

**Georgian Mathematical Union**  
**Batumi Shota Rustaveli State University**

**XVI INTERNATIONAL CONFERENCE  
OF THE GEORGIAN MATHEMATICAL UNION**

**PROGRAM**

**Batumi, August 31 - September 5**  
**2026**

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## Conference Thematic Sessions and Organizers

- Algebra and Number Theory (Emzar Khmaladze, Bachuki Mesablishvili, Ketevan Shavgulidze)
- Differential and Integral Equations, and Their Applications (Otar Chkadua, Roland Duduchava, Nugzar Shavlakadze)
- Geometry and Topology (Malkhaz Bakuradze, Vladimir Baladze, George Khimshiashvili)
- Logic, Language, Artificial Intelligence (Besik Dundua, Konstantine Pkhakadze, Mikheil Rukhaia)
- Mathematical Education and History of Mathematics (Guram Gogishvili, Teimuraz Vepkhvadze)
- Mathematical Logic and Discrete Mathematics (Alexander Kharazishvili, Aleks Kirtadze, Roland Omanadze)
- Mathematical Modeling and Numerical Analysis (Temur Chilachava, Temur Jangveladze, Hamlet Meladze)
- Theoretical Physics (Alexander Kvinikhidze)
- Probability Theory and Statistics, Financial Mathematics (Vakhtang Kvaratskhelia, Omar Purtukhia, Vaja Tarieladze)
- Real and Complex Analysis (Lasha Ephremidze, Giorgi Oniani, George Tephnadze)
- Mini symposium: Formal groups, cobordism and related structures (Organizer: Malkhaz Bakuradze)
- Mini symposium: Algebraic Geometry and Model Theory of Groups and Rings (Organizers: Mikheil Amaglobeli, Tengiz Bokelavadze)
- Mini symposium: Computer Science, Data Science and Artificial Intelligence: Theory, Practice, and Education (Organizer: Magda Tsintsadze)

**Editors:** Guram Gogishvili, Tinatin Davitashvili

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| 5  | Mathematical Education and History of Mathematics                        | 6    |    |    |    |    |    |    |
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| 7  | Mathematical Modeling and Numerical Analysis                             | 7    |    |    |    |    |    |    |
| 8  | Probability Theory and Statistics, Financial Mathematics                 | 8    |    |    |    |    |    |    |
| 9  | Real and Complex Analysis                                                | 1    |    |    |    |    |    |    |
| 10 | Theoretical Physics                                                      | 8    |    |    |    |    |    |    |
| 11 | Mini-Symposium: Algebraic Geometry and Model Theory of Groups and Rings  | 9    |    |    |    |    |    |    |
| 12 | Mini-Symposium: CS, Data Science and AI: Theory, Practice, and Education | 10   |    |    |    |    |    |    |
| 13 | Mini-Symposium: Formal groups, cobordism and related structures          | 11   |    |    |    |    |    |    |

## Schedule of the Conference

**August 30, Sunday (Arrival Day to Batumi)**

**August 31, Monday**

|                     |                                                                                                                                                                                                                                                                                                                                               |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $9^{00} : 9^{30}$   | <b>Registration</b>                                                                                                                                                                                                                                                                                                                           |
| $9^{30} : 10^{00}$  | <b>Opening of the Conference</b><br>Greetings:<br><b>Alexander Meskhi</b> - Chair of the Organizing Committee, President of the Georgian Mathematical Union;<br><b>Maia Khajishvili</b> - Minister of Education and Sports of the Autonomous Republic of Adjara;<br><b>Tite Aroshidze</b> - Rector of Batumi Shota Rustaveli State University |
| <b>Plenary Room</b> | <b>Chairman: Alexander Meskhi</b>                                                                                                                                                                                                                                                                                                             |
| $10^{00} : 10^{50}$ | <b>Efim Zelmanov.</b> Growth and complexity functions                                                                                                                                                                                                                                                                                         |
| $10^{50} : 11^{40}$ | <b>Joachim Toft.</b> Orlicz convolutions in qha with applications to Orlicz Schatten properties for Toeplitz operators                                                                                                                                                                                                                        |
| $11^{40} : 12^{20}$ | <b>Coffee break</b>                                                                                                                                                                                                                                                                                                                           |
| $12^{20} : 13^{10}$ | <b>Michael Ruzhansky.</b> Evolution PDEs with strong singularities                                                                                                                                                                                                                                                                            |
| $13^{10} : 14^{00}$ | <b>Gabriel R. Barrenechea, Philip L. Lederer, <u>Andreas Rupp</u>.</b> A bound-preserving and conservative enriched Galerkin method for elliptic problems                                                                                                                                                                                     |
| $14^{00} : 14^{30}$ | <b>Information Lecture: Ketevan Tsertsvadze</b>                                                                                                                                                                                                                                                                                               |
| <b>Room 2</b>       | <b>Chairman: Anzor Beridze</b>                                                                                                                                                                                                                                                                                                                |
| $13^{10} : 14^{00}$ | <b>Alexei Miasnikov.</b> Diophantine problem in groups and rings                                                                                                                                                                                                                                                                              |

|                                     |                     |
|-------------------------------------|---------------------|
| 14 <sup>30</sup> : 16 <sup>00</sup> | <b>Lunch</b>        |
| 16 <sup>00</sup> : 17 <sup>15</sup> | Parallel Sessions   |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b> |
| 17 <sup>45</sup> : 19 <sup>00</sup> | Parallel Sessions   |

## September 1, Tuesday

|                                     |                                                                                                             |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Plenary Room</b>                 | <b>Chairman: Giorgi Oniani</b>                                                                              |
| 10 <sup>00</sup> : 10 <sup>50</sup> | <b>Ilya Spitkovsky.</b> On the current state of Gau-Wang-Wu conjecture                                      |
| 10 <sup>50</sup> : 11 <sup>40</sup> | <b><u>Olga Kharlampovich</u>, Alina Vdovina.</b> Equations in products of free groups and 3-manifold groups |
| 11 <sup>40</sup> : 12 <sup>20</sup> | <b>Coffee break</b>                                                                                         |
| 12 <sup>20</sup> : 13 <sup>10</sup> | <b><u>Sergey Tikhonov</u>, Miquel Suacedo.</b> Revisiting Fourier inequalities                              |
| 13 <sup>10</sup> : 14 <sup>00</sup> | <b>Guillermo P. Curbera.</b> On the Söhlgen problem for the finite Hilbert transform                        |
| <b>Room 2</b>                       | <b>Chairman: Tengiz Bokelavadze</b>                                                                         |
| 12 <sup>20</sup> : 13 <sup>10</sup> | <b><u>Giovanni Falcone</u>, Alfonso Di Bartolo, Kıvanc Ersoy.</b> Riemann–Roch bases in Kummer extensions   |
| 13 <sup>10</sup> : 14 <sup>00</sup> | <b>Jerzy Kąkol.</b> About Banach-Mazur’s problem from the 1930s. Classical and new results                  |
| 14 <sup>30</sup> : 16 <sup>00</sup> | <b>Lunch</b>                                                                                                |
| 16 <sup>00</sup> : 17 <sup>15</sup> | Parallel Sessions                                                                                           |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                         |
| 17 <sup>45</sup> : 19 <sup>00</sup> | Parallel Sessions                                                                                           |
| <b>Online</b>                       | <b>Chairman: Lasha Ephremidze</b>                                                                           |
| 19 <sup>00</sup> : 19 <sup>50</sup> | <b>Yuri Movsisyan.</b> Hyperidentities in action                                                            |

