

# **SCIENTIFIC PROGRAM**

**Anniversary International  
Scientific Conference**

**RESEARCH AND EDUCATION  
IN MATHEMATICS, INFORMATICS  
AND THEIR APPLICATIONS**

**October 22-24, 2021 • Plovdiv, Bulgaria**



**Dedicated to the  
50<sup>th</sup> Anniversary of the  
Faculty of Mathematics and Informatics  
and to the  
60<sup>th</sup> Anniversary of the  
Paisii Hilendarski University of Plovdiv**

**Organizer:  
Faculty of Mathematics and Informatics  
Paisii Hilendarski University of Plovdiv**

## 22.10.2021 • HALL A

14:00 - 14:15

Official opening of the conference

14:15 - 15:00

Accepting of congratulation letters

15:00 - 15:30

*Anniversaries:* Angel Golev,  
**FMI CELEBRATES 50 YEARS**

15:30 - 16:00

Coffee break

16:00 - 16:30

*Invited talk:* Sava Grozdev,  
**NDM-PHILOSOPHY OF EDUCATION IN THE 21ST CENTURY**

16:30 - 17:00

*Invited talk:* Ruslan Mitkov,  
**AUTOMATIC GENERATION OF MULTIPLE-CHOICE TESTS: THE PAST, THE PRESENT AND THE FUTURE**

17:00 - 17:30

*Invited talk:* Mihail Konstantinov, Petko Petkov,  
**LARGE COMPUTATIONAL ERRORS**

## 23.10.2021 • HALL A

09:30 - 10:00

*Invited talk:* Snezhana Hristova,  
Kremena Stefanova, Angel Golev,  
**EXPONENTIAL STABILITY FOR DIFFERENCE EQUATIONS WITH MAXIMUM: THEORETICAL STUDY AND COMPUTER SIMULATIONS**

10:00 - 10:30

*Invited talk:* Stefan Ivanov,  
**HETEROTIC SUPERSYMMETRY, ANOMALY CANCELLATION AND EQUATIONS OF MOTION**

10:30 - 11:00

*Invited talk:* Yavor Dankov, Albena Antonova,  
Valentina Terzieva, Boyan Bontchev,  
**APPLYING USER-CENTERED DESIGN FOR A CLIMATE RESILIENCE VIDEO GAME**

11:00 - 11:30

Coffee break

**11:30 - 11:45**

**Sava Grozdev, Veselin Nenkov,  
ABOUT THE LOCATION OF THE ROOTS OF ONE KIND  
THIRD DEGREE POLYNOMIALS WITH COEFFICIENTS  
DEPENDING ON THE VERTICES OF QUADRILATERALS**

**11:45 - 12:00**

**Aleksandr Rusakov, Sergey Posedko,  
Ksenia Shishkina,  
FORMATION OF SPATIAL THINKING IN PRESCHOOL  
CHILDREN USING DIDACTIC MATERIALS IN THE  
CONTEXT OF DISTANCE LEARNING**

**12:00 - 12:15**

**Dobrinka Boykina, Rumyana Mavrova,  
THE LEARNING ACTIVITY OF THE PERSONALITY  
AND HIS FEELINGS**

**12:15 - 12:30**

**Valentina Gogovska, Katerina Anevska,  
Risto Malcheski,  
WORKING WITH MATHEMATICALLY GIFTED  
STUDENTS AGED 15-16**

**15:00 - 15:15**

**Ivan Shotlekov,  
TECHNOLOGY INTEGRATION EVALUATION AND  
CRITICAL SELF-REFLECTION USING THE PICRAT  
MODEL IN THE MATH AND IT CLASSROOMS**

