



7th European Congress of Mathematics
July 18-22, 2016
Technische Universität Berlin

Conference Scientific Program
as per June 15, 2016

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Plenary Lectures

PL01 - Karin Vogtmann

Chair: H. Reich

Monday, 13:30 – 14:30
Audimax (main building)

13:30 **Karen Vogtmann:** *The topology and geometry of automorphism groups of free groups*
[Abstract](#)

PL02 - Peter Scholze

Chair: H. Esnault

Monday, 14:30 – 15:30
Audimax (main building)

14:30 **Peter Scholze:** *Perfectoid Spaces and Their Applications*
[Abstract](#)

PL03 - Gil Kalai

Chair: G. M. Ziegler

Tuesday, 14:00 – 15:00
Audimax (main building)

14:00 **Gil Kalai:** *Combinatorics of Boolean functions and more*
[Abstract](#)

PL04 - Barbara Wohlmuth

Chair: V. Mehrmann

Tuesday, 15:00 – 16:00
Audimax (main building)

15:00 **Barbara Wohlmuth:** *Complexity reduction techniques for the numerical solution of PDEs*
[Abstract](#)

PL05 - Daniel Peralta- Salas

Chair: E. Feireisl

Wednesday, 14:00 – 15:00
Audimax (main building)

14:00 **Daniel Peralta-Salas:** *Existence of knotted vortex structures in stationary solutions of the Euler equations*
[Abstract](#)

PL06 - Karine Chemla

Chair: E. Knobloch

Wednesday, 15:00 – 16:00

Audimax (main building)

15:00 **Karine Chemla:** *How has one, and how could one, approach the diversity of mathematical cultures?*

[Abstract](#)**PL07 - Antti Kupiainen**

Chair: P. Exner

Thursday, 14:00 – 15:00

Audimax (main building)

14:00 **Antti Kupiainen:** *Quantum Fields and Probability*

[Abstract](#)**PL08 - Leonid Polterovich**

Chair: A. Bobenko

Thursday, 15:00 – 16:00

Audimax (main building)

15:00 **Leonid Polterovich:** *Symplectic rigidity and Quantum Mechanics*

[Abstract](#)**PL09 - Alexandr A. Gaifullin**

Chair: L. Polterovich

Friday, 11:45 – 12:45

Audimax (main building)

11:45 **Alexander Gaifullin:** *Flexible polyhedra and their volumes*

[Abstract](#)**PL10 - Clément Mouhot**

Chair: N. Tzvetkov

Friday, 14:15 – 15:15

Audimax (main building)

14:15 **Clément Mouhot:** *TBA*

[Abstract](#)

Dedicated & Special Lectures

Hirzebruch Lecture - Don Zagier

Chair: J. Kramer

Monday, 17:00 – 18:00
Audimax (main building)

17:00 **Don Zagier:** *The Arithmetic and Topology of Differential Equations*
[Abstract](#)

Abel Lecture - Endre Szemerédi

Chair: T. Gowers

Tuesday, 16:30 – 17:30
Audimax (main building)

16:30 **Endre Szemerédi:** *Arithmetic progressions and graph theoretic lemmas*
[Abstract](#)

Public Lecture - Helmut Pottmann

Chair: K. Polthier

Tuesday, 17:30 – 18:30
Audimax (main building)

17:30 **Helmut Pottmann:** *Mathematics in Modern Architecture*
[Abstract](#)

History Lecture I - Eberhard Knobloch

Chair: M. Grötschel

Wednesday, 16:30 – 17:30
Audimax (main building)

16:30 **Eberhard Knobloch:** *Gottfried Wilhelm Leibniz - Universal genius and outstanding mathematician*
[Abstract](#)

History Lecture II - Jürgen Sprekels

Chair: M. Grötschel

Wednesday, 17:30 – 18:30
Audimax (main building)

17:30 **Jürgen Sprekels:** *Karl Weierstrass*
[Abstract](#)

History Lecture III - Gerhard Wanner

Chair: M. Grötschel

Thursday, 16:30 – 17:30

Audimax (main building)

16:30 **Gerhard Wanner:** *Discovery of Lagrange multipliers and Lagrange mechanics*

[Abstract](#)

History Lecture IV - Günter M. Ziegler

Chair: M. Grötschel

Thursday, 17:30 – 18:30

Audimax (main building)

17:30 **Günter M. Ziegler:** *Leonhard Euler: Five strikes of a genius*

[Abstract](#)

Next Generation Outreach Lecture - Peter Scholze

Chair: K. Altmann

Thursday, 19:00 – 19:45

Audimax (main building)

19:00 **Peter Scholze:** *Zahlen und Geometrie*

[Abstract](#)

Invited Lectures

IL01 - Anton Baranov Monday, 16:00 – 16:45
Chair: B. Berndtsson H1012 (main building)

16:00 **Anton Baranov:** *Spectral synthesis in Hilbert spaces of entire functions*
[Abstract](#)

IL02 - Elisabetta Rocca Monday, 16:00 – 16:45
Chair: T. Roubicek H1058 (main building)

16:00 Mimi Dai, Eduard Feireisl, **Elisabetta Rocca**, Giulio Schimperna, Maria Schonbek: *Diffuse interface models in Biology and Mechanics*
[Abstract](#)

IL03 - Dmitry Chelkak Monday, 16:00 – 16:45
Chair: W. König H2032 (main building)

16:00 **Dmitry Chelkak:** *2D Ising model: correlations via boundary value problems*
[Abstract](#)

IL04 - Fabio Nobile Monday, 16:00 – 16:45
Chair: R. Schneider H1028 (main building)

16:00 **Fabio Nobile:** *Numerical approximation of random PDEs: advances and challenges*
[Abstract](#)

IL05 - Tristan Rivière Tuesday, 09:00 – 09:45
Chair: C. Beattie H0104 (main building)

09:00 **Tristan Rivière:** *How much does it cost to evert the sphere?*
[Abstract](#)

IL06 - Radha Kessar

Chair: G. Farkas

Tuesday, 09:00 – 09:45

H1012 (main building)

09:00 **Radha Kessar:** *Blocks of finite reductive groups and local-global conjectures in modular representation theory*

[Abstract](#)**IL07 - Nicolas Bergeron**

Chair: J. Kramer

Tuesday, 09:00 – 09:45

H1058 (main building)

09:00 **Nicolas Bergeron:** *Torsion homology growth in arithmetic groups*

[Abstract](#)**IL08 - Anna Wienhard**

Chair: H. Esnault

Tuesday, 09:00 – 09:45

H2032 (main building)

09:00 **Anna Wienhard:** *Positivity and higher Teichmüller theory*

[Abstract](#)**IL09 - Giuseppe Savaré**

Chair: G. Mingione

Tuesday, 09:00 – 09:45

H1028 (main building)

09:00 **Giuseppe Savaré:** *Diffusion, optimal transport and Ricci curvature*

[Abstract](#)**IL10 - Pierre-Emmanuel Caprace**

Chair: P. Bürgisser

Wednesday, 09:00 – 09:45

H0104 (main building)

09:00 **Pierre-Emmanuel Caprace:** *Non-discrete simple locally compact groups*

[Abstract](#)**IL11 - Kaisa Matomäki**

Chair: D. Zagier

Wednesday, 09:00 – 09:45

H1012 (main building)

09:00 **Kaisa Matomäki, Maksym Radziwill:** *Around the Möbius function*

[Abstract](#)

IL12 - Leonor Godinho and Silvia Sabatini

Chair: C. Bär

Wednesday, 09:00 – 09:45

H1058 (main building)

09:00 **Leonor Godinho, Silvia Sabatini:** *Circle actions in symplectic geometry*[Abstract](#)**IL13 - Joaquim Ortega-Cerdà**

Chair: A. Baranov

Wednesday, 09:00 – 09:45

H2032 (main building)

09:00 **Joaquim Ortega-Cerdà:** *Sampling real polynomials*[Abstract](#)**IL14 - Christian Bonatti**

Chair: D. Chelkak

Wednesday, 09:00 – 09:45

H1028 (main building)

09:00 **Christian Bonatti:** *Weak hyperbolic structures and robust properties of diffeomorphisms and flows.*[Abstract](#)**IL15 - Roman Mikhailov**

Chair: H. Esnault

Thursday, 09:00 – 09:45

H0104 (main building)

09:00 **Roman Mikhailov:** *Derived functors in group theory and homotopy theory*[Abstract](#)**IL16 - Bertrand Maury**

Chair: R. Jeltsch

Thursday, 09:00 – 09:45

H1012 (main building)

09:00 **Bertrand Maury:** *Congested transport at microscopic and macroscopic scales*[Abstract](#)**IL17 - Bo Berndtsson**

Chair: J. Ortega-Cerdà

Thursday, 09:00 – 09:45

H1058 (main building)

09:00 **Bo Berndtsson:** *Complex Brunn-Minkowski theory and its applications in geometry.*[Abstract](#)

IL18 - Moti Gitik

Chair: B. Löwe

Thursday, 09:00 – 09:45

H2032 (main building)

09:00 **Moti Gitik:** *Around powers of singular cardinals.*[Abstract](#)**IL19 - Peter Keevash**

Chair: S. Felsner

Thursday, 09:00 – 09:45

H1028 (main building)

09:00 **Peter Keevash:** *The existence of designs*[Abstract](#)**IL20 - Stefaan Vaes**

Chair: D. Kreimer

Thursday, 11:45 – 12:30

H0104 (main building)

11:45 **Stefaan Vaes:** *Classification of von Neumann algebras and their quantum symmetries*[Abstract](#)**IL21 - Giuseppe Mingione**

Chair: S. Conti

Thursday, 11:45 – 12:30

H1012 (main building)

11:45 **Giuseppe Mingione:** *Recent progresses in Nonlinear Potential Theory*[Abstract](#)**IL22 - Sylvie Méléard**

Chair: M. Sanz-Solé

Thursday, 11:45 – 12:30

H1058 (main building)

11:45 **Sylvie Méléard:** *Stochastic dynamics for adaptation and evolution of microorganisms*[Abstract](#)

IL23 - Massimo Fornasier

Chair: R. Schneider

Thursday, 11:45 – 12:30

H2032 (main building)

11:45 **Massimo Fornasier:** *Learning and Sparse Control of Multiagent Systems*[Abstract](#)**IL24 - Mete Soner**

Chair: P. Bank

Thursday, 11:45 – 12:30

H1028 (main building)

11:45 **H. Mete Soner:** *Martingale Optimal Transport*[Abstract](#)**IL25 - Sergio Conti**

Chair: A. Mielke

Friday, 09:00 – 09:45

H0104 (main building)

09:00 **Sergio Conti:** *Variational modeling of dislocation structures in crystals*[Abstract](#)**IL26 - Amin Coja-Oghlan**

Chair: M. Skutella

Friday, 09:00 – 09:45

H1012 (main building)

09:00 **Amin Coja-Oghlan:** *Phase transitions in discrete structures*[Abstract](#)**IL27 - Nikolay Tzvetkov**

Chair: C. Mouhot

Friday, 09:00 – 09:45

H1058 (main building)

09:00 **Nikolay Tzvetkov:** *Transverse stability issues in Hamiltonian partial differential equations*[Abstract](#)**IL28 - Christophe Garban, Gabor Pete**

Chair: J.-D. Deuschel

Friday, 09:00 – 09:45

H2032 (main building)

09:00 **Christophe Garban, Gabor Pete:** *Near-critical scaling limits in 2d statistical physics*[Abstract](#)

IL29 - Spiros Argyros

Chair: K. Seip

Friday, 09:00 – 09:45

H1028 (main building)

09:00 **Spiros Argyros:** *Banach spaces with the "calar-plus-compact" and "invariant subspace" properties.*

[Abstract](#)

IL30 - James Maynard

Chair: J. Pintz

Friday, 09:00 – 09:45

H1036 (main building)

09:00 **James Maynard:** *Primes in thin sets*

[Abstract](#)

IL31 - Geordie Williamson

Chair: V. Mehrmann

Friday, 09:00 – 09:45

H2036 (main building)

09:00 **Geordie Williamson:** *Shadows of Hodge theory in representation theory*

[Abstract](#)

Panel Discussions, Meetings and Special Events

The EMS/EWM Survey Lecture 2016

Wednesday, 16:30 – 18:00
H0104 (main building)

16:30 **Alessandra Celetti:** *A public talk with discussion on "Chaotic routes that shaped the universe: a history of some outstanding women scientists"*

[Abstract](#)

18:30 Opening Ceremony of the Exhibition: Women of Mathematics throughout Europe. A gallery of portraits. With a musical introduction and welcome speeches. (Mathematical Library, math building)

[Abstract](#)

EMS/AMS Panel: The Future of Mathematical Publishing

Thursday, 16:30 – 18:30
H1012 (main building)

Organizers: Jiří Rákosník, Olaf Teschke, Chuck Weibel

16:30 This panel discussion will address how mathematical documentation is changing, from what it is now and what it will become, and what challenges we will be faced with in making this happen. These changes are driven by technological developments in publishing, and the rise of the internet.

[Abstract](#)

EMS Session on Public Awareness

Wednesday, 16:30 – 18:30
H2032 (main building)

Organizers: Roberto Natalini

16:30 Public awareness is a crucial issue for modern mathematics. If mathematics is a fundamental discipline for our society, on the other hand the great majority of people is unaware of the ideas and the achievements of mathematics. This event, promoted by the Raising Public Awareness Committee of the European Mathematical, is intended to provide an overview of the activities of the committee and also to give some suggestions for possible activities to be developed in each country. The new improved site Mathematics in Europe will be presented, as well as the possibilities of future collaborations. Some reports about Math Fairs and Math Exhibitions will be also discussed.

[Abstract](#)

Funding Agencies Panel

Wednesday, 16:30 – 18:30

Organizers: Carsten Balleier, Petra De Bont,
Frank Kiefer, Christiane Kloeditz

H1012 (main building)

- 16:30 This panel aims at addressing the role of funding agencies with respect to three relevant topics, which will be discussed by representatives of funding agencies and the mathematical community: the current status and role of international cooperation, interdisciplinary research in the mathematical sciences, and the support and advancement of early career researchers. We invite programme managers and members of decision-making bodies from different European funding agencies as well as active researchers to discuss these topics in three separate rounds. For each topic, panel members will give a short introductory talk addressing relevant questions, also concerning the role of funding agencies. These brief presentations will serve as a starting point for the discussion among the panel members, in which the audience will be welcome to participate and share their views.

