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,** *Chynadiyeve 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 alsoincluded 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, *ILTPE, Kharkiv*

Dmitry SHEPELSKY, *ILTPE, Kharkiv*

Mikhail SODIN, *Tel Aviv University*

ORGANISERS

Ievgenii AFANASIEV, *ILTPE, Kharkiv*

Anna LYTOVA, *Opole University, Poland*

Margaryta MYRONYUK, *ILTPE, Kharkiv*

Anna SLYVKA-TYLYSHCHAK, *Uzhhorod National University*

INFORMATION AND APPLICATION

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