems* 30 (2010), no. 2, 321–338 [0805.0320]

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10. “Extensions of probability-preserving systems by measurably-varying homogeneous spaces and applications”, *Fund. Math.* 210 (2010), no. 2, 133–206 [0905.0516]
 11. “Deducing the multidimensional Szemerédi Theorem from an infinitary removal lemma”, *J. Anal. Math.* 111 (2010), 131–150 [0808.2267]
 12. “Deducing the Density Hales-Jewett Theorem from an infinitary removal lemma”, *J. Theoret. Probab.* 24 (2011), no. 3, 615–633 [0903.1633]
 13. “A CAT(0)-valued pointwise ergodic theorem”, *J. Topology and Analysis* 3 (2011), no. 2, 145–152 [0905.0515]
 14. “Nonconventional ergodic averages and multiple recurrence for von Neumann dynamical systems”, with Tanja Eisner and Terence Tao, *Pacific J. Math.* 250 (2011), no. 1, 1–60 [0912:5093]
 15. “Amenable groups with very poor compression into Lebesgue spaces”, *Duke Mathematical Journal* 159 (2011), no. 2, 187–222 [0909:2047]
 16. “Norm convergence of continuous-time polynomial multiple ergodic averages”, *Ergodic Theory and Dynamical Systems* 32 (2012), no. 2, 361–382 [1103.0223]
 17. “Sharp quantitative nonembeddability of the Heisenberg group into superreflexive Banach spaces”, with Assaf Naor and Romain Tessera, *Groups Geom. Dyn.* 7 (2013), no. 3, 497–522 [1007.4238]
 18. “Continuity properties of measurable group cohomology”, with Calvin C. Moore, *Math. Ann.* 356 (2013), no. 3, 885–937 [1004.4937]
 19. “Ergodic-theoretic implementations of the Roth density-increment argument”, *Online J. Anal. Comb.* (2013), no. 8, 33pp [1105.5611]
 20. “Equidistribution of joinings under off-diagonal polynomial flows of nilpotent Lie groups”, *Ergodic Theory Dynam. Systems* 33 (2013), no. 6, 1667–1708 [1105.5612]
 21. “Rational group ring elements with kernels having irrational dimension”, *Proc. London Math. Soc.* 107 (2013), 1424–1448 [0909.2360]
 22. “A heirarchical version of the de Finetti and Aldous-Hoover representations”, with Dmitry Panchenko, *Probab. Theory Related Fields* 159 (2014), no. 3–4, 809–823 [1301.1259]
 23. “Exchangeable random measures”, *Ann. Inst. Henri Poincaré Probab. Stat.* 51 (2015), no. 3, 842–861 [1302.2116]

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24. “Pleasant extensions retaining algebraic structure, I”, *J. Anal. Math.* 125 (2015), 1–36 [0905.0518]
 25. “Pleasant extensions retaining algebraic structure, II”, *J. Anal. Math.* 126 (2015), 1–111 [0910:0907]
 26. “A proof of Walsh’s convergence theorem using couplings”, *Int. Math. Res. Not. IMRN* 2015, no. 15, 6661–6674 [1310.3219]
 27. “Quantitative equidistribution for certain quadruples in quasi-random groups”, *Combin. Probab. Comput.* 24 (2015), no. 2, 376–381 [1310.6781]
 28. “Non-conventional ergodic averages for several commuting actions of an amenable group”, *J. Anal. Math.* 130 (2016), 243–274 [1309.4315]
 29. “On the failure of concentration for the ℓ_∞ -ball”, *Israel J. Math.* 211 (2016), no. 1, 221–238 [1309.3315]
 30. “Entropy of probability kernels from the backwards tail boundary”, *Studia Math.* 227 (2015), no. 3, 249–257 [1405.5121]
 31. “Integrable measure equivalence for groups of polynomial growth”, with Appendix B by Lewis Bowen, *Groups Geom. Dyn.* 10 (2016), no. 1, 117–154 [1310.3216]
 32. “Ajtai-Szemerédi Theorems over quasirandom groups”, *Recent trends in combinatorics*, 453–484, *IMA Vol. Math. Appl.*, 159, Springer, [Cham], 2016 [1503.08746]
 33. “Multiple Recurrence and Finding Patterns in Dense Sets”, *Dynamics and analytic number theory*, 189–257, *London Math. Soc. Lecture Note Ser.*, 437, Cambridge Univ. Press, Cambridge, 2016
 34. “Additivity properties of sofic entropy and measures on model spaces”, *Forum Math. Sigma* 4 (2016), e25, 79 pp [1510.02392]
 35. “The geometry of model spaces for probability-preserving actions of sofic groups”, *Anal. Geom. Metr. Spaces* 4 (2016), Art. 6 [1512.01500]
 36. “Behaviour of entropy under bounded and integrable orbit equivalence”, *Geom. Funct. Anal.* 26 (2016), 1483–1525 [1604.00892]
 37. “Gibbs measures over locally tree-like graphs and percolative entropy over infinite regular trees”, with Moumanti Podder, *J. Stat. Phys.* 170 (5), 932–951 [1705.03589]
 38. “Measure concentration and the weak Pinsker property”, *Publ. Math. Inst. Hautes Études Sci.* 128 (2018), 1–119. [1705.00302]

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39. “An asymptotic equipartition property for measures on model spaces”. *Trans. Amer. Math. Soc.* 371 (2019), 1379–1402. [1701.08723]

Accepted for publication

40. “Euclidean-valued group cohomology is always reduced”. To appear, *J. Topology and Analysis*. [1310.3210]
41. “Uniform mixing and completely positive sofic entropy”, with Peter Burton. To appear, *J. Anal. Math.* [1603.09026]
42. “The structure of low-complexity Gibbs measures on product spaces”. To appear, *Ann. Probab.* [1810.07278]

Preprints

43. “On discontinuities of cocycles in cohomology theories for topological groups” [1112.1465]
44. “Partial difference equations over compact Abelian groups, I: modules of solutions” [1305.7269]
45. “Partial difference equations over compact Abelian groups, II: step-polynomial solutions” [1309.3577]
46. “Scenery entropy as an invariant of RWRS processes” [1405.1468]
47. “Multi-variate correlation and mixtures of product measures” [1809.10272]