[Abstract](#)**London Mathematical Society (LMS) Meeting & Lecture**

Thursday, 16:30 – 17:45

H0107 (main building)

- 16:30 **Terry Lyons:** *From Hopf Algebras to Machine learning via Rough Paths*

[Abstract](#)**Movies "The Discrete Charm of Geometry" and "Colors of Math"**

July 19th 18:30 at Audi- The Discrete Charm of Geometry
max (main building)

[Trailer](#)

July 21st, 16:00 in MA004 Colors of Math - Introduced and followed by a Q&A with
(math building) the Director Ekaterina Eremenko

[Trailer](#)

Mini-Symposia

MS-01-A

MS-01-A Advanced Methods for Cardiac Simulation

Wednesday, 09:00 – 11:00

Chair: R. Krause, M. Weiser

H1029 (main building)

- Synopsis Rolf Krause, **Martin Weiser**: *Advanced Methods for Cardiac Simulation*
[Abstract](#)
- 09:00 **Cristóbal Bertoglio**, Felipe Galarce, Julia Hörmann, Martin Kronbichler, Joaquin Mura, Wolfgang Wall: *Improving computational efficiency of cardiac electrophysiology simulations*
[Abstract](#)
- 09:30 Cesare Corrado, **Jean-Frédéric Gerbeau**, Philippe Moireau: *Inverse problem of electrocardiography: a multiphysics data assimilation approach*
[Abstract](#)
- 10:00 **Marco Favino**, Rolf Krause, Simone Pezzuto: *Staggered and monolithic solution strategies for electromechanics in the heart*
[Abstract](#)
- 10:30 **Rolf Krause**, Dorian Krause: *Space-Time Adaptivity with Local Time-Stepping for for Electrophysiology*
[Abstract](#)

MS-01-B

MS-01-B Advanced Methods for Cardiac Simulation

Wednesday, 16:30 – 18:30

Chair: M. Weiser, R. Krause

H1029 (main building)

- 16:30 **Luca Dede**[?], Antonello Gerbi, Anna Tagliabue, Alfio Quarteroni: *Integrated heart modeling: electrophysiology, mechanical activation, and blood flows*
[Abstract](#)
- 17:00 **Adrian Sali**, Martin Weiser: *Coupling of Monodomain and Eikonal Models for Cardiac Electrophysiology*
[Abstract](#)

17:30 **Martin Weiser:** *Adaptive Spectral Deferred Correction Methods for Cardiac Simulation*
[Abstract](#)

MS-02-A

MS-02-A Analysis and numerical methods for the optimal control of PDEs

Chair: F. Tröltzsch, E. Casas

Wednesday, 09:00 – 11:00
H2036 (main building)

Synopsis **Eduardo Casas, Fredi Tröltzsch:** *Analysis and numerical methods for the optimal control of PDEs*

[Abstract](#)

09:00 **Ira Neitzel,** Thomas Wick, Winnifried Wollner: *Optimal control of a fracture propagation problem*

[Abstract](#)

09:30 Roland Herzog, Christian Meyer, **Ailyn Stötzner:** *Optimal Control of Thermo-viscoplasticity*

[Abstract](#)

10:00 **Arnd Rösch,** Gerd Wachsmuth: *Discretization of optimal control problems by higher order finite elements*

[Abstract](#)

10:30 **Eduardo Casas,** Konstantinos Chrysafinos: *First and Second Order Optimality Conditions for a Class of Optimal Control Problems of Quasilinear Parabolic Equations*

[Abstract](#)

MS-02-B

MS-02-B Analysis and numerical methods for the optimal control of PDEs

Chair: F. Tröltzsch, E. Casas

Wednesday, 16:30 – 18:30
H2036 (main building)

- 16:30 **Konstantinos Chrysafinos**, Eduardo Casas: *Error estimates for the discretization of an optimal control problem related to quasilinear parabolic pdes*
[Abstract](#)
- 17:00 **Irwin Yousept**: *Optimization of Non-Smooth Hyperbolic Evolution Maxwell's Equations in Type-II Superconductivity*
[Abstract](#)
- 17:30 Eduardo Casas, **Mariano Mateos**: *Sparse control for an optimal time problem*
[Abstract](#)
- 18:00 Eduardo Casas, **Fredi Tröltzsch**: *Second Order Conditions for Weak and Strong Local Solutions of Parabolic Optimal Control Problems*
[Abstract](#)

MS-03

MS-03 Analysis of thermodynamically consistent models of electrolytes in the context of battery research

Chair: P.-E. Druet

Wednesday, 09:00 – 11:00
H3005 (main building)

- Synopsis **Pierre-Etienne Druet**: *Analysis of thermodynamically consistent models of electrolytes in the context of battery research*
[Abstract](#)
- 09:00 **Jürgen Saal**: *Global weak and strong existence and stability of electro-kinetic flows*
[Abstract](#)
- 09:30 **Eduard Feireisl**: *On diffuse interface models of binary mixtures of compressible fluids*
[Abstract](#)
- 10:00 **Ewelina Zatorska**: *Existence analysis of the compressible Navier-Stokes system for mixtures.*
[Abstract](#)

- 10:30 **Pierre-Etienne Druet**: *Existence of global weak solutions for generalised Poisson-Nernst-Planck systems*
[Abstract](#)

MS-04

MS-04 Applied Algebraic Topology meets

Topological Combinatorics

Chair: P. Blagojevic, G. M. Ziegler

Friday, 09:00 – 11:00
H0107 (main building)

Synopsis Pavle Blagojevic, Michael Farber, Günter M. Ziegler, **Uli Wagner**, **Lucile Vandembroucq**, **Pavel Paták**: *Applied Algebraic Topology meets Topological Combinatorics*

[Abstract](#)

09:00 **Lucile Vandembroucq**: *Topological Complexity and Hopf invariants*

[Abstract](#)

09:30 **Pavel Paták**, Karim Adiprasito, Arnau Padrol, Zuzana Patáková, Raman Sanyal, Karim Adiprasito: *Colorful simplicial depth*

[Abstract](#)

10:00 **Uli Wagner**: *Eliminating Multiple Intersections of Maps and the Topological Tverberg Conjecture*

[Abstract](#)

MS-05

MS-05 Asymptotic Geometric Analysis

Chair: V. Milman

Thursday, 16:30 – 18:30
H2033 (main building)

Synopsis **Boaz Klartag**, **Vitali Milman**: *Asymptotic Geometric Analysis*

[Abstract](#)

16:30 **Shiri Artstein**: *Polarity and symmetry in asymptotic convexity*

[Abstract](#)

- 17:00 **Ronen Eldan:** *Interactions between stochastic calculus and geometric inequalities*
[Abstract](#)
- 17:30 **Apostolos Giannopoulos:** *Quantitative versions of Helly's theorem*
[Abstract](#)
- 18:00 **Monika Ludwig:** *Geometric classification*
[Abstract](#)

MS-06

MS-06 Beyond Spectral Clustering Methods

Chair: M. Weber, K. Fackeldey

Thursday, 16:30 – 18:30
 H0106 (main building)

- Synopsis **Marcus Weber, Konstantin Fackeldey, Christof Schütte:** *Beyond Spectral Clustering Methods*
[Abstract](#)
- 16:30 **Konstantin Fackeldey:** *GPCCA Generalized Perron Cluster Analysis*
[Abstract](#)
- 17:00 **Marcus Weber:** *Clustering of in-homogeneous Markov Chains*
[Abstract](#)
- 17:30 **Jakob Witzig, Isabel Beckenbach, Leon Eifler, Ambros Gleixner:** *A MINLP clustering approach for molecular simulation.*
[Abstract](#)
- 18:00 **Amir Niknejad:** *TBA*
[Abstract](#)

MS-07

MS-07 Canonical metrics, K-stability and moduli spaces of Fano varieties

Chair: H. Suess

Tuesday, 09:00 – 11:00
H0107 (main building)

Synopsis **Hendrik Suess, Cristiano Spotti:** *Canonical metrics, K-stability and moduli spaces of Fano varieties*

[Abstract](#)

09:00 **Julius Ross:** *K-stability for Kahler manifolds*

[Abstract](#)

09:30 Cristiano Spotti, Song Sun, **Chengjian Yao:** *Existence and deformations of Kahler-Einstein metrics on smoothable Q-Fano varieties*

[Abstract](#)

10:00 **Ruadhair Dervan,** Giulio Codogni: *Non-reductive automorphism groups, the Loewy filtration and K-stability*

[Abstract](#)

10:30 **Jacopo Stoppa,** Giulio Codogni: *Torus equivariant K-stability*

[Abstract](#)

MS-08

MS-08 Collective dynamics in socioeconomic applications

Chair: M.-T. Wolfram, B. Düring

Thursday, 09:00 – 11:00
H2033 (main building)

Synopsis **Marie-Therese Wolfram:** *Collective dynamics in socio-economic applications*

[Abstract](#)

09:00 **Bertram Düring:** *Inhomogeneous kinetic models for opinion formation*

[Abstract](#)

09:30 **Marie-Therese Wolfram:** *On Boltzmann mean field game models for knowledge growth*

[Abstract](#)

10:00 **Marcello Delitala,** Tommaso Lorenzi: *Mathematical modelling for value estimation with public information and herding*

[Abstract](#)

- 10:30 Pierre-Emmanuel Jabin, **Stephane Junca**: *A Kinetic model for the chess rating system*
[Abstract](#)

MS-09

MS-09 Combinatorial algebraic geometry Wednesday, 09:00 – 11:00
Chair: L. Kastner, A. Constantinescu H0107 (main building)

Synopsis **Alexandru Constantinescu, Lars Kastner**: *Combinatorial algebraic geometry*
[Abstract](#)

09:00 **Michael Joswig**: *The Tropical Geometry of Linear Programming*
[Abstract](#)

09:30 **Simon Keicher**: *Computations with Mori Dream Spaces*
[Abstract](#)

10:00 **Maria Donten-Bury**: *20 incident planes in P^5 and two IHS fourfolds*
[Abstract](#)

10:30 **Johannes Hofscheier**: *On the generalized Mukai conjecture for spherical varieties*
[Abstract](#)

MS-10

MS-10 Toric, tropical and combinatorial geometry - a panorama Wednesday, 16:30 – 18:30
Chair: E. Delucchi, E.-M. Feichtner H3012 (main building)

Synopsis **Emanuele Delucchi, Eva-Maria Feichtner**: *Toric, tropical and combinatorial geometry - a panorama*
[Abstract](#)

16:30 **Corrado De Concini**: *Wonderful models for toric arrangements?*
[Abstract](#)

- 17:00 **Kristin Shaw**: *Poincaré duality for matroidal fans via tropical cohomology*
[Abstract](#)
- 17:30 **Farhad Babae Ghasemabadi**: *A tropical approach to a generalized Hodge conjecture for positive currents*
[Abstract](#)
- 18:00 Johannes Hofscheier, Lukas Katthän, **Benjamin Nill**: *Ehrhart theory for spanning lattice polytopes*
[Abstract](#)

MS-11

MS-11 Combinatorics of Polynomial Systems

Chair: B. Nill

Thursday, 09:00 – 11:00

H0107 (main building)

- Synopsis **Christian Haase, Benjamin Nill**: *Combinatorics of Polynomial Systems*
[Abstract](#)
- 09:00 **Frédéric Bihan**: *Towards a generalized Descartes' rule of signs for multivariate polynomial systems*
[Abstract](#)
- 09:30 **Martina Juhnke-Kubitzke**: *Intersections of Amoebas*
[Abstract](#)
- 10:00 **Alexander Esterov**, Gleb Gusev: *Solvability by radicals for systems of polynomial equations*
[Abstract](#)
- 10:30 **Raman Sanyal**, Katharina Jochemko: *Positivity and monotonicity of combinatorial mixed valuations*
[Abstract](#)

MS-12-A

MS-12-A Computer Algebra and Applications

Chair: J. Boehm, A. Steenpaß

Wednesday, 09:00 – 11:00

H2037 (main building)

Synopsis **Janko Boehm, Christian Eder, Mathias Schulze, Andreas Steenpaß:** *Computer Algebra and Applications*

[Abstract](#)

09:00 **Hannah Markwig:** *Algorithmic tropical intersection theory and its applications*

[Abstract](#)

09:30 **Anders Jensen:** *Monomial and binomial containment for polynomial ideals*

[Abstract](#)

10:00 **Yue Ren:** *Algorithmic aspects of tropical geometry over fields with valuation*

[Abstract](#)

10:30 **Tobias Mai:** *Non-commutative polynomials and rational expressions in freely independent variables*

[Abstract](#)

MS-12-B

MS-12-B Computer Algebra and Applications

Chair: J. Boehm, A. Steenpaß

Wednesday, 16:30 – 18:30

H2037 (main building)

16:30 **Meinolf Geck:** *Towards an atlas of generic character tables*

[Abstract](#)

17:00 **Anne Frühbis-Krüger:** *Massive parallel algorithms in Algebraic Geometry and Singularity Theory*

[Abstract](#)

17:30 **Magdalen Marais:** *Algorithmic Classification of Real Singularities*

[Abstract](#)

18:00 **Tommy Hofmann:** *Modules over Dedekind domains*

[Abstract](#)

MS-13-A

MS-13-A Analysis, Numerics, and Control of Differential-Algebraic Equations

Chair: M. Voigt

Thursday, 09:00 – 11:00
H2037 (main building)

- Synopsis **Matthias Voigt**: *Analysis, Numerics, and Control of Differential-Algebraic Equations*
[Abstract](#)
- 09:00 **Thomas Berger**: *Disturbance decoupling for DAEs by behavioral feedback*
[Abstract](#)
- 09:30 **Noorma Yulia Megawati**, Arjan van der Schaft: *Bisimulation equivalence of DAE systems*
[Abstract](#)
- 10:00 Kanat Camlibel, Luigi Iannelli, Aneel Tanwani, **Stephan Trenn**: *Passive DAEs and maximal monotone operators*
[Abstract](#)
- 10:30 **Matthias Voigt**, Timo Reis: *Inner-Outer Factorizations for Differential-Algebraic Systems*
[Abstract](#)

MS-13-B

MS-13-B Analysis, Numerics, and Control of Differential-Algebraic Equations

Chair: M. Voigt

Thursday, 16:30 – 18:30
H2037 (main building)

- 16:30 **Subashish Datta**, Volker Mehrmann: *Reachable Space Computation of Linear Time-Invariant Descriptor Systems*
[Abstract](#)
- 17:00 **Ross McKenzie**, John Pryce: *Index reduction of DAEs by 'Universal' Dummy Derivatives.*
[Abstract](#)
- 17:30 **Jan Heiland**: *Optimal control approach to multi-body systems with servo constraints*
[Abstract](#)

- 18:00 Peter Benner, **Pawan Goyal**: *H2-Optimal Model Reduction for Bilinear Descriptor Systems*
[Abstract](#)

MS-14-A

MS-14-A Differential models in applications to nonlinear media: memory and biological materials

Wednesday, 09:00 – 11:00

Chair: D. Andreucci, S. Carillo

H2033 (main building)

Synopsis **Daniele Andreucci, Sandra Carillo**: *Differential models in applications to nonlinear media: memory and biological materials*

[Abstract](#)

09:00 **Colin Rogers**: *Bäcklund and Reciprocal Invariance of a Korteweg Capillarity System*

[Abstract](#)

09:30 **Benno Fuchssteiner**: *Solitons and Monads*

[Abstract](#)

10:00 **Luciano Pandolfi**: *Relaxation kernel and source identification for the heat equation with persistent memory*

[Abstract](#)

10:30 **Sandra Carillo**, Mauro Lo Schiavo, Cornelia Schiebold: *Non Abelian Non-linear Evolution Equations & Bäcklund Transformations*

[Abstract](#)

MS-14-B

MS-14-B Differential models in applications to nonlinear media: memory and biological materials

Wednesday, 16:30 – 18:30

Chair: S. Carillo, D. Andreucci

H2033 (main building)

16:30 **Elena Bonetti**: *Modeling and analysis of shape memory in smart materials*

[Abstract](#)

- 17:00 **Francesca Bucci:** *Boundary control of a fluid-structure interaction: mathematical modeling and analysis*
[Abstract](#)
- 17:30 **Angiolo Farina, Giuseppe Saccomandi, Lorenzo Fusi:** *Buckley–Leverett Equation with Viscosities and relative Permeabilities depending on Pressure*
[Abstract](#)

MS-15

MS-15 Discrete Optimization

Chair: M. Skutella, N. Megow

Wednesday, 16:30 – 18:30

H0112 (main building)

- Synopsis **Nicole Megow, Martin Skutella:** *Discrete Optimization*
[Abstract](#)
- 16:30 **Britta Peis:** *Matchings and Matroids in Algorithmic Game Theory*
[Abstract](#)
- 17:00 **Frank Vallentin:** *Optimization in discrete geometry*
[Abstract](#)
- 17:30 David Adjashvili, Andrea Baggio, **Rico Zenklusen:** *Firefighting on Trees Beyond Integrality Gaps*
[Abstract](#)
- 18:00 **Robert Weismantel:** *Integer decomposition of matrices with applications to integer optimization*
[Abstract](#)

MS-16

MS-16 Dislocations: recent results and perspectives

Chair: I. Lucardesi, M. Morandotti

Thursday, 16:30 – 18:30

H0112 (main building)

- 16:30 **Ilaria Lucardesi**: *Confinement of dislocations inside a crystal with prescribed external strain*
[Abstract](#)
- 17:00 **Marco Morandotti**: *Screw dislocation dynamics*
[Abstract](#)
- 17:30 **Thomas Hudson**: *Upscaling the thermally-driven motion of screw dislocations*
[Abstract](#)
- 18:00 **Vito Crismale**: *Globally Stable Quasistatic Evolution For Strain Gradient Plasticity Coupled With Damage*
[Abstract](#)

MS-17

MS-17 Recent results in axiomatic, combinatorial, and descriptive set theory

Chair: B. Löwe

Wednesday, 09:00 – 11:00

H3012 (main building)