## September 2, Wednesday

|                                     |                                                                                         |
|-------------------------------------|-----------------------------------------------------------------------------------------|
| <b>Plenary Room</b>                 | <b>Chairman: Lasha Ephremidze</b>                                                       |
| 10 <sup>00</sup> : 10 <sup>50</sup> | <b>Mieczysław Mastyło.</b> Maximal regularity for abstract Cauchy problems              |
| 10 <sup>50</sup> : 11 <sup>40</sup> | <b>Vyacheslav Futorny.</b> Twisted localization in Representation theory                |
| 11 <sup>40</sup> : 12 <sup>20</sup> | <b>Coffee break</b>                                                                     |
| 12 <sup>20</sup> : 13 <sup>10</sup> | <b>Ivan Shestakov.</b> The tangent Lie algebras of automorphism groups of free algebras |
| 13 <sup>10</sup> : 14 <sup>00</sup> | <b>Berikbol Torebek.</b> Sharp Lee-Ni estimates for the semilinear parabolic problems   |
| <b>Room 2</b>                       | <b>Chairman: Vaja Tarieladze</b>                                                        |
| 13 <sup>10</sup> : 14 <sup>00</sup> | <b>Delfim F. M. Torres.</b> The Jacobi Last Multiplier and the SIR Model                |
| 14 <sup>00</sup> : 16 <sup>00</sup> | <b>Lunch</b>                                                                            |
| 14 <sup>00</sup> : 16 <sup>00</sup> | <b>Council of the GMU, Elections</b>                                                    |
| <b>The evening</b>                  | <b>Conference Dinner</b>                                                                |

## September 3, Thursday

|                                     |                                                                                                                      |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Plenary Room</b>                 | <b>Chairman: Alexander Meskhi / Giorgi Tephnadze</b>                                                                 |
| 10 <sup>00</sup> : 10 <sup>50</sup> | <b>Alexandre Almeida.</b> A Stein–Weiss inequality with nonstandard power weights and applications                   |
| 10 <sup>50</sup> : 11 <sup>40</sup> | <b>Valentin A. Zagrebnov.</b> Trotter product formula for nonlinear affine semigroups on Hilbert space               |
| 11 <sup>40</sup> : 12 <sup>20</sup> | <b>Coffee break</b>                                                                                                  |
| 12 <sup>20</sup> : 13 <sup>10</sup> | <b>Lars-Erik Persson.</b> Convexity and continuous forms of inequalities as a source of inspiration for new research |
| 13 <sup>10</sup> : 14 <sup>00</sup> | <b>Józef H. Przytycki.</b> Skein modules of 3-manifolds: the personal perspective                                    |
| 14 <sup>00</sup> : 14 <sup>30</sup> | <b>Information Lecture: Konstantine Pkhakadze</b>                                                                    |

|                                     |                     |
|-------------------------------------|---------------------|
| 14 <sup>30</sup> : 16 <sup>00</sup> | <b>Lunch</b>        |
| 16 <sup>00</sup> : 17 <sup>15</sup> | Parallel Sessions   |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b> |
| 17 <sup>45</sup> : 19 <sup>00</sup> | Parallel Sessions   |

## September 4, Friday

|                                     |                                                                                                                                                 |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plenary Room</b>                 | <b>Chairman: Besik Dundua /Tengiz Bokelavadze</b>                                                                                               |
| 10 <sup>00</sup> : 10 <sup>50</sup> | <b>Bakhadyr M. Khoussainov.</b> The Bergstra-Tucker problem: a c.e. algebra with no finitely presented expansion                                |
| 10 <sup>50</sup> : 11 <sup>40</sup> | <b>Furio Honsell.</b> Two views on unification: Terms as strategies                                                                             |
| 11 <sup>40</sup> : 12 <sup>20</sup> | <b>Coffee break</b>                                                                                                                             |
| 12 <sup>20</sup> : 13 <sup>10</sup> | <b>Elena Bunina.</b> Model theory of Chevalley groups and their extensions                                                                      |
| 13 <sup>10</sup> : 14 <sup>00</sup> | <b>Mariangiola Dezani-Ciancaglini.</b> Intersection type Galore                                                                                 |
| 14 <sup>00</sup> : 15 <sup>00</sup> | <b>Lunch</b>                                                                                                                                    |
| <b>Room 2</b>                       | <b>Chairman: David Natroshvili</b>                                                                                                              |
| 15 <sup>00</sup> : 15 <sup>50</sup> | <b>Massimo Lanza de Cristoforis.</b> Integral identities and inequalities for the equations of the electromagnetism in a nonvariational setting |
| 16 <sup>00</sup> : 17 <sup>15</sup> | Parallel Sessions                                                                                                                               |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                             |
| 17 <sup>45</sup> : 19 <sup>00</sup> | Parallel Sessions                                                                                                                               |

## September 5, Saturday

|                                     |                   |
|-------------------------------------|-------------------|
| 10 <sup>00</sup> : 12 <sup>00</sup> | Parallel Sessions |
| <b>Plenary Room</b>                 |                   |
| 12 <sup>00</sup> -14 <sup>00</sup>  | <b>Closing</b>    |

## Thematic Sessions

### Algebra and Number Theory

**August 31, Monday**

|                     |                                                                                                             |
|---------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Room 2</b>       | <b>Chairman: Markus Neuhauser</b>                                                                           |
| $16^{00} : 16^{25}$ | <u><b>Celil Nebiyev</b></u> , <b>Hasan Hseyin Okten</b> . $\oplus$ -r-supplemented modules                  |
| $16^{25} : 16^{50}$ | <u><b>Bernhard Heim</b></u> , <b>Markus Neuhauser</b> . Dominant zeros of Nekrasov–Okounkov polynomials     |
| $16^{50} : 17^{15}$ | <b>Engin Kaynar</b> , <u><b>Celil Nebiyev</b></u> . On beta G-star supplemented modules                     |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                         |
| $17^{45} : 18^{10}$ | <u><b>Elena Cojuhari</b></u> , <b>Barry Gardner</b> . On q-central idempotents and radical classes of rings |

**September 1, Tuesday**

|                     |                                                                                                                                                       |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 2</b>       | <b>Chairman: Alex Patchkoria</b>                                                                                                                      |
| $16^{00} : 16^{25}$ | <u><b>Elena Cojuhari</b></u> , <b>Barry Gardner</b> . Matrix representations of D-structures and generalized monoid rings                             |
| $16^{25} : 16^{50}$ | <u><b>Chandan Bhaumik</b></u> , <b>Manoj K Keshari</b> , <b>Husney Parvez Sarwar</b> . Symplectic modules over geometric subrings and monoid algebras |
| $16^{50} : 17^{15}$ | <b>Tariel Kemoklidze</b> . The group of rational points on a cubic curve                                                                              |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                                                                   |
| $17^{45} : 18^{10}$ | <b>Markus Neuhauser</b> . Polynomization of a conjecture by Sun                                                                                       |
| $18^{10} : 18^{35}$ | <b>Nika Logua</b> . Minimal universal crossed extensions of superperfect groups                                                                       |

## September 3, Thursday

|                                 |                                                                                                                                                                |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 2</b>                   | <b>Chairman: Bachuki Mesablashvili</b>                                                                                                                         |
| $16^{00} : 16^{25}$             | <b>Vakhtang Lomadze.</b> Quot schemes on the projective line                                                                                                   |
| $16^{25} : 16^{50}$             | <b>Alex Patchkoria.</b> On homology monoids of simplicial Abelian monoids                                                                                      |
| $16^{50} : 17^{15}$             | <b>Giorgi Rakviashvili.</b> A generalization of Artin's theorem on characters of finite groups for separable Hopf algebras                                     |
| $17^{15} : 17^{45}$             | <b>Coffee break</b>                                                                                                                                            |
| $17^{45} : 18^{10}$<br>(Online) | <b><u>Bakur Kochlamazashvili</u>, Lela Turmanidze.</b> Cotriple cohomology and two term extensions of Lie superalgebras                                        |
| $18^{10} : 18^{35}$<br>(Online) | <b>Jonnalagadda Venkateswara Rao, <u>Patrick Kanyi Wamuyu</u>.</b> Pre- $A^*$ -algebraic framework for formal reasoning under uncertainty in networked systems |
| $18^{35} : 19^{00}$<br>(Online) | <b>AmirHossein Mokhtari.</b> Properties of linear mappings on some algebras without a unity                                                                    |

