



www.imea.fmi-plovdiv.org

SCIENTIFIC PROGRAM

INTERNATIONAL SCIENTIFIC CONFERENCE “INFORMATICS, MATHEMATICS, EDUCATION AND THEIR APPLICATIONS”

25 – 27 November 2025, Pamporovo, Bulgaria

Organiser

Faculty of Mathematics and Informatics
Paisii Hilendarski University of Plovdiv

With the financial support of the scientific projects:

- FP25-FMI-010 “Innovative interdisciplinary research in informatics, mathematics and educational pedagogy” of the Scientific Fund of the Paisii Hilendarski University of Plovdiv;
- MUPD25-FMI-013 “Innovative Research and Technological Solutions in the Field of ICT” of the Scientific Fund of the Paisii Hilendarski University of Plovdiv;
- SP25-FMI-008 “Research and implementation of modern language models and artificial neural networks for automated processing, forecasting, and structuring of data and texts in specific application domains” of the Scientific Fund of the Paisii Hilendarski University of Plovdiv;
- KP-06-N86/9/09.12.2024 “IS-PGR-SADOVO Intelligent system for management of the Bulgarian plant gene pool stored in the gene bank of IRGR-Sadovo” Fundamental Research Projects of the National Science Fund of the Ministry of Education and Science of the Republic of Bulgaria.

Sponsored by:

„OK – Марков“ ЕООД София

SCIENTIFIC PROGRAM

25.11.2025 • HALL A

16:00 - 16:20 Official opening

16:20 - 16:40 **Anniversaries 1**

16:40 - 17:00 **Anniversaries 2**

17:00 - 17:30 **Plenary talk:** Sava Grozdev, INFORMATION TECHNOLOGIES IN GENERALIZING PLANE GEOMETRY PROBLEMS

17:30 - 18:00 **Plenary talk:** Nedyu Popivanov, MATHEMATICAL MODELING AND SIMULATIONS OF COVID-19

26.11.2025 • HALL A

09:00 - 09:15 Kremena Stefanova, Veselina Naneva, DATABASE SCHEMA MODELS AND THEIR APPLICATION IN BUSINESS INTELLIGENCE REPORTING

09:15 - 09:30 Veselina Naneva, Kremena Stefanova, AN APPLICATION OF MICROSOFT POWER AUTOMATE IN BUSINESS INTELLIGENCE

09:30 - 09:45 Yanitsa Chukanska, Veselina Naneva, Gergana Koleva, TOOL FOR DEVELOPING EMOTIONAL INTELLIGENCE IN CHILDREN

09:45 - 10:00 Evgeni Valchev, Todorka Glushkova, Radka Malinova, MULTIFACTOR ANALYSIS OF BEHAVIORAL PATTERNS IN PASTURE-RAISED LIVESTOCK USING DATA FROM DYNAMIC SENSORS

10:00 - 10:15 Stelian Yolov, Vladimir Valkanov, A CONCEPTUAL FRAMEWORK FOR QUALITY CONTROL AND AUTOMATED TESTING OF LARGE LANGUAGE MODELS

10:15 - 10:30 Petar Velichkov, Vladimir Valkanov, INTELLIGENT FINANCIAL ASSISTANTS USING AI AND CHATBOTS FOR PERSONALIZED BANKING SERVICES

10:30 - 11:00 **Coffee Break**

11:00 - 11:15 Pencho Malinov, Emil Doychev, Sebiha Madanska, Asya Stoyanova-Doycheva, INTELLIGENT WARNING COMPONENT FOR CONTROL CHECKS IN THE GENE BANK SYSTEM

11:15 - 11:30 Stanimir Stoyanov, Boyan Belichev, Veneta Tabakova-Komsalova, Ivan Stoyanov, Laska Kostadinova-Tsankova, MONITORING IN THE NATIONAL GENE BANK

11:30 - 11:45 Stanimir Stoyanov, Anita Stoyanova, Veneta Tabakova-Komsalova, Emil Delinov, AN APPROACH FOR INSTALLING AND USING THE WEB-BASED LPA FLEX ENVIRONMENT PROWEB/WEBFLEX

11:45 - 12:00 Todorka Glushkova, Konstantin Rusev, CONTEXT-AWARE MODELING OF AI ASSISTANT FOR NUTRITION PLANNING, WORKOUT ROUTINES AND WEIGHT LOSS PROGRAMS

12:00 - 14:00 **Lunch Break**

14:00 - 14:15 Vasil Kostadinov, Todorka Glushkova, Evgeni Valchev, AI-BASED SYSTEM FOR ANALYZING, PREDICTING AND VISUALIZING STUDENT GRADES

