

# Horng-Tzer Yau

## List of Publications by Year in descending order

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77  
papers

4,910  
citations

66343

42  
h-index

110387

64  
g-index

78  
all docs

78  
docs citations

78  
times ranked

974  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | The replica symmetric formula for the SK model revisited. <i>Journal of Mathematical Physics</i> , 2022, 63, .  | 1.1 | 0         |
| 2  | Dynamical Approach to the TAP Equations for the Sherrington-Kirkpatrick Model. <i>Journal of Statistical Physics</i> , 2021, 183, 1.                                      | 1.2 | 5         |
| 3  | Global eigenvalue distribution of matrices defined by the skew-shift. <i>Analysis and PDE</i> , 2021, 14, 1153-1198.  | 1.4 | 1         |
| 4  | Edge rigidity and universality of random regular graphs of intermediate degree. <i>Geometric and Functional Analysis</i> , 2020, 30, 693-769.                             | 1.8 | 13        |
| 5  | Random Band Matrices in the Delocalized Phase I: Quantum Unique Ergodicity and Universality. <i>Communications on Pure and Applied Mathematics</i> , 2020, 73, 1526-1596. | 3.1 | 23        |
| 6  | Local Kesten-McKay Law for Random Regular Graphs. <i>Communications in Mathematical Physics</i> , 2019, 369, 523-636.   | 2.2 | 29        |
| 7  | Fixed energy universality of Dyson Brownian motion. <i>Advances in Mathematics</i> , 2019, 346, 1137-1332.  | 1.1 | 45        |
| 8  | The two-dimensional Coulomb plasma: quasi-free approximation and central limit theorem. <i>Advances in Theoretical and Mathematical Physics</i> , 2019, 23, 841-1002.     | 0.6 | 23        |
| 9  | Convergence of Local Statistics of Dyson Brownian Motion. <i>Communications in Mathematical Physics</i> , 2017, 355, 949-1000.  | 2.2 | 44        |
| 10 | Local Density for Two-Dimensional One-Component Plasma. <i>Communications in Mathematical Physics</i> , 2017, 356, 189-230.   | 2.2 | 22        |
| 11 | Local Semicircle Law for Random Regular Graphs. <i>Communications on Pure and Applied Mathematics</i> , 2017, 70, 1898-1960.  | 3.1 | 43        |
| 12 | Eigenvector statistics of sparse random matrices. <i>Electronic Journal of Probability</i> , 2017, 22, .  | 1.0 | 25        |
| 13 | Bulk eigenvalue statistics for random regular graphs. <i>Annals of Probability</i> , 2017, 45, .  | 1.8 | 27        |
| 14 | Universality for a class of random band matrices. <i>Advances in Theoretical and Mathematical Physics</i> , 2017, 21, 739-800.  | 0.6 | 38        |
| 15 | Fixed Energy Universality for Generalized Wigner Matrices. <i>Communications on Pure and Applied Mathematics</i> , 2016, 69, 1815-1881.                                   | 3.1 | 60        |
| 16 | On the principal components of sample covariance matrices. <i>Probability Theory and Related Fields</i> , 2016, 164, 459-552.   | 1.8 | 70        |
| 17 | Bulk universality of sparse random matrices. <i>Journal of Mathematical Physics</i> , 2015, 56, .   | 1.1 | 39        |
| 18 | Gap universality of generalized Wigner and $\beta$ -ensembles. <i>Journal of the European Mathematical Society</i> , 2015, 17, 1927-2036.                                 | 1.4 | 44        |