**15:15 - 15:30**

**Diana Stefanova, Tatyana Madzharova,  
MEMORY, THINKING AND TEACHING  
IN MATHEMATICS**

**15:30 - 16:00**

**Coffee break**

**16:00 - 16:15**

**Deyana Peykova, Kosta Garov,  
EDUCATIONAL ROBOTICS FOR STEM EDUCATION**

**16:15 - 16:30**

**Penka Karadzhova, Dobrinka Boykina,  
SYNERGETIC FUNDAMENTALS  
OF MATHEMATICS EDUCATION**

16:30 - 16:45

**Maria Teneva,**  
**AN IDEA ABOUT IMPLEMENTING**  
**INTERDISCIPLINARY APPROACH USING MATH.**  
**GEOMETRIC SHAPES – TRIANGLE.**  
**REVISION 8TH GRADE – LANGUAGE SCHOOL**  
**“IVAN VAZOV”**

16:45 - 17:00

**Tsvetelina Zhelyazkova,**  
**AN APPLICATION OF A HEURISTIC APPROACH**  
**IN A 6th GRADE MATHS LESSON**

17:00 - 17:15

**Margarita Gerdanikova, Gencho Stoitsov,**  
**Ivan Dimitrov,**  
**INTERDISCIPLINARY EDUCATION WITH SCRATCH**  
**IN PRIMARY SCHOOL**

## **23.10.2021 • HALL B**

11:30 - 11:45

**Stanislav Dakov, Anna Malinova,**  
**AUTOMATED PRODUCT INFORMATION RETRIEVAL**  
**IN E-COMMERCE**

11:45 - 12:00

**Todorka Glushkova, Konstantin Rusev,**  
**Stanimir Stoyanov,**  
**AMBIENT-ORIENTED MODELING IN**  
**VIRTUAL-PHYSICAL SPACE**  
**WITH INTEGRATED DOMAINS**

12:00 - 12:15

**Nikola Valchanov,**  
**HANDLING HIGH VOLUMES**  
**IN LEGACY MONITORING SOLUTIONS**

12:15 - 12:30

**Sefan Stavrev,**  
**VIRTUAL EXHIBITIONS DURING A PANDEMIC –**  
**A REAL-TIME ONLINE EXPO WITH A FICTIONAL**  
**INTERIOR**

**National Scientific Program**  
**“Information and Communication Technologies for a Single  
Digital Market in Science, Education and Security (ICTinSES)”**,  
financed by the Ministry of Education and Science

**23.10.2021 • HALL B**

14:00 - 14:30	<i>Invited talk:</i> Todorka Terzieva, Angel Golev, Asen Rahnev, NSP “ICTINSES” – ACHIEVED RESULTS FROM THE FMI TEAM AT PU. II
14:30 - 15:00	<i>Invited talk:</i> Vesselin Kyurkchiev, Maria Vasileva, Anton Iliev, Asen Rahnev, Nikolay Kyurkchiev, COMMENTS ON SOME INVERTED CUMULATIVE DISTRIBUTIONS: “SATURATION IN THE HAUSDORFF SENSE”, APPLICATIONS.
15:00 - 15:15	Nikolay Pavlov, EFFICIENT MATRIX MULTIPLICATION USING HARDWARE INTRINSICS AND PARALLELISM WITH C#
15:15 - 15:30	Maria Malinova, INVESTIGATING NEW DEPENDENCIES IN THE STRUCTURE OF NEAR-RINGS OVER FINITE CYCLIC GROUPS
15:30 - 16:00	Coffee break
16:00 - 16:15	Maria Vasileva, Anna Malinova, Olga Rahneva, Evgenia Angelova, NEW PROPERTIES OF THE ODD WEIBULL INVERSE TOPP-LEONE CUMULATIVE DISTRIBUTION FUNCTION
16:15 - 16:30	Veselina Naneva, Kremena Stefanova, IMPLEMENTATION OF A CUSTOM VISUAL IN BI TOOLS
16:30 - 16:45	Nikolay Chochev, Todorka Terzieva, METHODOLOGICAL STAGES OF THE TRAINING IN DIGITAL MARKETING AND SEO OPTIMIZATION

16:45 - 17:00

**Petya Delcheva, Stefka Aneva, Elena Todorova,  
STANCE ON ROBOTICS AS AN INNOVATIVE  
EXTRACURRICULAR ACTIVITY AT THE MIDDLE  
SCHOOL STAGE OF BULGARIAN SCHOOLS AND  
WHETHER ITS REALIZATION IS FEASIBLE**

