



Tbilisi State University

Second Tbilisi-Salerno Workshop on Modeling in Mathematics



University of Salerno

Tbilisi, March 16-18, 2015

Organizers

Iv. Javakhishvili Tbilisi State University, Georgia
University of Salerno, Italy

Organizing Committee

Co-chair –A. Di Nola, Co-chair – R. Grigolia, R. Botschorishvili, T. Tadumadze,
R. Koplatadze, J. Gielis, I. Tavkhelidze, M. Transirico, T. Chelidze,
R. Liparteliani

**TSU Building I, Room 107
Monday, March 16**

9³⁰-10⁰⁰ - Opening: **Rector of TSU V. Papava, R. Botschorishvili, A. Di Nola, R. Grigolia, J. Gielis**

Session 1 (Chair: Raffaele Cerulli)

10⁰⁰-10²⁰ - **Antonio Di Nola** (*University of Salerno, Italy*), **Revaz Grigolia and Nunu Mitskevich** (*Tbilisi State University, Georgia*): Multi Modal Epistemic Łukasiewicz Logics with Application in Immune Systems.

10²⁰-10⁴⁰ - **Marc Thiriet** (*INRIA, France*): A Biological and Mathematical Model of Acupuncture.

10⁴⁰-11⁰⁰ - **Anna Rita Ferraioli** (*University of Salerno, Italy*): Semirings in MV- Algebras.

Coffee Break

Session 2 (Chair: Paolo Emilio Ricci)

11⁴⁰-12⁰⁰ – **Abdeljalil Nachaoui and M. A. Hilal** (*University of Nantes, France*), **Tamaz Tadumadze** (*Tbilisi State University, Georgia*): Domain Decomposition Based Algorithms for Cardiac Electrophysiological Activity Reconstruction.

12⁰⁰-12²⁰ - **Giuseppe Dattoli** (*ENEA, Frascati Research Centre, Italy*): Application of Fractional Derivatives to Physical Problems.

12²⁰-12⁴⁰ - **Diego Caratelli** (*The Antenna Company, Nederland*): Fractional Calculus based FDTD algorithm for electromagnetic pulse propagation in complex layered Havriliak-Negami Media - **instead of - Bruna Germano** (*Department of Basic and Applied Sciences for Engineering at Sapienza University of Rome, Italy*): **TBA.**

12⁴⁰-13⁰⁰ - Informal discussion.

Lunch

Session 3 (Chair: Abdeljalil Nachaoui)

15⁰⁰-15²⁰ - **Giovanni Felici** (*University of Salerno, Italy*): Mixed Integer Optimization Models and Their Applications in Energy.

15²⁰-15⁴⁰ - **Sandra Pinelas** (*Military Academy, Department of Exact and Natural Sciences Amadora, Portugal*): Asymptotic Behavior of Solution of a Differential Equation with Several Delays and Advances.

15⁴⁰-16⁰⁰ - **Roman Koplatadze** (*Tbilisi State University, Georgia*): The Specific Properties of Solutions of the First Order Differential and Difference Equations with Several Delay Arguments.

16⁰⁰-16²⁰ - **Tamaz Tadumadze** (*Tbilisi State University, Georgia*), **Abdeljalil Nachaoui** (*University of Nantes, France*): Sensitivity Analysis of Some Classes of Controlled Delay Functional Differential Equations.

Coffee Break

Round Table (Chair: Raffaele Cerulli)

16²⁰-18⁰⁰ - Round table on proposed models in the framework of possible joint project

Tuesday, March 17

Session 1 (Chair: Revaz Grigolia)

10⁰⁰-10²⁰ - **Ramaz Botschorishvili** (*Tbilisi State University, Georgia*): **TBA.**

10²⁰-10⁴⁰ - **Diego Caratelli** (*The Antenna Company, Nederland*): Fourier-Like Solution of Boundary Value Problems in Supershaped Domains.

10⁴⁰-11⁰⁰ - **Raffaele D'Ambrosio** (*University of Salerno, Italy*): Structure-preserving Numerical Methods for Evolutionary Problems.

Coffee Break

Session 2 (Chair: Ilia Tavkhelidze)

11⁴⁰-12⁰⁰ - **Johan Gielis** (*University of Antwerp, Belgium*): The Simon Stevin Institute of Geometry.

12⁰⁰-12²⁰ - **Paolo Emilio Ricci** (*LIUCBM, Faculty of Engineering, Rome, Italy*): Avoiding Higher Matrix Powers in the Solution of Linear Dynamical Systems.

12²⁰-12⁴⁰ - **Johan Gielis** (*University of Antwerp, Belgium*): Universal Natural Shapes.

12⁴⁰-13⁰⁰ - Informal discussion.

Lunch

Session 3 (Chair: Johan Gielis)

15⁰⁰-15²⁰ - Ilia Tavkhelidze(Tbilisi State University, Georgia), **Mamanti Rogava** (Neo-Clinic Tbilisi, Georgia), **Levan Roinishvili** (St. Andrew the First-Called Georgian University of the Patriarchate of Georgia): On a Geometric Model of Bodies with "Complex" Configuration and some Movements.

15²⁰-15⁴⁰ - **Yohan Fougerolle** (Le2i - CNRS, France) : R-functions and Gielis Formula: From potential Fields to Complex Domain Representation and Recognition.

15⁴⁰-16⁰⁰ - **Tatiana Kiseliova** (Tbilisi State University, Georgia) Medical Diagnosis Using Fuzzy Sets: a Mathematical View.

Coffee Break

*Round Table (Chair: **Ramaz Botschorishvili**)*

16⁴⁰-18⁰⁰ - Round table on proposed models in the framework of possible joint project

Wednesday, March 18

*Session 1 (Chair: **Giuseppe Dattoli**)*

10⁰⁰-10²⁰ -**Antonio Di Crescenzo, Barbara Martinucci, Alessandra Meoli** (University of Salerno, Italy): Fractional Poisson Process with 2 Kinds of Jumps.

10²⁰-10⁴⁰ - **Davit Gordeziani, Tinatin Davitashvili** (Tbilisi State University, Georgia), **Hamlet Meladze** (St. Andrew the First-Called Georgian University of the Patriarchate of Georgia): On one nonlocal contact problem for Poisson's equation in rectangular area.

10⁴⁰-11⁰⁰ – **Zaza Khechinashvili** (Tbilisi State University, Georgia): Forecasting in some stochastic models represented by Gaussian martingale

Coffee Break

*Session 2 (Chair: **Tamaz Tadumadze**)*

11⁴⁰-12⁰⁰ - **F. Carrabs, Raffaele Cerulli, Ciriaco D'Ambrosio, A. Raiconi** (University of Salerno, Italy) : A Column Generation Approach for the Maximum Lifetime Wireless Sensor Network Problems.

12⁰⁰-12²⁰ - **Archil Papukashvili** (Tbilisi State University, Georgia): On numerical solution of antiplane problems of elasticity theory for composite bodies weakened by cracks.

12²⁰-12⁴⁰ - **Jemal Peradze** (Tbilisi State University, Georgia), **Zviad Tsiklauri** and **Gaga Papukashvili** (Georgian Technical University): On the solution of a boundary value problem for the nonlinear Ball dynamic beam.

12⁴⁰-13⁰⁰ - closing of workshop .

Lunch

Excursion

Social Dinner

Departure of Participants

Supported by

Iv. Javakhishvili Tbilisi State University



University of Salerno



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University of Antwerp



The Simon Stevin Institute of Geometry



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