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|----|--|-----|-----------|
| 19 | The local circular law II: the edge case. <i>Probability Theory and Related Fields</i> , 2014, 159, 619-660.   | 1.8 | 33        |
| 20 | Local circular law for random matrices. <i>Probability Theory and Related Fields</i> , 2014, 159, 545-595.   | 1.8 | 56        |
| 21 | Universality of general $\hat{\Gamma}^2$ -ensembles. <i>Duke Mathematical Journal</i> , 2014, 163, .   | 1.5 | 84        |
| 22 | Edge Universality of Beta Ensembles. <i>Communications in Mathematical Physics</i> , 2014, 332, 261-353.   | 2.2 | 98        |
| 23 | Isotropic local laws for sample covariance and generalized Wigner matrices. <i>Electronic Journal of Probability</i> , 2014, 19, .   | 1.0 | 41        |
| 24 | Delocalization and Diffusion Profile for Random Band Matrices. <i>Communications in Mathematical Physics</i> , 2013, 323, 367-416.   | 2.2 | 58        |
| 25 | Averaging Fluctuations in Resolvents of Random Band Matrices. <i>Annales Henri Poincare</i> , 2013, 14, 1837-1926.   | 1.7 | 68        |
| 26 | Spectral statistics of Erdős-Rényi graphs I: Local semicircle law. <i>Annals of Probability</i> , 2013, 41, .  | 1.8 | 157       |
| 27 | The local semicircle law for a general class of random matrices. <i>Electronic Journal of Probability</i> , 2013, 18, .  | 1.0 | 82        |
| 28 | The Wigner-Dyson-Gaudin-Mehta Conjecture. <i>Notices of the International Congress of Chinese Mathematicians</i> , 2013, 1, 10-13.   | 0.0 | 1         |
| 29 | Bulk universality of general $\hat{\Gamma}^2$ -ensembles with non-convex potential. <i>Journal of Mathematical Physics</i> , 2012, 53, .   | 1.1 | 49        |
| 30 | Universality of local spectral statistics of random matrices. <i>Bulletin of the American Mathematical Society</i> , 2012, 49, 377-414.  | 1.5 | 72        |
| 31 | A comment on the Wigner-Dyson-Mehta bulk universality conjecture for Wigner matrices. <i>Electronic Journal of Probability</i> , 2012, 17, .   | 1.0 | 9         |
| 32 | The local relaxation flow approach to universality of the local statistics for random matrices. <i>Annales De L'institut Henri Poincare (B) Probability and Statistics</i> , 2012, 48, . | 1.1 | 76        |
| 33 | Spectral Statistics of Erdős-Rényi Graphs II: Eigenvalue Spacing and the Extreme Eigenvalues. <i>Communications in Mathematical Physics</i> , 2012, 314, 587-640.                        | 2.2 | 133       |
| 34 | Bulk universality for generalized Wigner matrices. <i>Probability Theory and Related Fields</i> , 2012, 154, 341-407.  | 1.8 | 136       |
| 35 | Introduction to Special Issue: In Honor of Elliott Lieb's 80th birthday. <i>Journal of Mathematical Physics</i> , 2012, 53, 095101.  | 1.1 | 0         |
| 36 | Rigidity of eigenvalues of generalized Wigner matrices. <i>Advances in Mathematics</i> , 2012, 229, 1435-1515.   | 1.1 | 206       |

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|----|---|-----|-----------|
| 37 | Universality of random matrices and local relaxation flow. <i>Inventiones Mathematicae</i> , 2011, 185, 75-119.   | 2.5 | 116       |
| 38 | Universality for generalized Wigner matrices with Bernoulli distribution. <i>Electronic Journal of Combinatorics</i> , 2011, 2, 15-81.                                    | 0.1 | 46        |
| 39 | The work of Căldărăuș Villani. , 2011, , .  |     | 0         |
| 40 | Bulk universality for Wigner matrices. <i>Communications on Pure and Applied Mathematics</i> , 2010, 63, 895-925.   | 3.1 | 59        |
| 41 | Universality of Sine-Kernel for Wigner Matrices with a Small Gaussian Perturbation. <i>Electronic Journal of Probability</i> , 2010, 15, .                                | 1.0 | 43        |
| 42 | Wegner Estimate and Level Repulsion for Wigner Random Matrices. <i>International Mathematics Research Notices</i> , 2010, 2010, 436-479.                                  | 1.0 | 116       |
| 43 | Bulk universality for Wigner hermitian matrices with subexponential decay. <i>Mathematical Research Letters</i> , 2010, 17, 667-674.                                      | 0.5 | 62        |
| 44 | The Second Order Upper Bound for the Ground Energy of a Bose Gas. <i>Journal of Statistical Physics</i> , 2009, 136, 453-503.   | 1.2 | 72        |
| 45 | Local Semicircle Law and Complete Delocalization for Wigner Random Matrices. <i>Communications in Mathematical Physics</i> , 2009, 287, 641-655.                          | 2.2 | 149       |
| 46 | Lower Bounds on the Blow-Up Rate of the Axisymmetric Navier-Stokes Equations II. <i>Communications in Partial Differential Equations</i> , 2009, 34, 203-232.             | 2.2 | 73        |
| 47 | Rigorous derivation of the Gross-Pitaevskii equation with a large interaction potential. <i>Journal of the American Mathematical Society</i> , 2009, 22, 1099-1156.       | 3.9 | 107       |
| 48 | Semicircle law on short scales and delocalization of eigenvectors for Wigner random matrices. <i>Annals of Probability</i> , 2009, 37, .                                  | 1.8 | 138       |
| 49 | Lower Bound on the Blow-up Rate of the Axisymmetric Navier-Stokes Equations. <i>International Mathematics Research Notices</i> , 2008, 2008, .                            | 1.0 | 56        |
| 50 | Ground-state energy of a low-density Bose gas: A second-order upper bound. <i>Physical Review A</i> , 2008, 78, .   | 2.5 | 49        |
| 51 | FEYNMAN GRAPHS AND RENORMALIZATION IN QUANTUM DIFFUSION. , 2008, , .  |     | 1         |
| 52 | Quantum Diffusion of the Random Schrödinger Evolution in the Scaling Limit II. The Recollision Diagrams. <i>Communications in Mathematical Physics</i> , 2007, 271, 1-53. | 2.2 | 33        |
| 53 | Derivation of the cubic non-linear Schrödinger equation from quantum dynamics of many-body systems. <i>Inventiones Mathematicae</i> , 2007, 167, 515-614.                 | 2.5 | 213       |
| 54 | Quantum Diffusion for the Anderson Model in the Scaling Limit. <i>Annales Henri Poincaré</i> , 2007, 8, 621-685.  | 1.7 | 24        |

