

# PROGRAMME IN BRIEF

The conference will be held on **June 20-22, 2024**  
in **A. Mickevičius st. 37, Kaunas.**

<b>Thursday, June 20, 2024</b>	
<b>9.00 – 9.30</b>	Registration of participants
<b>9.30 – 10.15</b>	Opening of the conference
<b>10.15 – 11.15</b>	Plenary presentation
<b>11.15 – 11.45</b>	<i>Coffee break</i>
<b>11.45 – 12.45</b>	Plenary presentation
<b>12.45– 14.15</b>	<i>Lunch break</i>
<b>14.15– 15.45</b>	Work in sections
<b>15.45– 16.15</b>	<i>Coffee break</i>
<b>16.15 – 17.45</b>	Work in sections

<b>Friday, June 21, 2024</b>	
<b>9.00 – 10.00</b>	Plenary presentation
<b>10.00 – 11.00</b>	Plenary presentation
<b>11.00 – 11.30</b>	<i>Coffee break</i>
<b>11.30 – 12.30</b>	Plenary presentation
<b>12.30 – 14.00</b>	<i>Lunch break</i>
<b>14.00 – 15.30</b>	Work in sections
<b>15.30 – 16.00</b>	<i>Coffee break</i>
<b>16.00 – 17.30</b>	Work in sections
<b>18.30</b>	Conference evening “Come together”

<b>Saturday, June 22, 2024</b>	
<b>10.00</b>	Community event “Along the paths of Prof. H. Minkowski in Kaunas”

# DETAILED PROGRAMME OF THE CONFERENCE

## Plenary presentations

will be held in the historic Aula,  
A. Mickevičius st. 37, Kaunas

**Thursday, June 20, 2024**

<i>Time</i>	<i>Keynote Speaker</i>	<i>Title</i>
10:15–11:15	Prof. Habil. Dr. Tilman Sauer, University of Mainz, Germany	Hermann Minkowski and modern theoretical physics
<i>Coffee break</i>		
11:45–12:45	Prof. Dr. Joachim Schwermer, University of Wien, Austria	Integral equivalence and arithmetic groups

**Friday, June 21, 2024**

<i>Time</i>	<i>Keynote Speaker</i>	<i>Title</i>
9:00–10:00	Prof. Dr. Stefan Halverscheid, Georg- August University of Göttingen, Germany	Studying mathematics: can unfit students get fit in the first year?
10:00 – 11:00	Prof. Dr. Thorsten Hohage, Georg- August University of Göttingen, Germany;	Quantitative passive imaging of the interior of the Sun
<i>Coffee break</i>		
11:30 – 12:30	Prof. Dr. Martin Henk, Technical University Berlin, Germany	The logarithmic Minkowski problem

## Work in sections

### Section

### Number theory

**Thursday, June 20, 2024**

113 room, Mickevičiaus g. 37, Kaunas

Chair: Jörg Brüdern		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:15–15:00	Rainer Dietmann, Royal Holloway, University of London, United Kingdom	Rational lines on cubic hypersurfaces

15:00–15:45	Damaris Schindler, Georg-August University of Göttingen, Germany	Generalised quadratic forms over totally real number fields
<i>Coffee break</i>		
16:15–17:00	Artūras Dubickas, Vilnius University, Lithuania	Euclidean minima of number fields
17:00–17:45	<u>Raivydas Šimėnas</u> , Ramūnas Garunkštis, Vilnius University, Lithuania;	Prime functions

## Friday, June 21, 2024

113 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Jörg Brüdern</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:00–14:30	Lukas Maciulevičius, Vilnius University, Lithuania	Some degree problems in number fields
14:30–15:00	Paulius Virbalas, Vilnius University, Lithuania	Compositum of Two Number Fields of Prime Degree
15:00–15:30	Grintas Junevičius, Vilnius University, Lithuania	On Complex Pisot Numbers which are Roots of Borwein Trinomials
<i>Coffee break</i>		
16:00–16:30	Cong Ling, Imperial College, United Kingdom	Quadratic Forms and Post- Quantum Cryptography
16:30–17:00	Igoris Belovas, Vilnius University, Lithuania	On the nature of the constant in the inequality for the Riemann zeta function
17:00–17:30	<u>Benjaminas Togobickij</u> , Roma Kačinskaitė, Vilnius University, Lithuania	One case of joint discrete universality in the Selberg- Steuding class

## Section

### Convex geometrie

## Thursday, June 20, 2024

106 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Max Wardetzky</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:15–15:00	Iskander Aliev, Cardiff University, United Kingdom	Proximity and sparsity of lattice points in rational polyhedra

15:00–15:45	Andrea Colesanti, University of Firenze, Italy	Brunn-Minkowski type inequalities for variational functional in Gauss space
<i>Coffee break</i>		
16:15–17:00	Horst Martini, University of Technology, Germany	Some problems and results from Minkowski geometry
17:00–17:45	Silouanos Brazitikos, University of Crete, Greece	How many points do we need to capture the volume?