- Synopsis **Istvan Juhasz, Benedikt Löwe**: *Recent results in axiomatic, combinatorial, and descriptive set theory*
[Abstract](#)
- 09:00 **Carolín Antos**: *Forcing in different theories*
[Abstract](#)
- 09:30 **Assaf Rinot**: *A study of strong combinatorial axioms*
[Abstract](#)
- 10:00 **Andrew Brooke-Taylor, Sheila Miller**: *The complexity of a complete knot invariant*
[Abstract](#)
- 10:30 **Peter Komjáth**: *Recent results on the chromatic number of graphs and set systems.*
[Abstract](#)

MS-18

MS-18 Exact Solutions and Certificates in Mathematical Optimization

Chair: A. Gleixner, D. Steffy

Friday, 09:00 – 11:00
H1029 (main building)

Synopsis **Ambros Gleixner, Daniel E. Steffy:** *Exact Solutions and Certificates in Mathematical Optimization*

[Abstract](#)

09:00 **Daniel Steffy:** *Symbolic-numeric methods for linear and integer programming*

[Abstract](#)

09:30 **Kevin Cheung:** *Towards establishing optimality beyond reasonable doubt*

[Abstract](#)

10:00 **Hermann Schichl, Hannes Fendl, Arnold Neumaier, Ferenc Domes, Mihaly Csaba Markot, Tiago Montanher:** *Certificates of infeasibility and global optimality*

[Abstract](#)

10:30 **Steven Obua:** *The Future of Mathematics*

[Abstract](#)

MS-20

MS-20 Geometric curvature energies

Chair: S. Blatt, P. Reiter, A. Schikorra

Tuesday, 09:00 – 11:00
H2033 (main building)

Synopsis **Simon Blatt, Philipp Reiter, Armin Schikorra:** *Geometric curvature energies*

[Abstract](#)

09:00 **Joan Verdera:** *Menger curvature, the Cauchy Integral and rectifiability*

[Abstract](#)

09:30 **Alexander Bobenko:** *On variational principles in discrete differential geometry*

[Abstract](#)

- 10:00 **Pawel Strzelecki:** *Menger curvature and its cousins: a survey of nonlocal geometric curvature energies and their properties*
[Abstract](#)
- 10:30 **Tristan Rivière:** *The analysis of horizontal fractional harmonic maps*
[Abstract](#)

MS-21

MS-21 Hilbert Spaces of Analytic Functions and Their Operators

Chair: A. Aleman, A. Baranov, Y. Belov

Thursday, 09:00 – 11:00
 H0112 (main building)

- Synopsis **Anton Baranov, Alexandru Aleman, Yurii Belov:** *Hilbert Spaces of Analytic Functions and Their Operators*
[Abstract](#)
- 09:00 **Kristian Seip:** *Lower bounds for extreme values of the Riemann zeta function*
[Abstract](#)
- 09:30 **Xavier Massaneda, Alexander Borichev, Hartmann Andreas, Kellay Karim:** *Geometric conditions for multiple sampling and interpolation in the Fock space*
[Abstract](#)
- 10:00 **Mishko Mitkovski:** *Operator theory in general function spaces*
[Abstract](#)
- 10:30 **Haakan Hedenmalm:** *Bloch functions and asymptotic variance*
[Abstract](#)

MS-22

MS-22 Mathematical methods for semiconductors

Chair: N. Rotundo, D. Peschka, P. Farrell

Friday, 09:00 – 11:00
 H2033 (main building)

- Synopsis **Nella Rotundo, Patricio Farrell, Dirk Peschka:** *Mathematical methods for semiconductors*
[Abstract](#)

- 09:00 **Jürgen Fuhrmann:** *Numerical methods for generalized drift-diffusion models in electrochemical devices and semiconductors*
[Abstract](#)
- 09:30 **Annegret Glitzky:** *$p(x)$ -Laplace thermistor models for electrothermaleffects in organic semiconductor devices*
[Abstract](#)
- 10:00 **Rene Pinnau:** *Asymptotic Analysis in Optimal Semiconductor Design*
[Abstract](#)
- 10:30 **Claire Chainais-Hillairet:** *Exponential time decay of a finite volume scheme for drift-diffusion systems*
[Abstract](#)

MS-23

MS-23 Mathematics of Krylov Subspace Methods

Chair: J. Liesen, Z. Strakoš

Tuesday, 09:00 – 11:00

H1029 (main building)

- Synopsis **Zdeněk Strakoš, Jörg Liesen:** *Mathematics of Krylov Subspace Methods*
[Abstract](#)
- 09:00 **Jörg Liesen, Zdeněk Strakoš:** *Principles of Krylov subspace methods*
[Abstract](#)
- 09:30 **Arno Kuijlaars:** *Potential theory for Krylov methods*
[Abstract](#)
- 10:00 **Michael Eiermann:** *Restarted Krylov subspace methods for the evaluation of matrix functions*
[Abstract](#)
- 10:30 **Roland Herzog:** *A Conjugate Direction Method for Linear Systems in Banach Spaces*
[Abstract](#)

MS-24

MS-24 Matrix Equations: Solvers and Applications

Chair: H. Mena, J. Saak

Tuesday, 09:00 – 11:00

H2036 (main building)

- Synopsis **Jens Saak, Hermann Mena:** *Matrix Equations: Solvers and Applications*
[Abstract](#)
- 09:00 **Federico Poloni:** *Inverse-free and permuted bases methods for algebraic Riccati equations*
[Abstract](#)
- 09:30 **Tony Stillfjord:** *Splitting schemes for differential Riccati equations*
[Abstract](#)
- 10:00 **Tobias Breiten, Karl Kunisch, Sergio Rodrigues:** *Feedback stabilization to non-stationary solutions of the monodomain equations by differential Riccati equations*
[Abstract](#)
- 10:30 **Timo Reis, Matthias Voigt:** *Matrix equations in linear-quadratic optimal control of differential-algebraic equations*
[Abstract](#)

MS-25-A

MS-25-A Modeling and simulation of transport-dominated phenomena

Chair: C. Beattie, B. Unger, P. Schulze, S. Gugercin

Thursday, 09:00 – 11:00

H2036 (main building)

- Synopsis **Benjamin Unger, Philipp Schulze, Serkan Gugercin, Christopher Beattie:**
Modeling and simulation of transport-dominated phenomena
[Abstract](#)
- 09:00 **Evangelos Siminos:** *Continuous symmetry reduction for transport-dominated flows*
[Abstract](#)
- 09:30 Mario Ohlberger, **Stephan Rave:** *Nonlinear Model Order Reduction for Parametric Time Evolution Problems Using the Method of Freezing*
[Abstract](#)

- 10:00 **Wolf-Juergen Beyn:** *A decompose and freeze method for interacting nonlinear waves*
[Abstract](#)
- 10:30 **Kevin Carlberg:** *Adaptive h-refinement in nonlinear model reduction: capturing moving discontinuities*
[Abstract](#)

MS-25-B

MS-25-B Modeling and simulation of transport-dominated phenomena

Chair: C. Beattie, B. Unger, P. Schulze

Thursday, 16:30 – 18:30
 H2036 (main building)

- 16:30 **Michael Dellnitz,** Mirko Hessel-von Molo, Adrian Ziessler: *On the Computation of Attractors for Delay Differential Equations*
[Abstract](#)
- 17:00 **Tobias Breiten:** *Structure-preserving model reduction for a class of infinite delay equations*
[Abstract](#)
- 17:30 **Igor Pontes Duff,** Charles Poussot-Vassal, Cédric Seren: *H2 model reduction, interpolation and time-delay systems*
[Abstract](#)
- 18:00 **Benjamin Unger,** Philipp Schulze, Christopher Beattie, Serkan Gugercin: *Structured surrogate models of complex dynamical systems based on input/output data*
[Abstract](#)

MS-26

MS-26 Models and methods for nonlinear network flow problems

Chair: B. Hiller

Tuesday, 09:00 – 11:00
H3005 (main building)

- Synopsis **Benjamin Hiller**: *Models and methods for nonlinear network flow problems*
[Abstract](#)
- 09:00 **Christoph Huck**, Caren Tischendorf: *Perturbation Analysis of hyperbolic PDAEs*
[Abstract](#)
- 09:20 **Bjoern Liljegren-Sailer**, Nicole Marheineke: *Structure preserving model order reduction for a semidiscretized gas transport network*
[Abstract](#)
- 09:40 **Mathias Sirvent**: *A Decomposition method for mixed-integer optimal control*
[Abstract](#)
- 10:00 **Denis Aßmann**, Frauke Liers, Michael Stingl: *The Passive Gas Network Nomination Problem: Handling of Uncertainties*
[Abstract](#)
- 10:20 Frauke Liers, **Maximilian Merkert**: *Structural investigation of piecewise linearized flow problems*
[Abstract](#)
- 10:40 **Tom Walther**, Benjamin Hiller: *Approximate Convex Decomposition in Gas Network Optimization*
[Abstract](#)

MS-27-A

MS-27-A Multiscale and Homogenization Methods

Chair: K. Schmidt, A. Lamacz

Tuesday, 09:00 – 11:00
H0110 (main building)

- Synopsis **Kersten Schmidt, Agnes Lamacz**: *Multiscale and Homogenization Methods: Interplay of analysis and numerics with a focus on wave problems*
[Abstract](#)

- 09:00 **Ben Schweizer**, Agnes Lamacz: *Outgoing Wave Conditions in Photonic Crystals and Transmission Properties at Interfaces*
[Abstract](#)
- 09:30 **Grigory Panasenko**: *Asymptotic reduction and numerical strategy for the flows in thin tube structures*
[Abstract](#)
- 10:00 **Carolin Kreisbeck**, Luísa Mascarenhas: *Asymptotic spectral analysis in semiconductor nanowire heterostructures*
[Abstract](#)
- 10:30 **Marc Dambrine**, Isabelle Greff, Helmut Harbrecht, Bénédicte Puig: *Numerical solution of the Poisson equation on domains with a thin layer of random thickness*
[Abstract](#)

MS-27-B

MS-27-B Multiscale and Homogenization Methods

Chair: K. Schmidt, A. Lamacz

Wednesday, 09:00 – 11:00

H0110 (main building)

- 09:00 Abderrahmane Bendali, Pierre-Henri Cocquet, Ha Pham Howard, **Sebastien Tordeux**: *High order numerical method for the scattering of several small heterogeneities*
[Abstract](#)
- 09:30 **Xavier Claeys**, Patrick Joly, Simon Marmorat: *Asymptotics of two dimensional time domain scattering by small obstacles*
[Abstract](#)
- 10:00 **Hai Zhang**, Habib Ammari: *Mathematical theory of super-resolution in resonant media*
[Abstract](#)
- 10:30 **Kersten Schmidt**, Adrien Semin, Bérangère Delourme: *Homogenization of a thin periodic layer interacting with corner singularities*
[Abstract](#)

MS-27-C

MS-27-C Multiscale and Homogenization Methods

Wednesday, 16:30 – 18:30

Chair: K. Schmidt, A. Lamacz

H0110 (main building)

- 16:30 **Agnes Lamacz**, Ben Schweizer: *Effective acoustic properties of a meta-material consisting of small Helmholtz resonators*
[Abstract](#)
- 17:00 **Stefan Neukamm**: *Quantitative Two-Scale Expansion in stochastic homogenization*
[Abstract](#)
- 17:30 Assyr Abdulle, **Timothée Pouchon**: *A family of effective models for long time wave propagation in heterogeneous media*
[Abstract](#)
- 18:00 **Patrick Henning**: *Numerical homogenization for the wave equation*
[Abstract](#)

MS-28

MS-28 New perspectives on symmetries of discrete structures

Tuesday, 09:00 – 11:00

Chair: P. Potočnik

H0111 (main building)

- Synopsis **Primož Potočnik**: *New perspectives on symmetries of discrete structures*
[Abstract](#)
- 09:00 **Dragan Marusic**: *Symmetry of graphs via even/odd automorphisms*
[Abstract](#)
- 09:30 **Pablo Spiga**: *Some recent developments on a conjecture of Richard Weiss on locally primitive vertex-transitive graphs.*
[Abstract](#)
- 10:00 **Jozef Siran**: *Regular maps on a given surface*
[Abstract](#)
- 10:30 **Marston Conder**: *Regular and chiral polytopes: recent discoveries and challenges*
[Abstract](#)

MS-29-A

MS-29-A Nonsmooth PDEs in the modeling damage, delamination, and fracture

Chair: E. Rocca, M. Thomas

Thursday, 09:00 – 11:00
H0110 (main building)

Synopsis **Elisabetta Rocca, Marita Thomas:** *Nonsmooth PDEs in the modeling damage, delamination, and fracture*

[Abstract](#)

09:00 **Christian Heinemann, M. Hassan Farshbaf-Shaker:** *Analysis of optimality conditions for a PDE system modeling damage processes*

[Abstract](#)

09:30 **Marijo Milicevic:** *Numerical Methods for Total Variation Minimization and Application to a Damage Model*

[Abstract](#)

10:00 **Dorothee Knees:** *Convergence of alternate minimization schemes for phase field fracture and damage*

[Abstract](#)

10:30 **Tomas Roubicek:** *Damage in solids coupled with various other phenomena.*

[Abstract](#)

MS-29-B

MS-29-B Nonsmooth PDEs in the modeling damage, delamination, and fracture

Chair: E. Rocca, M. Thomas

Thursday, 16:30 – 18:30
H0110 (main building)

16:30 **Rodica Toader:** *Fracture models for elasto-plastic materials as limits of gradient damage models coupled with plasticity*

[Abstract](#)

17:00 **Riccarda Rossi, Marita Thomas:** *From adhesive contact to brittle delamination in visco-elasto-dynamics*

[Abstract](#)

17:30 Sergio Conti, Matteo Focardi, **Flaviana Iurlano:** *Existence theorem for the stationary Griffith problem in dimension two*

[Abstract](#)

- 18:00 **Elena Bonetti:** *Asymmetric phase transitions phenomena: modeling via scalar and tensorial variables*
[Abstract](#)

MS-29-C

MS-29-C Nonsmooth PDEs in the modeling damage, delamination, and fracture

Chair: E. Rocca, M. Thomas

Friday, 09:00 – 11:00
H0110 (main building)

- 09:00 **Dirk Peschka:** *A free boundary problem for the motion of viscous liquids*
[Abstract](#)
- 09:30 **Martin Heida:** *Stochastic homogenization of 1-homogeneous functionals*
[Abstract](#)
- 10:00 **Olaf Klein:** *Uncertainty quantification for hysteresis operators*
[Abstract](#)
- 10:30 **Marita Thomas, Riccarda Rossi:** *Coupling rate-independent and rate-dependent processes: Existence results*
[Abstract](#)

MS-30-A

MS-30-A Numerical methods for SDEs

Chair: L. Yaroslavtseva, R. Kruse

Wednesday, 09:00 – 11:00
H0111 (main building)

- Synopsis **Larisa Yaroslavtseva, Raphael Kruse:** *Numerical methods for SDEs*
[Abstract](#)
- 09:00 **Sotirios Sabanis:** *A new class of explicit, high-order numerical schemes.*
[Abstract](#)
- 09:30 **Sonja Cox:** *Weak convergence for semi-linear SPDEs*
[Abstract](#)

- 10:00 **Arnulf Jentzen:** *Strong and weak convergence of an explicit and full-discrete approximation scheme for two-dimensional stochastic Navier-Stokes equations*
[Abstract](#)
- 10:30 **Markus Ableidinger, Evelyn Buckwar:** *Structure preserving integrators for finite spin ensembles*
[Abstract](#)

MS-30-B

MS-30-B Numerical methods for SDEs	Wednesday, 16:30 – 18:30
Chair: L. Yaroslavtseva, R. Kruse	H0111 (main building)

- 16:30 **Andreas Neuenkirch:** *The Euler scheme for SDEs with additive noise and discontinuous drift*
[Abstract](#)
- 17:00 **Thomas Mueller-Gronbach:** *On very hard approximation problems for stochastic differential equations*
[Abstract](#)
- 17:30 **Mario Hefter, Andre Herzwurm:** *Optimal Strong Approximation of the One-dimensional Squared Bessel Process*
[Abstract](#)
- 18:00 **Steffen Dereich, Thomas Müller-Gronbach:** *General multilevel adaptations for stochastic approximation algorithms*
[Abstract](#)

