

XV-th International Conference
Mathematics of Informational Modeling
Program

4 November 2025

9:15 – 9:30 Opening remarks

9.30 - 10:00 **Zlatinka Kovacheva^{1,2}, Kalinka Kaloyanova^{3,1},
Ina Naydenova¹, Mariana Trifonova²**

¹ Institute of mathematics and informatics, Bulgarian academy of sciences,

² University of Mining and Geology, Sofia, Bulgaria

³ Sofia University “St. Kl. Ohridski”, Bulgaria

***Project-Based Learning: Comparing the Results of Group and
Individual Projects in Undergraduate Program of Information
Systems***

10:00 -10:30 **Venelin Todorov**

Institute of Information and Communication Technologies, Bulgarian Academy
of Sciences,

Institute of mathematics and informatics, Bulgarian academy of sciences

Monte Carlo methods for applied problems

10:30-11:00 **Naga Maruthi**

Aurora's Scientific, Technological & Research Academy, India

Visual Symphony of Groups

11:00-11:30 **Karl Javorszky**

Institut für angewandte Statistik, Wien, Austria

Introducing a Concurrent Method to Count

11:30-12:00 **Svetoslav Hadzhiivanov**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

***Modernizing Legacy Auto-Hedging Systems in Commodity Trading: A
Microservices Approach***

12:00-13:00 **Lunch break**

13:00-13:30 **Jordan Tabov, Georgy Gachev**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

On the genetic proximity of the population of 2 Greek regions with neighboring peoples

13:30-14:00 **Biulent Idirizov**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Application and development of the block maxima method in analysis of Gold price

14:00-14:30 **Yuri Dimitrov^{1,2}, Slavi Georgiev², Venelin Todorov^{2,3}**

¹University of forestry, Sofia, Bulgaria

²Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

³Institute of Information and Communication Technologies, Bulgarian Academy of Sciences

Second Order L1 Schemes for Fractional Differential Equations

14-30-15:00 **Margarita Spiridonova**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

A Representative Computer Algebra Application

15:00-15:30 **Krassimir Markov¹, Velina Slavova²**

¹ITHEA, Sofia, Bulgaria

²New Bulgarian University, Sofia

Ment: A Category of Mental Structures

5 November 2025

9:00 – 9:30 **Lavanya Sarma**

University of Technology and Applied Sciences, Muscat, Sultanate of Oman

On the Sharpness of Growth Rate Estimates in Kuo Problems

9:30 -10:00 **Oksana Kharchenko¹, Volodymyr Chumakov²,
Liudmyla Zabrodina³, Andrii Poberezhnyi⁴**

¹ Institute of mathematics and informatics, Bulgarian academy of sciences,

² Italian National Institute for Astrophysics– Brera Astronomical, Merate, Italy,

³Institute of Neurology, Psychiatry and Narcology of National Academy of Medical Sciences, Kharkiv, Ukraine

⁴National Academy of the National Guard of Ukraine, Kharkiv, Ukraine

Analysis of electroencephalograms informational parameters

10:00 -10:30 **Boyan Kolev**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Modeling uncertainty in bidimensional histograms with intuitionistic fuzzy sets

10:30-11:00 **Stanislav Gavalyugov, Boyan Kolev**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Multivariate selectivity estimation for SQL queries using density trees

11:00-11:30 **Petar Georgiev**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Adjustment of Intuitionistic Fuzzy User Ratings Using an Intuitionistic Fuzzy Operators

11:30-12:00 **Ivan Kavaldzhiev, Velin Andonov, Stoyan Poryazov**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Blockchain in an overall telecommunication system

12:00-13:00 **Lunch break**

13:00-13:30 **Slavi Georgiev, Venelin Todorov, Ivan Georgiev**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Bit twiddling in atmospheric sensitivity analysis

13:30-14:00 **Ivan Ganchev^{1,2}, Lazar Pendov¹, Zhanlin Ji³**

¹Plovdiv University "Paisii Hilendarski", Bulgaria

²Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

³College of Mathematics & Computer Science, Zhejiang A&F University, China

DUECOS/PAWNS project: main outcomes

14:00-14:30 **Ivan Ganchev^{1,2}, Stoyan Poryazov²**

¹Plovdiv University "Paisii Hilendarski", Bulgaria

²Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

PREDICATES project: current state and achievements

14:30-15:00 **Stoyan Poryazov**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Causality and intuitionistic fuzziness in service quality modelling

15:00-15:30 **Velin Andonov, Stoyan Poryazov, Emiliya Saranova**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences

Generalized net models of an overall telecommunication system and a blockchain