Section 13: Combinatorics

Invited Lectures

Saturday, 22 August — H 2032

14:00 – 14:45 **Béla Bollobás,** University of Memphis, Memphis, USA and University of Cambridge, Cambridge, UK
Hereditary properties of graphs: asymptotic enumeration, global structure, and colouring *(I: p.153)*
Chair: Hans J. Prömel

15:00 – 15:45 **Harald Niederreiter,** Austrian Academy of Sciences, Vienna, Austria
Nets, (t, s)-sequences, and algebraic curves over finite fields with many rational points *(I: p.159)*
Chair: Dieter Jungnickel

Monday, 24 August — H 2032

14:00 – 14:45 **András Frank,** Eötvös Lorand University, Budapest, Hungary
Applications of Relaxed Submodularity *(I: p.155)*
Chair: Alexander Schrijver

15:00 – 15:45 **Jiří Matoušek,** Charles University, Praha, Czech Republic
Mathematical snapshots from the computational geometry landscape *(I: p.158)*
Chair: Jaroslav Nešetril

Tuesday, 25 August — H 2032

16:15 – 17:00 **Neil J.A. Sloane,** AT&T Research Labs, Florham Park, USA
Recent developments on the sphere-packing problem *(I: p.161)*
Chair: Martin Aigner

17:15 – 18:00 **Joseph Adolphe François Thas,** University of Gent, Gent, Belgium
Finite Geometries, Varieties and Codes *(I: p.161)*
Chair: Theo Grundhöfer

Wednesday, 26 August — H 2032

14:00 – 14:45 **Alain Lascoux,** CNRS, Université de Marne La Vallée, Noisy-le-Grand, France
Ordering the symmetric group: Why use Iwahori-Hecke algebras? *(I: p.157)*
Chair: Andrei Zelevinsky

15:00 – 15:45 **Andrei V. Zelevinsky,** Northeastern University, Boston, USA
Multisegment duality, canonical bases and total positivity *(I: p.163)*
Chair: Mikhail M. Kapranov

Short Communications and Poster Sessions

Short Communications — Wednesday, 19 August

Geometry I — **H 106**
Chair: Jörg Rambau

16:15 – 16:30	**Dietmar Cieslik,** University of Greifswald, Greifswald, Germany *The Steiner Ratio of Metric Spaces*	*(p.275)*
16:30 – 16:45	**Michael Joswig,** FB Mathematik, TU, Berlin, Germany *On Elation Laguerre Planes*	*(p.277)*
16:45 – 17:00	**Alexandre A. Makhnev,** Institute of Mathematics and Mechanics, Ekaterinburg, Russia *Partial geometries and the Krein condition*	*(p.282)*

Geometry II — **H 106**
Chair: Günter M. Ziegler

17:15 – 17:30	**Min Yan,** Hong Kong University, Hong Kong, China, Peoples Republic of *Stratified Approach in Combinatorics*	*(p.287)*
17:30 – 17:45	**Jörg Rambau,** Konrad-Zuse-Zentrum für Informationstechnik, Berlin, Germany *A new View on the Cayley Trick*	*(p.283)*
17:45 – 18:00	**Masahiro Hachimori,** University of Tokyo, Tokyo, Japan *Non-constructible triangulations of balls*	*(p.277)*

Short Communications — Thursday, 20 August

Combinatorics of Words — **H 106**
Chair: Emo Welzl

16:15 – 16:30	**Julien Cassaigne,** Institut de Mathématiques de Luminy, Marseille, France *On the conjectured subword complexity of the Kolakoski sequence*	*(p.275)*
16:30 – 16:45	**Martin Klazar,** Universität Bonn, Bonn, Germany *Combinatorics of a containment relation that generalizes Davenport–Schinzel sequences*	*(p.279)*
16:45 – 17:00	**Alexander Sergeevich Makarenko,** National Technical University of Ukraine, Kiev, Ukraine *The complexity measure of individual geometrical and algebraical objects*	*(p.281)*

