

XIX Brunel–Bielefeld Workshop on RMT and Applications

Center for Interdisciplinary Research – ZiF, Bielefeld University

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

Monday, 18 December 2023:

09:00 – 09:30		REGISTRATION
09:30 – 10:05	Grégory Schehr	<i>Linear Statistics for Coulomb gases: higher order cumulants</i>
10:10 – 10:45	Harriet Walsh	<i>Universal universality breaking for random partitions</i>
10:50 – 11:20		COFFEE BREAK
11:20 – 11:55	Tom Claeys	<i>Biorthogonal measures associated to polymer partition functions</i>
12:00 – 12:35	Iván Parra	<i>Planar Orthogonal Polynomials as Type I Multiple Orthogonal Polynomials</i>
12:40 – 14:30		LUNCH BREAK
14:30 – 15:05	Valentina Ros	<i>Counting equilibria of high-dimensional systems of random dynamical equations: an example from theoretical ecology</i>
15:10 – 15:45	Bernd Rosenow	<i>Random Matrix Analysis of Deep Neural Network Weight Matrices</i>
15:50 – 16:20		COFFEE BREAK
16:20 – 16:55	Roman Riser	<i>Statistics of local level spacings in quantum chaology</i>
17:00 – 19:00		POSTER SESSION & RECEPTION
19:30	DINNER	Das Wirtshaus 1802 im Bültmannshof, Kurt-Schumacher-Str. 17a, Bielefeld

Tuesday, 19 December 2023:

09:00 – 09:20		MORNING REFRESHMENTS
09:20 – 09:55	Tamara Grava	<i>Random soliton gas</i>
10:00 – 10:35	Pierre Mergny	<i>Beta-sum and Beta-product in the high-temperature regime</i>
10:40 – 11:10		COFFEE BREAK
11:10 – 11:45	Joakim Cronvall	<i>Spectral gaps in the random normal matrix model</i>
11:50 – 12:25	Aurélia Chenu	<i>Measuring spectral correlations</i>
12:30 – 14:00		LUNCH BREAK
14:00 – 14:35	Oleksandr Minakov	<i>Weak and strong confirmement in the Freud random matrix ensemble and gap probabilities</i>
14:40 – 15:15	Marcel Novaes	<i>Scattering and time delay in quantum chaos: can RMT keep up with semi-classics?</i>
15:20 – 15:45		COFFEE BREAK
15:45 – 16:20	Reda Chhaibi	<i>Free Probability for predicting the performance of neural networks</i>
16:25 – 17:00		INFORMAL DISCUSSIONS & CLOSING

Poster Presentations:

ZiF poster corridor, Elias Room, Bits ,n' Bytes, Long Table

01. Noah Aygün *Generalised unitary group integrals of Ingham-Siegel and Fisher-Hartwig type*
02. Joseph Baron *A path integral approach to sparse random matrices*
03. Mark Crumpton *Mean left-right eigenvector self-overlap in the real Ginibre ensemble*
04. Markus Ebke *Counting statistics of the real Ginibre ensemble*
05. Ayesha Irfan *The moments of the logarithmic derivative of the Riemann zeta*
06. Jonas Jalowy *(Heat) flow of random polynomials*
07. Sampad Lahiry *The Ginibre random matrix ensemble with two-point insertions: droplets and mother bodies*
08. Wenkui Liu *Mesoscopic Universality of Orthogonal Polynomial Ensembles: at the Edge*
09. Pablo Martinez-Azcona *Diagnosing noise and chaos through the Stochastic Operator Variance*
10. Julian Mauersberger *Gap probabilities for a biorthogonal measure characterizing the log-Gamma polymer*
11. Flavio Nicoletti *Random Matrix Bose-Einstein condensation in Spin Glasses*
12. Mohammed Osman *Universality for Complex non-Hermitian Matrices*
13. Tuan Pham Minh *Theory for Adaptive Systems: Collective Robustness of Genotype-Phenotype Evolution*
14. Mateusz Piorkowski *The doubly periodic Aztec diamond*
15. Roman Riser *Statistics of local level spacings*
16. Ruth Shir *Diagnosing non-Hermitian many-body localization and quantum chaos with singular value decomposition*
17. Henry Taylor *Complex non-Hermitian Beta-Ensembles*
18. Pietro Valigi *Local sign stability and its implications for spectra of sparse random graphs and stability of ecosystems*
19. Tim Robert Würfel *Eigenvector self-overlaps in the real elliptic Ginibre ensemble at strong and weak non-Hermiticity*
20. Jiyuan Zhang *Stable invariant random matrices and their central limit theorems*