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|----|---|-----|-----------|
| 55 | Gross-Pitaevskii Equation as the Mean Field Limit of Weakly Coupled Bosons. <i>Archive for Rational Mechanics and Analysis</i> , 2006, 179, 265-283.              | 2.4 | 71        |
| 56 | Superdiffusivity of Two Dimensional Lattice Gas Models. <i>Journal of Statistical Physics</i> , 2005, 119, 963-995.   | 1.2 | 8         |
| 57 | The Stability and Instability of Relativistic Matter. , 2005, , 485-521.  |     | 38        |
| 58 | Nonlinear Hartree equation as the mean field limit of weakly coupled fermions. <i>Journal Des Mathematiques Pures Et Appliquees</i> , 2004, 83, 1241-1273.        | 1.6 | 57        |
| 59 | Derivation of the nonlinear Schrödinger equation from a many-body Coulomb system. <i>Advances in Theoretical and Mathematical Physics</i> , 2001, 5, 1169-1205.   | 0.6 | 167       |
| 60 | The Stability and Instability of Relativistic Matter. , 2001, , 485-521.  |     | 0         |
| 61 | Linear Boltzmann equation as the weak coupling limit of a random Schrödinger equation. <i>Communications on Pure and Applied Mathematics</i> , 2000, 53, 667-735. | 3.1 | 172       |
| 62 | Logarithmic Sobolev inequality for generalized simple exclusion processes. <i>Probability Theory and Related Fields</i> , 1997, 109, 507-538.                     | 1.8 | 45        |
| 63 | Many-Body Stability Implies a Bound on the Fine-Structure Constant. , 1997, , 484-486.  |     | 0         |
| 64 | A Rigorous Examination of the Chandrasekhar Theory of Stellar Collapse. , 1997, , 437-441.  |     | 0         |
| 65 | The Stability and Instability of Relativistic Matter. , 1997, , 487-523.  |     | 0         |
| 66 | Logarithmic Sobolev inequality for lattice gases with mixing conditions. <i>Communications in Mathematical Physics</i> , 1996, 181, 367-408.                      | 2.2 | 44        |
| 67 | Metastability of Ginzburg-Landau model with a conservation law. <i>Journal of Statistical Physics</i> , 1994, 74, 705-742.  | 1.2 | 18        |
| 68 | Spectral gap and logarithmic Sobolev inequality for Kawasaki and Glauber dynamics. <i>Communications in Mathematical Physics</i> , 1993, 156, 399-433.            | 2.2 | 133       |
| 69 | Relative entropy and hydrodynamics of Ginzburg-Landau models. <i>Letters in Mathematical Physics</i> , 1991, 22, 63-80.   | 1.1 | 201       |
| 70 | A Rigorous Examination of the Chandrasekhar Theory of Stellar Collapse. , 1991, , 390-394.  |     | 0         |
| 71 | Many-Body Stability Implies a Bound on the Fine-Structure Constant. , 1991, , 432-434.  |     | 0         |
| 72 | Stability of relativistic Coulomb and gravitating systems. , 1989, , 444-458.   |     | 0         |

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|----|---|-----|-----------|
| 73 | The stability and instability of relativistic matter. Communications in Mathematical Physics, 1988, 118, 177-213.                           | 2.2 | 198       |
| 74 | TheN 7/5 law for charged bosons. Communications in Mathematical Physics, 1988, 116, 417-448.  | 2.2 | 87        |
| 75 | Many-Body Stability Implies a Bound on the Fine-Structure Constant. Physical Review Letters, 1988, 61, 1695-1697.                           | 7.8 | 20        |
| 76 | The Chandrasekhar theory of stellar collapse as the limit of quantum mechanics. Communications in Mathematical Physics, 1987, 112, 147-174. | 2.2 | 266       |
| 77 | Stability of coulomb systems with magnetic fields. Communications in Mathematical Physics, 1986, 104, 283-290.                              | 2.2 | 118       |