

# "The Lush World of Random Matrices", Zif, Bielefeld, Sep-Dec 2025

Workshop 1: Random Matrix Theory for Learning and Statistical Physics					
	Monday 08/09	Tuesday 09/09	Wednesday 10/09	Thursday 11/09	Friday 12/09
9-10	<b>Speicher</b> <i>Entry-wise application of non-linear functions on orthogonally invariant random matrices</i>	<b>Cerny</b> <i>Complexity and its concentration</i>	<b>Sur</b> <i>Quantifying the effect of distribution shift in min-norm interpolation</i>	<b>Subag</b> <i>Disordered Gibbs measures and Gaussian conditioning</i>	<b>Burda</b> <i>Nonlinear shrinkage estimators of large-dimensional covariance matrices for correlated samples</i>
10-10:30	Coffee break				
10:30-11:30	<b>Mahoney</b> <i>Random Matrix Theory &amp; Modern Machine Learning</i>	<b>Mourrat</b> <i>A numerical method for the asymptotics of matrix spherical integrals</i>	<b>Urbani</b> <i>Dynamical decoupling between generalization and overfitting in large neural networks</i>	<b>Potters/Bousseyroux</b> <i>R-transforms and Spherical Integrals for large non-Hermitian matrices</i>	<b>Piccolo</b> <i>Global spectrum of nonlinear random matrices with heavy-tailed weights</i>
11:30-12:30	<b>Maillard</b> <i>Average-case matrix discrepancy and large deviations of random matrices</i>	<b>Lacroix a-chez-Toine</b> <i>Ground state energy fluctuations of the elastic manifold</i>	<b>Pehlevan</b> <i>Asymptotic theory of in-context learning by linear attention</i>	<b>(minicourse)</b>	<b>Sicuro</b> <i>Heavy-tailed covariates in high dimensions</i>
12:30 -14:30	Lunch at Zif				
14:30-15:30	<b>Neri</b> <i>Spectra of random nonsymmetric graphs</i>	<b>Kent- Dobias</b> <i>Understanding the flat parts of random landscapes</i>	<b>Gerace</b> <i>Statistical Mechanics of Transfer Learning in Fully Connected Networks in the Proportional Limit</i>	<b>Free time:</b> discussion at Zif or walk to the Bauernhaus Museum or walk to the forest around Zif.	Departure
15:30-16:30	<b>Lopatto</b> <i>Mobility Edge for the Anderson Model on the Bethe Lattice</i>	<b>Dartois</b> <i>On the injective norm of random tensors</i>	<b>Loureiro</b> <i>Feature Learning and computational limitations in learning with multi-index models</i>		
16:30-17:30					
17:30-18:30	<b>Welcome cocktail and presentation of Zif, 18h00</b>	<b>Poster session &amp; Discussion</b>	<b>Poster session &amp; Discussion</b>		
	Dinner at Zif		Conference dinner at Wirtshaus 1802, 7h30		