MS-32-A

MS-32-A Numerics and Optimal Control of SPDEs	Thursday, 16:30 – 18:30
Chair: L. Banas, R. Kruse	H0111 (main building)

- Synopsis **Lubomir Banas, Raphael Kruse:** *Numerics and Optimal Control of SPDEs*
[Abstract](#)

- 16:30 **Christian Bender**, Nikolai Dokuchaev: *A backward SPDE for swing option pricing*
[Abstract](#)
- 17:00 **Benjamin Gess**: *Semi-discretization for stochastic scalar conservation laws with multiple rough fluxes*
[Abstract](#)
- 17:30 **Martina Hofmanova**: *Space-time approximation of stochastic p -Laplace type systems*
[Abstract](#)
- 18:00 Etienne Emmrich, **David Siska**: *Nonlinear stochastic evolution equations of second order with damping*
[Abstract](#)

MS-32-B

MS-32-B Numerics and Optimal Control of SPDEs

Chair: L. Banas, R. Kruse

Friday, 09:00 – 11:00
 H0112 (main building)

- 09:00 **Andreas Prohl**: *The forward-backward stochastic heat equation: numerical analysis and simulation*
[Abstract](#)
- 09:30 **David Cohen**, Guillaume Dujardin: *Exponential integrators for nonlinear Schrödinger equations with white noise dispersion*
[Abstract](#)
- 10:00 **Mihaly Kovacs**, Stig Larsson, Fredrik Lindgren: *Strong rate of convergence of a splitting scheme for the stochastic Allen-Cahn equation*
[Abstract](#)
- 10:30 **Stig Larsson**, Christian Mollet, Matteo Molteni: *Quasi-optimality of Petrov-Galerkin discretizations of parabolic problems with random coefficients*
[Abstract](#)

MS-33

MS-33 Open boundary conditions for incompressible flows: theoretical and practical aspects

Chair: A. Caiazzo, C. Bertoglio

Tuesday, 09:00 – 11:00

H2037 (main building)

Synopsis **Alfonso Caiazzo**: *Open boundary conditions for incompressible flows: theoretical and practical aspects*

[Abstract](#)

09:00 **Malte Braack**: *Stable outflow conditions for the incompressible Navier-Stokes equations*

[Abstract](#)

09:30 **Suchuan Dong**: *Backflow instability and energy-stable open boundary conditions for incompressible flows*

[Abstract](#)

10:00 **Cristóbal Bertoglio**, Alfonso Caiazzo: *A Stokes-residual based backflow stabilization method for physiological flows*

[Abstract](#)

10:30 **Alfonso Caiazzo**, Cristobal Bertoglio: *A comparative study of backflow stabilization methods*

[Abstract](#)

MS-34

MS-34 Operator semigroups: theory and applications

Chair: A. Bobrowski, R. Chill, Y. Tomilov

Tuesday, 09:00 – 11:00

H0106 (main building)

Synopsis **Adam Bobrowski, Ralph Chill, Yuri Tomilov**: *Operator semigroups: theory and applications*

[Abstract](#)

09:00 **Charles Batty**: *Holomorphic functions which preserve holomorphic semigroups*

[Abstract](#)

09:30 **El Maati Ouhabaz**: *Maximal regularity for non-autonomous evolution equations.*

[Abstract](#)

- 10:00 **Jan van Neerven:** *The Hodge-Dirac operator associated with the Ornstein-Uhlenbeck operator*
[Abstract](#)
- 10:30 **Matthias Hieber:** *On Periodic Solutions to Semilinear Evolution Equations*
[Abstract](#)

MS-35-A

MS-35-A Orthogonal Polynomials and Applications Wednesday, 09:00 – 11:00
 Chair: J. J. Moreno-Balcázar, A. Deaño, G. Filipuk, M. d. N. Rebocho H0106 (main building)

- Synopsis **Alfredo Deaño, Galina Filipuk, Andrei Martínez-Finkelshtein, Juan J. Moreno-Balcázar, Maria das Neves Rebocho:** *Orthogonal Polynomials*
[Abstract](#)
- 09:00 **Arno Kuijlaars:** *Products of random matrices*
[Abstract](#)
- 09:30 **Marija Stanic:** *Multiple orthogonal trigonometric polynomials of semi-integer degree and the corresponding quadrature rules*
[Abstract](#)
- 10:00 **Jonathan Breuer:** *Large Deviations for Random Matrices and a Conjecture of Lukic*
[Abstract](#)
- 10:30 **Ruyman Cruz-Barroso:** *Orthogonal rational functions on the unit circle with prescribed poles not on the unit circle.*
[Abstract](#)

MS-35-B

MS-35-B Orthogonal Polynomials and Applications Wednesday, 16:30 – 18:30
Chair: J. J. Moreno-Balcázar, A. Deaño, G. Filipuk, M. d. N. Rebocho H0106 (main building)

- 16:30 **Francisco Marcellan:** *Darboux transformations and CMV matrices*
[Abstract](#)
- 16:50 **Yang Chen:** *The Jacobi and Laguerre unitary ensembles under singular deformations.*
[Abstract](#)
- 17:10 **Walter Van Assche:** *Multiwavelets and Legendre-Angelesco multiple orthogonal polynomials*
[Abstract](#)
- 17:30 **Edmundo J. Huertas:** *Isometries between martingales and orthogonal polynomials*
[Abstract](#)
- 18:00 **Stefan Hilger:** *Ladders in q -deformed algebras*
[Abstract](#)

MS-36

MS-36 Rigorous derivation of mathematical models: mathematical theory, numerical application Wednesday, 16:30 – 18:30
Chair: S. Necasova, B. Ducomet H3005 (main building)

- Synopsis **Sarka Necasova, Bernard Ducomet:** *Rigorous derivation of mathematical models: mathematical theory, numerical application*
[Abstract](#)
- 16:30 **Alexis Vasseur, Cheng Yu:** *Global weak solutions of the compressible Navier-Stokes equation with degenerate viscosities.*
[Abstract](#)
- 17:00 **Milan Pokorný:** *Incompressible fluid model of electrically charged chemically reacting and heat conducting mixtures*
[Abstract](#)

- 17:30 **Raphaël Danchin**, Bernard Ducomet: *Critical regularity and global existence for radiative flows*
[Abstract](#)
- 18:00 **Anna Hundertmark**, Jan Filo: *A rescaling algorithm for the porous medium equation in a two-component domain*
[Abstract](#)

MS-37

MS-37 Propagation phenomena in discrete media

Chair: P. Gurevich, S. Tikhomirov

Friday, 09:00 – 11:00

H0111 (main building)

- Synopsis **Pavel Gurevich, Sergey Tikhomirov**: *Propagation phenomena in discrete media*
[Abstract](#)
- 09:00 **Oleh Omel'chenko**: *Mean-field equation for coherence-incoherence patterns*
[Abstract](#)
- 09:30 **Hermen Jan Hupkes**: *Understanding pollution with Wiener-Hopf lattice factorizations*
[Abstract](#)
- 10:00 Michael Helmers, **Michael Herrmann**: *Propagation of phase interfaces in lattices*
[Abstract](#)
- 10:30 **Pavel Gurevich, Sergey Tikhomirov**: *Reaction-diffusion equations with hysteresis on lattices*
[Abstract](#)

MS-38

MS-38 Quantum Algebras, Quantum Integrable Models and Quantum Information

Chair: A. Stolin

Friday, 09:00 – 11:00
H0106 (main building)

Synopsis **Alexander Stolin:** *Quantum Algebras, Quantum Integrable Models and Quantum Information*

[Abstract](#)

09:00 **Alexander Stolin:** *Classification of Quantum Groups and Galois Cohomology*

[Abstract](#)

09:30 **Seidon Alsaody:** *Quantum Groups, Belavin–Drinfeld Cohomology and Quaternion Algebras*

[Abstract](#)

10:00 **Jurgen Fuchs:** *Hopf and Frobenius algebras in conformal field theory*

[Abstract](#)

10:30 **Matthias Christandl:** *The mathematics of entanglement*

[Abstract](#)

MS-39

MS-39 Recent Developments in Matroid Theory

Chair: M. Lenz, F. Rincon

Tuesday, 09:00 – 11:00
H0112 (main building)

Synopsis **Matthias Lenz, Felipe Rincón:** *Recent Developments in Matroid Theory*

[Abstract](#)

09:00 **Petter Brändén:** *Hyperbolic matroids*

[Abstract](#)

09:30 **Nathan Bowler:** *Infinite Matroids*

[Abstract](#)

10:00 **Anna de Mier:** *Extending transversal matroids*

[Abstract](#)

10:30 **Alex Fink, Luca Moci:** *Matroids over rings*

[Abstract](#)

MS-41

MS-41 Spherical objects in algebraic geometry

Thursday, 16:30 – 18:30

Chair: D. Ploog, A. Hochenegger, M. Kalck

H3012 (main building)

Synopsis **Martin Kalck, Andreas Hochenegger**, Andreas Krug, **David Ploog**: *Spherical subcategories and their generalisations.*

[Abstract](#)

16:30 **Andreas Hochenegger**, David Ploog: *Spherelike divisors*

[Abstract](#)

17:00 **Will Donovan**: *Twists and braids for general 3-fold flops*

[Abstract](#)

17:30 **Agnieszka Bodzenta**, Alexey Bondal: *Spherical pair for a flop*

[Abstract](#)

18:00 **Timothy Logvinenko**: *Generalised braid category*

[Abstract](#)

MS-42

MS-42 Stochastic Partial Differential Equations

Thursday, 09:00 – 11:00

Chair: B. Gess

H0106 (main building)

Synopsis **Benjamin Gess, Michael Röckner**: *Stochastic Partial Differential Equations*

[Abstract](#)

09:00 **Alexander Veretennikov**: *On direct approach to diffusion filtering equations*

[Abstract](#)

09:30 **Armen Shirikyan**, Vojkan Jaksic, Vahagn Nersesyan, Claude-Alain Pillet: *Large deviations from the stationary measure for SPDE's*

[Abstract](#)

10:00 **Arnulf Jentzen**: *On the mild Ito formula and weak convergence rates for the stochastic Burgers equation*

[Abstract](#)

10:30 **Peter Imkeller**, Massimiliano Gubinelli, Nicolas Perkowski: *SPDE via Fourier analysis based rough path calculus*

[Abstract](#)

MS-43

MS-43 Structured perturbation theory in linear algebra

Chair: S. Rump, V. Kostic, Y. Nakatsukasa

Friday, 09:00 – 11:00

H2037 (main building)

Synopsis **Yuji Nakatsukasa, Siegfried Rump:** *Structured perturbation theory in linear algebra*

[Abstract](#)

09:00 **Yuji Nakatsukasa:** *Refined error bounds for Ritz values*

[Abstract](#)

09:30 **Julio Moro, Fredy Sosa:** *On First Order Expansions for Multiplicative Perturbation of Eigenvalues*

[Abstract](#)

10:00 **Vladimir Kostić:** *On pseudospectra localizations and their applications*

[Abstract](#)

10:30 **Agnieszka Międlar, Takeshi Fukaya, Yuji Nakatsukasa:** *Moving eigenvalues and eigenvectors by simple perturbations*

[Abstract](#)

MS-44

MS-44 Towards a Global Digital Mathematics Library

Chair: O. Teschke

Friday, 09:00 – 11:00

H2036 (main building)

Synopsis **Olaf Teschke, Patrick Ion:** *Towards a Global Digital Mathematics Library*

[Abstract](#)

09:00 **Ingrid Daubechies:** *A personal perspective on the potential impact of the International Mathematical Knowledge Trust*

[Abstract](#)

09:30 **Jiří Rákosník:** *EuDML – a step on the road towards GDML*

[Abstract](#)

10:00 **Bruno Buchberger, Olaf Teschke:** *Semantics for mathematics in the framework of a WDML*

[Abstract](#)

10:30 **James Davenport:** *The challenges of mathematical notation*

[Abstract](#)

MS-46

MS-46 Zeros of harmonic functions in the plane

Chair: J. Liesen, R. Luce

Wednesday, 09:00 – 11:00

H0112 (main building)

- Synopsis **Robert Luce, Jörg Liesen:** *Zeros of harmonic functions in the plane*
[Abstract](#)
- 09:00 **Dmitry Khavinson:** *Harmonic polynomials and rational functions: recent progress, open problems and applications*
[Abstract](#)
- 09:30 **Erik Lundberg, Antonio Lerario:** *Wilmshurst's conjecture and random harmonic polynomials*
[Abstract](#)
- 10:00 **Seung-Yeop Lee, Dmitry Khavinson, Andres Saez:** *Harmonic Polynomials, Lemniscates and Caustics*
[Abstract](#)
- 10:30 **Robert Luce, Jörg Liesen, Olivier Sète:** *Extremal rational harmonic functions*
[Abstract](#)

Contributed Sessions

01. Algebra

CS-01-A Tuesday, 09:55 – 11:15
Chair: M. Kalck H1012 (main building)

- 09:55 **Andre Wagner:** *Rigid Multiview Varieties*
[Abstract](#)
- 10:15 **Pasha Zusmanovich:** *Lie p -algebras of cohomological dimension one*
[Abstract](#)
- 10:35 **Olena Tarkovska:** *About varieties of parastrophic mediality identities*
[Abstract](#)
- 10:55 **Martin Kalck, Joe Karmazyn:** *Matrix factorisations: Knörrer's periodicity and beyond.*
[Abstract](#)

CS-01-B Thursday, 09:55 – 11:15
Chair: S. Gaussent H0104 (main building)

- 09:55 **Ismail Demir:** *Classification of 4-Dimensional Nilpotent Leibniz Algebras*
[Abstract](#)
- 10:15 **Manju Khan:** *Group Ring Over Polynomial ring*
[Abstract](#)
- 10:35 **Fedir Sokhatsky:** *About isotopy and pseudoisomorphy of loops*
[Abstract](#)
- 10:55 **Stéphane Gaussent:** *Iwahori-Hecke Algebras associated with Kac-Moody Groups over local fields*
[Abstract](#)

CS-01-C - combined with IL10-Pierre-Emmanuel Caprace Wednesday, 09:55 – 11:15
Chair: J. Neseřtil H0104 (main building)

- 09:55 **Radoslav Dimitric:** *Slenderness*
[Abstract](#)

- 10:15 **Alieh Zolfi**, Ali Reza Ashrafi: *The Heisenberg Characters of Finite Groups*
[Abstract](#)
- 10:35 **Parascovia Syrbu**: *On middle Bol loops*
[Abstract](#)
- 10:55 **Mohammad Adm**, Jürgen Garloff: *Zeros and Poles Localization of Polynomials and Rational Functions and Total Nonnegativity of Structured Matrices*
[Abstract](#)

CS-01-D

Chair: F. A. E. Nuccio

Wednesday, 16:30 – 18:30

MA141 (math building)

- 16:30 **Ana Agore**: *Bicrossed descent theory for groups. Applications*
[Abstract](#)
- 16:50 **Gigel Militaru**, Ana Agore: *Galois groups and group actions on Lie algebras*
[Abstract](#)
- 17:10 **Manuel Gonzalez Sarabia**: *Some evaluation codes arising from graphs*
[Abstract](#)
- 17:30 **Halyna Shelepalo (Krainichuk)**: *Classification of parastropic associativity identities on quasigroups*
[Abstract](#)
- 17:50 Leonid Kurdachenko, Aleksandr Pypka, **Igor Subbotin**: *On new analogs of some classical group theoretical results in Lie rings*
[Abstract](#)
- 18:10 **Filippo A. E. Nuccio**, Nicolas Billerey: *CM modular forms and dihedral representations*
[Abstract](#)

CS-01-E

Chair: J. Andrade

Thursday, 09:00 – 11:00

H3013 (main building)

- 09:00 Leonid Kurdachenko, **Igor Subbotin**: *On groups of finite special rank*
[Abstract](#)
- 09:20 **Hesam Sharifi**, Saeid Jafari: *Recent advances and several new results in rational groups*
[Abstract](#)
- 09:40 **Alireza Gilani**: *Falling Fuzzy Ideal in BCK-algebras*
[Abstract](#)