## Differential and Integral Equations and their Applications

August 31, Monday

|                                     |                                                                                                                                                                              |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 3</b>                       | <b>Chairman: Nugzar Shavlakadze</b>                                                                                                                                          |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>David Natroshvili.</b> Iteration method for the Neumann type problem of the elasticity theory                                                                             |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Maia Mrevlishvili.</b> Application of an alternative potential method to mixed initial-boundary value problems of the elasticity theory                                   |
| 16 <sup>50</sup> :17 <sup>15</sup>  | <b>Yousef Jafarzadeh.</b> A Hybrid Numerical Framework for Higher-Order Linear Volterra–Fredholm Integro- Differential Equations via Taylor Series and Block Pulse Functions |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                                                          |

September 1, Tuesday

|                                     |                                                                                                                              |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 3</b>                       | <b>Chairman: David Natroshvili</b>                                                                                           |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Roland Duduchava.</b> Boundary value problems for the generic Laplace equation                                            |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Nino Partsvania.</b> On nonlocal boundary value problems for first order differential equations with a deviating argument |
| 16 <sup>50</sup> :17 <sup>15</sup>  | <b>Nugzar Shavlakadze.</b> Singular integro-differential equations with fixed singularities and their applications           |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                          |
| 17 <sup>45</sup> :18 <sup>10</sup>  | <b>Parviz Darania.</b> Multi-step Collocation Methods for 3- kind delay integral quations                                    |
| 18 <sup>10</sup> :18 <sup>35</sup>  | <b>Nestan Kekelia.</b> On the existence of bounded solutions for systems of linear difference equations                      |

### September 3, Thursday

|                                     |                                                                                                                                                                                                                   |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 3</b>                       | <b>Chairman: Roland Duduchava</b>                                                                                                                                                                                 |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Otar Chkadua.</b> Development of the localized boundary-domain integral equations method for the dynamical Dirichlet problem of the theory of inhomogeneous generalized thermo-electro-magnetic elastic solids |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Sergei Grudsky.</b> Eigenvalues of non-Hermitian banded Toeplitz matrices. Approaching simple points of the limiting set                                                                                       |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Yousef Jafarzadeh.</b> A novel approach for testing the equality of multiple coefficients of variation                                                                                                         |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                                                                                               |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b>Yagub Aliyev, Narmin Aliyeva.</b> Minimality of root functions of Sturm–Liouville problems with linear eigenparameter boundary conditions                                                                      |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b>Mon Bahadur Rai.</b> A physics-informed finite-difference-based constrained convolutional neural network framework for 2D stationary convection diffusion model with boundary enforcement                      |

### September 4, Friday

|                                                 |                                                                                                                   |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Room 3</b>                                   | <b>Chairman: Massimo Lanza de Cristoforis</b>                                                                     |
| 16 <sup>00</sup> : 16 <sup>25</sup><br>(Online) | <b>Victor Kovtunenکو.</b> Semi-smooth optimization methods for solution of contact and dynamic problems           |
| 16 <sup>25</sup> : 16 <sup>50</sup><br>(Online) | <b>Prem Chand Saw.</b> Problem of Love Waves                                                                      |
| 16 <sup>50</sup> : 17 <sup>15</sup><br>(Online) | <b>Boulakhras Gherbal.</b> Sufficient optimality conditions for a control problem driven by McKean-Vlasov FBDSDEs |
| 17 <sup>15</sup> : 17 <sup>40</sup><br>(Online) | <b>Vladimir Sharafutdinov.</b> Geometry of ideal fluid                                                            |

## September 5, Saturday

|                     |                                                                                               |
|---------------------|-----------------------------------------------------------------------------------------------|
| <b>Room 3</b>       | <b>Chairman: Otar Chkadua</b>                                                                 |
| $16^{00} : 16^{25}$ | <b>Sergei Grudsky.</b> Asymptotics of eigenvalues of Toeplitz Matrices: non-self-adjoint case |
| $16^{25} : 16^{50}$ | <b>Vijay Vyas.</b> A comprehensive study of Fourier series for the generalized I-function     |

## Geometry and Topology

### August 31, Monday

|                                 |                                                                                                                                                |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 4</b>                   | <b>Chairman: Malkhaz Bakuradze</b>                                                                                                             |
| $16^{00} : 16^{50}$             | <b>Anzor Beridze, <u>Irakli Patchkoria</u>.</b> On the homotopical invariants of the Braid groups modulo the centre                            |
| $16^{50} : 17^{15}$<br>(Online) | <b>Nino Melitauri.</b> Topological foundations of Tariff Wars                                                                                  |
| $17^{15} : 17^{45}$             | <b>Coffee break</b>                                                                                                                            |
| $17^{45} : 18^{35}$             | <b><u>Anzor Beridze</u>, Paweł Traczyk.</b> Burau representation for $n = 4$ : The problem of faithfulness - algebraic vs topological approach |
| $18^{35} : 19^{25}$             | <b>Ralf Meyer, <u>George Nadareishvili</u>.</b> Universal coefficient theorems for noncommutative spaces                                       |

## September 1, Tuesday

|                     |                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------|
| <b>Room 4</b>       | <b>Chairman: George Nadareishvili</b>                                                                |
| $16^{00} : 16^{25}$ | <b><u>Kursat Akbulut</u>, Cagri Karaman.</b> Some special structures on Walker-4 manifolds           |
| $16^{25} : 16^{50}$ | <b><u>Alexander Dunaykin</u>, Vyacheslav Zhukov.</b> Transition polynomial as a weight system        |
| $16^{50} : 17^{15}$ | <b>Sedat Temel.</b> 2-grupoid actions and liftings of crossed modules over groupoids                 |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                  |
| $17^{45} : 18^{10}$ | <b>Teimuraz Aliashvili, <u>Mariami Mtivlisvili</u>.</b> Topological invariants of random polynomials |

## September 3, Thursday

|                                 |                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Room 4</b>                   | <b>Chairman: Kursat Akbulut</b>                                                                              |
| $16^{00} : 16^{25}$             | <b>Ainura Bairamovi.</b> On the analytical solution of the Pursuit problem for a moving target               |
| $16^{25} : 16^{50}$             | <b>Agil Islamov.</b> On quasi-convex functions and their applications                                        |
| $16^{50} : 17^{15}$<br>(Online) | <b>Hasitha Geekiyanage.</b> An algebraic extension lemma for locally free sheaves                            |
| $17^{15} : 17^{45}$             | <b>Coffee break</b>                                                                                          |
| $17^{45} : 18^{10}$<br>(Online) | <b>Meshach Ndlovu.</b> Symplectic structures on projectivised tangent bundles over complex projective spaces |

## Logic, Language, Artificial Intelligence

The session is dedicated to the 80-th anniversary of **Khimur Rukhaia**, in honor of his outstanding contributions and achievements in the field of Computational Logic and their applications.

**August 31, Monday**

|                                     |                                                                                                                                            |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 5</b>                       | <b>Chairman: Mikheil Rukhaia</b>                                                                                                           |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Mikheil Rukhaia.</b> Quantale-based automated reasoning for symbolic AI                                                                 |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Besik Dundua, Georg Ehling, Santiago Escobar, Maribel Fernández, and Temur Kutsia.</b> Combining quantitative computation and deduction |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Tatia Dundua.</b> Design and implementation of a proximity-based probabilistic logic programming language                               |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                        |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b><u>Besik Dundua</u>, Furio Honsell, and Temur Kutsia.</b> Pattern calculus with similarity relations                                    |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b>Besik Dundua, Furio Honsell, <u>Mariam Katamashvili</u>, David Maisuradze.</b> Fuzzifying derivatives of regular expressions            |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b>Demetre Labadze.</b> A Formal framework for synchronized drone swarms with Belief-based reinforcement                                   |

