



# PROGRAM

## VII Macedonian Mathematical Congress June 27-30, 2023, Struga

**Tuesday, June 27, 2023**

15.00 – 17.00	Registration
17.00 – 17.20	Opening ceremony (Congress Hall)
17.20 – 18.00	<p><b>Presentation of the best ranked scientific paper by Macedonian mathematicians for the period between two congresses (2016-2022)</b> Martin Shoptrajanov, Nikita Shekutkovski <i>Shape-invariant Neighborhoods of Nonsaddle Sets</i> Chair: Kostadin Trenčevski</p>
18.00 – 18.40	<p><b>Plenary Lecture</b> <b>Violeta Vasilevska</b>, Utah Valley University, Orem, UT <i>Amazing Journey through Active Learning and Math-Art Connections</i> Chair: Kostadin Trenčevski</p>
	<b>Welcome Cocktail</b>

**Wednesday, June 28, 2023**

<p><b>9.00 – 9.40</b></p>	<p align="center"><b>Plenary Lecture</b> (Congress Hall)  <b>Stevan Pilipovic</b>, Serbian Academy of Sciences and Arts  <i>Time frequency analysis in spaces with Hörmander metrics</i>            Chair: Nikita Shekutkovski</p>	
	<p align="center"><b>Section 1</b> (Congress Hall)  <b>Real, Complex and Functional Analysis, Differential Equations</b>            Chair: Katerina Hadzi-Velkova Saneva</p>	<p align="center"><b>Section 6</b> (Casino Hall)  <b>Mathematics Education</b>            Chair: Valentina Gogovska</p>
<p><b>9.50 – 10.10</b></p>	<p>Dijana Mosić  <i>Left and right G-outer inverses</i></p>	<p>Ewa Jówko  <i>Early support for the development of a child with autism spectrum to mathematical activity</i></p>
<p><b>10.10 – 10.30</b></p>	<p>Astrit Ferizi, Katerina Hadzi-Velkova Saneva  <i>The shearlet transform and asymptotic behavior of Lizorkin distributions</i></p>	<p>Anna Klim-Klimaszewska  <i>Constructing mathematical didactics games by children of preschool age</i></p>
<p><b>10.30 – 10.50</b></p>	<p>Sonja Mančevska, Marija Orovčanec  <i>N-tuple orbits and n-tuple weak orbits tending to infinity</i></p>	<p>Sabina Wieruszewska-Duraj  <i>Constructivist strategies in teaching mathematics to children</i></p>
<p><b>10.50 – 11.10</b></p>	<p>Jurica Perić  <i>Generalization of the Levin-Stečkin inequality</i></p>	<p>Małgorzata Wiśniewska  <i>Reception of Friedrich Froebel's concept in the mathematical education of preschool children in Poland</i></p>
<p><b>11.10 – 11.30</b></p>	<p>Dunja Stojanović  <i>New generalizations of 1MP and MP1 inverses</i></p>	<p>Lidija Kondinska, Snezana Ristovska, Miqerem Rizal Memedi, Daniela Tacevska Nikolov  <i>Reflective learning of mathematics teachers from the primary and secondary schools of the Republic of North Macedonia</i></p>
<p><b>11.30 – 12.00</b></p>	<p align="center"><b>Coffee break</b></p>	
	<p align="center"><b>Section 2</b> (Congress Hall)  <b>Algebra and Discrete Mathematics</b>            Chair: Marija Mihova</p>	<p align="center"><b>Section 6</b> (Casino Hall)  <b>Mathematics Education</b>            Chair: Vesna Celakoska-Jordanova</p>