- 10:00 **Ioannis Tsartsafis:** *On the Betti numbers of filiform Lie algebras over fields of characteristic two.*
[Abstract](#)
- 10:20 **Tariel Kemoklidze:** *On the full transitivity of a cotorsion hull*
[Abstract](#)
- 10:40 **Julio Andrade:** *Auto-correlations of divisor functions in function fields*
[Abstract](#)

CS-01-F

Chair: J. Meyer

Thursday, 16:30 – 18:30
 H3013 (main building)

- 16:30 **Vittoria Bonanzinga, Shalom Eliahou:** *Gotzmann monomials*
[Abstract](#)
- 16:50 **Sergey Tikhonov:** *Division algebras with infinite genus*
[Abstract](#)
- 17:10 Anne-Marie Aubert, Antonio Behn, **Jorge Soto-Andrade:** *From groupoids to Gelfand Models*
[Abstract](#)
- 17:30 **Shantanu Dave:** *Finite type algebras and their symmetries: Computation of Periodic cyclic homology.*
[Abstract](#)
- 17:50 **Alev Topuzoglu:** *On a Recent Classification of Permutation Polynomials over Finite Fields*
[Abstract](#)
- 18:10 **Johannes Meyer, Carl Maxson:** *Unique maximal rings of functions*
[Abstract](#)

02. Number Theory

CS-02-A combined with IL11-Kaisa Matomäki

Wednesday, 09:55 – 11:15

Chair: D. Zagier

H1012 (main building)

- 09:55 **Thomas Ernst:** *On elliptic and hyperbolic modular functions according to Gudermann, Lenz and Carlson.*
[Abstract](#)
- 10:15 **Pinthira Tangsupphathawat:** *Minimal polynomials of algebraic cosine values at rational multiples of π*
[Abstract](#)
- 10:35 **Maryna Viazovska:** *The sphere packing problem in dimension 8*
[Abstract](#)
- 10:55 **Fedor Pakovich, Alexander Zvonkin:** *Davenport - Zannier pairs and "Dessins d'enfants"*
[Abstract](#)

03. Algebraic and Complex Geometry

CS-03-A

Thursday, 16:30 – 18:30

Chair: A. M. Botero

MA041 (math building)

- 16:30 **Jesko Hüttenhain:** *The Boundary of the Orbit of the 3 by 3 Determinant Polynomial*
[Abstract](#)
- 16:50 **Giulio Codogni:** *Schottky problem, quadratic forms and Satake compactifications*
[Abstract](#)
- 17:10 **Muhammad Qureshi:** *Isolated orbifolds in weighted flag varieties*
[Abstract](#)
- 17:30 **Aknazar Kazhymurat:** *Noncommutative geometry: an introduction*
[Abstract](#)
- 17:50 **Fedor Pakovich:** *Algebraic curves $A(x)-B(y)=0$ and semiconjugate rational functions*
[Abstract](#)
- 18:10 **Ana María Botero:** *b-Divisors on Toric Varieties*
[Abstract](#)

04. Differential Geometry and Applications

CS-04-A

Chair: R. Lopez

Wednesday, 16:30 – 18:30

MA144 (math building)

- 16:30 **Pablo Angulo:** *Linking curves, sutured manifolds and the Ambrose conjecture for generic 3-manifolds*
[Abstract](#)
- 16:50 **Christian Bär:** *An index theorem for compact Lorentzian manifolds with boundary*
[Abstract](#)
- 17:10 **Ildefonso Castro, Ildefonso Castro-Infantes:** *Can a plane curve be determined if its curvature is given in terms of its position?*
[Abstract](#)
- 17:30 **Magdalena Rodríguez:** *Minimal surfaces with finite total curvature*
[Abstract](#)
- 17:50 **Wai Yeung Lam:** *Minimal surfaces from discrete harmonic functions*
[Abstract](#)
- 18:10 **Rafael Lopez:** *Constant mean curvature surfaces in the steady state space*
[Abstract](#)

CS-04-B

Chair: F. Belgun

Thursday, 09:00 – 11:00

MA144 (math building)

- 09:00 **Juan Orduz:** *Induced Dirac-Schrödinger operators on quotients of semi-free circle actions*
[Abstract](#)
- 09:20 **Daniela Velichova:** *Laces*
[Abstract](#)
- 09:40 **Rory Biggs:** *Isometries of invariant sub-Riemannian structures on 3D Lie groups*
[Abstract](#)
- 10:00 **Sergey Grigorian:** *G₂-structures and octonion bundles*
[Abstract](#)
- 10:20 **Florin Belgun:** *Conformal geodesics and related structures*
[Abstract](#)

05. Topology

CS-05-A combined with IL7-Nicolas Bergeron

Chair: O. Karlova

Tuesday, 09:55 – 11:15

H1058 (main building)

- 09:55 **Dieter Leseberg:** *Relative spaces as a global concept for Topology*
[Abstract](#)
- 10:15 **Ivan Limonchenko:** *Massey operations, toric spaces and simple polytopes*
[Abstract](#)
- 10:35 **Florin Damian, Vitalii Makarov, Petr Makarov:** *Hyperbolic manifold given by equidistant polyhedron over compact basis*
[Abstract](#)
- 10:55 **Olena Karlova:** *On composition of Baire functions*
[Abstract](#)

CS-05-B

Chair: M. Mathieu

Tuesday, 09:55 – 11:15

H2032 (main building)

- 09:55 **Faruk Özger:** *Structure of certain topological spaces and related geometric visualizations*
[Abstract](#)
- 10:15 **Natalia Jonard Pérez:** *A short proof of Grünbaum's conjecture about affine invariant points*
[Abstract](#)
- 10:35 **Martin Mathieu:** *Towards a sheaf cohomology theory for C^* -algebras*
[Abstract](#)

CS-05-C combined with IL12-L. Godinho and S. Sabatini

Chair: C. Bär

Wednesday, 09:55 – 11:15

H1058 (main building)

- 09:55 **Serhii Bardyla, Oleg Gutik, Alex Ravsky:** *H-closed Quasitopological Groups*
[Abstract](#)
- 10:15 **Madeti Prabhakar, Kirandeep Kaur, Akio Kawauchi, Seiichi Kamada:** *Gauss Diagram and Based Trivializing Number of Spatial Graphs*
[Abstract](#)

- 10:35 **Michele Mulazzani**, Paola Cristofori, Evgeny Fominykh, Vladimir Tarkaev:
4-colored graphs and knot/link complements
[Abstract](#)

06. Analysis and its Applications

CS-06-A combined with IL9-Giuseppe Savaré Tuesday, 09:55 – 11:15
 Chair: G. Mingione H1028 (main building)

- 09:55 **Tatyana Nikitina**: *The $\bar{\partial}\partial$ -equation on positive currents of higher bidegree*
[Abstract](#)
- 10:15 **Tyaglov Mikhail**: *Circulants and root location of polynomials*
[Abstract](#)
- 10:35 **Valentin Skvortsov**: *Generalizations of Bochner and Pettis integrals and some application in harmonic analysis*
[Abstract](#)
- 10:55 **Steven Weintraub**: *The adjoint of differentiation*
[Abstract](#)

CS-06-B combined with IL13-Joaquim Ortega-Cerdà Wednesday, 09:55 – 11:15
 Chair: A. Baranov H2032 (main building)

- 09:55 **Daniel Seco**, Catherine Bénéteau, Dmitry Khavinson, Constanze Liaw, Brian Simanek: *Extremal problems on approximants for cyclicity*
[Abstract](#)
- 10:15 Derek Thomas, **Nikola Tuneski**: *The Second Hankel Determinant of Close-to-Convex Functions*
[Abstract](#)
- 10:35 **İbrahim Çanak**, Ümit Totur: *On the integrability of functions by weighted mean methods*
[Abstract](#)

CS-06-C combined with IL17-Bo Berndtsson Thursday, 09:55 – 11:15
 Chair: J. Ortega-Cerdà H1058 (main building)

- 09:55 **Eugeny Smirnov**: *Homological Criteria for Vanishing at Zero of Functor HAUS in the Theory of Hausdorff Spectra*
[Abstract](#)
- 10:15 Sefa Anil Sezer, **İbrahim Çanak**: *A Tauberian theorem for the logarithmic power series method*
[Abstract](#)
- 10:35 **Ruma Kareem K. Ajeena**: *Security Considerations on Integer Sub-Decomposition Method to Prevent Elliptic Curve Discrete Logarithm Attacks*
[Abstract](#)
- 10:55 Vichian Laohakosol, **Pinthira Tangsupphathawat**: *Quotients and powers of exponential polynomials*
[Abstract](#)

CS-06-D combined with IL27-Sergio Conti

Chair: A. Mielke

Friday, 09:55 – 11:15
 H0104 (main building)

- 09:55 **Bernardo González Merino**, David Alonso-Gutiérrez, Carlos Hugo Jiménez, Rafael Villa: *Rogers-Shephard and John theorems in the Theory of log-concave functions*
[Abstract](#)
- 10:15 **Yurii Kolomoitsev**: *Sharp Ulyanov inequalities in Lebesgue spaces*
[Abstract](#)
- 10:35 **Tetiana Lomako**: *On estimates of Lebesgue constants for convex polyhedra*
[Abstract](#)
- 10:55 **Elina Shishkina**: *Boundedness of Riezs B-potential operators with hyperbolic distance*
[Abstract](#)

CS-06-E combined with IL29-Spiros Argyros

Chair: K. Seip

Friday, 09:55 – 11:15
 H1028 (main building)

- 09:55 **Oleg Reinov**: *On distribution of eigenvalues of nuclear operators*
[Abstract](#)
- 10:15 **Yurii Belov**: *Synthesable invariant subspaces*
[Abstract](#)
- 10:35 **Deepak Singh**: *Equilibrium of fixed point theory and applications in abstract spaces.*
[Abstract](#)

10:55 **Faruk Özger**, Eberhard Malkowsky: *A note on some mixed paranorm spaces*
[Abstract](#)

CS-06-F

Wednesday, 09:00 – 11:00

Chair: B. Jolevska-Tuneska

MA043 (math building)

09:00 **Volha Kushel**, Mikhail Tyaglov: *One-rank perturbations of matrices: the transversal pairs method*

[Abstract](#)

09:20 **Vladimir Goldshtein**, Alexander Ukhlov: *Spectral Estimates of Laplace Operators and Hyperbolic Geometry*

[Abstract](#)

09:40 Anatolii Serdyuk, **Tetiana Stepaniuk**: *Approximations by Fourier sums on the classes of generalized Poisson integrals in uniform metric*

[Abstract](#)

10:00 **Muhammet Ali Okur**, Ümit Totur: *Some Tauberian theorems for the logarithmic integrability of positive integer order k of functions*

[Abstract](#)

10:20 **Sefa Anıl Sezer**, İbrahim Çanak: *Tauberian theorems for sequences with slowly decreasing control modulo*

[Abstract](#)

10:40 **Biljana Jolevska-Tuneska**: *Neutrix calculus applied in special functions*

[Abstract](#)

CS-06-G

Wednesday, 16:30 – 18:30

Chair: R. Almeida

MA041 (math building)

16:30 **Ilie Valusescu**: *Factorization theorem and the maximal function*

[Abstract](#)

16:50 Grigory Sklyar, **Vitalii Marchenko**: *Generators of strongly continuous groups with non-basis family of eigenvectors*

[Abstract](#)

- 17:10 **Paco Villarroya Alvarez:** *A global Tb Theorem for compactness of Calderon-Zygmund operators*
[Abstract](#)
- 17:30 **Maria Joita:** *Scattered locally C*-algebras*
[Abstract](#)
- 17:50 **Kanet Ponpetch, Sukrawan Mavecha:** *Independence of multiplicative and exponential functions*
[Abstract](#)
- 18:10 **Ricardo Almeida:** *Some results on a general form of a Caputo-type fractional derivative.*
[Abstract](#)

CS-06-H

Chair: D. Stoeva

Thursday, 09:00 – 11:00

H3012 (main building)

- 09:00 **Boonrod Yuttanan:** *Iterative functional equations of the second order*
[Abstract](#)
- 09:20 **Sukrawan Mavecha, Vichian Laohakosol, Boonrod Yuttanan:** *Iterative root of a linear function over the integers*
[Abstract](#)
- 09:40 **Syed Abbas:** *Almost Periodic Solution of a non-autonomous model of Cellular Neural Network*
[Abstract](#)
- 10:00 **Juan Matías Sepulcre:** *Zeros of exponential polynomials: some old and recent results, and their interplay in different fields*
[Abstract](#)
- 10:20 **Huseyin Cakalli:** *A variation on upward and downward statistical quasi Cauchy sequences*
[Abstract](#)
- 10:40 **Diana Stoeva:** *Extension of the duality principle in Gabor analysis*
[Abstract](#)

07. Dynamical Systems and Ordinary Differential Equations and Applications

CS-07-A

Chair: X. Jarque

Tuesday, 09:00 – 11:00

H3012 (main building)

- 09:00 **Irada Dzhalladova:** *Mathematical instruments of defence of cyber-physical control systems.*
[Abstract](#)
- 09:20 **Lyudmila Kuzmina:** *A.M.Lyapunov theory methods in complex multi-scale systems dynamics*
[Abstract](#)
- 09:40 **Miriam Sosa-Díaz, Faustino Sanchez-Garduño:** *A degenerate parabolic system in population dynamics*
[Abstract](#)
- 10:00 **Keonhee Lee:** *Hyperbolic structure of weak measure expansive systems*
[Abstract](#)
- 10:20 **Leonardo Colombo:** *New developments in the optimal control of nonholonomic mechanical systems*
[Abstract](#)
- 10:40 **Xavier Jarque, Krzysztof Baranski, Núria Fagella, Boguslawa Karpinska:** *Connectivity of Julia set of Newton maps: A unified approach*
[Abstract](#)

CS-07-B

Chair: R. Sasportes

Wednesday, 09:00 – 11:00

H3013 (main building)

- 09:00 **Auni Aslah Mat Daud, Siti Noor Hafizzah Jamayan:** *A mathematical model of population dynamics of gallstone disease*
[Abstract](#)
- 09:20 **Justyna Signerska-Rynkowska:** *Rotation theory in analysis of complex oscillations in a hybrid neuron model*
[Abstract](#)
- 09:40 **Inessa Matveeva:** *Exponential stability of solutions to nonlinear time-delay systems*
[Abstract](#)
- 10:00 **Tigran Harutyunyan:** *About an approach in spectral theory*
[Abstract](#)

- 10:20 Sergei Gefter, **Anna Goncharuk**: *The convolution of Laurent formal series and a fundamental solution of an implicit linear differential equation over an arbitrary ring*
[Abstract](#)
- 10:40 **Rafael Sasportes**, Fernando P. da Costa, João T. Pinto: *Rates of Convergence To Scaling Profiles and the Preservation of Memory of the Initial Condition*
[Abstract](#)

CS-07-C

Wednesday, 16:30 – 18:30

Chair: F. Sadyrbaev

H1058 (main building)

- 16:30 **Fernando Costa**: *Bifurcations in twist-Freedericksz transitions in a nematic liquid-crystal cell with non-homogeneous Dirichlet boundary conditions*
[Abstract](#)
- 16:50 **Victoria Grushkovskaya**: *Decay rate of solutions of a nonlinear system in critical cases with multiple frequencies*
[Abstract](#)
- 17:10 **Ekaterina Korovaytseva**: *Polynomial Methods of Cauchy Problem Solution*
[Abstract](#)
- 17:30 **Grzegorz Graff**, Michal Misiurewicz, Piotr Nowak-Przygodzki: *Shub conjecture for smooth latitudinal self-maps of m -dimensional sphere*
[Abstract](#)
- 17:50 **Rodica Luca Tudorache**, Johnny Henderson, Alexandru Tudorache: *Positive solutions for a system of fractional differential equations with coupled integral boundary conditions*
[Abstract](#)
- 18:10 **Felix Sadyrbaev**, Eduard Brokan: *Attracting sets in general differential systems arising in gene regulatory networks theory*
[Abstract](#)

CS-07-D

Thursday, 09:00 – 11:00

Chair: L. Stolovitch

H0111 (main building)

