

Veszprém Discrete Mathematics and Applications Conference

Program and Abstracts

**Faculty of Information Technology
University of Pannonia
Veszprém, Hungary**

**June 25 – June 29, 2018
Veszprém, Hungary**

The conference is dedicated to

**Professor Zsolt Tuza
University of Pannonia, Hungary and
Alfréd Rényi Institute of Mathematics,
Hungarian Academy of Sciences**

on the occasion of his 65th birthday

Organizing Committee:

- György Dósa, University of Pannonia, Hungary (chair)
- János Barát, University of Pannonia, Hungary
- Károly Bezdek, University of Calgary, Canada, University of Pannonia, Hungary
- Ferenc Hartung, University of Pannonia, Hungary
- Viktória Nagy, University of Pannonia, Hungary
- István Szalkai, University of Pannonia, Hungary

Conference venue: University of Pannonia, Veszprém, Hungary, Main Building (Aula), Conference Center

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List of participants

- Noga Alon, Princeton University and Tel Aviv University, Israel
- Gábor Bacsó, Institute for Computer Science and Control, Hungarian Academy of Sciences, Hungary
- János Barát, University of Pannonia, Hungary
- József Békési, University of Szeged, Hungary
- Peter Borg, University of Malta, Malta
- Piotr Borowiecki, Gdańsk University of Technology, Poland
- Sándor Bozóki, Institute for Computer Science and Control, Hungarian Academy of Sciences, Hungary
- Boštjan Brešar, FNM, University of Maribor, Slovenia
- Csilla Bujtás, University of Pannonia, Hungary
- Akbar Davoodi, Institute for Research in Fundamental Sciences (IPM), Iran
- György Dósa, University of Pannonia, Hungary
- Ewa Drgas-Burchardt, University of Zielona Góra, Poland
- Péter Erdős, Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- István Estélyi, University of West Bohemia, Czech Republic
- Anna Fiedorowicz, University of Zielona Góra, Poland
- Zoltán Füredi, Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- Gábor Galambos, University Szeged, Hungary
- Jarek Grytczuk, Warsaw University of Technology, Poland
- Ervin Györi, Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- Jochen Harant, Technische Universität Ilmenau, Germany
- Michael Henning, University of Johannesburg, South Africa
- Vesna Iršič, Institute of Mathematics, Physics and Mechanics, Ljubljana, Slovenia, Slovenia
- Stanislav Jendroľ, P.J. Šafárik University in Košice, Slovakia

- Gyula O.H. Katona, Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- Hans Kellerer, University of Graz, Austria
- Sandi Klavžar, University of Ljubljana, Slovenia
- Alexandr Kostochka, University of Illinois, USA
- Gergely Kovács, Edutus College, Hungary
- Miklós Krész, University of Szeged, Hungary
- Mária Maceková, P.J. Šafárik University in Košice, Slovakia
- Tomáš Madaras, P.J. Šafárik University in Košice, Slovakia
- Yannis Manoussakis, University Paris South, France
- András Mihálykó, Eötvös Loránd University, Hungary
- István Miklós, Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- Andrea Munaro, Université de Fribourg, Switzerland
- Gábor Nyul, Institute of Mathematics, University of Debrecen, Hungary
- Behnaz Omoomi, Isfahan University of Technology, Iran
- Gabriella Rácz, Institute of Mathematics, University of Debrecen, Hungary
- Lajos Rónyai, MTA SZTAKI, BME, Hungary
- Miklós Ruszinkó, Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- Attila Sali, Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- Jiří Sgall, Computer Science Institute of Charles University, Czech Republic
- M. Grazia Speranza, University of Brescia, Italia
- István Szalkai, University of Pannonia, Hungary
- Zhiyi Tan, Zhejiang University, China
- Eberhard Triesch, RWTH Aachen University, Germany
- Gyorgy Turan, UIC, USA
- Zsolt Tuza, University of Pannonia & Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- Marzieh Vahid Dastjerdi, Isfahan University of Technology, Iran

List of participants

- Máté Vizer, Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences, Hungary
- Béla Vizvári, Eastern Mediterranean University, Northern Cyprus
- Margit Voigt, University of Applied Sciences Dresden, Germany
- Krzysztof Węsek, Warsaw University of Technology, Poland