## Friday, June 21, 2024

106 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Max Wardetzky</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:00–14:45	Gabriele Bianchi, University of Firenze, Italy	Rearrangement of functions and Klimov inequality
<i>Coffee break</i>		
14:45–15:30	Alar Leibak, Tallinn University of Technology, Estonia, Cong Ling, Christian Porter, Imperial College London, England	On additive generalization of Voronoi theory of perfect quadratic forms over number fields

## Section

### History of mathematics

## Thursday, June 20, 2024

209 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Norbert Schappacher</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:15–15:00	Tinne Hoff Kjeldsen, University of Copenhagen, Denmark	From quadratic forms to general convex bodies and beyond: Minkowskian “inventive art” and mathematical programming
15:00–15:45	Catherine Goldstein, Institut de mathématiques de Jussieu-Paris Gauche, France	„Hermite's continuator?“ The paradoxical reception of Hermann Minkowski's number theory in France
<i>Coffee break</i>		
16:15–17:15	Scott A. Walter, Nantes University, France	The prehistory, discovery and initial impact of Hermann

		Minkowski's electrodynamics of moving media and spacetime
17:15–17:45	<b>Discussion</b> of the three talks of the first day	

## Friday, June 21, 2024

209 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Norbert Schappacher</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:00–14:45	Rimvydas Krasauskas, Vilnius University, Lithuania	Laguerre geometry, Minkowski space and evolution of Darboux's ideas on toric sections
14:45–15:30	Norbert Schappacher, Université de Strasbourg, France	On Minkowski's Göttingen Lectures
<i>Coffee break</i>		
16:00–16:45	Jim Ritter, Sorbonne Université, France	Minkowski spacetime: the early avatars
16:45–17:30	<b>General Discussion</b> Which aspects of Hermann Minkowski's life and work call for more historical studies?	

## Section

### Applied mathematics

## Thursday, June 20, 2024

208 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Minvydas Ragulskis</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:15–14:35	Miloš Kopa, Charles University, Prague	Stochastic dominance in portfolio optimization - from Minkowski inequality to modern financial mathematics
14:35–14:55	<u>Romas Baronas</u> , Remigijus Šimkus, Boleslovas Dapkūnas, Vilnius University, Lithuania	Application of Mathematical Models of Chemotaxis to the Analysis the Self-Organization of Bacterial and Human Populations

14:55–15:15	<u>Tomas Krilavičius</u> , Gabrielė Kasputytė, Rūta Juozaitienė, Vytautas Magnus University, Lithuania	Applied Research – Where Mathematics and Informatics Meet
15:15–15:35	<u>Olga Štikonienė</u> , Mifodijus Sapagovas, Artūras Štikonas, Vilnius University, Lithuania	Minkowski M-matrices and Modern Problems for Partial Differential Equations with Nonlocal Boundary Conditions
<i>Coffee break</i>		
Chair: <b>Artūras Štikonas</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
16:15–16:35	<u>Rūta Levulienė</u> , Viliandas Bagdonavičius, Vilnius University, Lithuania	Modified Chi-squared Tests for Regression Models
16:35–16:55	<u>Minvydas Kazys Ragulskis</u> , Zenonas Navickas, Tadas Telksnys, Kaunas University of Technology, Lithuania	Solitary solutions to a relativistic 2-body problem
16:55–17:15	<u>Kristina Pupalaigė</u> , M. Sapagovas, Kaunas University of Technology, Lithuania	On the convergence of the difference scheme for nonlinear parabolic equation with integral boundary condition
17:15–17:35	<u>Yaakov Malinovsky</u> , University of Maryland, Baltimore County, USA Noga Alon, Princeton University, USA, Tel Aviv University, Israel.	Hitting a prime in 2.43 dice rolls (on average)

