

NMA26 CONFERENCE PROGRAM

See online [here](#)

Program structure (minor changes are expected)

51 contributed presentations: Special Sessions SS1 (13), SS2 (8), SS3 (5), SS4 (2), General Session (23).

6 invited lectures (6 × 40 min), kept on the three full conference days.

All contributed presentations are 20 minutes.

The In Memoriam session is only on Monday, 31 August, 09:00–09:30.

Full conference days are planned to finish around 17:00–17:30; lunch 50 minutes.

The fourth conference day (4 September) is a 09:00–12:00 half-day and starts directly with General Session presentations.

SS1: Numerical and Simulation-Based Methods for Decision Making under Uncertainty

SS2: Numerical Methods for Engineering Innovation: From Digital Twins to Advanced Materials

SS3: Approximation Theory

SS4: Monte Carlo and Quasi-Monte Carlo Methods

31 August 2026 — Day 1, Monday

General Session

Time	Program
08:30–09:00	Registration
09:00–09:30	In Memoriam: Honoring the Life and Legacy of Prof. Raytcho Lazarov
09:30–10:10	Invited Lecture 1
10:10–10:50	Invited Lecture 2
10:50–11:10	☕ Coffee break
11:10–11:30	General Session – Presentation 1
11:30–11:50	General Session – Presentation 2
11:50–12:10	General Session – Presentation 3
12:10–12:30	General Session – Presentation 4
12:30–13:20	🍽️ Lunch (50 min)
13:20–13:40	General Session – Presentation 5
13:40–14:00	General Session – Presentation 6
14:00–14:20	General Session – Presentation 7
14:20–14:40	General Session – Presentation 8
14:40–15:00	General Session – Presentation 9
15:00–15:20	☕ Coffee break
15:20–15:40	General Session – Presentation 10
15:40–16:00	General Session – Presentation 11
16:00–16:20	General Session – Presentation 12
16:20–16:40	General Session – Presentation 13
16:40–17:00	General Session – Presentation 14
	Welcome Cocktail Reception

1 September 2026 — Day 2, Tuesday

Special Sessions SS1 and SS2 + General Session

Time	Program
09:00–09:40	Invited Lecture 3
09:40–10:20	Invited Lecture 4
10:20–10:40	☕ Coffee break

10:40–11:00	SS1 – Presentation 1
11:00–11:20	SS1 – Presentation 2
11:20–11:40	SS1 – Presentation 3
11:40–12:00	SS1 – Presentation 4
12:00–12:20	SS1 – Presentation 5
12:20–13:10	☕ Lunch (50 min)
13:10–13:30	SS1 – Presentation 6
13:30–13:50	SS1 – Presentation 7
13:50–14:10	SS1 – Presentation 8
14:10–14:30	SS1 – Presentation 9
14:30–14:50	SS1 – Presentation 10
14:50–15:10	☕ Coffee break
15:10–15:30	SS1 – Presentation 11
15:30–15:50	SS1 – Presentation 12
15:50–16:10	SS1 – Presentation 13
16:10–16:30	SS2 – Presentation 1
16:30–16:50	SS2 – Presentation 2
16:50–17:10	SS2 – Presentation 8

2 September 2026 — Day 3, Wednesday

Excursion; Conference Dinner

3 September 2026 — Day 3 Thursday

Special Sessions SS2, SS3 and SS4 + General Session

Time	Program
09:00–09:40	Invited Lecture 5
09:40–10:20	Invited Lecture 6
10:20–10:40	☕ Coffee break
10:40–11:00	SS3 – Presentation 1
11:00–11:20	SS3 – Presentation 2
11:20–11:40	SS3 – Presentation 3
11:40–12:00	SS3 – Presentation 4
12:00–12:20	SS3 – Presentation 5
12:20–13:10	☕ Lunch (50 min)
13:10–13:30	SS2 – Presentation 3
13:30–13:50	SS2 – Presentation 4
13:50–14:10	SS2 – Presentation 5
14:10–14:30	SS2 – Presentation 6
14:30–14:50	SS2 – Presentation 7
14:50–15:10	☕ Coffee break
15:10–15:30	General Session – Presentation 15
15:30–15:50	General Session – Presentation 16
15:50–16:10	General Session – Presentation 17
16:10–16:30	SS4 – Presentation 1
16:30–16:50	SS4 – Presentation 2

4 September 2026 — Day 5, Friday

Half-day — General Session

Time	Program
09:00–09:20	General Session – Presentation 18
09:20–09:40	General Session – Presentation 19
09:40–10:00	General Session – Presentation 20
10:00–10:20	General Session – Presentation 21
10:20–10:40	General Session – Presentation 22
10:40–11:00	General Session – Presentation 23
11:00–11:20	☕ Coffee break
11:20–12:00	Closing / discussion