- 09:00 **Georg Grasegger**, N. Thieu Vo, **Franz Winkler**: *Existence and Computation of Rational General Solutions for First-Order Algebraic ODEs*
[Abstract](#)

- 09:20 **Alina Ilinca Lazu:** *Generalized solutions for semilinear differential inclusions in Banach spaces*
[Abstract](#)
- 09:40 Giselle Antunes Monteiro, **Antonín Slavík:** *Extremal solutions of measure differential equations*
[Abstract](#)
- 10:00 **Namjip Koo:** *Stability in variation for impulsive differential systems*
[Abstract](#)
- 10:20 Hermann Mena, Alexander Ostermann, Lena Pfurtscheller, **Chiara Piazzola:** *Efficient Simulation of El-Nino*
[Abstract](#)
- 10:40 **Laurent Stolovitch:** *Holomorphic normal form of nonlinear perturbations of nilpotent vector fields*
[Abstract](#)

CS-07-E

Chair: S. Siegmund

Thursday, 16:30 – 18:30
 H1028 (main building)

- 16:30 **Fedor Pakovich:** *Solution of the parametric center problem for the Abel equation*
[Abstract](#)
- 16:50 **Roger Khayat:** *Nonlinear dynamics in non-Fourier thermal micro-convection*
[Abstract](#)
- 17:10 **Petr Stehlik,** Antonin Slavik, Jonas Volek: *Well-posedness and maximum principles for lattice reaction-diffusion equations*
[Abstract](#)
- 17:30 **Luca Donati,** Bettina Keller: *Markov State Models with reweighting*
[Abstract](#)
- 17:50 **Abdulla Azamov:** *A Language of Terms of Taylor's Formula for Quadratic Dynamical Systems and its Fractality*
[Abstract](#)
- 18:10 **Stefan Siegmund:** *Stability of positive linear switched systems on ordered Banach spaces*
[Abstract](#)

08. Partial Differential Equations and Applications

CS-08-A

Chair: M. Thomas

Tuesday, 09:00 – 11:00

H3013 (main building)

- 09:00 **Pablo Angulo**, Daniel Faraco, Luis Guijarro, Alberto Ruiz: *Necessary, and often sufficient, conditions for the existence of conformal factors.*
[Abstract](#)
- 09:20 **Bakur Gulua**, Roman Janjgava, Miranda Narmania: *Derivation of the System of Equations of Equilibrium for Shallow Shells and Plates Having Double Porosity*
[Abstract](#)
- 09:40 **Gurpreet Singh**: *Weak Solution for Singular Quasilinear Elliptic Systems*
[Abstract](#)
- 10:00 **Sandra Carillo**: *Singular kernel problems in viscoelasticity and magneto-viscoelasticity*
[Abstract](#)
- 10:20 Micol Amar, **Daniele Andreucci**, Dario Bellaveglia: *A parabolic problem with alternating boundary conditions: homogenization via time-periodic unfolding*
[Abstract](#)
- 10:40 **Marita Thomas**: *Analysis and optimization for edge-emitting semiconductor heterostructures*
[Abstract](#)

CS-08-B

Chair: C. Jaeh

Wednesday, 09:00 – 11:00

MA041 (math building)

- 09:00 **Andrii Hulianytskyi**: *Variable-order Diffusion Equations: Solvability and Numerical Approximation*
[Abstract](#)
- 09:20 **Piotr Stefaniak**: *On Rabinowitz alternative for non-cooperative elliptic systems on geodesic balls*
[Abstract](#)
- 09:40 **Victor Zvyagin**: *Weak solvability of the initial boundary-value problem for one model of non-Newtonian fluid dynamics with memory*
[Abstract](#)

- 10:00 **Nataliya Protsakh:** *On the inverse problem for higher order ultraparabolic equation with two unknown functions in the right-hand side*
[Abstract](#)
- 10:20 **Ozgur Yildirim, Meltem Uzun:** *High order accurate difference scheme for the hyperbolic problem with neumann conditions subject to multipoint nbvp*
[Abstract](#)
- 10:40 **Christian Jaeh, Claudia Garetto:** *Well-posedness of hyperbolic systems with multiplicities and smooth coefficients*
[Abstract](#)

CS-08-C

Chair: S. Modena

Wednesday, 16:30 – 18:30

H1028 (main building)

- 16:30 **Albert Erkip, Husnu Ata Erbay, Saadet Erbay:** *Comparison of nonlocal non-linear wave equations in the long-wave limit*
[Abstract](#)
- 16:50 **Mouhcine Tilioua:** *Mathematical and numerical study of a model of magnetization dynamics with inertial effects*
[Abstract](#)
- 17:10 **Moulay Driss Aouragh, Abderrahman El Boukili:** *Boundary stabilization of a flexible beam with a tip rigid body without dissipativity*
[Abstract](#)
- 17:30 Vassilios Dougalis, **Angel Duran, Dimitrios Mitsotakis:** *On Boussinesq systems for internal waves*
[Abstract](#)
- 17:50 **Roman Cherniha:** *Nonlinear reaction-diffusion systems: conditional symmetries, exact solutions and their applications.*
[Abstract](#)
- 18:10 Stefano Bianchini, **Stefano Modena:** *Lagrangian representation for 1D hyperbolic systems of conservation laws*
[Abstract](#)

CS-08-D combined with IL16-Bertrand Maury

Chair: D. Chamorro

Thursday, 09:55 – 11:15

H1012 (main building)

- 09:55 **Patrick Tolksdorf:** *An L_p -approach to the Navier-Stokes equations in three dimensional bounded Lipschitz domains*
[Abstract](#)

- 10:15 **Sarka Necasova:** *The motion of incompressible viscous fluid around a moving rigid body.*
[Abstract](#)
- 10:35 **Roberto Machado Velho, Diogo Gomes:** *Some Numerical Aspects on Crowd Motion - The Hughes Model*
[Abstract](#)
- 10:55 **Diego Chamorro, Pierre-Gilles Lemarié-Rieusset, Kawther Mayoufi:** *The role of the pressure in the partial regularity theory for weak solutions of the Navier–Stokes equations*
[Abstract](#)

CS-08-E

Chair: J. V. Gutiérrez-Santacreu

Thursday, 09:00 – 11:00
 H1029 (main building)

- 09:00 **Jürgen Socolowsky:** *On a Viscous Two-Fluid Channel Flow Including Evaporation*
[Abstract](#)
- 09:20 **Handan Borluk, Gulcin M. Muslu:** *Convergence of a Pseudo-Spectral Scheme for a Nonlinear Nonlocal Wave Equation*
[Abstract](#)
- 09:40 **Faustino Maestre, Juan Casado-Diaz, Jose Domingo Martin-Gomez, Julio Couce-Calvo:** *A corrector result for a wave problem with oscillating coefficients*
[Abstract](#)
- 10:00 **Evgenia Babushkina, Ralf Kornhuber:** *Adaptive Multi-Level Monte-Carlo method for stochastic variational inequalities*
[Abstract](#)
- 10:20 **Galina Rusu, Perjan Andrei:** *Some convergence estimates for abstract linear second order differential equations with two small parameters*
[Abstract](#)
- 10:40 **Juan Vicente Gutiérrez-Santacreu:** *Some smooth solutions for the Navier-Stokes equations*
[Abstract](#)

CS-08-F

Chair: W.-P. Düll

Thursday, 16:30 – 18:30

H2032 (main building)

- 16:30 Carmen Calvo-Jurado, Juan Casado-Díaz, **Manuel Luna-Laynez**: *An adaptation of the two-scale convergence method for random homogenization problems*
[Abstract](#)
- 16:50 **Tobias Barker**: *Necessary conditions for possible blow up of the Navier Stokes equations in half space*
[Abstract](#)
- 17:10 **Nilay Duruk Mutlubas**: *On the local well-posedness of fractional-type Camassa-Holm equation*
[Abstract](#)
- 17:30 **Andrey Zvyagin**: *Optimal feedback control for a termoviscoelastic model of polymer solutions motion*
[Abstract](#)
- 17:50 **Gia Avalishvili**, Mariam Avalishvili: *On some initial-boundary value problems for nonlinear ultraparabolic equations*
[Abstract](#)
- 18:10 **Wolf-Patrick Düll**: *Justification of the Nonlinear Schrödinger approximation for quasilinear dispersive wave systems*
[Abstract](#)

CS-08-G

Chair: A. Shanenin

Friday, 09:55 – 11:15

H1058 (main building)

- 09:55 **Mamadsho Iolov**, Kholiknazar Kuchakshoev: *The classification of abstract integrodifferential equations of higher order*
[Abstract](#)
- 10:15 **Gennadii Demidenko**: *Quasielliptic operators and equations not solvable with respect to the highest-order derivative*
[Abstract](#)
- 10:35 **Husnu Ata Erbay**, Saadet Erbay, Albert Erkip: *The Camassa-Holm equation as the long-wave limit of the improved Boussinesq equation and of a class of nonlocal wave equations*
[Abstract](#)
- 10:55 **Aleksandr Shanenin**: *On the Cauchy–Gelfand Problem*
[Abstract](#)

09. Mathematical Physics

CS-09-A combined with IL14-Christian Bonatti

Wednesday, 09:55 – 11:15

Chair: D. Chelkak

H1028 (main building)

- 09:55 **Sergey Natanzon:** *Symmetric solutions to dispersionless 2D Toda hierarchy, Hurwitz numbers and conformal dynamics*
[Abstract](#)
- 10:15 **Maria Clara Nucci:** *Quantizing with Noether symmetries*
[Abstract](#)
- 10:35 **Yeşim Sağlam Özkan, İlker Burak Giresunlu, Emrullah Yaşar:** *Exact Solutions, Lie Symmetry Analysis and Conservation Laws of Shamel-Korteweg-de Vries Equation by Using Some Methods*
[Abstract](#)
- 10:55 **Francisco Javier Torres de Lizaur:** *Helicity is the only integral invariant of volume preserving transformations*
[Abstract](#)

CS-09-B

Thursday, 09:00 – 11:00

Chair: N. Khatiashvili

MA141 (math building)

- 09:00 **Aly Seadawy:** *Multiply solitary wave solutions of the higherorder extended KdV equations in a stratified shear fluid flow with a free surface*
[Abstract](#)
- 09:20 **Joachim Kerner, Jens Bolte:** *Instability of Bose-Einstein condensation on quantum graphs under repulsive perturbations*
[Abstract](#)
- 09:40 **Alexander Komech, Elena Kopylova:** *On linear stability and dispersion for crystals in the Poisson-Schrödinger Model*
[Abstract](#)
- 10:00 **Alfredo Deaño:** *From Painlevé transcendents to random matrices and back*
[Abstract](#)
- 10:20 **Vladimir I. Semenov:** *Invariants, local and global regular solutions for Navier-Stokes equations in the Cauchy problem in space*
[Abstract](#)
- 10:40 **Nino Khatiashvili:** *Integrals with the Weierstrass Kernel and their application to hydrodynamics*
[Abstract](#)

CS-09-C

Chair: C. Bonanno

Thursday, 16:30 – 18:30

MA043 (math building)

- 16:30 **Alhaji Bachtiar**: *The effect of inner core on BiPAS kinematic dynamos*
[Abstract](#)
- 16:50 **Angela Slavova**: *Modeling of Natural Disasters via Cellular Neural Networks Approach*
[Abstract](#)
- 17:10 **Yuri Luchko**: *Two-dimensional α -fractional diffusion equation and its analysis*
[Abstract](#)
- 17:30 **Roman Cherniha**, Maksym Didovych: *Lie symmetry and exact solutions of some nonlinear problems for the simplified Keller-Segel model*
[Abstract](#)
- 17:50 **Claudio Bonanno**, Stefano Isola: *New series expansions for Maass wave forms on the full modular group from eigenfunctions of the transfer operator of the Farey map.*
[Abstract](#)

10. Probability, Statistics and Financial Mathematics

CS-10-A combined with IL28-C.Garban and G. Pete

Chair: J.-D. Deuschel

Friday, 09:55 – 11:15

H2032 (main building)

- 09:55 **Nils Detering**, Thilo Meyer-Brandis, Konstantinos Panagiotou: *Bootstrap percolation in directed and inhomogeneous random graphs*
[Abstract](#)
- 10:15 Dirk Becherer, Todor Bilarev, **Peter Frentrop**: *Optimal Liquidation with Multiplicative Limit Order Books*
[Abstract](#)
- 10:35 **Guanxing Fu**, Ulrich Horst, Jinniao Qiu: *Maximum Principle for Quasi-linear Reflected Backward SPDEs*
[Abstract](#)

- 10:55 **Adam Bobrowski**, Markus Kunze, Bogdan Kazmierczak: *An averaging principle for fast diffusions in domains separated by semi-permeable membranes*
[Abstract](#)

CS-10-B

Chair: C. Geldhauser

Tuesday, 09:00 – 11:00

MA043 (math building)

- 09:00 **Paolo Rocchi**: *Frequentism vs. Subjectivism: The Nonsensical Divergence in the Probability Domain*
[Abstract](#)
- 09:20 **Slavko Simic**: *Moment inequalities of the second and third order*
[Abstract](#)
- 09:40 **Noor Akma Ibrahim**, Fauzia Ali Taweab, Jayanthi Arasan, Mohd Rizam Abu Bakar: *Lognormal Non-Mixture Cure Models For Interval-Censored Data.*
[Abstract](#)
- 10:00 **Carina Geldhauser**: *The scaling limit of a particle system with long-range interaction*
[Abstract](#)

CS-10-C

Chair: I. Ilic

Wednesday, 09:00 – 11:00

MA144 (math building)

- 09:00 **Jonas Tölle**, Ioana Ciotir: *Nonlinear stochastic partial differential equations with singular diffusivity and gradient Stratonovich noise*
[Abstract](#)
- 09:20 **Julio Mulero**, Miguel Ángel Sordo, Marília C. De Souza, Alfonso Suárez-Llorens: *Two stochastic dominance criteria based on tail comparisons*
[Abstract](#)
- 09:40 **Chrysoula Ganatsiou**: *On the study of circuit chains associated with a random walk with jumps in fixed, random environments*
[Abstract](#)
- 10:00 **Vladimir Ulyanov**: *On asymptotic and non-asymptotic results for non-linear forms in random elements*
[Abstract](#)
- 10:20 **Ivana Ilic**: *Extremal dependence in the incomplete samples: A note on a simple tail index estimation*
[Abstract](#)

CS-10-D

Chair: M. Sanz-Solé

Wednesday, 16:30 – 18:30

MA042 (math building)

- 16:30 **Tiziano Vargiolu**, Rene' Aid, Matteo Basei, Giorgia Callegaro, Luciano Campi: *Verification theorem for stochastic impulse non-zero sum games and applications.*
[Abstract](#)
- 16:50 **Martin Heida**, Franziska Flegel, Martin Slowik: *Homogenization in the random conductance model*
[Abstract](#)
- 17:10 Thomas Cass, **Martin Weidner**: *Hörmander's theorem for rough differential equations on manifolds*
[Abstract](#)
- 17:30 Yunus Akdoğan, **Coşkun Kuş**, Akbar Asgharzadeh, İsmail Kınacı, Fatemeh Sharafi: *Uniform-Geometric Distribution*
[Abstract](#)
- 17:50 Marta Sanz-Solé, **Marta Sanz-Solé**: *Hitting probabilities for elliptic SPDEs*
[Abstract](#)

11. Combinatorics and Discrete Mathematics

CS-11-A combined with IL19-Peter Keevash

Chair: S. Felsner

Thursday, 09:55 – 11:15

H1028 (main building)

- 09:55 **Felix Günther**: *Discrete complex analysis*
[Abstract](#)
- 10:15 **Eugen Mandrescu**, Vadim Levit: *On Critical Independent Sets of a Graph*
[Abstract](#)
- 10:35 Krzysztof Choromanski, Dvir Falik, **Anita Liebenau**, Viresh Patel, Marcin Pilipczuk: *Excluding hooks and their complements*
[Abstract](#)
- 10:55 **Iryna Fryz**: *On construction of n -ary quasigroups*
[Abstract](#)

CS-11-B combined with IL25-Amin Coja-Oghlan

Chair: M. Skutella

Friday, 09:55 – 11:15

H1012 (main building)