12.00 – 12.20	Angela Angeleska, Zoran Nikoloski <i>Clustering via Coherent Network Partition</i>	Valentina Gogovska <i>Textual tasks for empowering students thinking and understanding</i>
12.20 – 12.40	Risto Atanasov, Boris Furtula, Riste Škrekovski <i>Trees with minimum weighted Szeged index are of a large diameter</i>	Viktorija Ilieska, Ankica Spasova, Metodija Jancheski <i>Improving Mathematical Literacy with a Modification of the Thought Process through Critical Thinking, Non-routine Problems and Motivation</i>
12.40 – 13.00	Verica Bakeva, Vesna Dimitrova, Aleksandra Popovska-Mitrovikj, Marija Petkovska <i>Analysis of properties of some quasigroup equations</i>	Elena Kotevska, Marzanna Seweryn-Kuzmanovska, Sonja Chalamani, Merita Ajdini <i>Creating game for solving mathematical textual tasks</i>
13.00 – 13.20	Smile Markovski, Lidija Goračinova-Ilieva <i>Introduction of the concept of probabilistic algebras</i>	Vojislav Andrić <i>On the development of creativity in teaching mathematics</i>
13.20 – 15.00	<b>Lunch break</b>	
15.00 – 15.40	<b>Plenary Lecture (Congress Hall)</b> <b>Kostadin Trancevski</b> , Ss.Cyril and Methodius University, Skopje <i>Some applications of the geometry of high-dimensional space-time in physics</i> Chair: Nikita Shekutkovski	
	<b>Section 2 (Congress Hall)</b> <b>Algebra and Discrete Mathematics</b> Chair: Valentina Miovska	<b>Casino Hall</b>
15.50 – 16.10	Valentina Miovska, Delcho Leshkovski, Vesna Celakoska-Jordanova <i>Fuzzy ideals in <math>(n + k, n)</math>-semigroups</i>	<b>Training Seminar: STRATEGIES FOR ENCOURAGING CREATIVITY IN TEACHING MATHEMATICS</b> Instructor: Valentina Gogovska  <b>Workshop: ON SOME POSSIBLE FORMS OF CREATIVITY DEVELOPMENT IN TEACHING MATHEMATICS</b> Instructor: Vojislav Andrić
16.10 – 16.30	Marija Mihova <i>Matrix representation of Bilinear Multivariate Quadratic Quasigroups of order <math>2n</math></i>	
16.30 – 16.50	Violeta Angjelkoska, Dončo Dimovski, Irena Stojmenovska <i>Classes of Numerical Semigroups with Embedding Dimension 3: An algorithm for Computing the Frobenius Number</i>	

16.50 – 17.10	Merita Bajrami, Dončo Dimovski, Violeta Angjelkoska <i>An algorithm for a class of <math>(n, j, k)</math>- good matrices related to numerical semigroups with embedding dimension 4</i>	
17.10 – 17.40	<b>Coffee break</b>	
	<b>Section 4 (Congress Hall) Geometry and Differential Geometry</b> Chair: Gjorgji Markoski	<b>Casino Hall</b>
17.40 – 18.00	Seher Kaya <i>Solution of the Björling Problem for Spacelike Surfaces in <math>L_4</math></i>	<b>Training Seminar: STRATEGIES FOR ENCOURAGING CREATIVITY IN TEACHING MATHEMATICS</b> Instructor: Valentina Gogovska
18.00– 19.30	<b>Workshop: Introduction to Data Analysis and Modeling</b> Organaizers: Filip Nikolovski, Irena Stojkovska	<b>Workshop: ON SOME POSSIBLE FORMS OF CREATIVITY DEVELOPMENT IN TEACHING MATHEMATICS</b> Instructor: Vojislav Andrić

### Thursday, June 29, 2023

	<b>Section 3 (Congress Hall) Topology and Dynamical Systems</b> Chair: Nikita Shekutkovski	<b>Casino Hall</b>
9.00 – 9.20	Nikita Shekutkovski, Zoran Misajleski, Emin Durmishi <i>Chain Connectedness – a Homotopy and Shape Invariant</i>	<b>Workshop: Testing Tests</b>  Organaizers: Sonja Gegovska- Zajkova, Oliver Zajkov
9.20 – 9.40	Milanka Gardašević - Filipović, Katarina Kukić, Dragana Gardašević <i>Best proximity point results in the orthogonal metric spaces</i>	
9.40 – 10.00	Tomi Dimovski, Dončo Dimovski <i>Common fixed point theorems for pairs of self-mappings on <math>(3,2)</math>-<math>W</math>- metrizable spaces</i>	
10.00 – 10.20	İrem Eroğlu <i>Some fixed point theorems for rational type contractions</i>	
10.20 – 10.40	Zoran Misajleski <i>Chain separatedness in a family covering space</i>	

