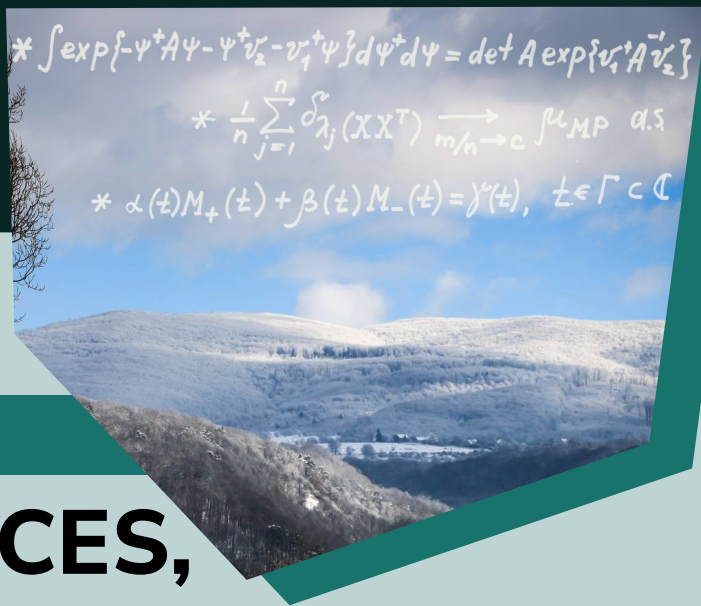




ICMU

INTERNATIONAL CENTRE
FOR MATHEMATICS
IN UKRAINE



ICMU WINTER SCHOOL

RANDOM MATRICES, RANDOM ANALYTIC FUNCTIONS, AND NON-LINEAR PDES

13-19 January 2025

VENUE

"Vodohray" resort, Chynadiyovo village, Zakarpattia, Ukraine

The school focuses on important trends in modern mathematical physics and complex analysis related to multivariate probability theory and integrable systems. A series of lectures on random matrix theory will cover asymptotic spectral properties of classical random matrix ensembles, as well as applications and key techniques, including supersymmetry methods. A course on zeros of random functions will study various properties of zeros of random polynomials and analytic functions. Finally, a course on integrable nonlinear partial differential equations will introduce the widely used inverse scattering transform method with detailed methods for solving the Riemann-Hilbert problem. Problem-solving sessions, a poster session, and discussions in groups are also included in the programme.

LECTURERS

Yan FYODOROV, *King's College London*

Leonid PASTUR, *King's College London / B.Verkin Institute for Low Temperature Physics and Engineering of NAS of Ukraine (ILTPE), Kharkiv*

Mariya SHCHERBINA, *Institute of Science and Technology Austria (ISTA) / B. Verkin ILTPE of NASU*

Dmitry SHEPELSKY, *B. Verkin ILTPE of NASU*

Mikhail SODIN, *Tel Aviv University*

Bálint VIRÁG, *University of Toronto*

Problem sessions: **Ievgenii Afanasiev** (ILTPE), **Yan Rybalko** (University of Oslo / ILTPE), **Roman Sarapin** (ILTPE), **Oren Yakir** (Stanford University)

ORGANISERS

Ievgenii AFANASIEV, *B. Verkin ILTPE of NASU*

Anna LYTOVA, *Opole University, Poland*

Margaryta MYRONYUK, *B. Verkin ILTPE of NASU*

Anna SLYVKA-TYLYSHCHAK, *Uzhhorod National University*



INFORMATION AND APPLICATION

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deadline 15 October 2024

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