



Mathematical  
Inequalities and  
Applications

CROATIA 2018

# MATHEMATICAL INEQUALITIES AND APPLICATIONS 2018

ZAGREB, Croatia  
July 4 – 8, 2018

Conference in honor of Academician Josip Pečarić  
on the occasion of his 70<sup>th</sup> birthday

## CONFERENCE PROGRAM

**Arrival of participants**

17:00 – 20:00      **Registration (Registration desk)**

17:00 – 20:00      **Welcome Reception**

**(at Faculty of Electrical Engineering and Computing, University of Zagreb)**

**OPENING CEREMONY (HALL "ADRIATIC", Hotel International)\***

09:00 – 10:00      **Registration (Registration desk)**

09:30 – 10:00      **Coffee and refreshment**

10:00 – 12:00      **Opening ceremony**

*70<sup>th</sup> Birthday of Academician Josip Pečarić, 20<sup>th</sup> Birthday of MIA Journal*  
**Dean Sandra Bischof, Bishop Vlado Košić, Prof. Lars – Erik Persson,  
Prof. Neven Elezović**

12:00 – 15:00      **Lunch break**

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\* All other conference activities (including Diner Reception) take place at Faculty of Electrical Engineering and Computing, University of Zagreb

**PLENARY SESSION (Hall A)**

**Chair: Jong Kyu Kim**

15:00 – 15:45 *Improved Jensen-type Inequalities for Operators and Matrices Based on Linear Interpolation*  
**Mario Krnić**

**PARALLEL SESSION A (Hall A)**

**Chair: M. Bessenyei**

15:50 – 16:10 *Hermite Hadamard and Fejer Type Inequalities for Superquadratic Functions and Their Generalizations*  
**S. Abramovich**

16:15 – 16:35 *Continuity Properties of  $K$ -Midconvex and  $K$ -Midconcave Set-Valued Maps*  
**K. Nikodem**

16:40 – 17:00 *On Jensen-Type Inequalities for  $F$ -convex Functions*  
**M. Adamek**

17:00 – 17:30 **Coffee Break**

**Chair: M. Adamek**

17:30 – 17:50 *Separation Problems in the Context of  $h$ -Convexity*  
**M. Bessenyei**

17:55 – 18:15 *Affine Differences and Convex Separation*  
**Z. Boros**

18:20 – 18:40 *Quasi-Convex and Strongly Quasi-Convex Functions of Higher-Order*  
**T. Rajba**

**PARALLEL SESSION B (Hall B)**

**Chair: M. Praljak**

15:50 – 16:10 *Inequalities for Bernstein Polynomials*  
**D. Cárdenas-Morales**

16:15 – 16:35 *Hypercontractivity in Probability*  
**Z. S. Szewczak**

16:40 – 17:00 *Aproximation by Partial Sums of Faber Series on a Subclass of Smooth Domains*  
**B. Oktay Yönet**

17:00 – 17:30 **Coffee Break**

**Chair: S. Ivelić Bradanović**

17:30 – 17:50 *An Review on Linear Matrix Inequalities*  
**B. Ivanković**

17:55 – 18:15 *Opial Type Inequalities*  
**I. Brnetić**

18:20 – 18:40 *On Buying and Selling Prices under Rank-Dependent Utility*  
**J. Chudziak**

**PLENARY SESSION (Hall A)**

**Chair: Takeaki Yamazaki**

09:00 – 09:45      *Characterization of Associate Function Spaces*  
**Vladimir D. Stepanov**

**PARALLEL SESSION A (Hall A)**

**Chair: A. Peperko**

09:50 – 10:10      *A Common Zero of Finite Family of  
Accretive Operators in Banach Spaces*  
**Jong Kyu Kim**

10:15 – 10:35      *Some Inequalities on  $wUR$  Modulus and  
Geometric Properties in Banach Spaces*  
**J. Gao**

10:40 – 11:00      *Estimations of the Lehmer Mean by the  
Heron Mean and Their Generalizations  
Involving Refined Heinz Operator  
Inequalities*  
**M. Ito**

11:00 – 11:30      **Coffee Break**

**Chair: M. Ito**

11:30 – 11:50      *Roberts Orthogonality and Davis-Wielandt  
Shell*  
**R. Rajić**

11:55 – 12:15      *Generalized Karcher Equation, Operator  
Entropy, and the Ando-Hiai Inequality*  
**T. Yamazaki**