### Friday, June 21, 2024

208 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Miloš Kopa</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:00–14:20	<u>Viktor Skorniakov</u> , Ugnė Čižikovienė, Vilnius University, Lithuania	On the Generic Cut-Point Detection Procedure in the Binomial Group Testing
14:20–14:40	<u>Kestutis Dučinskas</u> , Marta Karaliutė, Klaipėda University, Lithuania	Generative approach to supervised classification of the continuous feature observations at several spatial locations via Hidden Markov Models
14:40–15:00	<u>Robertas Alzbutas</u> , Jewel Sengupta, Tomas Iešmantas, Kaunas University of Technology	Artificial Intelligence and Uncertainty Analysis for Monitoring of Subarachnoid Haemorrhage
15:00–15:20	Mindaugas Kavaliauskas, Kaunas University of Technology, Lithuania	On Segmentation of Non-Stationary Time Series

<i>Coffee break</i>		
Chair: <b>Regimantas Čiupaila</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
16:00–16:20	Tadas Telksnys, Kaunas University of Technology, Lithuania	Beyond solitary solutions: deformed kinks in Riccati systems
16:20–16:40	<u>Audrius Kabašinskas</u> , Kristina Štutienė, Kaunas University of Technology, Miloš Kopa, Charles University Prague	Is your pension fund resilient to market stress?
16:40–17:00	<u>Aušra Gadeikytė</u> , Rimantas Barauskas, Kaunas University of Technology, Lithuania	Finite element models of heat, air, and water-vapor exchange through 3D textile structures

213 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Tomas Krilavičius</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:00–14:20	<u>Regimantas Čiupaila</u> , Vilnius Gediminas Technical University, Lithuania; Kristina Pupalaigė, Kaunas University of Technology Lithuania; Mifodijus Sapagovas, Vilnius University Lithuania; Gailė Kamilė Šaltenienė, Vilnius Gediminas Technical University	Some applications of M(Minkowski)-matrices for nonlinear elliptic equations with nonlocal conditions
14:20–14:40	<u>Jūratė Karasevičienė</u> , Jonas Šiaulys, Vilnius University, Lithuania	Some properties of generalized subexponential distributions
14:40–15:00	<u>Liepa Bikulčienė</u> , Eglė Butkevičiūtė, Kaunas University of Technology, Lithuania	Challenges of data analysis in healthcare projects
15:00–15:20	<u>Tomas Iešmantas</u> , Robertas Alzbutas, Kaunas University of Technology, Lithuania	Bayesian estimation of battery state-of-charge via state-space model
<i>Coffee break</i>		
Chair: <b>Olga Štikonienė</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
16:00–16:20	Aleksejus Michalkovič, Kaunas University of Technology, Lithuania	On the security of the STR key agreement protocol
16:20–16:40	Inga Telksnienė, Kaunas University of Technology, Lithuania	Transforming fractional differential equations into ordinary differential equations via fractional power series
16:40–17:00	<u>Lina Dindienė</u> , Antanas Bendraitis, Aleksejus Michalkovič, Eligijus Sakalauskas,	Conjectured One-Way Function (OWF) based on matrix power

	Kaunas University of Technology, Lithuania	function and matrix conjugator search problem
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## Section

### Didactics of mathematics

**Thursday, June 20, 2024**

112 room, Mickevičiaus g. 37, Kaunas.

Chair: <b>Rimas Norvaiša</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:15–15:00	Ieva Kilienė, Vilnius university, Lithuania	Arithmetic word problem solving. Analysis of Singaporean and Spanish textbooks
15:00–15:45	Agnė Staniulytė, Vilniaus Universitetas, Lithuania	Breaking the Cycle of Math Anxiety
<i>Coffee break</i>		
16:15–17:00	<u>Gabija Pranaitytė</u> , Bronė Narkevičienė, Kaunas university of technology, Lithuania	Factors Contributing to Academic Success of First-Year University Students in Lithuania: A Comparative Analysis
17:00–17:45	<u>Monika Grigaliūnienė</u> , Erno Lehtinen, Vytautas Magnus University, Lithuania	Creating and validating confidence questionnaire for mathematics teachers

**Friday, June 21, 2024**

112 room, Mickevičiaus g. 37, Kaunas

Chair: <b>Rimas Norvaiša</b>		
<i>Time</i>	<i>Speaker</i>	<i>Title</i>
14:15–15:00	<u>Aurelija Kasparavičiūtė</u> , Svetlana Danilenko, Rūta Simanavičienė, Vilnius tech, Lithuania	The relationship between personality traits and methods for organizing math study process
15:00–15:45	Rimas Norvaiša, Vilnius University, Lithuania	The concept of function in the 9th grade textbook and in the revised curriculum