

Ministry of Education and Science of Ukraine
Vasyl' Stus Donetsk National University
Taras Shevchenko National University of Kyiv
Institute of Mathematics of the National Academy of Sciences of Ukraine
Institute of Applied Mathematics and Mechanics of the
National Academy of Sciences of Ukraine

PROGRAM

**6th Ya.B. Lopatynsky International
School-Workshop
on Differential Equations and Applications**

18-20 June, 2019, Vinnytsia, Ukraine

Initiated by
the Differential Equations Department
of the Donetsk National University
since 2006

Vinnytsia-2019

All Sessions will be held at the Vasyl' Stus Donetsk National University,
21021, 600-richchia Str., 21, Vinnytsia, Ukraine

ORGANIZED BY

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Tuesday, June 18

9.00 –11.00 Registration

11.00 – 11.20 Opening ceremony

Plenary Lectures

11.20 – 12.05 **Mykola M. Bokalo, Lviv, Ukraine.** Problems for nonlinear parabolic and elliptic-parabolic equations with variable exponents of nonlinearity in unbounded domains.

12.05 – 12.50 **Igor I. Skrypnyk, Sloviansk, Ukraine, Mykhailo Voitovych, Sloviansk, Ukraine.** On $B_{1,s}$ classes of De Giorgi-Ladyzhenskaya-Ural'tseva and their applications to elliptic and parabolic equations with nonstandard growth.

12.50 - 13.20 **Coffee-break**

13.20 – 14.05 **Viktor I. Gerasimenko, Kyiv, Ukraine.** Kinetic Equations of Active Soft Matter.

14.05 - 14.35 **Kateryna Dovbnya, Vinnytsia, Ukraine.** Applications of boundary integral equations method for investigations of envelop hardness with cuts and holes.

14.35 – 16.00 **Lunch**

Session A

- 16.00 – 16.20** **Iryna Skira, Lviv, Ukraine.** Fourier Problem for Weakly Nonlinear Evolution Inclusions with Functionals.
- 16.20 – 16.40** **Olga Sus, Lviv, Ukraine.** Evolutionary variational inequalities with operators type Volterra.
- 16.40 – 17.00** **Mykhailo Voitovych, Sloviansk, Ukraine, Igor Skrypnik, Sloviansk, Ukraine.** Local boundedness and continuity of solutions to high order quasilinear elliptic equations via Wolff potentials.
- 17.00 – 17.20** **Yevgenia Yevgenieva, Sloviansk, Ukraine.** Boundary values with singular peaking for quasilinear heat equations.
- 17.20 - 17.40** **Maria Shan, Vinnytsia, Ukraine.** Removability result for anisotropic parabolic equations.
- 17.40 – 17.55** **Dmitry Strelnikov, Vinnytsia, Ukraine.** Computation of the Stefan problem: energy oriented approach.
- 17.55 – 18.10** **Olena Sazonova, Kharkiv, Ukraine.** About one class of continual approximate solutions.
- 18.10 - 18.25** **Olha Trofymenko, Vinnytsia, Ukraine.** The mean value theorems on the regular polygon.
- 18.25 – 18.35** **Diana Kirka, Olha Trofymenko, Vinnytsia, Ukraine.** Application of the integral transformations for the uniqueness theorems.
- 18.35 – 18.45** **Anastasia Kostenko, Yulia Gorban, Vinnytsia, Ukraine.** Mechanics of blood flow in the aorta.

18.45 – 18.55

Eugenia Polyakova, Yulia Gorban, Vinnytsia, Ukraine. The pulse wave propagation.