- 09:55 **Verónica Hernández**, Domingo Pestana, José M. Rodríguez: *On a classical theorem on the diameter and minimum degree*
[Abstract](#)
- 10:15 **Reshma Ramadurai**, Nicholas Cavenagh: *Distances between Latin squares and the size of its defining set*
[Abstract](#)
- 10:35 **Andreas M. Hinz**: *Sierpiński-type graphs*
[Abstract](#)
- 10:55 **Christian Rubio-Montiel**: *ab-perfect graphs*
[Abstract](#)

CS-11-C

Chair: M. Mikalački

Tuesday, 09:00 – 11:00

MA041 (math building)

- 09:00 **Karam Ratan Singh**: *On Construction of Graph Isomorphic to its Intersection Graph*
[Abstract](#)
- 09:20 **Uwe Schauz**: *The Tournament Scheduling Problem with Absences*
[Abstract](#)
- 09:40 Pavel Klavík, Roman Nedela, **Peter Zeman**: *Automorphism Groups of Geometrically Represented Graphs*
[Abstract](#)
- 10:00 Dennis Clemens, **Mirjana Mikalački**: *Maker-Breaker tournament game*
[Abstract](#)

CS-11-D

Chair: J. Enright

Wednesday, 09:00 – 11:00

MA042 (math building)

- 09:00 **Eckhard Steffen**, Yingli Kang: *Signed graph coloring*
[Abstract](#)
- 09:20 **Andrei Nikolaev**: *Integer recognition over Boolean quadric polytope extension*
[Abstract](#)

- 09:40 **Yvonne Kemper**, James Lawrence: *The Odd-Even Invariant and Hamiltonian Circuits in Tope Graphs*
[Abstract](#)
- 10:00 **Sona Pavlikova**: *Balanced inverses of labeled graphs*
[Abstract](#)
- 10:20 **Jess Enright**, Lorna Stewart: *Combinatorial games on interval and permutation graph representations*
[Abstract](#)

CS-11-E

Chair: A. M. Encinas

Wednesday, 16:30 – 18:30
 H3013 (main building)

- 16:30 **Anton Ayzenberg**, Mikiya Masuda: *Volume polynomial and Poincare duality algebra of multi-polytope*
[Abstract](#)
- 16:50 **Simon Hampe**: *The intersection ring of matroids*
[Abstract](#)
- 17:10 Cristina Araúz, **Angeles Carmona**, Andres M Encinas: *Discrete Inverse Problem on Grids*
[Abstract](#)
- 17:30 **Veit Wiechert**, Torsten Mütze, Christoph Standke: *A minimum-change version of the Chung-Feller theorem for Dyck paths*
[Abstract](#)
- 17:50 **Konstantin Vorob'ev**: *On eigenfunctions with the second eigenvalue of a Johnson graph*
[Abstract](#)
- 18:10 **Andrés M. Encinas**, M. José Jiménez: *Bounded solutions of second order linear difference equations with periodic coefficients*
[Abstract](#)

CS-11-F

Chair: K. Jochemko

Friday, 09:00 – 11:00
 MA144 (math building)

- 09:00 **Benjamin Schröter**, Michael Joswig: *The degree of a tropical basis*
[Abstract](#)
- 09:20 **Gabor Korchmaros**: *Collineation groups of finite projective planes*
[Abstract](#)

- 09:40 **Nikolay Erokhovets**: *Construction of fullerenes by truncations*
[Abstract](#)
- 10:00 **Ezgi Kaya**, Ayse Dilek Maden: *Bounds for the transmission index of a graph*
[Abstract](#)
- 10:20 **Katharina Jochemko**: *On the real-rootedness of the Veronese construction for rational formal power series*
[Abstract](#)

CS-11-G Thursday, 16:30 – 18:30
 Chair: M. Henze H1029 (main building)

- 16:30 Ángeles Carmona, Margarida Mitjana, **Enric Monsó**: *Effective resistances and Kirchhoff index in subdivision networks*
[Abstract](#)
- 16:50 **Anna Taranenko**: *On the length of partial transversals in latin hypercubes and in multidimensional arrays*
[Abstract](#)
- 17:10 Carmen Hernando, Merce Mora, **Ignacio M. Pelayo**: *Locating partitions in graphs*
[Abstract](#)
- 17:30 **Tomaž Pisanski**: *On polycirculant graphs with semi-regular automorphisms with small number of cycles and their applications*
[Abstract](#)
- 17:50 A.M. Encinas, **M.J. Jiménez**: *Explicit inverse of a tridiagonal (p,r)-Toeplitz matrix*
[Abstract](#)
- 18:10 Gennadiy Averkov, Bernardo González Merino, **Matthias Henze**, Ingo Paschke, Stefan Weltge: *Tight bounds on discrete quantitative Helly numbers*
[Abstract](#)

CS-11-H Friday, 09:00 – 11:00
 Chair: B. Bukh H3013 (main building)

- 09:00 **Igor Baburin**: *Embeddings of entangled triply periodic networks in R^3 : a group-theoretical approach and applications to crystal structure design*
[Abstract](#)

- 09:20 **Ayşe Dilek Maden:** *On the Incidence energy and Randić energy*
[Abstract](#)
- 09:40 **Ebrahim Ghorbani:** *On eigenvalues of cographs*
[Abstract](#)
- 10:00 **Firouzeh Ashraf:** *On sum of the powers of signless Laplacian eigenvalues of a graph*
[Abstract](#)
- 10:20 **Endre Csóka:** *Limits of some combinatorial problems*
[Abstract](#)
- 10:40 **Boris Bukh:** *Ranks of matrices with few distinct entries*
[Abstract](#)

12. Mathematics Education and History of Mathematics

CS-12-A

Chair: O. Richard

Thursday, 09:00 – 11:00

MA041 (math building)

- 09:00 **Steven Weintraub:** *The irreducibility of the cyclotomic polynomials*
[Abstract](#)
- 09:20 **Mechthild Koreuber:** *Emmy Noether, the Forming of the Noether School, and the Shaping of a New Way of Mathematical Thinking: Toward the History of Modern Algebra*
[Abstract](#)
- 09:40 **Steven Pigeon:** *Quadrature in Ancient Egypt Revisited*
[Abstract](#)
- 10:00 **Radoslav Dimitric:** *Notions of a 'function', revisited*
[Abstract](#)
- 10:20 **O'Donovan Richard, Karel Hrbacek, Olivier Lessmann:** *Calculus using proximities: an approach in which students can actually prove theorems.*
[Abstract](#)

CS-12-B

Chair: P. Ullrich

Thursday, 16:30 – 18:30

MA042 (math building)

- 16:30 **Martina Štěpánová:** *History of Weyr Canonical Form*
[Abstract](#)
- 16:50 **Tanya Tonova:** *Visualization of Knowledge as Interpretation of the Context*
[Abstract](#)
- 17:10 **Veronica Gavagna:** *Renaissance studies on regular polyhedra: the case of Francesco Maurolico*
[Abstract](#)
- 17:30 **Marie Větrovcová:** *A history of general topology in the context of key papers up to the 1950s*
[Abstract](#)
- 17:50 **Peter Ullrich:** *Jost Buergi's Methods to Calculate Sine Tables*
[Abstract](#)

CS-12-C

Chair: R. Meyer-Spasche

Friday, 09:00 – 11:00

MA041 (math building)

- 09:00 **Pavel Klavik, Jiri Sejnoha, Zdenek Hedrlin:** *Big Picture of Mathematics: Experiment in Education*
[Abstract](#)
- 09:20 **Igor Subbotin, Nikolai Bilotskii:** *Algorithms and elementary functions*
[Abstract](#)
- 09:40 **Daria Termenzhy:** *Some ways for implementation the blended learning of mathematics: The author's experience*
[Abstract](#)
- 10:20 **Rita Meyer-Spasche:** *Some Remarks on the Impact of Computers on Mathematics and Physics*
[Abstract](#)

13. Logic and Mathematical Aspects of Computer Science

CS-13-A combined with IL18-Moti Gitik

Chair: B. Löwe

Thursday, 09:55 – 11:15

H2032 (main building)

09:55 **Adam Grabowski**, Artur Kornilowicz: *Mizar: a formal logical-algebraic approach to mathematics*

[Abstract](#)

10:15 **Manat Mustafa**: *Computable numberings in the hierarchy*

[Abstract](#)

10:35 **Christian Ikenmeyer**, Greta Panova: *Rectangular Kronecker coefficients, plethysms, and the non-existence of occurrence obstructions in geometric complexity theory*

[Abstract](#)

CS-13-B

Chair: I. Drugus

Friday, 09:00 – 11:00

MA042 (math building)

09:00 **Andrzej Zarzycki-Reich**: *„Theory of an existence of objects.” Of Gottfried Wilhelm Leibniz’s remembrance (1646 – 1716)*

[Abstract](#)

09:20 **Hendri Murfi**, Rosiana Disiati: *The Accuracy of Polynomial-Time Nonnegative Matrix Factorization for Topic Detection on Twitter*

[Abstract](#)

09:40 **Gohar Kyureghyan**: *Special Maps on Finite Fields: Examples, Classification, Open Problems*

[Abstract](#)

10:00 **Ioachim Drugus**: *An Algebraic Set Theory Based on Induction*

[Abstract](#)

14. Numerical Analysis and Scientific Computing

CS-14-A

Chair: C. Gräser

Thursday, 09:00 – 11:00

MA042 (math building)

- 09:00 **Joseph Páez Chávez:** *A Continuation Approach to Establish Closeness Results on Bifurcating Equilibria under One-Step Discretization*
[Abstract](#)
- 09:20 **Diego Armentano,** Carlos Beltrán, Peter Bürgisser, Felipe Cucker, Michael Shub: *A stable, polynomial-time algorithm for the eigenpair problem*
[Abstract](#)
- 09:40 **Paul Breiding:** *Eigenpairs of homogeneous polynomial systems (or tensors)*
[Abstract](#)
- 10:00 **Pia Domschke:** *Adaptive Modelling, Simulation and Optimization of Gas and Water Supply Networks*
[Abstract](#)
- 10:20 Michael Hanke, Roswitha März, **Caren Tischendorf,** Ewa Weinmüller, Stefan Wurm: *Least-squares collocation for higher index differential algebraic equations*
[Abstract](#)
- 10:40 **Carsten Gräser:** *Nonlinearly preconditioned inexact Newton methods for nonsmooth optimization*
[Abstract](#)

CS-14-B

Chair: E. Shmerling

Thursday, 16:30 – 18:30

MA043 (math building)

- 16:30 **Xiaolong Zhang,** Songxin Liang: *An effective method for highly nonlinear problems- Adomian decomposition method with a convergence-control parameter*
[Abstract](#)
- 16:50 **Kenier Castillo:** *On the discrete extension of Markov's theorem on monotonicity of zeros*
[Abstract](#)
- 17:10 **Antti Koskela:** *Iterative methods for inhomogeneous and polynomially perturbed linear ODEs*
[Abstract](#)

- 17:30 **Zanariah Abdul Majid**, Hoo Yann Seong: *Solving Second Order Retarded Delay Differential Equation of Pantograph Type Directly*
[Abstract](#)
- 17:50 **Efraim Shmerling**: *Acceptance Tail Method for Generating Random Variables*
[Abstract](#)

15. Mathematics in Science and Technology, Industrial Mathematics

CS-15-A	Thursday, 09:00 – 11:00
Chair: R. Cada	MA043 (math building)

- 09:00 **Victor Kasyanov**: *Hierarchical graph models and tools for visual processing and parallel programming*
[Abstract](#)
- 09:20 **Blas Pelegrin**, Pascual Fernández, María Dolores García, Juan Diego Pelegrín: *A mathematical model for planning store location in the franchise industry*
[Abstract](#)
- 09:40 **A. Bass Bagayogo**: *Granular Flow Modeling: From Discrete to Continuum Numerical Approaches*
[Abstract](#)
- 10:00 **Izabella Stuhl**, Yuri Suhov: *Improving on Shannon's Data-Compression Principle*
[Abstract](#)
- 10:20 **Sanjeev Kumar**, G. C. Rana: *Numerical and Analytical Investigation of Thermosolutal Convection in a Compressible Walters' (model B') Elastico-Viscous Fluid in the Presence of Uniform Magnetic Field in Porous Medium*
[Abstract](#)
- 10:40 **Roman Cada**: *Fast design of almost optimal nuclear reactor reload patterns*
[Abstract](#)

16. Optimization and Control

CS-16-A

Chair: F. Kruse

Tuesday, 09:55 – 11:15

H0104 (main building)

- 09:55 **Vera Bommer**, Irwin Yousept: *Numerical Analysis for the Optimal Control of the Time-Dependent Maxwell's Equations*
[Abstract](#)
- 10:15 Catherine Bartlett, **Claudiu Remsing**: *On the classification of control systems on the Engel group*
[Abstract](#)
- 10:35 **Andrzej Fryszkowski**, Grzegorz Bartuzel: *Pointwise Estimates in Filippov-Ważewski Theorem for fourth order differential inclusions*
[Abstract](#)
- 10:55 Eduardo Casas, **Florian Kruse**, Karl Kunisch: *Optimal control of semilinear parabolic equations by BV-functions*
[Abstract](#)

CS-16-B

Chair: G. Violet

Tuesday, 09:00 – 11:00

MA144 (math building)

- 09:00 **Hyung-Chun Lee**, Max D. Gunzburger: *Analysis and Computations of Stochastic Optimal Control Problems for Stochastic Partial Differential Equations*
[Abstract](#)
- 09:20 **Bibhya Sharma**, Jito Vanualailai: *Rigid Formation Control of n-Link Doubly Nonholonomic Mobile Manipulators*
[Abstract](#)
- 09:40 **Guilherme Mazanti**: *Controllability criteria for difference equations*
[Abstract](#)
- 10:00 **Vasile Postolica**: *General Efficiency*
[Abstract](#)
- 10:20 **Grey Violet**: *Continuity argument revisited: geometry of root clustering via symmetric products*
[Abstract](#)

CS-16-C

Chair: H. Mena

Wednesday, 09:00 – 11:00

MA141 (math building)

- 09:00 **Han Cheng Lie:** *Convexity of a stochastic control functional related to importance sampling of Ito diffusions*
[Abstract](#)
- 09:20 **Wei Zhang,** Carsten Hartmann, Christof Schuette: *Model reduction algorithms for optimal control and importance sampling of diffusions*
[Abstract](#)
- 09:40 **Toru Nakai:** *Optimization Problem on Partially Observable Markov Process under Stochastic Convexity with Supermodular Function*
[Abstract](#)
- 10:00 **María Angeles Rodríguez-Bellido,** Diego A. Rueda-Gómez, Elder J. Villamizar-Roa: *Optimal control for a chemotaxis system coupled with a fluid*
[Abstract](#)
- 10:20 **Alexander Zuyev:** *Steering problem for quasilinear distributed parameter systems with smooth controls*
[Abstract](#)
- 10:40 **Hermann Mena:** *The Stochastic Linear Quadratic Regulator Problem on Hilbert Spaces*
[Abstract](#)

CS-16-D

Chair: M. Lazar

Wednesday, 16:30 – 18:30

MA043 (math building)

- 16:30 **Subashish Datta:** *Control Effort Optimization for Linear Time-Invariant Descriptor Systems*
[Abstract](#)
- 16:50 Shakeela Sathish, **Shakeela Sathish,** Ganesan K: *Scheduling of Flow Shop Problems in Fuzzy Environment with weightage of jobs*
[Abstract](#)
- 17:10 **Nikolai Krivulin:** *Optimization problems over tropical semifields: algebraic solutions and application examples*
[Abstract](#)
- 17:30 **Martin Lazar,** Enrique Zuazua: *Greedy control*
[Abstract](#)

17. Mathematical Image and Signal Processing

CS-17-A

Chair: J. Hogan

Tuesday, 09:00 – 11:00

MA141 (math building)

- 09:00 **Vitaliy Kurlin:** *Topological Computer Vision*
[Abstract](#)
- 09:20 **Boris Darkhovsky, Alexandra Piryatinska:** *The ε -complexity of continuous maps*
[Abstract](#)
- 09:40 **Alexandra Piryatinska, Boris Darkhovsky:** *Model-free classification and segmentation of multivariate time series via the ε -complexity.*
[Abstract](#)
- 10:00 **Ahmed Zayed:** *A Note on the Inconsistency of Generalized Fourier Series Expansions of Fractional Orders*
[Abstract](#)
- 10:20 **Jeffrey Hogan, Joseph Lakey:** *Bandpass prolates, prolate shift frames and sampling*
[Abstract](#)

