
MASTER PROGRAM

for

**EIGHTEENTH INTERNATIONAL CONFERENCE
APPLICATION OF MATHEMATICS IN TECHNICAL AND NATURAL
SCIENCES
JUNE 27-JULY 2, 2026**

**All times in the program are GMT+3 (East-European time). Please
synchronize your local time with respect to GMT and join the announced
Zoom sessions on time.**

MONDAY, JUNE 29, 2026

FLAMINGO GRAND HALL

Join Zoom Meeting **08:00-19:00**

<https://us02web.zoom.us/j/85823413883?pwd=8CeMa0Z0jbBd1Mu5zGEhw82aGmq1Kd.1>

Meeting ID: 858 2341 3883

Passcode: 390138

Meeting chat link

<https://us02web.zoom.us/jc/85823413883>

Hosted by Michail Todorov

08:30-9:30

PLENARY LECTURE: Feodor Borodich

Title: *Critical Examination of Depth-Sensing Indentation
Techniques*

9:30-10:00 BREAK

Session: BIOMATHEMATICS

10:00-10:30 Speaker: Rumen Anguelov
Title: *A Goodness-of-Fit Measure for Nonlinear Regression of Cell Viability Data*

10:30-11:00 Speaker: Todor Gurov
Title: *Stochastic Extinction and Threshold Dynamics in a Markovian Predator-Prey SEIRS Epidemic Model*

11:00-11:30 Speaker: Victoria Rayskin
Title: *Dynamics of Algal Biofouling of Microplastics in the Ocean*

Session: CONTINUUM MECHANICS

11:30-12:00 Speaker: Gergana Chalakova
Title: *Parametric Finite Element Analysis of Depth-Dependent Nanoindentation Response under Masticatory Loading-Relevant Conditions*

Session: APPLIED ANALYSIS

12:00-12:30 Speaker: Ognyan Ognyanov
Title: *Methodologies, Hardware and Software Solutions for Surveying, 3D Modeling and Reconstruction of Natural and Archaeological Monuments*

Lunch Break

Session: NUMERICAL METHODS AND SCIENTIFIC COMPUTING

14:00-14:30 Speaker: Anastas Madzharov

Title: *Precise Calculations of Gravity Anomalies from the Geometric Height for Autonomous Air Navigation*

14:30-15:00

Speaker: Anastas Madzharov

Title: *Application of Kummer's Equation for Flight Between Two Geodesic Orthodromes in a Coordinated Turn*

15:00-15:30

Speaker: Tzvetan Ostromsky

Title: *Overview of the Studies and Some Problems of the Karst and Caves in the Kamenopole-Karlukovo Region, Northwestern Bulgaria*

15:30-16:00

Speaker: Silvi-Maria Gurova

Title: *Assessment of Systematic Risk in Investment Portfolios Using Stochastic Power Methods*

Break

Session: NUMERICAL METHODS AND SCIENTIFIC COMPUTING

16:30-17:00

Speaker: Andreas Aristotelous

Title: *Operator Learning for PDEs with Fixed Basis Representations*

Session: APPLIED ANALYSIS

17:00-17:30

Aleksandar Kirilov

Title: *Methods and Algorithms for Assessing Energy Usage by Hybrid Quantum-classical Algorithms*

17:30-18:00

Speaker: Dimitar Georgiev

Title: *Continuity in Parametric Optimization*

Session: MATHEMATICAL MODELING

18:00-18:30

Speaker: Selma Ozcag

Title: *Topological Games Related to Selective Versions of*

Separability

Session: MATHEMATICAL PHYSICS

18:30-19:00

Speaker: Alex Fedoseyev

Title: *Multifunctional Luminescent Coating for Photovoltaic Applications in Space Radiation Environment*