

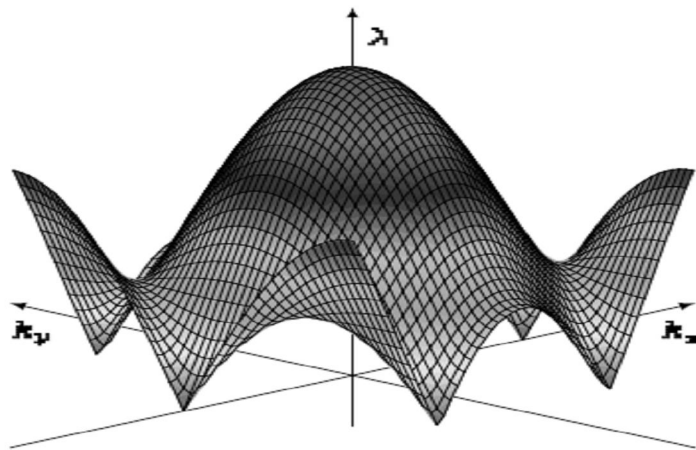
**SHOTA RUSTAVELI NATIONAL SCIENCE FOUNDATION**

Georgian Technical University    A. Razmadze Mathematical Institute  
Batumi Shota Rustaveli State University

# PROGRAM

## OF THE INTERNATIONAL CONFERENCE *MODERN ALGEBRA AND ITS APPLICATIONS*

**Special Session dedicated to Professor Gigla Janashia**



supported by Shota Rustaveli National Science Foundation  
*Grants GNSF/ST08/3-383 and GNSF/ST08/3-396*

**September 19-25, 2011, Batumi, Georgia**

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**Editorial Office:** Georgian Technical University Institute  
77 Kostava Str., Tbilisi 0175  
Georgia

**19 September (Chairman O. Kegel)**

- 10:00 – 10:45 Opening**
- 11:00 – 11:40 K. Strambach** – (2,2)-Transformation Groups and Paradual Partial Near-Rings
- 11:45 – 12:10 J. Pashazadeh, Yu. M. Movsisyan** – An Abstract Characterization of De Morgan (2,5)-Semigroup of 5-ary Functions
- 12:20 – 12:50 S. S. Davidov** – On Invertible  $T$ -Algebras
- 13:00 – 14:00 Lunch**
- 14:00 – 14:30 G. Khimshiashvili** – Morse theory in Algebraic Context
- 14:40 – 15:10 B. Mesablishvili, R. Wisbauer** – Azumaya Algebras as Galois Comodules
- 15:20 – 15:50 T. Kemoklidze** – Fully Transitivity Condition for the Cotorsion Hull
- 16:00 – 16:30 Discussion, Collaboration**

**20 September (Chairman K. Strambach)**

- 10:00 – 10:45 A. Bak** – The Geometry of Groups
- 11:00 – 11:30 A. Ehsani** – The Entropic Pair of Operations and the Generalized Endomorphism
- 11:35 – 12:55 Ya. Diasamidze, Sh. Makharadze, N. Rokva** – Right Units and there Number of the Complete Semigroups of Binary Relations Defined by Semilattices of the Class Nets
- 12:55 – 12:10 Ya. Diasamidze, A. Erdogan, N. Çimen** – Regular Elements of Complete Semigroups of Binary Relation Defined by Semilattices of the Class  $\Sigma_6(X, 7)$
- 12:10 – 12:25 D. Yeşil, A. Aydın** – Complete Semigroups of Binary Relation Defined by Semilattices of the Class  $\Sigma_2(X, 9)$
- 12:25 – 12:40 B. Albayrak, A. Aydın** – Complete Semigroups of Binary Relation Defined by Semilattices of the Class  $\Sigma_3(X, 9)$
- 12:40 – 12:55 G. Tavdgiridze** – Idempotent Elements of the Semigroups  $B_X(D)$  Defined by Semilattices of the Class  $\Sigma_3(X, 8)$
- 13:00 – 14:00 Lunch**
- 14:00 – 14:30 V. Gogokhia** – SU(3) Color Gauge Invariance and the Jaffe--Witten Mass Gap
- 14:40 – 15:10 M. Eliashvili, G. Tsitsishvili** – Algebraic Aspects of the Hofstadter Problem in Graphene
- 15:20 – 15:50 V. A. Poberezhny** – On Deformations of Linear Systems of Differential Equations and Painlevé Property

**16:00 – 16:30 T. Kereselidze, Z. S. Machavariani** – Application of Variational Principle to Scattering Problems

**16:40 – 17:40 Discussion, Collaboration**

**21 September (Chairman U. Brehm)**

**10:00 – 10:45 J. Gielis, I. Tavkhelidze, P. E. Ricci** – About “Bulky” Links, Generated by Generalized Möbius-Listing Bodies  $GML_2^n$

**11:00 – 11:30 A. Guterman** – On the Pólya Conversion Problem for Permanent and Determinant

**11:40 – 12:10 N. Inassaridze** – Homology of Lie Algebra Crossed Modules

**12:20 – 12:50 Á. Figula** – The Multiplication Groups of Topological Loops

**13:00 – 14:00 Lunch**

**14:00 – 14:30 V. Tarieladze** – UMAP Classes of Groups

**14:40 – 15:10 G. Baghaturia, J. Gvazava, M. Menteshashvili** – The Cauchy Problem for Quasi-Linear Hyperbolic Equation with Closed Support of Data