Posters

01. Algebra

PS-01

Tuesday and Wednesday, 11:15 – 11:45

Poster Session, Lichthof Gallery 2nd Floor

- 1 **Alexandra Admiralova:** *On linear groups with the property of orderfiniteness of all primitive words in generators*
[Abstract](#)
- 2 **Soutrik Roy Chowdhury:** *Anick Resolution for Generalized Koszul Algebra*
[Abstract](#)
- 3 **Nico Groenewald:** *On the upper nil radical for near-ring modules*
[Abstract](#)
- 4 **Swati Maheshwari, R. K. Sharma:** *A Note on the Unit Group of $\mathbb{F}_q SL(2, \mathbb{Z}_3)$.*
[Abstract](#)
- 5 **Fatemeh Koorepzan-Moftakhar, Ali Reza Ashrafi:** *On Normal Graph of a Finite Group*
[Abstract](#)
- 6 **Anna Osinovskaya:** *The restrictions of representations of special linear groups to subsystem subgroups of type A_2*
[Abstract](#)

02. Number Theory

PS-02

Tuesday and Wednesday, 11:15 – 11:45

Poster Session, Lichthof Gallery 2nd Floor

- 1 **Seema Kushwaha, R. Sarma:** *Continued Fractions arising from a Family of Subgraphs of the Farey Graph*
[Abstract](#)

03. Algebraic and Complex Geometry

PS-03

Tuesday and Wednesday, 11:15 – 11:45

Poster Session, Lichthof Gallery 2nd Floor

- 1 **Olga Rossi**, Dennis Barrett, Rory Biggs, Claudiu Remsing: *Invariant Non-holonomic Riemannian Structures on Three-Dimensional Lie Groups*
[Abstract](#)
- 2 **Andrey Pavlov V.**: *The correctness of geometrical methods in the theorem of Fermat; the transform of Laplace.*
[Abstract](#)

04. Differential Geometry and Applications

PS-04

Tuesday and Wednesday, 11:15 – 11:45

Poster Session, Lichthof Gallery 2nd Floor

- 1 **Piotr Kopacz**: *On generalization of Zermelo navigation problem on Riemannian manifolds and application to search models*
[Abstract](#)
- 2 **Fatiha Mahi**, Mohamed Belkhef: *Second Order Parallel Tensors On S-manifold and Hypersurfaces of S-Space Forms.*
[Abstract](#)
- 3 **George Kaimakamis**: *New types of Ricci solitons*
[Abstract](#)
- 4 **Gamaliel Torres Vargas**, José Antonio Santiago García: *Geometry of classical particles on surfaces*
[Abstract](#)
- 5 **Konstantina Panagiotidou**: *Derivatives of real hypersurfaces in non-flat complex space forms with respect to the generalized Tanaka-Webster connection*
[Abstract](#)
- 6 **Wai Yeung Lam**: *Discrete minimal surfaces*
[Abstract](#)
- 7 **Marcella Palese**: *Algebraic structures generating reaction-diffusion models: the activator-substrate system*
[Abstract](#)

06. Analysis and its Applications

PS-06

Tuesday and Wednesday, 11:15 – 11:45

Poster Session, Lichthof Gallery 2nd Floor

- 1 **Eman Bhaya:** *L_p Direct Theorem for Exponential Neural Networks*
[Abstract](#)
- 2 **Sukhotin Aleksander M.:** *The Alternative Analysis and some Dogmas*
[Abstract](#)
- 3 **Pravati Sahoo:** *On Some Classes of Bi-Univalent Analytic Functions*
[Abstract](#)
- 4 **Tania-Luminita Costache:** *Projective J-representations associated with projective u-covariant (α)-completely positive linear maps*
[Abstract](#)
- 5 **Tatjana Tomović:** *Quadrature rules with multiple nodes and the maximal trigonometric degree of exactness*
[Abstract](#)
- 6 **Olga Trofymenko:** *A mean value theorem for polynomials of special form*
[Abstract](#)
- 7 **Juan J. Moreno-Balcázar:** *Mehler-Heine asymptotics for varying Sobolev orthogonal polynomials*
[Abstract](#)
- 8 **Pieter Maritz:** *The Convexity Theorem of A.A. Lyapunov: 75 Years, 1940-2015*
[Abstract](#)
- 9 **Gulmira Kenzhebekova:** *On the integrability of the functions with monotone decreasing Fourier coefficients*
[Abstract](#)
- 10 **Andrii Goriunov, Vladimir Mikhailets:** *One-dimensional differential operators with distributional coefficients*
[Abstract](#)
- 11 **Lubna Shah:** *Applications of the Schwarz Lemma to Inequalities for Polynomials with Restricted Zeros*
[Abstract](#)
- 12 **Marija Cvetković, Vladimir Rakočević:** *Quasi-contraction of Perov type*
[Abstract](#)

07. Dynamical Systems and Ordinary Differential Equations and Applications

PS-07

Tuesday and Wednesday, 11:15 – 11:45

Poster Session, Lichthof Gallery 2nd Floor

- 1 **George Osipenko:** *Averaging over the pseudo-orbits*
[Abstract](#)
- 2 **Stefan Ruschel:** *Delay-coupled Kuramoto-oscillators on random networks.*
[Abstract](#)
- 3 **Luca Donati, Bettina Keller:** *Markov State Models with reweighting*
[Abstract](#)
- 4 **Andrzej Fryszkowski, Grzegorz Bartuzel:** *Maximum Principle For Hinged Beam Equation*
[Abstract](#)
- 5 **Piotr Oprocha:** *On the shadowing property and odometers (joint work with J. Li)*
[Abstract](#)
- 6 **Stefan Ruschel:** *SIQ epidemiological model*
[Abstract](#)

08. Partial Differential Equations and Applications

PS-08

Tuesday and Wednesday, 11:15 – 11:45

Poster Session, Lichthof Gallery 2nd Floor

- 1 **Yuliya Samoylenko:** *Asymptotic many phase soliton type solutions to Cauchy problem for a singular perturbed Korteweg-de Vries equation with variable coefficients*
[Abstract](#)
- 2 **Djemaia Bensikaddour:** *Reaction Diffusion Equations and Applications*
[Abstract](#)
- 3 **Jorge Sanchez, Martin P. Arciga-Alejandre, Francisco J. Ariza-Hernandez:** *Stochastic Black-Scholes equation with time-fractional derivative on the half-line*
[Abstract](#)

- 4 **Martin P. Arciga-Alejandre, Jorge Sanchez-Ortiz, Francisco J. Ariza-Hernandez:** *Fractional stochastic heat equation on the half-line*
[Abstract](#)
- 5 **Hueili Lin:** *Multiplicity of solutions for quasilinear elliptic equations with variable exponents*
[Abstract](#)
- 6 **Tobias Barker:** *Ancient solutions to the Navier Stokes equations in half space*
[Abstract](#)
- 7 **Loredana Simčić, Ivan Dražić, Nermina Mujaković:** *Hoelder continuous solution for spherically symmetric 3-D model of a compressible viscous micropolar fluid*
[Abstract](#)
- 8 **Sezayi Hızlıyel, Yeşim Sağlam Özkan:** *Linear Generalized Q-Holomorphic Functions*
[Abstract](#)
- 9 **Salah Zitouni, Rachida Amiar:** *Stabilization of the Timoshenko system with two boundary time-varying delays*
[Abstract](#)
- 10 **Ana Djurdjevac, Charles M. Elliott, Ralf Kornhuber, Thomas Ranner:** *Advection-diffusion equations with random coefficients on moving hypersurfaces*
[Abstract](#)
- 11 **Iroda Baltaeva, Gayrat Urazboev:** *Integration of the discrete system of Ablowitz-Ladik with self-consistent source*
[Abstract](#)
- 12 **Umida Baltaeva:** *Boundary value problems for a third-order loaded integro-differential equation with parabolic-hyperbolic operators*
[Abstract](#)
- 13 **Oleksii Pliukhin:** *Nonclassical symmetries and exact solutions of nonlinear reaction-diffusion systems*
[Abstract](#)
- 14 **Ivan Dražić, Nelida Črnjarić-Žic, Nermina Mujaković:** *Numerical approximation of the solution for 3D compressible viscous micropolar fluid model with cylindrical symmetry*
[Abstract](#)
- 15 **Natalia Chinchaladze:** *On some problems of cusped double-layered prismatic shells*
[Abstract](#)

- 16 **Francisco Javier Torres de Lizaur:** *Knotted structures in high-energy Beltrami fields on the torus and the sphere*
[Abstract](#)
- 17 Tsing-San Hsu, **Huei-Li Lin:** *On elliptic problems involving multi-singular inverse square potentials and multi-critical Hardy-Sobolev exponents in \mathbb{R}^N*
[Abstract](#)
- 18 **Berikbol Torebek:** *A fractional operator algorithm method for construction of polynomial solutions of fractional polyharmonic equations*
[Abstract](#)

09. Mathematical Physics

PS-09

Thursday and Friday, 11:15 – 11:45

Poster Session, Lichthof Gallery 3rd Floor

- 1 **Eugenia Rosado, Luis Pozo:** *Einstein-Hilbert Lagrangian induced on the linear frame bundle*
[Abstract](#)
- 2 **Alexander Zuevsky:** *Modular forms generated by vertex operator algebras on Riemann surfaces*
[Abstract](#)

10. Probability, Statistics and Financial Mathematics

PS-10

Thursday and Friday, 11:15 – 11:45

Poster Session, Lichthof Gallery 3rd Floor

- 1 **Francisco J Ariza-Hernandez, Jorge Sanchez-Ortiz, Martin P. Arciga-Alejandre:** *Bayesian fractional growth model selection*
[Abstract](#)
- 2 **Javier Trejos, Alejandra Jimenez:** *Genetic algorithm and ant colonies optimization heuristics for clustering binary data*
[Abstract](#)

- 3 **Marcin Lawnik:** *Generation of pseudo-random numbers from given probability distribution with the use of inverse chaotic transformations*
[Abstract](#)
- 4 **Dragana Valjarevic, Ljiljana Petrovic:** *Concept of Statistical Causality and Extremal Measures*
[Abstract](#)
- 5 Ljiljana Petrović, **Sladana Dimitrijević:** *Statistical causality with finite horizon of the past*
[Abstract](#)
- 6 **Jannes Quer:** *Importance sampling for metastable processes by optimal control*
[Abstract](#)
- 7 **Ilja Klebanov:** *Prior estimation and Bayesian inference from large cohort data sets*
[Abstract](#)
- 8 **Inga Stolz:** *Preserving information of a time-dependent system: an ordinal viewpoint*
[Abstract](#)
- 9 **Habshah Midi, Mohammed A. Mohammed, Sohel Rana:** *The Improvised Generalized M-Estimator to Remedy Multicollinearity Caused by High Leverage Points*
[Abstract](#)
- 10 **Anna Mazur:** *Estimation of copula functions for stationary time series with heavy tails and strong time dependence*
[Abstract](#)
- 11 **Marija Krstic, Miljana Jovanovic:** *Stability of delayed vector-borne disease epidemic model influenced by stochastic perturbations*
[Abstract](#)
- 12 **Jasmina Djordjevic:** *"Relation between the solutions of different types of Backward Stochastic Volterra Integral equations"*
[Abstract](#)
- 13 **Marija Milosevic:** *An explicit approximation of solutions for a class of neutral stochastic differential equations with time-dependent delay*
[Abstract](#)

11. Combinatorics and Discrete Mathematics

PS-11

Thursday and Friday, 11:15 – 11:45

Poster Session, Lichthof Gallery 3rd Floor

- 1 **Boris Granovsky:** *Developments in the Khintchine-Menardus method for asymptotic enumeration.*
[Abstract](#)
- 2 **Bojana Borovićanin:** *On Extremal Vertex-Degree-Based Topological Indices of Trees with Given Parameters*
[Abstract](#)
- 3 Vladimir Božović, **Žana Kovijanić Vukićević, Goran Popivoda:** *On the Topological Indices over Chemical Trees*
[Abstract](#)
- 4 **Vladimir Božović, Žana Kovijanić Vukićević, Goran Popivoda:** *On Some Distance-based and Degree-based Topological Indices Over Unicyclic and Bicyclic Graphs*
[Abstract](#)
- 5 **Yuri Borissov:** *Enumeration of the elements of $GF(2^n)$ with prescribed trace and co-trace*
[Abstract](#)
- 6 **Georg Loho, Michael Joswig:** *Weighted digraphs and tropical cones*
[Abstract](#)
- 7 **Jess Enright, Kitty Meeks:** *Deleting edges to restrict the size of an epidemic spreading on a graph*
[Abstract](#)
- 8 **Mehdi Aaghabali, Saieed Akbari, Zakeieh Tajfirouz:** *Order of maximum Sachs subgraphs in graphs*
[Abstract](#)
- 9 **Mehdi Aaghabali:** *Brauer-Cartan-Hua type conditions on division rings*
[Abstract](#)

12. Mathematics Education and History of Mathematics

PS-12

Thursday and Friday, 11:15 – 11:45

Poster Session, Lichthof Gallery 3rd Floor

- 1 **Galina Sinkevich:** *“Thou shalt find his fruits after many days”. Cantor’s works in Russia*
[Abstract](#)
- 2 **Ada Palka:** *Jan Ziarnko, seventeenth-century artist and mathematician*
[Abstract](#)

13. Logic and Mathematical Aspects of Computer Science

PS-13

Thursday and Friday, 11:15 – 11:45

Poster Session, Lichthof Gallery 3rd Floor

- 1 **Omaima Alshantiti:** *First results about groups with a count function*
[Abstract](#)

14. Numerical Analysis and Scientific Computing

PS-14

Thursday and Friday, 11:15 – 11:45

Poster Session, Lichthof Gallery 3rd Floor

- 1 **Iuliia Pershyna:** *Mathematical modelling of discontinuous processes in a computer tomography by means of discontinuous splines*
[Abstract](#)
- 2 **Olesia Nechuiviter:** *Approximate Calculation of Triple Integrals of Rapidly Oscillating Functions with the Use of Different Type of Information about Function*
[Abstract](#)
- 3 **Hurdei Evgenia:** *Polynomial interpolation with known projections on an arbitrary system of N groups of lines consisting of M parallel lines*
[Abstract](#)

- 4 **Anton Ferre:** *PhaseSpace a program to analyse dynamical systems.*
[Abstract](#)
- 5 **Fudziah Ismail,** *Sufia Zulfa Ahmad, Norazak Senu: Trigonometrically Fitted Semi-Implicit Hybrid Method for Solving Special Second Order Oscillatory Differential Equation*
[Abstract](#)

15. Mathematics in Science and Technology, Industrial Mathematics

PS-15 Thursday and Friday, 11:15 – 11:45
 Poster Session, Lichthof Gallery 3rd Floor

- 1 **Izabella Stuhl,** *Yuri Suhov: A model of competitive interaction in cancer and healthy cell populations*
[Abstract](#)

16. Optimization and Control

PS-16 Thursday and Friday, 11:15 – 11:45
 Poster Session, Lichthof Gallery 3rd Floor

- 1 **Edgardo Jovero:** *A Dynamic Analysis of Sovereign Risk in Developing Countries: applying geometric qualitative methods of dynamical systems*
[Abstract](#)
- 2 **Nevena Mijajlovic,** *Milojica Jacimovic: On the quasivariational inequalities*
[Abstract](#)
- 3 **Andrzej Just:** *Optimal Control Problem of Some Parabolic Hemivariational Inclusion - Galerkin Approximation*
[Abstract](#)
- 4 **Nevena Mijajlovic,** *Milojica Jacimovic, Vladimir Bozovic: Methods for solving quasi variational inequalities*
[Abstract](#)

17. Mathematical Image and Signal Processing

PS-17

Thursday and Friday, 11:15 – 11:45

Poster Session, Lichthof Gallery 3rd Floor

- 1 **Michael Speckbacher:** *Reproducing pairs and Gabor systems at critical density*
[Abstract](#)