

# Lenka Zdeborova

## List of Publications by Year in descending order

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92  
papers

5,626  
citations

172457

29  
h-index

82547

72  
g-index

92  
all docs

92  
docs citations

92  
times ranked

3652  
citing authors

#	ARTICLE	IF	CITATIONS
1	Large deviations of semisupervised learning in the stochastic block model. <i>Physical Review E</i> , 2022, 105, 034108.	2.1	0
2	Aligning random graphs with a sub-tree similarity message-passing algorithm. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2022, 2022, 063401.	2.3	3
3	The Spiked Matrix Model With Generative Priors. <i>IEEE Transactions on Information Theory</i> , 2021, 67, 1156-1181.	2.4	6
4	The planted k-factor problem. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2021, 54, 175002.	2.1	2
5	Stochasticity helps to navigate rough landscapes: comparing gradient-descent-based algorithms in the phase retrieval problem. <i>Machine Learning: Science and Technology</i> , 2021, 2, 035029.	5.0	12
6	Generalisation error in learning with random features and the hidden manifold model*. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2021, 2021, 124013.	2.3	14
7	Modeling the Influence of Data Structure on Learning in Neural Networks: The Hidden Manifold Model. <i>Physical Review X</i> , 2020, 10, .	8.9	40
8	Recovery thresholds in the sparse planted matching problem. <i>Physical Review E</i> , 2020, 102, 022304.	2.1	5
9	Multilayer Modularity Belief Propagation to Assess Detectability of Community Structure. <i>SIAM Journal on Mathematics of Data Science</i> , 2020, 2, 872-900.	1.8	2
10	Thresholds of descending algorithms in inference problems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2020, 2020, 034004.	2.3	2
11	Marvels and Pitfalls of the Langevin Algorithm in Noisy High-Dimensional Inference. <i>Physical Review X</i> , 2020, 10, .	8.9	13
12	On the universality of noiseless linear estimation with respect to the measurement matrix. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020, 53, 164001.	2.1	4
13	Dense limit of the Dawid-Skene model for crowdsourcing and regions of sub-optimality of message passing algorithms. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020, 53, 124001.	2.1	1
14	Blind calibration for compressed sensing: state evolution and an online algorithm. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020, 53, 334004.	2.1	0
15	Understanding deep learning is also a job for physicists. <i>Nature Physics</i> , 2020, 16, 602-604.	16.7	39
16	Dynamics of stochastic gradient descent for two-layer neural networks in the teacher-student setup*. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2020, 2020, 124010.	2.3	16
17	Machine learning and statistical physics: preface. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020, 53, 500401.	2.1	16
18	Storage capacity in symmetric binary perceptrons. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2019, 52, 294003.	2.1	23

#	ARTICLE	IF	CITATIONS
19	Approximate survey propagation for statistical inference. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 023401.	2.3	15
20	Optimal errors and phase transitions in high-dimensional generalized linear models. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5451-5460.	7.1	88
21	Decoding from Pooled Data: Sharp Information-Theoretic Bounds. SIAM Journal on Mathematics of Data Science, 2019, 1, 161-188.	1.8	4
22	Typology of phase transitions in Bayesian inference problems. Physical Review E, 2019, 99, 042109.	2.1	23
23	Minimal sets to destroy the $k$ -core in random networks. Physical Review E, 2019, 99, 022310.	2.1	8
24	Glassy Nature of the Hard Phase in Inference Problems. Physical Review X, 2019, 9, .	8.9	16
25	Blind Calibration for Sparse Regression: A State Evolution Analysis. , 2019, , .		0
26	The committee machine: computational to statistical gaps in learning a two-layers neural network. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 124023.	2.3	12
27	High-temperature expansions and message passing algorithms. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 113301.	2.3	17
28	Entropy and mutual information in models of deep neural networks*. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 124014.	2.3	34
29	Machine learning and the physical sciences. Reviews of Modern Physics, 2019, 91, .	45.6	1,245
30	Decoding From Pooled Data: Phase Transitions of Message Passing. IEEE Transactions on Information Theory, 2019, 65, 572-585.	2.4	8
31	Information-theoretic thresholds from the cavity method. Advances in Mathematics, 2018, 333, 694-795.	1.1	44
32	Fast Randomized Semi-Supervised Clustering. Journal of Physics: Conference Series, 2018, 1036, 012015.	0.4	1
33	New tool in the box. Nature Physics, 2017, 13, 420-421.	16.7	70
34	Statistical and computational phase transitions in spiked tensor estimation. , 2017, , .		44
35	Constrained low-rank matrix estimation: phase transitions, approximate message passing and applications. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 073403.	2.3	52
36	Phase transitions in the $q$ -coloring of random hypergraphs. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 505002.	2.1	8

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37	Multi-layer generalized linear estimation. , 2017, , .		24
38	Spectral bounds for the Ising ferromagnet on an arbitrary given graph. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 053403.	2.3	2
39	Decoding from pooled data: Phase transitions of message passing. , 2017, , .		1
40	Information-theoretic thresholds from the cavity method. , 2017, , .		13
41	Phase diagram of matrix compressed sensing. Physical Review E, 2016, 94, 062136.	2.1	8
42	Fast and simple decycling and dismantling of networks. Scientific Reports, 2016, 6, 37954.	3.3	101
43	Statistical physics of inference: thresholds and algorithms. Advances in Physics, 2016, 65, 453-552.	14.4	211
44	Network dismantling. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12368-12373.	7.1	167
45	Circular coloring of random graphs: statistical physics investigation. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 083303.	2.3	2
46	Phase transitions and optimal algorithms in high-dimensional Gaussian mixture clustering. , 2016, , .		15
47	Clustering from sparse pairwise measurements. , 2016, , .		4
48	The large deviations of the whitening process in random constraint satisfaction problems. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 053401.	2.3	14
49	Spectral detection on sparse hypergraphs. , 2015, , .		28
50	Spectral detection in the censored block model. , 2015, , .		24
51	MMSE of probabilistic low-rank matrix estimation: Universality with respect to the output channel. , 2015, , .		39
52	Blind sensor calibration using approximate message passing. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P11013.	2.3	5
53	Reweighted Belief Propagation and Quiet Planting for Random K-SAT. Journal of Satisfiability, Boolean Modeling and Computation, 2014, 8, 149-171.	1.2	9
54	Model selection for degree-corrected block models. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P05007.	2.3	69