## September 1, Tuesday

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|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 5</b>                       | <b>Chairman: Lia Kurtanidze</b>                                                                                                                                                              |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Irfan Işık, <u>Ibrahim Karahan</u>.</b> q-Derivative and Artificial Neural Network Learning Algorithms                                                                                    |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b><u>Yuksel Ekinci</u>, Mariam Dedabrishvili, Tamta Lekishvili, Ketevan Dundua, and Tatia Dundua.</b> Artificial Intelligence approaches for smart city planning: a case study of Tbilisi   |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Paata Gogishvili.</b> Assessment That Survives AI: Designing mathematics assignments on graphs, functions, limits, and derivatives for AI-permitted learning                              |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                                                                          |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b>David Zarnadze, <u>Soso Tsotniashvili</u>.</b> Applying a grammatical, set-theoretic and circuit framework to LLM logical validation: detecting logical inconsistencies in generated text |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b><u>Dali Magrakvelidze</u>, Mariam Chkhaidze, Sophio Barnovi.</b> Design and implementation of an adaptive neuro-fuzzy controller for nonlinear dynamic systems                            |

## September 3, Thursday

|                                     |                                                                                                                  |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Room 5</b>                       | <b>Chairman: Mikheil Rukhaia</b>                                                                                 |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Lia Kurtanidze.</b> Development of a monitoring dataset for logic-based electromagnetic field risk assessment |

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|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Liana Lortkipanidze, <u>Anna Chutkerashvili</u>, Nino Javashvili.</b> A multi-layer architecture for the georgian language: from natural language processing to formal knowledge representation |
| 16 <sup>50</sup> :17 <sup>15</sup>  | <b>Levan Tsinadze.</b> Infomorphisms in lattice-theoretic contexts                                                                                                                                 |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                                                                                |
| 17 <sup>45</sup> :18 <sup>10</sup>  | <b><u>Ketevan Davitadze</u>, Elza Jintcharadze.</b> flight delay prediction using a multilayer neural network                                                                                      |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b>Lali Tibua.</b> Using $\tau$ SR logic methods in programming languages                                                                                                                          |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b>Greg Cousins.</b> On architectures definable in O-minimal structures                                                                                                                            |

## September 4, Friday

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|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 5</b>                       | <b>Chairman: Konstantine Pkhakadze</b>                                                                                                                                                                                                               |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b><u>Konstantine Pkhakadze</u>, David Gegia, Aleksandre Maskharashvili.</b> Declension of nouns and conjugation of verbs according Konstantine Pkhkadze's Logical Grammar of Georgian language                                                      |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b><u>Luka Pkhkadze</u>, Shalva Malidze, David Kurtskhalia, Konstantine Pkhakadze, David Gegia, David Kurtskhalia, Aleksandre Maskharashvili.</b> One more step toward semi self developing Georgian-Abkhazian terminological portal                 |
| 16 <sup>50</sup> :17 <sup>15</sup>  | <b><u>David Gegia</u>, Mikheil Rukhaia, Besik Dundua, Konstantine Pkhakadze.</b> The isomorphic mathematical theory of the Georgian language and thinking as main aim of the todays Georgian schools of the computer sciences and mathematical logic |

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| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                                                                                                                                                                     |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b><u>Rita Margania</u>, Bidzina Lemonjava, David Gegia, Konstantine Pkhakadze.</b> First results of researches for developing a mathematical theory of Abkhazian language and thinking: declarative sentences and 1-place and 2-place conjugation in natural Abkhazian language system |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b>Gregory Cousins.</b> Some results around Feed-Forward Networks definable in O-minimal expansions of R                                                                                                                                                                                |

## Mathematical Education and History of Mathematics

August 31, Monday

|                                     |                                                                                                                                                  |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 6</b>                       | <b>Chairman: Guram Gogishvili</b>                                                                                                                |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Guram Gogishvili.</b> On the importance and applications of asymptotic analysis in mathematics                                                |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Gagik Nikoghosyan, <u>Vardan Manukyan</u>.</b> Bezout's theorem as an effective tool for preventing typical errors                            |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Gagik Nikoghosyan, <u>Vardan Manukyan</u>.</b> The backward induction method as an effective means for developing students' creative thinking |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                              |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b>Alberto Elias Castejon Lafuente, <u>Vaja Tarieladze</u>.</b> On Hadwiger's problem                                                            |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b>Nikoloz Gunia.</b> A decimal theory of real numbers based on the Dirichlet box principle                                                      |

## September 1, Tuesday

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|---------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 6</b>       | <b>Chairman: Teimuraz Vepkhvadze</b>                                                                                               |
| $16^{00} : 16^{25}$ | <b>Teimuraz Vepkhvadze.</b> Analogy and its use in the educational process                                                         |
| $16^{25} : 16^{50}$ | <b><u>Davit Tsamalashvili</u>, Lamara Kurchishvili.</b><br>Theoretical and practical aspects of the unified mathematics curriculum |
| $16^{50} : 17^{15}$ | <b><u>Manana Deisadze</u>, Shalva Kirtadze.</b> The role of puzzle problems in the development of mathematical thinking            |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                                                |
| $17^{45} : 18^{10}$ | <b><u>Ivane Gokadze</u>, Vladimer Adeishvili.</b> Application of Dirichlet's principle in solving mathematical olympiad problems   |
| $18^{10} : 18^{35}$ | <b><u>Teimuraz Giorgadze</u>, Mamuli Buchukhishvili.</b> On the expected value of a random variable                                |
| $18^{35} : 19^{00}$ | <b>Manana Zivzivadze.</b> Principles for developing a formative assessment rubric                                                  |

## Mathematical Logic and Discrete Mathematics

The session is dedicated to the **Revaz Grigolia**, in recognition of his contributions and achievements in the field of Mathematical Logic and Discrete Mathematics, and their applications.

### September 3, Thursday

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|---------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 6</b>       | <b>Chairman: Aleks Kirtadze</b>                                                                                                     |
| $16^{00} : 16^{25}$ | <b><u>Revaz Grigolia</u>, <u>Ramaz Liparteliani</u>, Johan Gielis.</b><br>R-Functions and 3-valued Łukasiewicz Logic with constants |
| $16^{25} : 16^{50}$ | <b>Phridon Alshibaia.</b> Free Temporal Gödel Algebras generated by constant elements                                               |
| $16^{50} : 17^{15}$ | <b>Mariam Beriashvili, <u>Marika Khachidze</u>.</b> Sierpiński topological spaces and Hamel bases                                   |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                                                 |
| $17^{45} : 18^{10}$ | <b>Emek Demirci Akarsu.</b> A unified difference-distribution framework for cyclotomic difference sets and almost difference sets   |
| $18^{10} : 18^{35}$ | <b><u>Evgeny Kuznetsov</u>, Konstantine Razmadze, Levan Uridia.</b> Craig interpolation in the logic of temporal linear structures  |
| $18^{35} : 19^{00}$ | <b>Shalva Beriashvili,</b> Vertex enumeration and structural properties of k-isosceles simplexes in Euclidean space                 |

### September 4, Friday

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|---------------------|-----------------------------------------------------------|
| <b>Room 6</b>       | <b>Chairman: Evgeny Kuznetsov</b>                         |
| $16^{00} : 16^{25}$ | <b>Aleksi Kirtadze.</b> On one application of Hamel basis |

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| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Lika Beraia.</b> Some remarks on the intersections of Mazurkiewicz type sets with plane algebraic curves |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Ketevan Kutkhashvili.</b> Multi-criteria problem of optimal service center location                      |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                         |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b><u>Yerlan Nurlibayev</u>, Ainur Basheyeva.</b> Bipartite digraphs with modular concept lattices          |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b>Nurgissa Tlegenov.</b> On bipartite graphs with concept lattices                                         |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b>Dina Zhamagat.</b> On finitely generated quasivarieties                                                  |

## Mathematical Modeling and Numerical Analysis

The session is dedicated to the 130th anniversary of **Shalva Mikeladze**, in recognition of his outstanding contributions and achievements in the field of numerical methods and their applications.