Invited Lecture 1: **Zikatanov L.T., S. Wu**, On Discretizations Using Quasi-Polynomial Spaces of Differential Forms
Invited Lecture 2: **Wohlmuth B.**, Hybrid PDE models for bio-medical applications
Invited Lecture 3: **Iliev O.**, On Modeling and Simulation of some Heat and Mass Transfer Phase Changes Problems
Invited Lecture 4: **Vabishchevich P. N.**, Computational Homogenization of Flows in Porous Media with Memory
Invited Lecture 5: **Efendiev Y.**, Multiscale and Multicontinuum Methods
Invited Lecture 6: **Popivanov N.**, Pohozaev Identities and Applications

General Session P1: **Benkhaldoun F., A. Bradji**, On a New Gradient Scheme for a Distributed Order Diffusion Wave equation (ONLINE)

General Session P2: **Li X., B. Liu, C. Yan**: A Multilevel Finite-Basis Physics-Informed Neural Network Method for Two-Dimensional Time-Dependent Single-Temperature Radiation Diffusion Equations (ONLINE)

General Session P3: **Kurganov A.**, Adaptive Schemes for Hyperbolic Systems of Conservation Laws

General Session P4: **Margenov S., S. Harizanov**, Maximum Principles for Parabolic Spectral Fractional Diffusion – Reaction Problems

General Session P5: **Harizanov S., D. Slavchev, N. Kosturski**, The Product BURA Method for Super-Diffusion

General Session P6: **Kosturski N., S. Margenov, Y. Vutov**, GPU accelerated non-overlapping BURA domain decomposition preconditioning

General Session P7: **Slavchev D., S. Margenov**, On the application implicit Euler scheme with adaptive time stepping for a Fractional-in-space diffusion model of RFA ablation

General Session P8: **Chervenkov H., K. Slavov**, Post-processing and Evaluation of NEX-GDDP-CMIP6 Precipitation Data for Hydrological Modelling in Bulgaria

General Session P9: **Koleva M., L. G. Vulkov**, Computational Identification of Several Sources in a Time-Fractional Diffusion Equation (ONLINE)

General Session P10: **Tomanovic J.**, Gauss-type Quadrature Rules with Fixed Weights Associated with Prescribed Nodes

General Session P11: **Moravski A.**, A Second Order Operator Splitting Scheme for the Navier-Stokes Equations

General Session P12: **Ivanov V., V. Tonchev**, Complex Surface Patterning During Heteroepitaxial Nitride Growth: A Continuum Approach to Modelling Vicinal Instabilities

General Session P13: **Zarcheva M., K. Kostova, T. Ivanov**, Semi-Implicit Finite Difference Schemes for Nonlinear Advection-Adsorption PDEs: Robustness Analysis Across Diverse Isotherm Models and Operating Conditions

General Session P14: **Genoff J.** Extreme Computer Arithmetic with Reals - The Exact and The Permissibly Approximate: A Research of The Extreme

General Session P15: **Busa J., V. Lisy, J. Tothova**, Deriving Formulas for Mean Angular Momentum and Kinetic Energy of the Brownian Motion of Particles

General Session P16: **Hristov I., R. Hristova**, Computing periodic orbits for the chaotic three-body problem

General Session P17: **Filipov S.M., N. Ilieva, V. Metodiev**, A Linear Method for Stereo Extrinsic Calibration via a Translation-Free Pairwise-Difference Formulation

General Session P18: **Ivanov V., G. Gadzhev, I. Georgieva**, Projection of Cold Thermal Sensation for RCP4.5 Scenario over Bulgaria

General Session P19: **Bazlyankov G., T. Ivanov**, Some Applications of Partial Differential Equations in Medical Image Processing

General Session P20: **Nedelcheva S., G. Rusev, P. Koprinkova-Hristova, N. Bocheva**, Digital Brain Twins Trained via EEGs

General Session P21: **Nedelcheva S., G. Rusev, P. Koprinkova-Hristova, N. Bocheva**, ERP Topography Maps for Brain Analysis

General Session P22: **Popstoilov M., F. Sapundzhi, M. Lazarova, S. Georgiev**, Computational Modeling of Nonlinear Relationships Using Polynomial and Ensemble Methods

General Session P23: **Boudjaoui Z.-E.**, Simulation-Based Reinforcement Learning for Decision Making Under Uncertainty in Urban Traffic Signal Control (to be confirmed, online?)

