



MIM 2024

XIV-th International Conference
Mathematics of Informational Modeling
Program

24 October 2024

9.00 - 9:30 **Kalinka Kaloyanova^{1,2}, Ina Naydenova², Zlatinka Kovacheva^{2,3}**

¹ Sofia University "St. Kliment Ohridski"

² Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

³ University of Mining and Geology "St. Ivan Rilski", Sofia, Bulgaria

Towards Multidimensional Modeling of Clinical Data

9:30-10:00: **Rajani Rani Gupta**

Gulf College, Muscat, Oman

Investigating the wave motion in a micropolar generalized thermoelastic transversely isotropic half-space under temperature-dependent properties

10:00-10:30 **Ivan Ganchev^{1,2}**

¹ Plovdiv University

² Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Emulsion project: main outcomes

10:30-11:00 **Stoyan Poryazov**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

A Reference Model of cyber-Informational-physical-social-environmental systems (CIPSES)

11:00-11:30 **Velin Andonov¹, Stoyan Poryazov¹, Emiliya Saranova¹, Ivan Ganchev^{1,2}**

¹ Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

² Plovdiv University

Uncertainty representation in service networks

11:30-13:00 **Lunch break**

- 13:00-13:30 **Velin Andonov, Stoyan Poryazov, Emiliya Saranova,**
Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
Generalized nets models of QoS estimation of an overall telecommunication system
- 13:30-14:00 **Margarita Spiridonova**
Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
Operational Methods in the Environment of a Computer Algebra System
- 14:00-14:30 **Boyan Kolev**
Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
Intuitionistic Fuzzy Estimations for Similarity Queries Using Sketches of Numeric Data
- 14:30-15:00 **Jordan Tabov**
Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
The holy brothers Cyril and Methodius were Greeks or Bulgarians

25 October 2024

- 9:30 -10:00 **Lakshmi Kameswari**
Modern College of Business and Science, Muscat, Oman
Augmentet inverse graphs
- 10:00-10:30 **Slavi Georgiev**
Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
Delay differential equations modelling of brood and population dynamics in a honeybee colony
- 10:30-11:00: **Biulent Idirizov**
Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
A Robust Approach to grayscale Image Denoising: Integrating Neighborhood-Based Filtering and Wavelet Thresholding
- 11:00-11:30 **Ivan Georgiev**
Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
Optimal distribution of vehicles in the urban route scheme with a mixed transport fleet and minimum costs and harmful emissions in the conditions of the city of Ruse
- 11:30-13:00 **Lunch break**

13:00-13:30 **Svetoslav Hadzhiivanov**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Designing a Scalable Hedge Ratio Optimization System Using the Actor Model

13:30-14:00 **Oksana Kharchenko¹, Zlatinka Kovacheva^{1,2}**

¹ Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

² University of Mining and Geology "St. Ivan Rilski", Sofia, Bulgaria

Frequency Modulated Signal Standing Out by Stochastic Resonance Effect

14:00-14:30: **Volodymyr Chumakov^{1,2}, Oksana Kharchenko³, Zlatinka**

Kovacheva^{3,4},

Alexander Gritsunov⁵, Denis Kostin⁵, Vasyl Tuz⁵, Vasiliy Muraveinik⁶

¹Brera Astronomical Observatory, Italian National Institute for Astrophysics (INAF), Milano/Merate, Italy

² Kharkiv National University of Radio Electronics, Kharkiv, Ukraine

³ Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

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⁵ Kharkiv National University of Radio Electronics, Kharkiv, Ukraine

⁶ Liability Company TRIx, Chernigov, Ukraine

Investigation of high-power pulsed shock impact mechanism efficacy

14:30-15:00 **Yuri Dimitrov^{1,2},**

¹University of forestry, Sofia, Bulgaria

²Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

First Derivative Approximations and Applications