### August 31, Monday

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| <b>Room 7</b>                       | <b>Chairman: Hamlet Meladze</b>                                                                                                                                               |
| 15 <sup>50</sup> : 16 <sup>00</sup> | <b>Hamlet Meladze.</b> On the life and work of Professor Shalva Mikeladze                                                                                                     |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b><u>Temur Chilachava</u>, Gia Kvashilava, George Pochkhua.</b> A partial differential model describing the dynamics of the Kartvelian - speaking population                 |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b><u>Temur Chilachava</u>, Rusudan Zedashidze.</b> On the asymptotic solution on the explosion problem of a triaxial rotating homogeneous self-gravitating gaseous ellipsoid |

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| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Nugzar Kereselidze.</b> Models of asymmetric confrontation with disinformation                                                                                                                   |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                                                                                 |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b><u>Sergo Tsiramua</u>, <u>Hamlet Meladze</u>, <u>Tinatin Davitashvili</u>.</b> Dynamic metahypergraphs: a new mathematical model for reconfigurable systems based on multifunctional elements    |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b><u>David Devadze</u>, <u>Vakhtang Beridze</u>.</b> Optimal control problem for a contact problem with nonlocal boundary conditions                                                               |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b><u>Giorgi Baghaturia</u>, <u>Marina Menteshashvili</u>.</b> A characteristic finite-difference method to solve a nonlinear Goursat problem                                                       |
| 19 <sup>00</sup> : 19 <sup>25</sup> | <b><u>Tinatin Davitashvili</u>, <u>Hamlet Meladze</u>, <u>Sergo Tsiramua</u>, <u>Mamuli Zakradze</u>.</b> On one nonstationary problem in the theory of elasticity with periodic initial conditions |

## September 1, Tuesday

The session is dedicated to the 80th anniversary of **Jemal Rogava**, in recognition of his contributions and achievements in the field of numerical methods and their applications.

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|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 7</b>                       | <b>Chairman: Temur Jangveladze</b>                                                                                                        |
| 15 <sup>50</sup> : 16 <sup>00</sup> | <b>Temur Jangveladze.</b> On the life and work of Professor Jemal Rogava                                                                  |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b><u>Jemal Rogava</u>, <u>Zurab Vashakidze</u>.</b> A combined numerical approach for solving a nonlinear dynamic Timoshenko beam system |

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| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Teimuraz Chkhikvadze, <u>Mikheil Gagoshidze</u>, Temur Jangveladze.</b> Numerical solution of a fourth order nonlinear parabolic type integro-differential equations using machine learning |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Mikheil Gagoshidze, Temur Jangveladze, <u>Besiki Tabatadze</u>.</b> Machine learning approaches for solving a system of Nolinear two-dimensional partial differential equations             |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                                                                            |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b>Nino Mzhavanadze.</b> Hopf bifurcation and convergence analysis of a finite-difference scheme for a nonlinear diffusion mode                                                                |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b>Tamar Paikidze.</b> Investigation and numerical solution of a fourth-order nonlinear integro-differential system                                                                            |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b>Giorgi Baghaturia, Zviad Kalichava, Mikheil Nikoleishvili, <u>Vaja Tarieladze</u>.</b> On subset sum problem                                                                                |

### September 3, Thursday

|                                     |                                                                                                                           |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Room 7</b>                       | <b>Chairman: Temur Chilachava</b>                                                                                         |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b><u>Michal Demetrian</u>, Rudolf Zimka.</b> On Hopf bifurcation in predator-prey models with prey's self-defence        |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Tamaz Vashakmadze.</b> On the extension and realization of the $(P)$ - $(Q)$ apparatus for some differential equations |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>David Zarnadze.</b> On the concept of countable error measurement theory                                               |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                       |

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| 17 <sup>45</sup> : 18 <sup>10</sup> | <b>Besarion Shanshiashvili.</b> Construction of a mathematical model of one class of nonlinear dynamic systems with feedback                    |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b><u>Mariam Gogilashvili</u>, Nino Topuridze.</b> Generalized Curacao–predator–prey model                                                      |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b>Merab Akhobadze, <u>Elguja Kurtskhalia</u>.</b> Optimal algorithm for designing and reconstructing urban systems                             |
| 19 <sup>00</sup> : 19 <sup>25</sup> | <b><u>Nino Khatiashvili</u>, David Kaladze, Irene Khatiashvili.</b> On the discrete model of tumor growth in connection with the Warburg effect |

## September 4, Friday

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|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 7</b>                                   | <b>Chairman: Sergo Tsiramua</b>                                                                                                                                                                                                        |
| 15 <sup>40</sup> : 16 <sup>05</sup>             | <b><u>Elizaveta Kalinina</u>, Alexei Uteshev, Marina Goncharova.</b> On some nearest matrix problems                                                                                                                                   |
| 16 <sup>05</sup> : 16 <sup>30</sup>             | <b>Aleksandr Oleinikov, <u>Tatiana Kuzmina</u>.</b> Two-scale mathematical modeling of failure composite laminates                                                                                                                     |
| 16 <sup>30</sup> : 16 <sup>55</sup><br>(Online) | <b>Sigurður Freyr Hafstein.</b> Asserting stability for switched systems using optimization and Lyapunov functions                                                                                                                     |
| 16 <sup>55</sup> : 17 <sup>20</sup><br>(Online) | <b>Alexander Slabospitsky.</b> About the second recurrent form of representation for parameter estimate by the method of least squares of relative errors under non-classical assumptions for systems in the presence of uncertainties |
| 17 <sup>20</sup> : 17 <sup>45</sup>             | <b>Coffee break</b>                                                                                                                                                                                                                    |

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| 17 <sup>45</sup> : 18 <sup>10</sup><br>(Online) | <b>Jemal Peradze, <u>Nikoloz Kachakhidze</u>.</b> Some methods for constructing approximate solutions to generalized Kirchhoff-type equations.                                                                                |
| 18 <sup>10</sup> : 18 <sup>35</sup><br>(Online) | <b><u>Archil Papukashvili</u>, Giorgi Geladze, Meri Sharikadze, Manana Tevdoradze.</b> On the numerical solution of the J. Ball'S thermo-viscous-elastic dynamic beam equation in the case of external damping                |
| 18 <sup>35</sup> : 19 <sup>00</sup><br>(Online) | <b><u>Giorgi Geladze</u>, Archil Papukashvili, Meri Sharikadze, Manana Tevdoradze.</b> Numerical modeling of the influence of background fields on humid and ecological processes in the mesoscale atmospheric boundary layer |

## Probability Theory and Statistics, Financial Mathematics

August 31, Monday

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|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 8</b>                       | <b>Chairman: Kartlos Kachiashvili</b>                                                                                                    |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b><u>Kartlos Kachiashvili</u>, Ioseb Kachiashvili, Ashis SenGupta.</b> The comparison of a set of normal samples with given reliability |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>George Giorgobiani, Vakhtang Kvaratskhelia, <u>Vaja Tarieladze</u>.</b> On one example of a sub-Gaussian random variable              |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Christian Bayer, <u>Davit Gogolashvili</u>, Luca Pelizzari.</b> Local regression on path spaces with signature metrics                |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                      |

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| 17 <sup>45</sup> : 18 <sup>10</sup>             | <b><u>Ignas Gasparavičius</u>, <u>Andrius Grigutis</u></b> . Generalizing Mean–Variance Portfolio Optimization with a Quadratic Risk Measure                   |
| 18 <sup>10</sup> : 18 <sup>35</sup><br>(Online) | <b><u>Elizbar Nadaraya</u>, <u>Petre Babilua</u></b> . On testing the equality of two poisson regression functions                                             |
| 18 <sup>35</sup> : 19 <sup>00</sup><br>(Online) | <b><u>Yurii Kikhaiev</u>, <u>Hanna Livinska</u></b> . Window-Lag bias in the activity interval citation index and a maturity rule for longitudinal comparisons |