**15:20 – 15:50 D. Tavkhelidze, Z. Mchedlishvili** – Geometry of Five Link Mechanism with Two Degrees of Freedom

**16:00 – 16:15 O. Givradze** – Irreducible Generating Sets of Complete Semigroups of Unions  $B_X(D)$  Defined by Semilattices of Class  $\Sigma_2(X, 4)$  in Case, when  $X = \check{D}$  and  $|\check{D} \setminus Z_3| > 1$

**16:15 – 16:30 N. Tsinaridze** – Idempotent Elements of the Semigroups  $B_X(D)$  Defined by Semilattices of the Class  $\Sigma_2(X, 8)$

**16:40 – 17:40 Discussion, Collaboration**

**22 September (Chairman S. E. Schmidt)**

**10:00 – 10:45 O. Kegel** – Large Groups

**11:00 – 11:30 M. Kuzucuoglu** – A Note on Barely Transitive Groups

**11:40 – 12:10 V. Kvaratskhelia, N. Vakhania** – An Application of Sylvester Matrices

**12:20 – 12:50 O. Surmanidze** – Locally Linear Compact Topological Abelian Groups

**13:00 – 14:00 Lunch**

**14:00 – 14:30 R. Umble** – Non-Operadic Operations on Loop Cohomology

**14:40 – 15:10 M. Akhobadze, O. Zumburidze** – Business Reliability in Connectivity of Performers

- 15:20 – 15:50 I. Albrecht** – On Mathematical Modelling of Time-Related Musical Structures
- 16:00 – 17:00 Cultural programm** – Piano concert *Tamar Kokilashvili*  
(J. S. Bach – March in E-flat Major BWV 127; R. Schumann – Faschingsschwank aus Wien op. 26; F. Chopin – Scerzo No. 3, Op. 39; A. Scriabin – Sonate No. 4; C. Debussy - ... Les collines d'Anacapri)

### 23 September (Chairman R. Umble)

- 10:00 – 10:50 U. Brehm** – Algebraic Representation of Mappings Between Submodule Lattices
- 11:00 – 11:50 T. Kvirikashvili and A. Lashkhi** – Harmonic Maps and von Staudt's Theorem Over Rings
- 12:00 – 12:50 S. E. Schmidt** – Convolution Algebras Over Complete Semirings
- 13:00 – 14:00 Lunch**
- 14:00 – 15:00 St. Paul Revisited by Music, Fine Arts, and Mathematics**  
*An interdisciplinary art project by Franziska Leonhardi together with Jonas Leonhardi and Thomas & Stefan E. Schmidt – in collaboration with Immanuel Albrecht & Maximilian Marx et al.*  
[www.paulus2011.de](http://www.paulus2011.de) & [www.franziska-leonhardi.de](http://www.franziska-leonhardi.de)
- 15:05 – 15:25 G. G. Ryabov, M. Sh. Surguladze** – Supercomputer and Discret Topology
- 15:30 – 15:55 O. S. Zumburidze, M. Sh. Surguladze** – Quantum Computing for Algebraic Problems
- 16:00 – 16:15 P. Gurtškaia, A. Lashkhi** – Chain Conditions in  $D$ -Semimodular Lattices
- 16:20 – 16:35 T. Bokelavadze, A. Lashkhi** – Affine Lattices of Power Groups
- 16:40 – 17:00 T. Bokelavadze, A. Tavadze, M. Chabashvili** – On the theory free abelian Lindon's group
- 17:00 – 18:00 Discussion, Collaboration**

### 24 September (Chairman N. Vakhania)

A special session will be dedicated to Professor *Gigla Janashia* (N. Vakhania, G. Berishvili, N. Berikashvili, R. Bantsuri, P. Papandopoulos, A. Lashkhi, A. Zhishchenko, A. Mal'tsev, I. Demetrashvili, T. Kadeishvili, I. Tavkhelidze.)

- 10:00 – 10:45 T. Kadeishvili** – Homotopy Gerstenhaber Algebras: Examples and Applications
- 11:00 – 11:30 G. Berishvili** – Grassman's Geometry

- 11:35 – 12:05**    **A. B. Zhishchenko, A. A. Mal'tsev** – International Activity of Russian Academy in realization of the scientific network of “RAN”
- 12:10 – 12:45**    **A. Gamkrelidze** – Algorithms for Low-Dimensional Topology
- 13:00 – 14:00**    **Lunch**
- 14:00 – 14:50**    **E. Lagvilava, L. Ephremidze** – Matrix Spectral Factorization and Wavelets
- 15:00 – 16:20**    A special session will be dedicated to Professor ***Gigla Janashia*** (N. Vakhania, G. Berishvili, N. Berikashvili, P. Papandopoulos, A. Lashkhi, A. Zhishchenko, A. Mal'tsev, T. Kadeishvili, I. Tavkhelidze)
- 16:20**            Closing of the Conference
- 19:00**            ***Banquet***

Sessions will be held in

Shota Rustaveli Batumi State University  
35 Ninoshvili Str., Batumi 6010  
Georgia