

**International Workshop on the Qualitative Theory of Differential Equations
QUALITDE – 2018**

Dedicated to the 100th Anniversary of I. Javakhishvili Tbilisi State University

December 1 – 3, 2018

Tbilisi, Georgia

*A. Razmadze Mathematical Institute of I. Javakhishvili Tbilisi State University
6 Tamarashvili Str., Room # 612, Tbilisi 0177, Georgia*

P r o g r a m

December 1, 2018

- 10:45 – 11:00** **Opening of the Workshop**
- 11:00 – 11:30** **I. Kiguradze** – The Dirichlet problem for second order essentially singular ordinary differential equations
- 11:30 – 12:00** **A. A. Grin, A. V. Kuzmich** – Dulac-Cherkas method for detecting exact number of limit cycles for planar autonomous systems
- 12:00 – 12:30** **M. Ashordia, N. Kharshiladze** – On the well-posedness question of the modified cauchy problem for linear systems of impulsive equations with singularities
- 12:30 – 13:00** **G. Berikelashvili, B. Midodashvili** – On the choice of additional initial condition for some three-level difference schemes
- 13:00 – 13:30** **T. Jangveladze** – On additive averaged semi-discrete scheme for one nonlinear multi-dimensional integro-differential equation
- 13:30 – 14:00** **N. Partsvania** – Conditions for unique solvability of the two-point Neumann problem
- 14:00 – 14:30** **Coffee Break**
- 14:30 – 16:30** **Overview of the talks of participants in absentia**
- J. López-Gómez, P. Omari** – Global components of positive bounded variation solutions of a one-dimensional capillarity problem
- R. Hakl** – Theorems on functional differential inequalities
- R. I. Kadiiev, A. Ponosov** – Relationships between different kinds of stochastic stability for functional differential equations
- T. Kiguradze, A. Beaubrun** – Periodic solutions of higher order nonlinear hyperbolic equations
- V. P. Maksimov** – On unreachable values of boundary functional for overdetermined boundary value problems with constraints
- M. Manjikashvili, S. Mukhigulashvili** – The periodic problem for the second order integro-differential equations with distributed deviation

V. Pylypenko, A. Rontó – On a weighted problem for functional differential equations with decreasing non-linearity

I. Rachnková, L. Rachnek – Nondecreasing solutions of singular differential equations

M. Rontó, J. Varga – On solution of some non-linear integral boundary value problem

J. Šremr – Differential equations in modelling motion of dislocations

December 2, 2018

11:00 – 11:30 **Z. Došlá, M. Marini, S. Matucci** – Kneser solutions to second order nonlinear equations with indefinite weight

11:30 – 12:00 **S. Kharibegashvili** – On the solvability of the boundary value problem for one class of higher-order semilinear partial differential equations

12:00 – 12:30 **O. Jokhadze, S. Kharibegashvili** – On one mixed problem for one class of second order nonlinear hyperbolic systems with the Dirichlet and Poincare boundary conditions

12:30 – 13:00 **T. Tadumadze, A. Nachaoui, F. Aboud** – On one inverse problem for the linear controlled neutral differential equation

13:00 – 13:30 **T. Shavadze** – Necessary conditions of optimality for the optimal control problem with several delays and the continuous initial condition

13:30 – 14:00 **Coffee Break**

14:00 – 16:00 **Overview of the talks of participants in absentia**

R. P. Agarwal, S. Hristova, D. O'Regan – Non-instantaneous impulsive differential equations with finite state dependent delay and Ulam-type stability

N. A. Izobov, A. V. Il'in – Baer's classification of characteristic exponents in the full Perron's effect of their value change

J. Jaroš, T. Kusano, T. Tanigawa – Productivity of Riccati differential equations

M. Perestyuk, O. Kapustyan, I. Romaniuk – Stability properties of uniform attractors for parabolic impulsive systems

A. Barabanov, M. V. Karpuk, V. V. Bykov – On dimensions of subspaces defined by Lyapunov exponents of families of linear differential systems

M. S. Belokursky, A. K. Demenchuk – Analogue of the Erugin theorem on the absence of strongly irregular periodic solutions of two-dimensional linear discrete periodic system

P. Feketa, O. A. Kapustian, M. M. Perestyuk – Stability analysis of invariant tori of nonlinear extensions of dynamical systems on torus using quadratic forms

Z. Kiguradze – On one system of nonlinear partial integro-differential equations with source terms

E. K. Makarov – On adaptive sequences to evaluate Izobov exponential exponents

A. Vaidzelevich – On relations between Perron and Lyapunov regularity

coefficients of parametric linear differential equations

A. N. Vetokhin – On the sets of lower semicontinuity points and upper semicontinuity points of topological entropy with continuous dependence on a parameter

December 3, 2018

10:00 – 12:00

Overview of the talks of participants in absentia

I. V. Astashova, M. Yu. Vasilev – On Nonpower-law behavior of blow-up solutions to Emden-Fowler type higher-order differential equations

S. Ezhak, M. Telnova – On the problem on minimization of the functional generated by a Sturm-Liouville problem

T. Korchemkina – On asymptotic behavior of solutions to second-order differential equations with general power-law nonlinearities

V. V. Rogachev – On existence of solutions with prescribed number of zeros to high-order Emden–Fowler equations with regular nonlinearity and variable coefficient

V. M. Evtukhov, N. V. Sharay – Asymptotic behaviour of solutions of third-order differential equations with rapid varying nonlinearities

O. Kichmarenko, O. Stanzhytsky – Existence of optimal controls for functional-differential systems on semi axis

L. I. Kusik – Asymptotic representations of one class solutions of second-order differential equations

N. V. Sharay, V. N. Shinkarenko – Asymptotic behavior of solutions for one class of third order nonlinear differential equations

A. Pranevich – The generalized Jacobi-Poisson theorem of building first integrals for Hamiltonian systems

V. Yu. Tyshchenko – On topological classifications of some classes of complex differential systems

12:00 – 12:30

Coffee Break

12:30 – 14:30

Overview of the talks of participants in absentia

S. A. Shchogolev – On a fundamental matrix of linear homogeneous differential system with coefficients of oscillating type

V. V. Dzhashitova – Resonance case of full separation of countable linear homogeneous differential system with coefficients of oscillating type

N. P. Kolun – Asymptotic behaviour of $P_{\xi}(Y_0, 0)$ -solutions of second-order nonlinear differential equations with regularly and rapidly varying nonlinearities

D. E. Limanska, G. E. Samkova – The asymptotic behaviour of solutions of systems of differential equations partially solved relatively to the derivatives with non-square matrices

A. Lipnitskii – On instability of Millionshchikov linear systems with a parameter