12:20 – 12:40      *Complementary to Choi-Davis-Jensen Type  
Inequalities in External Formulas*  
**J. Mičić Hot**

12:45 – 13:05      *Inequalities on the Joint and Generalized  
Spectral and Essential Spectral Radius of  
the Hadamard Geometric Mean of Bounded  
Sets of Positive Kernel Operators*  
**A. Peperko**

**PARALLEL SESSION B (Hall B)**

**Chair: J. Barić**

09:50 – 10:10      *Measure Theoretic Improvement of an  
Extension of Hölder-Type Inequality*  
**K. Smoljak Kalamir**

10:15 – 10:35      *More Accurate Jensen-Type Inequalities for  
Signed Measures*  
**M. Rodić**

10:40 – 11:00      *Generalizations of Ostrowski Inequality via  
Some Euler-Type Harmonic Identities*  
**A. Čivljak**

11:00 – 11:30      **Coffee Break**

**Chair: M. Andrić**

11:30 – 11:50      *Refinements of the Majorization-Type  
Inequalities via Green and Fink Identities  
and Related Results*  
**A. Vukelić**

11:55 – 12:15      *Generalizations of Steffensen's Inequality by  
Hermite Polynomial*  
**A. Perušić Pribanić**

12:20 – 12:40      *New Results About Hardy Type Inequalities  
and Lidstone Interpolation Polynomials*  
**K. Krulić Himmelreich**

13:05 – 16:00      **Lunch break**

**PLENARY SESSION (Hall A)**

**Chair: Lars-Erik Persson**

- 16:00 – 16:45      *On Kedlaya and Hardy Type Inequalities: A Survey*  
**Zsolt Páles**
- 16:45 – 17:15      **Coffee break**

**PARALLEL SESSION A (Hall A)**

**Chair: A. Witkowski**

- 17:20 – 17:40      *My Life With Hardy and His Inequalities*  
**L.-E. Persson**
- 17:45 – 18:05      *Continuous Form of the Gauss-Pólya  
Inequality*  
**S. Varošanec**
- 18:10 – 18:30      *Popoviciu Type Inequalities*  
**F. C. Mitroi-Symeonidis**

**Chair: F. C. Mitroi-Symeonidis**

- 18:35– 18:55      *On the Converse of the Hermite-Hadamard  
Inequality on Simplices*  
**E. Symeonidis**
- 19:00 – 19:20      *Hermite-Hadamard Inequality for  
Truncated Simplex*  
**A. Witkowski**
- 19:30              **Dinner Reception**

**PARALLEL SESSION B (Hall B)**

**Chair: D. Kotrys**

- 17:20 – 17:40      *Fourier Series Method Related to  
Wilker-Cusa-Huygens Inequalities*  
**G. Bercu**
- 17:45 – 18:05      *A Further Extension of Korovkin's Result  
via Generalized Convergence*  
**P. Garrancho García**

**Chair: G. Bercu**

- 18:10 – 18:30      *Stochastic Processes Generating  
Schur-Convex Sums*  
**D. Kotrys**
- 18:35 – 18:55      *Asymptotic Expansions and Inequalities  
Related to the Wallis Ratio*  
**T. Burić**
- 19:00 – 19:20      *Asymptotic Inequalities Between  $n$ -Variable  
Means*  
**L. Mihoković**

**PLENARY SESSION (Hall A)**

**Chair: Shoshana Abramovich**

09:00 – 09:45 *n-Totally Positive Kernels, n-Exponential Convexity and n-Entrywise Positivity Preservers. Relations, Gaps, Using Hankel Determinants (Wronskians)*  
**Ivan Perić**

**PARALLEL SESSION A (Hall A)**

**Chair: M. Krnić**

09:50 – 10:10 *Cauchy-Schwarz's Inequality and Several Inequalities in an Inner Product Space*  
**N. Minculete**

10:15 – 10:35 *Inequalities of the Edmundson-Lah-Ribarič Type for Selfadjoint Operators in Hilbert Spaces*  
**R. Mikić**

10:40 – 11:00 *On the Invariance Problem of Matkowski Means*  
**T. Kiss**

11:00 – 11:30 **Coffee Break**

**Chair: I. Brnetić**

11:30 – 11:50 *Refinements and Reverses for Some Classical Inequalities*  
**S. Furuichi**

11:55 – 12:15 *A Generalization of G-Metric Space and Related Fixed Point Theorem*  
**J. Kaur**