17:00 - 17:15

**Todorka Terzieva, Olga Rahneva, Ventsislav Dilyanov,  
PEDAGOGICAL STRATEGIES FOR DEVELOPMENT OF  
COGNITIVE SKILLS IN A DIGITAL ENVIRONMENT**

## **23.10.2021 • HALL C**

15:00 - 15:15

**Mancho Manev,  
RICCI-LIKE SOLITONS ON ALMOST CONTACT  
B-METRIC MANIFOLDS: A REVIEW**

15:15 - 15:30

**Marta Teofilova,  
CONJUGATE CONNECTIONS AND STATISTICAL  
STRUCTURES ON ALMOST NORDEN MANIFOLDS**

15:30 - 16:00

**Coffee break**

16:00 - 16:15

**Anton Iliev, Nikolay Kyurkchiev,  
Asen Rahnev, Todorka Terzieva,  
EFFICIENT BINARY EXTENDED ALGORITHM  
USING SGN FUNCTION**

16:15 - 16:30

**Todor Zh. Mollov,  
CORRECTION OF THE BIG BANG THEORY  
AND CYCLIC UNIVERSE**

16:30 - 16:45

**Nako Nachev,  
ON THE FREE DISTRIBUTIVE LATTICES**

16:45 - 17:00

**Yordan Epitropov, Ivanka Gradeva,  
SIMPLE COMPONENTS OF SEMISIMPLE GROUP  
ALGEBRAS OF METACYCLIC GROUPS**

**Scientific seminar**  
**“Intelligent Innovative ICT in Research in Mathematics,  
Informatics, and Pedagogy of Education”**

**23.10.2021 • HALL C**

<b>10:00 - 10:15</b>	<b>Natalia Staikova, DIAGNOSES OF THE INITIAL KNOWLEDGE IN THE CLASSES IN INFORMATICS AND INFORMATION TECHNOLOGIES OF THE STUDENTS ON THE TOPIC “BLOCKCHAING TECHNOLOGIES”</b>
<b>10:15 - 10:30</b>	<b>Maya Stoeva, Stefka Chavdarova, UX/UI ADVISOR – AN IMPLEMENTATION OF MAYUI TOOL IN THE EDUCATION</b>
<b>10:30 - 10:45</b>	<b>Velichka Koseva, Gencho Stoitsov, Ivan Dimitrov, ADDITIONAL DIGITAL RESOURCES AND TECHNOLOGIES TO SUPPORT THE EDUCATION OF CHILDREN WITH SPECIAL EDUCATIONAL NEEDS</b>
<b>10:45 - 11:00</b>	<b>Vera Shopova, Ivan Dimitrov, Gencho Stoitsov, THE APPLICATION OF CLOUD TECHNOLOGIES IN PARENT-TEACHER COMMUNICATION</b>
<b>11:00 - 11:30</b>	<b>Coffee break</b>
<b>11:30 - 11:45</b>	<b>Ivelina Velcheva, Kosta Garov, DIGITAL TOOLS FOR BUILDING WEB CONTENT IN TEACHERS' TRAINING</b>
<b>11:45 - 12:00</b>	<b>Kremena Stoyanova, Kosta Garov, DIGITALIZATION IN EDUCATION – A GUARANTEE FOR A SUCCESSFUL TEACHER</b>
<b>12:00 - 12:15</b>	<b>Deyana Peykova, Kosta Garov, FIRST STEPS IN PROGRAMMING WITH BBC MICRO:BIT</b>
<b>12:15 - 12:30</b>	<b>Deyana Peykova, Kosta Garov, DIGITAL TOOLS FOR STEM EDUCATION</b>

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- **National Science Program “Information and Communication Technologies for Unified Digital Market in Science, Education and Security” by Ministry of Education and Science;**
- **Sveti Paisii University Foundation.**

**Clarification:**  
**Hall A is the auditoria 2;**  
**Hall B is the conference hall;**  
**Hall C is the lecture room 423.**