## September 1, Tuesday

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|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 8</b>                                   | <b>Chairman: Vakhtang Kvaratskhelia</b>                                                                                                                                                   |
| 16 <sup>00</sup> : 16 <sup>25</sup>             | <b><u>Ekaterine Namgalaury</u>, <u>Omar Purtukhia</u></b> . Integral representation of non-smooth functional of the Brownian motion and its running maximum                               |
| 16 <sup>25</sup> : 16 <sup>50</sup>             | <b><u>Zurab Kvatadze</u>, <u>Beqnu Pharjiani</u>, <u>Tsiala Kvatadze</u></b> . On the convergence of a series of random variables with a chain dependence                                 |
| 16 <sup>50</sup> : 17 <sup>15</sup>             | <b><u>Davit Gondaury</u></b> . Regional economic Birch–Swinerton–Dyer modelling: A Local-to-Global framework for structural rank formation, corridor stress and world-economy calibration |
| 17 <sup>15</sup> : 17 <sup>45</sup>             | <b>Coffee break</b>                                                                                                                                                                       |
| 17 <sup>45</sup> : 18 <sup>10</sup><br>(online) | <b><u>Beqnu Pharjiani</u></b> . The Gini index in Markov chains: Asymptotic analysis of socio-economic dynamics                                                                           |
| 18 <sup>10</sup> : 18 <sup>35</sup>             | <b><u>Kartlos Kachiashvili</u>, <u>Vakhtang Kvaratskhelia</u>, <u>Marina Menteshashvili</u></b> . Application of a characteristic of the Sylvester matrix in digital image processing     |
| 18 <sup>35</sup> : 19 <sup>00</sup>             | <b><u>Burcu Uzuzner</u>, <u>Aslı Bektaş</u>, <u>Kamişlik</u></b> . Extreme value domains of iterated equilibrium distributions and their connection to stop-loss moments                  |

## September 4, Friday

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|-------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Room 8</b>                       | <b>Chairman: Omar Purtukhia</b>                                                                                |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Anastasis Kratsios.</b> A simple closed-form formula for Optimal Neural Network Regression on metric spaces |

## Real and Complex Analysis

The session is dedicated to the 100th anniversary of Academician **Otar Tsereteli** (1926–1991), in honor of his outstanding contributions and achievements in the field of real and complex analysis and its applications.

## August 31, Monday

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|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 1</b>                       | <b>Chairman: Lasha Ephremidze</b>                                                                                                           |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Alexander Meskhi.</b> Trace and Olsen's sharp inequalities: diagonal case                                                                |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Giorgi Oniani.</b> Counterexamples to Zygmund's differentiation conjecture for Córdoba-type bases                                        |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b><u>Seyma Çetin</u>, David Cruz-Uribe, Scott Rodney.</b> On $H = W$ in Banach function spaces                                             |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                         |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b>Ahmed I. Zayed.</b> On the relationship between the offset and the coupled fractional Fourier transforms: continuous and discrete models |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b><u>Dali Makharadze</u>, Alexander Meskhi.</b> Hardy-Littlewood inequalities for fractional integrals in classical Morrey spaces          |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b>Alexander Meskhi, <u>Lazare Natelashvili</u>.</b> On Multilinear Rellich Inequalities                                                    |

## September 1, Tuesday

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| Room 1                              | Chairman: Alexander Meskhi                                                                                                                                                        |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <u>Rovshan A. Bandaliyev</u> , Konul K. Omarova. On boundedness and compactness of the positive linear integral operators in weighted Lebesgue spaces                             |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <u>Elman J. Ibrahimov</u> , <u>Saadat A. Jafarova</u> . Characterization of G-Lipschitz spaces via commutators of the G-fractional maximal function on G-Morrey spaces            |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <u>Yagub Aliyev</u> , Zamina Guliyeva, Narmin Aliyeva. On generalization of Mitev's inequalities                                                                                  |
| 17 <sup>15</sup> : 17 <sup>45</sup> | Coffee break                                                                                                                                                                      |
| 17 <sup>45</sup> : 18 <sup>10</sup> | Nikhil Khanna. Quadratic-phase Boas transforms                                                                                                                                    |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <u>Sumit Kumar Sharma</u> , Shiv Kumar Kaushik, Anu Kapoor. Quaternionic Banach frames and their localization                                                                     |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <u>Sumit Kumar Sharma</u> , Nikhil Khanna, <u>Ramananda Singh Mayanglambam</u> . A frame-theoretic framework for comparative analysis of FTIR spectra                             |
| 19 <sup>00</sup> : 19 <sup>25</sup> | <u>Dinara Sarsenaly</u> , Ainur Temirkhanova, Nazerke Zhanabergenova. Application of inequalities to the non-oscillatory properties of a class of high-order difference equations |

## September 3, Thursday

|                                     |                                                                                                                                        |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Room 1                              | Chairman: Giorgi Oniani                                                                                                                |
| 16 <sup>00</sup> : 16 <sup>25</sup> | Nino Anakidze, Lars-Erik Persson, Mamuka Stepania, <u>George Tephnadze</u> . Norm and almost everywhere convergence of subsequences of |

|                     |                                                                                                                                                                              |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Vilenkin-Nörlund means with non-increasing sequences                                                                                                                         |
| $16^{25} : 16^{50}$ | <b><u>Levon Galoyan</u>, <u>Martin Grigoryan</u></b> . On the convergence of negative-order Cesaro means of Fourier and Fourier-Vilenkin series                              |
| $16^{50} : 17^{15}$ | <b><u>Vakhtang Tsagareishvili</u>, <u>Giorgi Tutberidze</u></b> . Some new sharp boundedness result concerning linear functionals on Banach spaces                           |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                                                                                          |
| $17^{45} : 18^{10}$ | <b><u>Davit Baramidze</u>, <u>Nata Gogolashvili</u>, <u>Nato Nadirashvili</u></b> . Norm, pointwise, and almost everywhere convergence of T means of Vilenkin-Fourier series |
| $18^{10} : 18^{35}$ | <b><u>Hacer Bilgin Ellidokuzoğlu</u></b> . An extension of Narayana difference sequence spaces                                                                               |
| $18^{35} : 19^{00}$ | <b><u>Tengiz Kopaliani</u>, <u>Giorgi Machitidze</u></b> . Franklin system in variable exponent spaces                                                                       |

## September 4, Friday

|                     |                                                                                                                          |
|---------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Room 1</b>       | <b>Chairman: George Tephnadze</b>                                                                                        |
| $16^{00} : 16^{25}$ | <b><u>David Zarnadze</u>, <u>Duglas Ugulava</u></b> . Strongly best approximation and Moore-Penrose generalized solution |
| $16^{25} : 16^{50}$ | <b><u>Ekrem Savas</u></b> . Double almost statistical convergence of order $\alpha$ with respect to seminorm             |
| $16^{50} : 17^{15}$ | <b><u>Giorgi Makatsaria</u>, <u>Nino Mandjavidze</u></b> . Elliptic systems in the plane                                 |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                                      |
| $17^{45} : 18^{10}$ | <b><u>Aditi Lal</u></b> . On Sawyer duality principle in function spaces                                                 |

|                     |                                                                                                             |
|---------------------|-------------------------------------------------------------------------------------------------------------|
| $18^{10} : 18^{35}$ | <b>Mzevinar Bakuridze, <u>Vaja Tarieladze</u>.</b> On Garsia's conjecture                                   |
| $18^{35} : 19^{00}$ | <b>Giorgi Tetvadze.</b> Analyticity of the Djerbashyan canonical product on the boundary of the unit circle |

### September 5, Saturday

|                                 |                                                                                                      |
|---------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Room 1</b>                   | <b>Chairman: Lasha Ephremidze</b>                                                                    |
| $12^{00} : 12^{25}$<br>(Online) | <b>Vasili Prokhorov.</b> Products of best rational approximation errors and meromorphic continuation |
| $12^{25} : 12^{50}$<br>(Online) | <b>Dorin Dutkay.</b> Plancherel identities for unbounded subsets of $\mathbb{R}^d$                   |

