17th Saint-Petersburg Conference *in* Spectral Theory and Mathematical Physics, dedicated to M. S. Birman

Euler Institute, St. Petersburg, Russia

June 22–26, 2026

CONFERENCE PROGRAM

Monday, June 22

09^{30} – 09^{55} **Registration**

09^{55} – 10^{00} **Opening**

10^{00} – 10^{45} **Andrei Shkalikov** (MSU)
Direct and inverse problems for the Sturm–Liouville operator and its perturbations

10^{50} – 11^{35} **Gregory Seregin** (PDMI RAS)
Local regularity theory of the Navier–Stokes equations and long-time behaviour of solutions to the Cauchy problem for the Stokes system with a certain drift

Coffee Break

12^{00} – 12^{45} **Iskander Taimanov** (MSU & Sobolev Institute of Mathematics)
On perturbations of the spectra of $\mathcal{PT}$-symmetric Schrödinger operators

12^{50} – 13^{20} **Natalya Smorodina** (PDMI RAS & SPbSU)
Feynman–Kac formula for the Laplace operator with a zero-range potential in $\mathbb{R}^3$

Lunch

15^{00} – 15^{45} **Sergei Nazarov** (IPME)
Asymptotic structure of the spectra of water-waves in meromictic lakes and the Black sea

15^{50} – 16^{35} **Stanislav Stepin** (MSU)
WKB method: within and beyond its limits

Coffee Break

17^{00} – 17^{45} **Vladimir Peller** (SPbSU)
Analytic Schur multipliers and applications to functions of perturbed dissipative operators

17^{50} – 18^{20} **Nikita Rastegaev** (PDMI RAS)
Existence of non-radial extremal functions for Hardy–Sobolev inequalities in non-convex cones

18^{25} – 18^{40} **Yulya Solovyeva**
Cultural program announcement

18^{40} **Welcome Party**

Tuesday, June 23

10^{00} – 10^{45} **Alex Sobolev*** (UCL)
Time-frequency analysis: eigenvalue asymptotics

10^{50} – 11^{35} **Sergey Dobrokhotov** (IPMech RAS)
Asymptotic eigenfunctions of the Laplace operator in an ellipse, generated by Birkhoff billiards with caustics in the form of hyperbolas

Coffee Break

12^{00} – 12^{30} **Anna Allilueva** (IPMech RAS)
Short-wave asymptotic solution of the Cauchy problem for the one-dimensional wave equation with a smoothed velocity jump

12^{35} – 13^{20} **Vladimir Nazaikinskii** (IPMech RAS)
Lefschetz formula on end-periodic manifolds

Lunch

15^{00} – 15^{45} **Anton Savin** (RUDN)
On the index of elliptic operators on manifolds with cylindrical ends

15^{50} – 16^{35} **Oleg Sarafanov** (SPbSU)
Radiation principle for a two-dimensional acoustic diffraction grating

Coffee Break

17^{00} – 17^{25} **Tatiana Safonova** (NARFU)
On formulas for the sums of some Euler–Zager multiplicative series

17^{40} **Walking tour**†

* Online
† A guided walking tour with Porcelain and Chess Museum

Wednesday, June 24

10^{00} – 10^{45} **Andrey Piatnitski** (MIPT & UiT)
Orlicz-type spaces generated by convolution type integral functionals

10^{50} – 11^{35} **Vladimir Sloushch** (SPbSU)
Homogenization of a $2p$-order elliptic operator with periodic coefficients in the energy norm

Coffee Break

12^{00} – 12^{45} **Elena Zhizhina** (MIPT & UiT)
High-contrast periodic diffusion and sticky Brownian motion with resetting at the boundary

12^{50} – 13^{20} **Mark Dorodnyi** (SPbSU)
Homogenization of hyperbolic equations with corrector

Lunch

15^{00} – 15^{45} **Nikolay Filonov** (PDMI RAS)
On the minima of the first band function of a periodic polyharmonic operator

15^{50} – 16^{35} **Karakhan Mirzoev** (MSU)
On the asymptotics of solutions to systems of second-order differential equations and its applications

Coffee Break

17^{00} – 17^{45} **Igor Sheipak** (MSU)
On a certain class of functions with wavelet representation and their application in spectral problems

17^{50} – 18^{20} **Tatiana Garmanova** (MSU)
Embedding constants in Sobolev spaces with admissible boundary conditions

18^{30} **Walking tour**[‡]

[‡] A guided walking tour of Kamenny Island

Thursday, June 25

10^{00} – 10^{45} **Andrei Shafarevich** (MSU)
Line bundles over Lagrangian manifolds, corresponding to asymptotic solutions of the wave equation with smoothed jump of the velocity

10^{50} – 11^{35} **Alexander Nazarov** (PDMI RAS & SPbSU)
Fractional powers of operators as traces of operator-valued curves

11^{40} – 12^{10} **Sergey Tumanov** (MSU)
Compactness, *s*-numbers and completeness of root vectors of a non-self-adjoint Schrödinger operator with a singular potential

Lunch

13^{30} **Bus tour**[§]

[§] A guided bus tour of Razliv & Picnic

Friday, June 26

10^{00} – 10^{45} **Mikhail Lyalinov** (SPbSU)
On the eigenfunctions of the discrete and essential (continuous) spectrum in the problem of scattering of three identical quantum particles on a line with point interaction in pairs

10^{50} – 11^{35} **Ari Laptev*** (ICL & Sirius)
Time-dependent Schrödinger equation for harmonic oscillator in the Aharonov–Bohm magnetic field

Coffee Break

12^{00} – 12^{30} **Anton Tolchennikov** (IPMech RAS)
Operator separation of variables in adiabatic approximation and a Cauchy problem for wave equation in a regularly homogenized medium

12^{35} – 13^{00} **Grigorii Agafonkin** (MSU)
On the location of eigenvalues in the one-dimensional involutive Friedrichs model

13^{05} – 13^{30} **Alexey Kosarev** (MSU)
On the completeness of root functions for systems of first-order ordinary differential equations

Lunch

15^{00} – 15^{25} **Nina Faddeeva** (SPbSU)
Homogenization of the two-dimensional Dirac equation with periodic coefficients

15^{30} – 15^{55} **Igor Safronov** (SPbSU)
Homogenization of elliptic fourth-order operators with periodic coefficients

Coffee Break

16^{20} – 16^{45} **Alexander Klevin** (IPMech RAS)
Asymptotics of the Kelvin wedge for water waves generated by a moving localized disturbance

16^{50} – 17^{15} **Maria Votiakova** (IPMech RAS & MIPT)
Asymptotic methods in the problem of long nonlinear coastal wave dynamics from a localized source

17^{20} **Coffee & Closing**

* Online