#	ARTICLE	IF	CITATIONS
55	Variational free energies for compressed sensing. , 2014, , .		28
56	Phase transitions in semisupervised clustering of sparse networks. Physical Review E, 2014, 90, 052802.	2.1	37
57	On convergence of approximate message passing. , 2014, , .		70
58	Dynamics and termination cost of spatially coupled mean-field models. Physical Review E, 2014, 89, 012102.	2.1	5
59	Percolation on Sparse Networks. Physical Review Letters, 2014, 113, 208702.	7.8	185
60	Bayesian signal reconstruction for 1-bit compressed sensing. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P11015.	2.3	19
61	Spectral redemption in clustering sparse networks. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20935-20940.	7.1	392
62	Phase diagram and approximate message passing for blind calibration and dictionary learning. , 2013, , .		17
63	The hard-core model on random graphs revisited. Journal of Physics: Conference Series, 2013, 473, 012021.	0.4	19
64	Performance of simulated annealing in $p$ -spin glasses. Journal of Physics: Conference Series, 2013, 473, 012022.	0.4	11
65	Comparative study for inference of hidden classes in stochastic block models. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P12021.	2.3	24
66	Following states in temperature in the spherical $s+p$ -spin glass model. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P07002.	2.3	9
67	Probabilistic reconstruction in compressed sensing: algorithms, phase diagrams, and threshold achieving matrices. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P08009.	2.3	178
68	The condensation transition in random hypergraph 2-coloring. , 2012, , .		34
69	Quiet Planting in the Locked Constraint Satisfaction Problems. SIAM Journal on Discrete Mathematics, 2011, 25, 750-770.	0.8	24
70	On melting dynamics and the glass transition. I. Glassy aspects of melting dynamics. Journal of Chemical Physics, 2011, 134, 034512.	3.0	18
71	No spin glass phase in the ferromagnetic random-field random-temperature scalar Ginzburg-Landau model. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 042003.	2.1	18
72	Adversarial satisfiability problem. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P03023.	2.3	4

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73	Random-field p-spin-glass model on regular random graphs. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011, 44, 185002.	2.1	8
74	Asymptotic analysis of the stochastic block model for modular networks and its algorithmic applications. <i>Physical Review E</i> , 2011, 84, 066106.	2.1	427
75	Inference and Phase Transitions in the Detection of Modules in Sparse Networks. <i>Physical Review Letters</i> , 2011, 107, 065701.	7.8	248
76	On melting dynamics and the glass transition. II. Glassy dynamics as a melting process. <i>Journal of Chemical Physics</i> , 2011, 134, 034513.	3.0	25
77	Generalization of the cavity method for adiabatic evolution of Gibbs states. <i>Physical Review B</i> , 2010, 81, .	3.2	57
78	Belief propagation for graph partitioning. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 285003.	2.1	13
79	A conjecture on the maximum cut and bisection width in random regular graphs. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2010, 2010, P02020.	2.3	25
80	Elusive Spin-Glass Phase in the Random Field Ising Model. <i>Physical Review Letters</i> , 2010, 104, 207208.	7.8	49
81	Hiding Quiet Solutions in Random Constraint Satisfaction Problems. <i>Physical Review Letters</i> , 2009, 102, 238701.	7.8	87
82	Statistical physics of hard optimization problems. <i>Acta Physica Slovaca</i> , 2009, 59, .	1.4	27
83	Random Subcubes as a Toy Model for Constraint Satisfaction Problems. <i>Journal of Statistical Physics</i> , 2008, 131, 1121-1138.	1.2	39
84	Lattice Model for Colloidal Gels and Glasses. <i>Physical Review Letters</i> , 2008, 101, 165702.	7.8	33
85	Constraint satisfaction problems with isolated solutions are hard. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2008, 2008, P12004.	2.3	48
86	Exhaustive enumeration unveils clustering and freezing in the random 3-satisfiability problem. <i>Physical Review E</i> , 2008, 78, 040101.	2.1	29
87	Locked Constraint Satisfaction Problems. <i>Physical Review Letters</i> , 2008, 101, 078702.	7.8	44
88	Phase transitions in the coloring of random graphs. <i>Physical Review E</i> , 2007, 76, 031131.	2.1	227
89	Phase diagram of the 1-in-3 satisfiability problem. <i>Physical Review E</i> , 2007, 76, 011101.	2.1	41
90	Gibbs states and the set of solutions of random constraint satisfaction problems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 10318-10323.	7.1	390

#	ARTICLE	IF	CITATIONS
91	The number of matchings in random graphs. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, P05003-P05003.	2.3	91
92	Replica Trick with Real Replicas: A Way to Build in Thermodynamic Homogeneity. Progress of Theoretical Physics Supplement, 2005, 157, 99-102.	0.1	3