## Theoretical Physics

### September 3, Thursday

|                                 |                                                                                                                                                                                                          |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 8</b>                   | <b>Chairman: Alexander Kvinikhidze</b>                                                                                                                                                                   |
| $16^{00} : 16^{25}$             | <b>Vitali Kavlashvili.</b> Investigation of short-term periodic anomalies in solar activity and galactic cosmic ray time series via the kinematic model of the weighted center of solar activity centers |
| $16^{25} : 16^{50}$             | <b><u>George Jorjadze</u>, Dipterka Das, Stefan Theisen.</b> Equations and their solution for the S-matrix of integrable 2d CFT's                                                                        |
| $16^{50} : 17^{15}$             | <b><u>Badri Tsutskiridze</u>, Levan Jikidze, Mari Tsutskiridze, Eka Elerdashvili.</b> The conducting liquid flow between porous walls with heat transfer                                                 |
| $17^{15} : 17^{45}$             | <b>Coffee break</b>                                                                                                                                                                                      |
| $17^{45} : 18^{10}$<br>(Online) | <b><u>Luka Megrelidze</u>, George Jorjadze.</b> Equations for the S-matrix of Liouville theory and its functional integral representation.                                                               |

|                                                 |                                                                                                                                                |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 18 <sup>10</sup> : 18 <sup>35</sup>             | <b>David Nishnianidze.</b> Two-dimensional Dirac equation with matrix potential: solvable models of Graphene in external electromagnetic field |
| 18 <sup>35</sup> : 19 <sup>00</sup><br>(Online) | <b>Badri Magradze.</b> QCD-motivated causal model for the heavy quark potential                                                                |

## Mini-Symposium: Algebraic Geometry and Model Theory of Groups and Rings

**August 31, Monday**

|                                     |                                                                                                                       |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>Room 9</b>                       | <b>Chairman: Alexander Treyer</b>                                                                                     |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <b>Ivan Shestakov.</b> Representations of Grassmann Poisson superalgebras                                             |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <b>Bakhadyr M. Khoussainov.</b> Word structures and their automatic presentations                                     |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <b>Elena Aladova Chestakov.</b> Equivalences of algebras in universal algebraic geometry                              |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                   |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <b>Evelina Daniyarova.</b> Theory of interpretations and geometry of constructions with a compass and straight edge   |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b>Alexander Treyer.</b> Equational noethericity for graphs, groups and algebras and Kotov's lemma                    |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b>Alexander Treyer, Ivan Chesnokov.</b> Algebraic complexity of computations over Baumslag-Solitar metabelian groups |

## September 1, Tuesday

|                     |                                                                                                                          |
|---------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Room</b>         | <b>Chairman: Tengiz Bokelavadze</b>                                                                                      |
| $16^{00} : 16^{25}$ | <b>Efim Zelmanov.</b> Infinite-dimensional superalgebras.                                                                |
| $16^{25} : 16^{50}$ | <b>Olga Kharlampovich, Alexei Miasnikov, <u>Andrey Nikolaev</u>.</b> Nonstandard free groups and exponential completions |
| $16^{50} : 17^{15}$ | <b>Grigory Mashevitzky.</b> Inclusive (universal positive) theory of Abelian groups                                      |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                                      |
| $17^{45} : 18^{10}$ | <b>Vyacheslav Futorny.</b> Gelfand-Graev problem for infinite-dimensional representations of Lie algebras                |
| $18^{10} : 18^{35}$ | <b>Liudmila Sabinina.</b> On Moufang loops with certain automorphisms                                                    |
| $18^{35} : 19^{00}$ | <b>Ivan Buchinskiy.</b> Centroids of partially commutative two-step Nilpotent Groups                                     |
| $19^{00} : 19^{25}$ | <b>Vladimir Shpilrain.</b> Potentially positive and partially positive elements of a free group                          |

## September 3, Thursday

|                     |                                                                                                             |
|---------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Room 9</b>       | <b>Chairman: Andrei Nikolaev</b>                                                                            |
| $16^{00} : 16^{25}$ | <b>Alexei Miasnikov.</b> Centroids and exponentiation in groups                                             |
| $16^{25} : 16^{50}$ | <b>Olga Kharlampovich.</b> On the first-order genus of wreath products and their central extensions         |
| $16^{50} : 17^{15}$ | <b>Alfonso Di Bartolo, Kıvanc Ersoy, <u>Giovanni Falcone</u>.</b> Riemann–Roch bases in Kummer extensions I |
| $17^{15} : 17^{45}$ | <b>Coffee break</b>                                                                                         |

|                                     |                                                                                                                           |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 17 <sup>45</sup> : 18 <sup>10</sup> | <u>Mikheil Amaglobeli</u> , Alexei Miasnikov. On the R-structure of tensor R-completions of Torsion-Free Nilpotent groups |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <u>Tengiz Bokelavadze</u> , <u>Alexander Lashkhi</u> , Tamar Kvirikashvili. Lattice isomorphisms of Nilpotent Lie rings   |
| 18 <sup>35</sup> : 19 <sup>00</sup> | Elena Bunina. Sha-Rigidity of Chevalley Groups over Rings                                                                 |
| 19 <sup>00</sup> : 19 <sup>25</sup> | Teona Nadiradze. Varieties of exponential <b>MR</b> -groups                                                               |

## Mini-Symposium: Computer Science, Data Science and Artificial Intelligence: Theory, Practice, and Education

September 3, Thursday

|                                     |                                                                                                                                                                                                                                                        |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 10</b>                      | <b>Chairman: Magda Tsintsadze</b>                                                                                                                                                                                                                      |
| 16 <sup>00</sup> : 16 <sup>25</sup> | <u>Fikriye Kabakci</u> . Robust Gaussian mixture modeling under cellwise contamination                                                                                                                                                                 |
| 16 <sup>25</sup> : 16 <sup>50</sup> | <u>Samia Bensmail</u> , Samia Chafiaa Serir, Djamila Rekioua, Talit Belhoul, Zahra Mokrani, Radia Abdelli. Modelling and optimisation of the photovoltaic chain: an approach using fuzzy logic MPPT control with dynamic adaptation of the output gain |
| 16 <sup>50</sup> : 17 <sup>15</sup> | <u>Archil Elzibarashvili</u> , Magda Tsintsadze. From data to algorithms: practical approaches to machine learning model selection                                                                                                                     |
| 17 <sup>15</sup> : 17 <sup>45</sup> | <b>Coffee break</b>                                                                                                                                                                                                                                    |
| 17 <sup>45</sup> : 18 <sup>10</sup> | <u>Julieta Gagloshvili</u> . Solving screening and ranking problems of innovative ideas using multi-criteria methods and artificial intelligence: a two-cycle                                                                                          |

|                                     |                                                                                                                                    |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|                                     | integrated model from problem formulation to outcome                                                                               |
| 18 <sup>10</sup> : 18 <sup>35</sup> | <b><u>Elisabed Asabashvili</u></b> . Integrating adaptive machine learning with stochastic risk models for software input security |
| 18 <sup>35</sup> : 19 <sup>00</sup> | <b><u>Lia Baiadze</u>, <u>Gela Besiashvili</u></b> . Startup evaluation system using AI                                            |

## September 4, Friday

|                                                 |                                                                                                                                                                                                                                       |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Room 10</b>                                  | <b>Chairman: Magda Tsintsadze</b>                                                                                                                                                                                                     |
| 16 <sup>00</sup> : 16 <sup>25</sup>             | <b><u>Liana Lortkipanidze</u>, <u>Natela Archvadze</u>, <u>Merab Pkhovelishvili</u>, <u>Levan Makrakhidze</u></b> . An intelligent computational framework for developing an AI-driven educational platform for the Georgian language |
| 16 <sup>25</sup> : 16 <sup>50</sup>             | <b><u>Merab Pkhovelishvili</u>, <u>Natela Archvadze</u>, <u>Lia Shetsiruli</u></b> . Parallel processing of augmented transition networks using functional programming in Haskell                                                     |
| 16 <sup>50</sup> : 17 <sup>15</sup>             | <b><u>Irina Khutsishvili</u></b> . Fuzzy VIKOR Approach for Multiple criteria group decision making                                                                                                                                   |
| 17 <sup>15</sup> : 17 <sup>45</sup>             | <b>Coffee break</b>                                                                                                                                                                                                                   |
| 17 <sup>45</sup> : 18 <sup>10</sup><br>(Online) | <b><u>Hanna Livinska</u>, <u>Iryna Rozora</u></b> . Bridging data science and social research in higher education                                                                                                                     |
| 18 <sup>10</sup> : 18 <sup>35</sup>             | <b><u>Maia Archuadze</u>, <u>Apolon Rostomashvili</u></b> . Impact of statistics updates and index optimization on cardinality estimation accuracy and query performance in Microsoft SQL Server 2022                                 |
| 18 <sup>35</sup> : 19 <sup>00</sup>             | <b><u>Magda Tsintsadze</u>, <u>Manana Khachidze</u></b> . Artificial intelligence and quality assurance in higher education                                                                                                           |