Time tables

Monday, June 25

8:30-9:45	<i>Coffee and Registration</i>
9:45-10:00	<i>Opening Session</i>
10:00-10:50	Katona
10:55-11:25	Füredi
11:30-12:00	Ruszinkó
12:00-14:00	<i>Lunch Break</i>
14:00-14:50	Kostochka
14:55-15:15	Vizer
15:20-15:50	<i>Coffee Break</i>
15:50-16:20	Triesch
16:25-16:45	Turan
16:50-17:20	Birthday Celebration
17:20-19:00	<i>Welcome Party</i>

Tuesday, June 26

9:00-9:50	Henning	
9:55-10:25	Brešar	
10:25-10:55	<i>Coffee Break</i>	
10:55-11:25	Fiedorowicz	
11:30-12:00	Klavžar	
12:05-12:25	Grytczuk	
12:25-14:00	<i>Lunch Break</i>	
14:00-14:50	Manoussakis	
14:55-15:25	Györi	
15:30-15:50	Davoodi	
15:50-16:20	<i>Coffee Break</i>	
	<i>Session A</i>	<i>Session B</i>
16:20-16:40	Munaro	Sali
16:45-17:05	Barát	Kovács
17:10-17:30	Iršic	Nyul
17:35-17:55	Bujtás	Rác

Wednesday, June 27

9:00-9:50	Speranza
9:55-10:25	Sgall
10:25-10:55	<i>Coffee Break</i>
10:55-11:25	Rónyai
11:30-12:00	Węsek
12:05-12:25	Kellerer
12:25-14:00	<i>Lunch Break</i>
14:00-14:50	Harant
14:55-15:25	Borowiecki
15:25-15:55	<i>Coffee Break</i>
15:55-16:25	Bacsó
16:30-17:00	Drgas-Burchardt
17:05-17:35	Jendroľ
17:40-18:10	Madaras

Thursday, June 28

9:00-9:50	Voigt	
9:55-10:25	Békési	
10:25-10:55	<i>Coffee Break</i>	
	<i>Session A</i>	<i>Session B</i>
10:55-11:15	Maceková	Szalkai
11:20-11:40	Estélyi	Mihálykó
11:45-12:05	Bozóki	
12:05-14:00	<i>Lunch Break</i>	
14:00-22:00	<i>Excursion and Conference Dinner</i>	

Time tables

Friday, June 29

9:00-9:50	Alon
9:55-10:25	Tan
10:25-10:55	<i>Coffee Break</i>
10:55-11:15	Borg
11:20-11:40	Krész
11:45-12:15	Vizvári
12:15-12:20	<i>Closing</i>
12:25-	<i>Lunch</i>

Program

Monday, June 25

9:45-10:00 **Opening Session**

Chair: A. Kostochka

10:00-10:50 **Gyula O.H. Katona:** The domination number of the graph defined by two levels of the n -cube

10:55-11:25 **Zoltán Füredi:** Kneser ranks of random graphs and minimum difference representations

11:30-12:00 **Miklós Ruszinkó:** Some Ramsey Type Results

Chair: Gy. Katona

14:00-14:50 **Alexandr Kostochka:** Properties of DP-coloring of graphs and multigraphs

14:55-15:15 **Máté Vizer:** Domination game on uniform hypergraphs

Chair: Z. Füredi

15:50-16:20 **Eberhard Triesch:** On the Erdős Multiplication Table Problem

16:25-16:45 **Gyorgy Turan:** Directed hypergraph problems

16:50-17:20 **Birthday Celebration**

Tuesday, June 26

Chair: S. Klavžar

9:00-9:50 **Michael Henning:** Transversals in Uniform Linear Hypergraphs

9:55-10:25 **Boštjan Brešar:** Grundy domination in graphs

Chair: M. Henning

10:55-11:25 **Anna Fiedorowicz:** Independent 3-domination in 2-trees

11:30-12:00 **Sandi Klavžar:** Domination game and minimal edge cuts

12:05-12:25 **Jaroslav Grytczuk:** List Colorings and Graph Polynomials

Chair: A. Sali

14:00-14:50 **Yannis Manoussakis:** Subgraphs with Specified Color Properties in Vertex- or Edge-colored Graphs