14:15 - 14:30 Pavel Kyurkchiev, Hasan Gyulyustan, Bozhidar Samakovski, THE EASY CHOICE IN FRONT OF THE YOUNG PROGRAMMER: HIGH PRODUCTIVITY AND ATROPHIED COMPETENCE

14:30 - 14:45 Hasan Gyulyustan, Pavel Kyurkchiev, COMPARATIVE ANALYSIS OF END-TO-END NEURAL SPEECH RECOGNITION FRAMEWORKS

14:45 - 15:00 Maria Vasileva, Georgi Penchev, RELIABILITY EVALUATION OF OPEN-SOURCE SOFTWARE BASED ON FAULT REMOVAL EFFICIENCY

15:00 - 15:15 Kristiyan Kolev, Veselin Kyurkchiev, UNIFIED MONITORING ARCHITECTURE FOR DISTRIBUTED CLOUD SYSTEMS USING OPENTELEMETRY AND OPEN-SOURCE TECHNOLOGIES

SCIENTIFIC PROGRAM

15:15 - 15:30

(Online) Maya Stoeva, IMPACT OF AI ON UI/UX DESIGN AND RESEARCH: LEVERAGING PROCESSES AND SHAPING THE FUTURE OF USER EXPERIENCE

15:30 - 16:00

Coffee Break

16:00 - 16:15

Georgi Iliev, Todor Atanasov, IMPROVING THE ACCURACY OF MACHINE LEARNING MODELS FOR PREDICTING OUTCOMES IN VIRTUAL SPORTS SYSTEMS

16:15 - 16:30

Simeon Monov, Nikolay Pavlov, Miglena Dodleva, DATA EXTRACTION FROM HETEROGENEOUS INSURANCE POLICIES USING LLMS

16:30 - 16:45

Simeon Monov, Mariana Veselinova, A HARDWARE-VALIDATED SYNTHETIC DATASET FOR RELIABLE IOT CODE GENERATION WITH LLMS

16:45 - 17:00

Nikolay Pavlov, Denis Bechiragich, Asen Rahnev, A NOVEL, MULTI-COMPONENT OBJECTIVE FUNCTION FOR MODELING REAL-WORLD VEHICLE ROUTING PROBLEM CONSTRAINTS

17:00 - 17:15

Nikolay Pavlov, Zlatomila Mincheva, Maria Dobрева, VALIDATION FRAMEWORK FOR ADVANCED FINANCIAL FORECASTING MODELS IN INSURANCE

17:15 - 17:45

(Online) Plenary talk: Preslav Nakov

17:45 - 18:15

(Online) Plenary talk: Boyan Bontchev, Formal description of educational puzzle games

26.11.2025 • HALL B

09:30 - 09:45

Sofia Vasileva, CONTEMPORARY EDUCATION: BETWEEN DIGITAL REALITY AND THE EXPECTATIONS OF THE NEW GENERATION

09:45 - 10:00

Denislav Marinov, INTERACTIVE TRAINING AS A MEANS OF MOTIVATION AND COGNITIVE ACTIVITY IN PROFILED TRAINING IN MATHEMATICS

10:00 - 10:15

Aleksandar Ivanov, EXAMPLE METHODOLOGY FOR PROTOTYPING MOBILE APPLICATIONS IN PROGRAMMING TRAINING

10:15 - 10:30

Ivanka Vasileva, Neli Todorova, APPLICATION OF VOICE ASSISTANT AND STEM APPROACHES IN COMPUTER MODELING AND INFORMATION TECHNOLOGY EDUCATION FOR STUDENTS WITH SPECIAL EDUCATIONAL NEEDS

10:30 - 11:00

Coffee Break

11:00 - 11:15

Ivaylo Staribratov, Slav Cholakov, ANALYSIS OF THE UNIVERSITY ENTRANCE EXAMINATIONS IN MATHEMATICS AT PLOVDIV UNIVERSITY

11:15 - 11:30

Ivaylo Staribratov, Galya Ilieva, MATHEMATICAL MODELING AS A TOOL FOR DEVELOPING PROFESSIONAL COMPETENCIES

11:30 - 11:45

Muharem Mollov, Gencho Stoitsov, Ivaylo Staribratov, PREPARATION OF FUTURE MATHEMATICS AND INFORMATICS TEACHERS FOR COMPETENCY-BASED EDUCATION