## Mini-Symposium: Formal groups, cobordism and related structures

**September 1, Tuesday**

|                     |                                                                          |
|---------------------|--------------------------------------------------------------------------|
| <b>Room 11</b>      | <b>Chairman: Malkhaz Bakuradze</b>                                       |
| $16^{00} : 17^{45}$ | <b>Victor M. Buchstaber</b> , Two-Valued Groups and the Bielliptic Genus |
| $16^{50} : 17^{15}$ | <b>Coffee break</b>                                                      |
| $17^{45} : 18^{10}$ | <b>Discussions</b>                                                       |

**September 3, Thursday**

|                     |                                                                                                       |
|---------------------|-------------------------------------------------------------------------------------------------------|
| <b>Room 11</b>      | <b>Chairman: Malkhaz Bakuradze</b>                                                                    |
| $16^{00} : 16^{50}$ | <b>Irakli Patchkoria</b> , Chromatic Euler characteristics and duality for infinite groups            |
| $16^{50} : 17^{15}$ | <b>Coffee break</b>                                                                                   |
| $17^{15} : 18^{05}$ | <b>Dimitrios Georgiou</b> . $\pi$ -regular spaces, continuous mappings and their universality problem |
| $18^{05} : 18^{30}$ | <b>Discussions</b>                                                                                    |

**September 4, Friday**

|                     |                                                                       |
|---------------------|-----------------------------------------------------------------------|
| <b>Room 11</b>      | <b>Chairman: Bachuki Mesablashvili</b>                                |
| $16^{00} : 17^{45}$ | <b>Taras. Panov</b> . Geometric representatives in SU-bordism classes |
| $16^{50} : 17^{15}$ | <b>Coffee break</b>                                                   |
| $17^{45} : 18^{10}$ | <b>Discussions</b>                                                    |

### September 5, Saturday

|                     |                                                                             |
|---------------------|-----------------------------------------------------------------------------|
| <b>Room 11</b>      | <b>Chairman: Malkhaz Bakuradze</b>                                          |
| $16^{00} : 17^{45}$ | <b>Elena Bunkova.</b> Universal formal group for elliptic genus of level N  |
| $16^{50} : 17^{15}$ | <b>Coffee break</b>                                                         |
| $17^{45} : 18^{35}$ | <b>Georgii Chernykh.</b> On bordism classes of symmetric powers of surfaces |

### September 6, Sunday

|                     |                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------|
| <b>Room 11</b>      | <b>Chairman: Alex Patchkoria</b>                                                                  |
| $16^{00} : 16^{50}$ | <b>Bachuki Mesablishvili.</b> On completeness and cocompleteness of categories of mixed bimodules |
| $16^{50} : 17^{15}$ | <b>Coffee break</b>                                                                               |
| $17^{15} : 18^{10}$ | <b>Malkhaz Bakuradze.</b> Real K-Theory of bounded rank                                           |
| $18^{10} : 18^{35}$ | <b>Discussions</b>                                                                                |

## Regional Summer School “Mathematics for AI” ([MAI 2026](#))

September 1-5, Batumi, BSU, Georgia

September 7-9, Kutaisi, Georgia

### September 1, Tuesday

|                                     |                                                              |
|-------------------------------------|--------------------------------------------------------------|
| <b>Room 12</b>                      | <b>Speaker: Alexei Miasnikov</b>                             |
| 10 <sup>00</sup> : 11 <sup>30</sup> | Lecture 1: AI and Search in Math Problems                    |
| 12 <sup>00</sup> : 13 <sup>30</sup> | Lecture 2: Experimental Math - new approach to math problems |
| 17 <sup>00</sup> : 19 <sup>00</sup> | Problem Session                                              |

### September 2, Wednesday

|                                     |                                                                           |
|-------------------------------------|---------------------------------------------------------------------------|
| <b>Room 12</b>                      | <b>Speaker: Greg Cousins</b>                                              |
| 10 <sup>00</sup> : 11 <sup>30</sup> | Lecture 1: Automated Deduction and Constraint Solving in AI (Tentative)   |
| 12 <sup>00</sup> : 13 <sup>30</sup> | Lecture 2: Bridging Logic and Probability in Machine Learning (Tentative) |
| 17 <sup>00</sup> : 19 <sup>00</sup> | Problem Session                                                           |

### September 3, Thursday

|                                     |                                           |
|-------------------------------------|-------------------------------------------|
| <b>Room 12</b>                      | <b>Speaker: Anastasis Kratsios</b>        |
| 10 <sup>00</sup> : 11 <sup>30</sup> | Lecture 1: Neural networks as computers   |
| 12 <sup>00</sup> : 13 <sup>30</sup> | Lecture 2: Universal Computation Theorems |
| 17 <sup>00</sup> : 19 <sup>00</sup> | Problem Session                           |

### September 4, Friday

|                                     |                                                                               |
|-------------------------------------|-------------------------------------------------------------------------------|
| <b>Room 10</b>                      | <b>Speaker: Davit Gogolashvili</b>                                            |
| 10 <sup>00</sup> : 11 <sup>30</sup> | Lecture 1: Statistical Learning Theory: From Generalization to Learning Rates |
| 12 <sup>00</sup> : 13 <sup>30</sup> | Lecture 2: Minimax Rates and Optimality in Modern Machine Learning            |
| 17 <sup>00</sup> : 19 <sup>00</sup> | Problem Session                                                               |

### September 5, Saturday

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| <b>Room 10</b>                      | <b>Speaker: Elena Bunina</b>        |
| 10 <sup>00</sup> : 11 <sup>30</sup> | Lecture 1: Introduction to Lean     |
| 12 <sup>00</sup> : 13 <sup>30</sup> | Lecture 2: Some mathematics in Lean |
| 17 <sup>00</sup> : 19 <sup>00</sup> | Problem Session                     |

### September 6, Sunday -- Transfer to Kutaisi

### September 7, Monday

|                                     |                                                                                                               |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Room 10</b>                      | <b>Speaker: François-Xavier Vialard</b>                                                                       |
| 10 <sup>00</sup> : 11 <sup>30</sup> | Lecture 1: Optimal transport, Gromov-Wasserstein distances, gradient flows                                    |
| 12 <sup>00</sup> : 13 <sup>30</sup> | Lecture 2: Optimization and Learning dynamics of residual networks; contextual sample complexity of attention |
| 17 <sup>00</sup> : 19 <sup>00</sup> | Problem and Puzzles Session                                                                                   |

### September 8, Tuesday

|                                     |                                                     |
|-------------------------------------|-----------------------------------------------------|
| <b>Room 10</b>                      | <b>Speaker: Furio Honsell</b>                       |
| 10 <sup>00</sup> : 11 <sup>30</sup> | Lecture 1: Propositions as Types and Proof checking |
| 12 <sup>00</sup> : 13 <sup>30</sup> | Lecture 2: Homotopy Type Theory                     |
| 17 <sup>00</sup> : 19 <sup>00</sup> | Problem Session                                     |

### September 9, Wednesday

|                                     |                                                              |
|-------------------------------------|--------------------------------------------------------------|
| <b>Room 10</b>                      | <b>Speaker: Mariangiola Dezani</b>                           |
| 10 <sup>00</sup> : 11 <sup>30</sup> | Lecture 1: Process calculi and their types                   |
| 12 <sup>00</sup> : 13 <sup>30</sup> | Lecture 2: Session types for communication-based programming |
| 17 <sup>00</sup> : 19 <sup>00</sup> | Problem Session                                              |

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