

XX Brunel–Bielefeld Workshop on Random Matrix Theory

Brunel University of London – Eastern Gateway Building

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

Friday, 13 December 2024:

09:00 – 09:30	REGISTRATION
09:30 – 10:05	Jon Keating <i>Joint moments of characteristic polynomials</i>
10:10 – 10:45	Tatyana Shcherbina <i>Characteristic polynomials of sparse non-Hermitian random matrices</i>
10:50 – 11:20	COFFEE BREAK
11:20 – 11:55	Alice Guionnet <i>Large deviations for macroscopic observables of heavy-tailed matrices</i>
12:00 – 12:35	Pierre Le Doussal <i>Weak noise theory of directed polymer models and their matrix extensions</i>
12:40 – 14:30	LUNCH BREAK (NON-CATERED)
14:30 – 15:05	Leonid Pastur <i>A random matrix model for the entanglement entropy of free fermions</i>
15:10 – 15:45	Silvia Pappalardi <i>Free probability approaches to quantum dynamics</i>
15:50 – 16:20	COFFEE BREAK
16:20 – 16:55	Zeev Rudnik <i>Spectral statistics for random hyperbolic surfaces of large genus</i>
17:00 – 19:00	POSTER SESSION & RECEPTION
19:30	DINNER The Malt Shovel, 69 Iver Lane, Uxbridge, UB8 2JE, tel: 01895 812797

Saturday, 14 December 2024:

09:00 – 09:20	MORNING REFRESHMENTS
09:20 – 09:55	Giorgio Cipolloni <i>Logarithmically correlated fields from non-Hermitian random matrices</i>
10:00 – 10:35	Mario Kieburg <i>Cross-correlations of singular values and eigenvalues</i>
10:40 – 11:10	COFFEE BREAK
11:10 – 11:45	Boris Khoruzhenko <i>Extreme value statistics for rank-1 non-Hermitian deformations of CUE</i>
11:50 – 12:25	Thomas Bothner <i>Complex moments for characteristic polynomials in CUE</i>
12:30 – 14:00	LUNCH BREAK (CATERED)
14:00 – 14:35	Roland Speicher <i>Entry-wise application of non-linear functions on random matrices</i>
14:40 – 15:15	Pierpaolo Vivo <i>RMT and economics: debt recycling and Input/Output analysis</i>
15:20 – 15:45	COFFEE BREAK
15:45 – 16:20	Anna Maltsev <i>Bulk universality for non-Hermitian Wigner-type matrices</i>
16:25 – 17:00	Arno Kuijlaars <i>The Ginibre random matrix model with two insertions</i>
17:05 – 18:00	INFORMAL DISCUSSIONS

Giusi Alfano	<i>Spectrum sensing applications of quadratic forms in random matrices from polynomial ensembles</i>
Can Atacan	<i>TBC</i>
Noah Ayguen	<i>TBC</i>
Joseph Baron	<i>Long-range correlations in the local and global density of states of complex networks</i>
Mark Crumpton	<i>On the mean eigenvector self-overlap in the elliptic Ginibre ensembles at strong and weak non-Hermiticity</i>
Tomas Espana	<i>Kendall and generalized correlation matrices</i>
Farshid Farshidfar	<i>Yang-Mills measure and the master field on the projective plane</i>
Giovanni Gramegna	<i>Relative volume of convertible pairs in semigroup-majorization based quantum resource theories</i>
Jad Hamdan	<i>Genus expansion in non-linear random matrix theory</i>
Oleksii Kolupaiev	<i>Loschmidt echo for deformed Wigner matrices</i>
Jaehun Lee	<i>Phase transition for the bottom singular vector of rectangular random matrices</i>
Yong-Woo Lee	<i>Tail distribution for number of real eigenvalues of real Ginibre matrices</i>
Alex Little	<i>Asymptotic expansion of the partition function for β-ensembles with complex potential</i>
Santeri Miihkinen	<i>Double-scaling limits of Toeplitz determinants with emerging Fisher-Hartwig singularities</i>
Alireza Naderi	<i>Mind the gap: a spectral analysis of rank collapse and signal propagation in transformers</i>
Dipranjan Pal	<i>Edge spectra of Gaussian random symmetric matrices with correlated entries</i>
Patricia Päßler	<i>Two transitions in complex eigenvalue statistics: Hermiticity and integrability breaking</i>
Andrew Pearce-Crump	<i>Discrete moments of the Riemann zeta function</i>
Toby Shepherd	<i>Universality for random matrices with an edge spectrum singularity</i>
Himasish Talukdar	<i>Spectra of hypergraphs and tensor contractions</i>
Henry Taylor	<i>Spectral distributions of non-Hermitian β-Ensembles</i>
Elisa Vallini	<i>Long-time freeness in the Kicked Top</i>
Jiyuan Zhang	<i>Biorthogonal ensembles of derivative type</i>
Andy Zhao	<i>Asymptotics of Nekrasov partition functions and the free energies of $6d(2,0)$</i>