14:55-15:25 **Ervin Győri:** Triangles and cliques in graphs

15:30-15:50 **Akbar Davoodi:** Local Clique Covering of Graphs

Session A

Chair: B. Brešar

16:20-16:40 **Andrea Munaro:** On semitotal domination in graphs

16:45-17:05 **János Barát:** Crumby colorings

17:10-17:30 **Vesna Iršič:** Effect of predomination and vertex removal on the game total domination number of a graph

17:35-17:55 **Csilla Bujtás:** On the fractional version of the domination game

Session B

Chair: **B. Vizvári**

- 16:20-16:40 **Attila Sali**: Multi-Symbol Forbidden Configurations
- 16:45-17:05 **Gergely Kovács**: An Integer Programming Approach to Characterize Digital Disks
- 17:10-17:30 **Gábor Nyul**: New combinatorial interpretations of some variants of Stirling and Bell numbers
- 17:35-17:55 **Gabriella Rácz**: Overview of our combinatorial and graph theoretical results on r -Lah numbers and r -Lah polynomials

Wednesday, June 27

Chair: H. Kellerer

- 9:00-9:50 **M. Grazia Speranza:** Discrete optimization in transportation and logistics
9:55-10:25 **Jiří Sgall:** Better Algorithms for Online Bin Stretching

Chair: P. Borowiecki

- 10:55-11:25 **Lajos Rónyai:** Gröbner Bases and Combinatorics, some examples
11:30-12:00 **Krzysztof Węsek:** Nonrepetitive colorings of the plane
12:05-12:25 **Hans Kellerer:** Approximation Schemes for Minimizing the Maximum Lateness on a Single Machine with Release Times under Non-Availability or Deadline Constraints

Chair: A. Fiedorowicz

- 14:00-14:50 **Jochen Harant:** Short Cycles and Long Cycles through Specified Vertices of a Polyhedral Graph
14:55-15:25 **Piotr Borowiecki:** Greedy extensions of graph classes and their applications

Chair: Cs. Bujtás

- 15:55-16:25 **Gábor Bacsó:** 32 years of walk, searching for the optimum
16:30-17:00 **Ewa Drgas-Burchardt:** Equitable list vertex arboricity of d -dimensional grids
17:05-17:35 **Stanislav Jendrol':** Facial $L(2,1)$ -edge-labelings of trees
17:40-18:10 **Tomáš Madaras:** On minimal unavoidable sets of cycles in plane graphs

Thursday, June 28

Chair: J. Sgall

- 9:00-9:50 **Margit Voigt:** List colorings of graphs
9:55-10:25 **József Békési:** Modern bin packing: overview of the results of 40 years research in Szeged

Session A

Chair: J. Békési

- 10:55-11:15 **Mária Maceková:** Computational complexity of problem of 3-coloring in the class of claw-free graphs
11:20-11:40 **István Estélyi:** Cubic bi-Cayley graphs over solvable groups are 3-edge-colorable
11:45-12:05 **Sándor Bozóki:** Spanning trees and (logarithmic) least squares optimality

Session B

Chair: Gy. Dósa

- 10:55-11:15 **István Szalkai:** On the number of circuits and bases in matroids, of minimal codewords in a linear code and of support sets in exponential families
11:20-11:40 **András Mihálykó:** Approximation algorithms for minimum cost globally rigid subgraphs

Friday, June 29

Chair: M. Voigt

- 9:00-9:50 **Noga Alon:** Zsolt's Choices
9:55-10:25 **Zhiyi Tan:** Batch Scheduling of Nonidentical Job
Sizes with Minsum Criteria

Chair: Cs. Bujtás

- 10:55-11:15 **Peter Borg:** Cross-intersecting families
11:20-11:40 **Miklós Krész:** On the complexity of the canonical
partition of graphs
11:45-12:15 **Béla Vizvári:** Mathematical problems in designing a
post-disaster relief system