SS1 – Presentation 1: **Petkov P., L. Litov, E. Lilkova, N. Ilieva**, SCAnet: Structure-Based Prediction of Protein–Protein Binding Free Energies with a 3D Convolutional Neural Network

SS1 – Presentation 2: **Gurova S.-M., T. Gurov, A. Kirilov**, Monte Carlo Search for Robust Global Portfolios: A Sharpe-CVaR Comparison

SS1 – Presentation 3: **Gurova S.-M., T. Gurov, A. Karaivanova**, Adaptive Portfolio Optimizations Based on Systematic Risk Assessment Using Stochastic Numerical Methods

SS1 – Presentation 4: **Tomov D. N., A. Atanasov**, Effects of Macroeconomic Data on Cash Flow Prediction in Consumer Credit Lending

SS1 – Presentation 5: **Vassilev A.**, Migration Patterns in Populations of Myopic Agents under Distance-Dependent Wage Uncertainty

SS1 – Presentation 6: **Fidanova S., J. Stanchov**, Intuitionistic Fuzzy Pheromone ACO for Knitwear Production Scheduling

SS1 – Presentation 7: **Traneva V., S. Tranev, P. Petrov, V. Todorov**, An Explainable AI Platform for Solving Circular Intuitionistic Fuzzy Transportation Problems Using the Zero Point Method

SS1 – Presentation 8: **Traneva V., S. Tranev**, An Indexed-Matrix Elliptic Intuitionistic Fuzzy Hungarian Algorithm for Assignment Problems under Uncertainty

SS1 – Presentation 9: **Traneva V., S. Ribagin, S. Tranev, A** Temporal Circular Intuitionistic Fuzzy Framework for Robust Robot Capacity Planning in Healthcare Systems

SS1 – Presentation 10: **Traneva V., S. Tranev, V. Todorov**, Monte Carlo Stability Analysis for Multi-Agent Decision Making with Intuitionistic Fuzzy Evaluations

SS1 – Presentation 11: **Fidanova S., N. Bozakova, V. Ivanov**, Generalized Net for Evacuation of People with Mental Problems After Earthquake

SS1 – Presentation 12: **Mikhov R., V. Myasnichenko, L. Kirilov, N. Sdobnyakov, S. Fidanova**, Software System for Optimization of Metallic Nanostructures

SS1 – Presentation 13: **Khidirova C. M., K. K. Rakhimov, K. R. Nuritdinov**, Intelligent Multi-Criteria Decision-Support Framework for Ecological Rehabilitation of the Aralkum Desert under Uncertainty (not confirmed yet)

SS2 – Presentation 1: **Georgiev G., D. Zafirov**, UAV Rapid Prototyping Methodology

SS2 – Presentation 2: **Georgiev P., G. Evtimov, D. Mihaylova, I. Georgiev**, 3D Documentation of Architectural Plans: A Multimodal Approach for the "All Saints" Church in Ochusha, Bulgaria

SS2 – Presentation 3: **Zhelyazov T.**, Explicit Analysis of the Interaction Between a Plane Pulse Propagating in a Viscoelastic Matrix and a Rigid Elastic Cylindrical Inclusion (not confirmed yet)

SS2 – Presentation 4: **Naskinova I., F. Sapundzhi, M. Lazarova, M. Kolev, S. Georgiev, V. Todorov**, Exploring Statistical and Machine Learning Approaches to Photovoltaic Energy Yield Forecasting

SS2 – Presentation 5: **Dimov D. T.**, Once More about the Starting Point in Contour Normalization

SS2 – Presentation 6: **Raykovska M., N. Nikolova, A. Gusiyska, E. Koytchev, I. Georgiev, M. Datcheva, R. Iankov** Parametric Finite Element Analysis of Tooth–Cement–Restoration Systems

SS2 – Presentation 7: **Stoynov M., I. Farago, S. Filipov**, Numerical Solution of a Nonlinear One-Dimensional Heat-Transfer Model for Thin Metallic Components Produced by Additive Manufacturing

SS2 – Presentation 8: **Dilmi Mourad**. Asymptotic Behavior of Electrorheological Fluid Flow in Thin Domains with Tresca Friction (not confirmed yet)

SS3 – Presentation 1: **Konstantinova B., G. Nikolov**, On the Regularity Of Certain Three-Row Almost Hermitian Incidence Matrices

SS3 – Presentation 2: **Naidenov N.**, Analysis of an Algorithm for High Precision Calculation of the Zeta Function

SS3 – Presentation 3: **Nikolov G.**, Quadrature and cubature formulae: monotonicity, definiteness and a posteriori error estimates

SS3 – Presentation 4: **Pejcev A., D. Jandrljic, M. Spalevic, S. Spalevic, R. Orive, L. Mihic**, Error Estimation of Gaussian Quadrature Formulae for JacobiWeight Functions and Some of Their Modifications

SS3 – Presentation 5: **Tenev A., R. Uluchev**, Recent Progress on Smoothest Interpolation

SS4 – Presentation 1: **Atanassov E.**, GPU-Based Optimization of Low-Correlation Point Sequences for High-Dimensional Problems

SS4 – Presentation 2: **Ostromsky Tz., V. Todorov, M. Lazarova, F. Sapundzhi, V. Traneva**, Scrambled Quasi- Monte Carlo Sensitivity Analysis of the UNI-DEM Air Pollution Model