12:15 – 20:30 **Excursion (lunch included)**

**PARALLEL SESSION B (Hall B)**

**Chair: A. Vukelić**

09:50 – 10:10 *Approximation Properties of the Perturbed Diffusion Equation on the Half-Line*  
**S.-M. Jung**

10:15 – 10:35 *A Note on Approximate Solutions for Stochastic Functional Differential Equations*  
**Y.-H. Kim**

10:40 – 11:00 *Nonhomogeneous Boundary Value Problem for the Stationary Navier-Stokes Equations in a Domain With a Cusp*  
**K. Kaulakyte, N. Kloviene**

11:00 – 11:30 **Coffee Break**

**Chair: K. Smoljak Kalamir**

11:30 – 11:50 *Schur-Convexity of the Weighted Quadrature Formula*  
**S. Kovač**

11:55 – 12:15 *Error Bounds for the Chebyshev Functional and Corrected Quadrature Formulae*  
**M. Ribičić Penava**

**PLENARY SESSION (Hall A)**

**Chair: Zsolt Páles**

09:00 – 09:45 *A Survey on Some Recent Progress in the Study of the Rudin-Shapiro Polynomials*  
**Tamás Erdélyi**

**PARALLEL SESSION A (Hall A)**

**A. Matković**

09:50 – 10:10 *Popoviciu Type Inequalities for Higher Order Convex Functions via Lidstone Interpolation*  
**M. Praljak**

10:15 – 10:35 *Interpolating Polynomials and Derived Inequalities for Convex Functions*  
**G. Aras-Gazić**

10:40 – 11:00 *A Remark on Schur  $m$ -Power Convexity of the Mean of a Convex Function*  
**V. Čuljak**

11:00 – 11:30 **Coffee Break**

11:00 – 11:50 **POSTER SESSION**

**Chair: J. Jakšetić**

11:55 – 12:15 *Generalizing Jensen-Mercer Inequality by use of Several Green's Functions*  
**A. Matković**

12:20 – 12:40 *Inequalities Related to the Jensen Inequality for Strongly Convex Functions*  
**M. Klaričić Bakula**

12:45 – 13:05 *Improvements and Generalizations of Converse Jensen's Inequality and the Jessen-Mercer Inequality*  
**J. Perić**

13:10 – 13:30 *Jensen's Inequality for Infinite Convex Combinations*  
**Z. Pavić**

**PARALLEL SESSION B (Hall B)**

**Chair: N. Lovričević**

09:50 – 10:10 *Hybrid Zipf-Mandelbrot Law*  
**J. Jakšetić**

10:15 – 10:35 *New Lower and Upper Bounds for  $f$ -Divergences With Applications in Information Theory*  
**S. Ivelić Bradanović**

10:40 – 11:00 *Generalized Csiszár's  $f$ -Divergence for Lipschitzian Functions*  
**D. Pokaz**

11:00 – 11:30 **Coffee Break**

**Chair: D. Pokaz**

11:55 – 12:15 *Shannon Entropy and Zipf-Mandelbrot Law in Jensen-type Interpolating Inequalities*  
**N. Lovričević**

12:20 – 12:40 *Converse to the Sherman Inequality With Applications*  
**A. Barbir**

12:45 – 13:05 *A Generalization of Hilbert-Type Fractal Integral Inequalities*  
**P. Vuković**

13:10 – 13:30 *Shannon and Zipf-Mandelbrot Entropies and Related Results*  
**S. Khalid**



11:30 – 11:50

**POSTER SESSION (Hall A)**

*Weighted Ostrowski-Type Inequalities via Lidstone Interpolation*

**A. Aglič Aljinović, Lj. Kvesić**

*On Generalized Mittag-Leffler Function Associated With Opial, Pólya-Szegő and Chebyshev Types Inequalities*

**M. Andrić**

*Levinson's Type Inequalities in Time Scale Settings*

**J. Barić, D. Radišić**

*New Bounds For Shannon, Relative And Mandelbrot Entropies Via Abel-Gontscharoff Interpolating Polynomial*

**S. I. Butt, J. Pečarić**

*Generalized Steffensen's Inequality by Montgomery Identity and Green Function*

**A. Fahad, J. Pečarić**

*Uniform Treatment of Jensen-Type Inequalities Using Several Different Green Functions*

**M. Rodić**

*Generalization of Weighted Ostrowski's Type Inequalities by Abel-Gontscharoff Polynomial*

**S. Tipurić-Spužević**

13:30

**Closing Ceremony**

**Departure of participants**