

XVIII Brunel–Bielefeld Workshop on Random Matrix Theory

Brunel University London – Eastern Gateway, Room 003a

Organisers: G. Akemann (Bielefeld), I. Krasovsky (Imperial), D. Savin (Brunel), I. Smolyarenko (Brunel)

Friday, 16 December 2022:

09:00 – 09:30	REGISTRATION	
09:30 – 10:05	Tomaž Prosen	<i>Chaos and spectral statistics in Floquet quantum circuits</i>
10:10 – 10:45	Laura Monk	<i>Spectral statistics of random hyperbolic surfaces</i>
10:50 – 11:20	COFFEE BREAK	
11:20 – 11:55	Manuela Girotti	<i>Random solitons, random matrices and soliton gasses</i>
12:00 – 12:35	Dan Betea	<i>From Gumbel to Tracy-Widom statistics in discrete random systems</i>
12:40 – 14:30	LUNCH BREAK	
14:30 – 15:05	Jac Verbaarschot	<i>Chaos in the Sachdev-Ye-Kitaev model</i>
15:10 – 15:45	Mike Blake	<i>Chaos and hydrodynamics in many-body quantum systems</i>
15:50 – 16:20	COFFEE BREAK	
16:20 – 16:55	Brian Winn	<i>Extreme eigenvalues of Jacobi ensembles</i>
17:00 – 19:00	POSTER SESSION & RECEPTION	
19:30	DINNER	The Malt Shovel, 69 Iver Lane, Uxbridge, UB8 2JE, tel: 01895 812797

Saturday, 17 December 2022:

09:00 – 09:20	MORNING REFRESHMENTS	
09:20 – 09:55	Alessandra Occelli	<i>Two-time covariance for last passage percolation in half-space</i>
10:00 – 10:35	Reimer Kühn	<i>Going places – and catching the bug</i>
10:40 – 11:10	COFFEE BREAK	
11:10 – 11:45	Guillaume Dubach	<i>“Musical chairs”: dynamical aspects of rank-1 non-normal deformations</i>
11:50 – 12:25	Yan Fyodorov	<i>“Escaping the crowds”: extreme values and outliers in rank-1 non-normal deformations of GUE/CUE</i>
12:30 – 14:00	LUNCH BREAK	
14:00 – 14:35	Eva-Maria Graefe	<i>Chaos in quantum systems with non-Hermitian Hamiltonians</i>
14:40 – 15:15	Ulrich Kuhl	<i>Reverberation chambers: an experimental tool for RMT</i>
15:20 – 15:45	COFFEE BREAK	
15:45 – 16:20	Leslie Molag	<i>Universality of random normal matrices generalising to higher dimensions</i>
16:25 – 17:00	Yacin Ameur	<i>Two-dimensional Coulomb gas: fluctuations through a spectral gap</i>
17:05 – 18:00	INFORMAL DISCUSSIONS	

Nick Baskerville	<i>Universal characteristics of deep neural network loss surfaces from random matrix theory</i>
Sergey Berezin	<i>Planar orthogonality as type I multiple orthogonality and related matters</i>
Markus Ebke	<i>Counting statistics for planar symplectic ensembles</i>
Mykolas Grublys	<i>Echo state networks and universalities that emerge in deep learning – TBC</i>
Jonathan Husson	<i>Spherical integrals and large deviations for the largest eigenvalues of random matrices</i>
Anastasis Kafetzopoulos	<i>A non-hermitian generalization of the Marchenko-Pastur distribution: Universality results</i>
Alex Little	<i>Integrable structure in the elliptic Ginibre ensemble</i>
Svetlana Malysheva	<i>Short-period stock returns from the RMT point of view</i>
Guido Mazzuca	<i>Integrable systems and random matrices</i>
Goran Nakerst	<i>Sparse random generators of continuous-time Markov chains</i>
Daniel Ofner	<i>Mesoscopic universality of orthogonal polynomials ensemble on the unit circle</i>
Mateusz Piorkowski	<i>Orthogonal polynomials with logarithmic weight functions</i>
Roman Riser	<i>Power spectrum analysis of CUE and zeros of the Riemann zeta function</i>
Renaud Rivier	<i>Local law for the Laplacian matrix of Erdős-Renyi graphs – TBC</i>
Sasha Serebryakov	<i>Characteristic polynomials of non-Hermitian random matrices</i>
Sofia Tarricone	<i>Toeplitz determinants, multicritical random partitions and a discrete Painlevé II hierarchy</i>
Henry Taylor	<i>Non-Hermitian tridiagonal matrices and fractal spectra</i>
Yue Wu	<i>Study of disorder: percolation, connectivity and perturbed lattice geometric graphs</i>
Jiyuan Zhang	<i>Non-Haar distributed unitary matrices and their spectral statistics</i>