10.40 – 11.00	Shkumbin Makolli, Biljana Krsteska <i>A note regarding some fuzzy SSPO mappings</i>	
11.00 – 11.30	<b>Coffee break</b>	
11.30 – 13.30	<b>Special Session on 100 years since the birth of Academician Blagoj Popov</b> Chair: Dončo Dimovski Macedonian Academy of Sciences and Arts	
13.30 – 15.00	<b>Lunch break</b>	
	<b>Section 5 (Congress Hall)</b> <b>Probability, Statistics and Applied Mathematics</b> Chair: Irena Stojkowska	<b>Section 6 (Casino Hall)</b> <b>Mathematics Education</b> Chair: Sonja Gegovska-Zajkova
15.00 – 15.20	Mária Žďimalová <i>Various mathematical techniques for analyzing of image data by mathematical models</i>	Dobri Jovevski, Tatjana A. Pachemska, Aleksandra Pesevska <i>Unlocking Mathematical Proficiency: Exploring Digital Platforms as Catalysts for Overcoming Learning Barriers</i>
15.20 – 15.40	Stevo Gjorgjev, Aneta Gacovska-Barandovska <i>Determining value at risk using extreme value theory on a financial data set</i>	Elena Hadzieva <i>Mathematics is Lovely</i>
15.40 – 16.00	Filip Nikolovski, Irena Stojkowska <i>Scale Invariant Stochastic Gradient Method with Momentum</i>	Beti Lameva, Sonja Gegovska-Zajkova, Jasmina Markoska <i>A Comprehensive Analysis of Students' Performance in the State Matura Mathematics Exam</i>
16.00 – 16.20	Stefan Mirchevski, Irena Stojkowska <i>Sensitivity analysis of stochastic (s, S) inventory model with Poisson demand process and exponential lifetimes</i>	Valentina Kuzmanoska, Biljana Shuminoska <i>Solving realistic tasks with the help of mathematical modeling among 4th graders</i>
17.00 – 19.00	<b>Excursion to Vevchani</b>	
19.00 – 22.00	<b>Gala dinner</b>	

Friday, June 30, 2023

	<p><b>Section 5 (Congress Hall)</b>  <b>Probability, Statistics and Applied Mathematics</b>          Chair: Aneta Gacovska-Barandovska</p>	<p><b>Section 6 (Casino Hall)</b>  <b>Mathematics Education</b>          Chair: Elena Hadzieva</p>
9.00 – 9.20	<p>Ylldrita Salihi, Gjorgji Markoski, Aleksandar Gjurchinovski  <i>Fractional Multistep Differential Transformation Method used to analyze a modified form of fractional order Lorenz system</i></p>	<p>Stevo Gjorgiev, Erblina Zaqiri, Vesna Manova-Erakovik, Irena Stojkovska  <i>Measuring and improving the level of statistical literacy of first-year undergraduate biology students</i></p>
9.20 – 9.40	<p>Predrag M. Popović, Miroslav M. Ristić, Miloš B. Stojanović, Srdjan Jovković  <i>Some modifications of the autoregressive component in modeling non-negative time series of counts</i></p>	<p>Gordana Nikolovska, Irena Stojkovska  <i>Optimization problems in high school classroom</i></p>
9.40 – 10.00	<p>Ana Josimovska Nikolov, Sonja Gegovska-Zajkova  <i>Forecasting the inflation in the Republic of North Macedonia by using ARIMA model</i></p>	<p>Mira Tashkova, Zoran Trifunov  <i>Visualization of elementary functions and their properties</i></p>
10.00 – 10.20	<p>Ana Atanasova, Limonka Koceva Lazarova, Petre Lameski  <i>Time Series Analysis and Forecasting using ARIMA models</i></p>	<p>Viktoria Ilieska, Ankica Spasova, Metodija Jancheski  <i>"Are you ready?" – Generation Z is here</i></p>
10.20 – 10.40	<p>Dragana Gardašević  <i>History and applications of nonlinear eigenvalue problems</i></p>	<p><b>Section 4 (Geometry and Differential Geometry )</b>          Admir Huseini, Filip Mihov  <i>Interpolation methods on triangular meshes</i></p>
10.40 – 11.10	<p><b>Coffee break</b></p>	
11.10 – 12.00	<p><b>Congress Hall</b>  <i>Workshop: Introduction to Data Analysis and Modeling</i>          Organizers: Filip Nikolovski, Irena Stojkovska</p>	
12.00 – 13.00	<p><b>Casino Hall</b>  <i>Round Table: Scientific and Professional Networks Involving Mathematicians</i>          Moderator: Elena Hadzieva</p>	
13.00 – 15.00	<p><b>Lunch break</b></p>	