11:45 - 12:00

Vladimir Tirolski, ANALYSIS OF A DIDACTIC TEST FOR MEASURING FINANCIAL LITERACY

12:00 - 14:00

Lunch Break

14:00 - 14:15

Daniela Georgieva, Marta Teofilova, A LESSON ON TARGETS TO SECOND DEGREE CURVES IN THE MATH PROFILED TRAINING

14:15 - 14:30

Kostadin Teodosiev, Stoyan Cheresharov, Pavlina Atanasova, GRAPHICAL AND PEDAGOGICAL ASPECTS OF NUMERICAL MODELING OF QUANTUM STRUCTURES WITH MATHEMATICA

14:30 - 14:45

Petar Kopanov, GENERALIZATION OF JOHN SMITH'S PROBLEM, BETTER KNOWN AS PEPYS-NEWTON PROBLEM

SCIENTIFIC PROGRAM

14:45 - 15:00

Aynur Ali, Atanas Ilchev, Boyan Zlatanov, TRIPLED FIXED POINTS AND TRIPLED BEST PROXIMITY POINTS IN MODULAR FUNCTION SPACES

15:00 - 15:15

Vanya Ivanova, Boyan Zlatanov, PERSPECTIVES AND APPROACHES TO TEACHING LANGUAGE PATTERNS IN ENGLISH FOR MATHEMATICS

15:15 - 15:30

Marta Gardeva, Vanya Ivanova, EFL ACADEMIC WRITING AND ITS PLACE IN STEM EDUCATION

15:30 - 16:00

Coffee Break

16:00 - 16:15

(Online) Ljubica Kazi, Vuk Amižić, Igor Vecštejn Online, SCRUM-BASED AGILIZATION OF SOFTWARE ENGINEERING STUDENTS DURING PRACTICAL AND THEORETICAL EDUCATIONAL PROCESS: A CASE STUDY

16:15 - 16:30

Ivan Shotlekov, MEASURING AI READINESS IN COMPUTER SCIENCE STUDENTS: DEVELOPMENT AND ANALYSIS OF AIRSUS

16:30 - 16:45

Galina Momcheva, Todorka Glushkova, TRENDS IN RESEARCH JOB POSITIONS AND REQUIRED COMPETENCES

16:45 - 17:00

Viktor Matanski, Anton Iliev, Todorka Terzieva, INTEGRATING COMFYUI INTO CREATIVE AI ELECTIVES: A HANDS-ON APPROACH TO GENERATIVE WORKFLOWS

17:00 - 17:15

Elena Todorova, Stefka Aneva, USE OF DIGITAL TOOLS FOR ALGORITHM VISUALIZATION IN PROGRAMMING EDUCATION

17:15 - 17:30

Ventsislav Dilyanov, METHODS AND TOOLS FOR DEVELOPING SOFT SKILLS. KEY TO INCREASING STUDENT ACTIVITY AND TRAINING EFFICIENCY

17:30 - 17:45

Ivelina Velcheva, DEVELOPING 21ST-CENTURY LEARNING SKILLS THROUGH THE INTEGRATION OF GENERATIVE ARTIFICIAL INTELLIGENCE IN SCHOOL EDUCATION

17:45 - 18:00

Zornitza Kaneva, SOCIAL COMMUNICATION IN SYNERGY WITH PROJECT-BASED LEARNING

27.11.2025 • HALL B

09:30 - 09:45

Elena Todorova, Rosen Hristev, Angel Urilski, Dzhaner Mehmed, CHALLENGES AND INTERRELATIONS BETWEEN SECURITY AND ACCESSIBILITY IN ELECTRONIC SYSTEMS

09:45 - 10:00

Valia Arnaudova, Rosen Hristev, Angel Urilski, Dzhaner Mehmed, DIGITAL TRANSFORMATION IN REGIONAL DEVELOPMENT: A DYNAMIC WEB PORTAL FOR THE PROMOTION AND SUSTAINABILITY OF THE WESTERN RHODOPES

10:00 - 10:15

Nikolay Kyurkchiev, Anton Iliev, Vesselin Kyurkchiev, Maria Vasileva, Angel Golev, Asen Rahnev, ON A DYNAMICAL MODEL WITH SPECIFIC POTENTIAL CORRESPONDING TO A SIMPLE SIR MODEL: MELNIKOV APPROACH, SIMULATIONS

10:15 - 10:30

Sava Grozdev, Veselin Nenkov, Tatyana Madjarova, ANOTHER SUMMARY OF MARION'S THEOREM

Clarification

Hall A is the big conference hall on Floor 1.

Hall B is the small conference hall on Floor 5 next to Lobby.