Welcome Party

19.00

Wednesday, June 19

Plenary Lectures

- 10.00 – 10.45** **Valerii H. Samoilenko, Yuliia I. Samoilenko, Kyiv, Ukraine.** Asymptotic solutions of soliton type to the Korteweg de Vries equation with singular perturbation and variable coefficients.
- 10.45 – 11.30** **Taras A. Mel'nyk, Kyiv, Ukraine.** Asymptotic analysis of a spectral Robin problem in a thick junction with the branched fractal structure.
- 11.30 - 12.00** **Coffee break**
- 12.00 - 12.40** **Mykola O. Pasichnyy, Andriy M. Gusak, Cherkasy, Ukraine.** Stochastic Kinetic Mean Field Approach versus Classical Nucleation Theory.
- 12.40 - 13.20** **Yaroslav O. Zolotaryuk, Kyiv, Ukraine.** Differential-delay equations and mobility of solitons in condensed matter physics.
- 13.20 – 15.00** **Lunch**

Session A

- 15.00 – 15.20** **Maria S. Filipkovska, Kharkiv, Ukraine.** Extension and Lagrange stability of solutions of degenerate differential operator equations.
- 15.20 - 15.40** **Iryna Karpenko, Dmitry Shepelsky, Kharkiv, Ukraine.** The Riemann-Hilbert approach to the Cauchy problem for the modified Camassa-Holm equation.
- 15.40 - 16.00** **Anton Pryimak, Kharkiv, Ukraine.** Long-time asymptotics for Toda equation with steplike initial data.
- 16.00 - 16.20** **Yan Rybalko, Dmitry Shepelsky, Kharkiv, Ukraine.** Long-time asymptotics for the integrable nonlocal nonlinear Schrodinger equation.
- 16.20 - 16.40** **Nadia Huzyk, Lviv, Ukraine.** Identification of the unknown coefficients in the degenerate parabolic equation.
- 16.40 - 16.55** **Vladyslav Vasylenko, Vladimir Shramenko, Kyiv, Ukraine.** Conditions for the finite speed of propagation of non-negative solutions of the Bussinesque equation with nonhomogeneous density.
- 16.55 - 17.20** **Coffee-break**
- 17.20 - 17.50** **Yaroslav Yo. Bihun, Igor Skutar, Chernivtsi, Ukraine.** Averaging method in multifrequency systems of ODE and PDE with delay and integral conditions.
- 17.50 - 18.20** **Andrei Pranevich, Grodno, Belarus.** Generalized Poisson's theorem of building first integrals for completely solvable Hamiltonian systems in total differentials.

- 18.20 - 18.50** **Gennadiy Sandrakov, Kyiv, Ukraine.** Modeling and homogenization of hydrodynamics processes with the vanishing viscosity.
- 18.50 - 19.05** **Valeriy Doobko, Kyiv Ukraine.** Natural invariants, Stochastic First Integrals for the generalized Ito's equations.
- 19.05 - 19.20** **Hrygorii Khoma, Svitlana Khoma-Mohylska, Ternopil, Ukraine.** Operator research of classical solutions to boundary-value problems for hyperbolic second order equations.

Session B

- 15.00 - 15.30** **Gennadiy Sandrakov, Kyiv, Ukraine.**
Homogenized models with memory effects for composites.
- 15.30 –15.50** **Vira Tkachenko, Vinnytsia, Ukraine, P.Yu.**
Polynchuk, Vinnytsia, Ukraine, A.N. Kuchko, Kyiv, Ukraine. Modeling of spin waves propagation in ferromagnetic nanowire.
- 15.50 - 16.10** **Victor A. Vrublevskyy, Kateryna M. Dovbnya, Vinnytsia, Ukraine.** Stress state of isotropic plate weakened by two elliptical holes and crack.
- 16.10 - 16.40** **Oleg Vetrov, Rostyslav Bilous, Borys Varer, Vinnytsia, Ukraine.** Some problems of difference equations computer calculations.
- 16.40- 16.55** **Khokhlova L.H., Khoma N.H., Khoma-Mohylska S.H., Ternopil, Ukraine.** Classical solution to the Poisson's equation.
- 16.55 - 17.20** **Coffee-break**

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