Independent Sets and Coloring — **H 106**
Chair: Heinz Adolf Jung

17:15 – 17:30	**Stephan Brandt,** Freie Universität, Berlin, Germany *Pach's Theorem on triangle-free graphs revisited*	*(p.274)*
17:30 – 17:45	**Kevin A. Broughan,** University of Waikato, Hamilton, New Zealand *Computing the minimal colouring of large graphs*	*(p.274)*
17:45 – 18:00	**Ebadollah S. Mahmoodian,** Sharif University of Technology, Tehran, Iran *Defining sets in graph colorings*	*(p.281)*

Short Communications — Friday, 21 August

Paths and Cycles — **H 106**
Chair: Stephan Brandt

16:15 – 16:30	**Angeles Carmona,** Universitat Politècnica de Catalunya, Barcelona, Spain *On the Shortest Paths in a Distance Regular Graph*	*(p.275)*
16:30 – 16:45	**Min Aung,** Assumption University, Bangkok, Thailand *A lower bound for the circumference of a graph in terms of connectivity and minimum degree*	*(p.283)*
16:45 – 17:00	**Henda Swart,** University of Natal, Durban, South Africa *Generalised Measures of Distance in Graphs*	*(p.286)*

Short Communications — Saturday, 22 August

Geometry III — **H 106**
Chair: Klaus Altmann

16:15 – 16:30	**Jennifer Mc Nulty,** The University of Montana, Missoula, MT, USA *Connected Hyperplanes in Binary Matroids*	*(p.282)*
16:30 – 16:45	**Andreas W.M. Dress,** Universität Bielefeld, Bielefeld, Germany *Highly Regular Spatial Structures: Theory, Software, and Visualization*	*(p.276)*
16:45 – 17:00	**Klaus Altmann,** Humboldt–Universität, Berlin, Germany *Hodge numbers for polytopes*	*(p.274)*

Codes and Cryptography — **H 106**
Chair: A. Donald Keedwell

17:15 – 17:30	**Gerhard R. Paseman,** Prado Internet Access, Inc., Hayward, CA, USA *A different approach to Hadamard's maximum determinant problem*	*(p.283)*
17:30 – 17:45	**Gholamrega B. Khosronshahi,** Inst. for Studies in Theo. Physics and Math., Tehran, Iran *On trades and their codes*	*(p.279)*
17:45 – 18:00	**A. Donald Keedwell,** University of Surrey, Guildford, Great Britain *Crossed-inverse quasigroups and their use in cryptography*	*(p.278)*

Short Communications — Monday, 24 August

Classical Combinatorial Structures — **H 106**
Chair: Stefan Felsner

16:15 – 16:30	**Mario-Osvin Pavcevic,** University of Zagreb, Zagreb, Croatia *On two series of symmetric designs*	*(p.283)*
16:30 – 16:45	**Christian Krattenthaler,** Universität Wien, Wien, Austria *New results in the enumeration of rhombus tilings*	*(p.280)*
16:45 – 17:00	**Martin Kochol,** FB Mathematik, FU, Berlin, Germany *Superposition — a method for constructing graphs without nowhere-zero k-flows*	*(p.280)*

Matrices, Posets, and Lattices — **H 106**
Chair: Jens Gustedt

17:15 – 17:30	**Konrad Engel,** Universität Rostock, Rostock, Germany *An upper bound for the size of a largest antichain in the poset of partitions of an integer*	*(p.276)*
17:30 – 17:45	**Antoni Smoluk,** Wroclaw University of Economics, Wroclaw, Poland *Fix-point property of finite partially ordered sets*	*(p.284)*
17:45 – 18:00	**Christian Bey,** Universität Rostock, Rostock, Germany *An intersection theorem for the function lattice*	*(p.274)*

Short Communications — Tuesday, 25 August

Subgraphs — **H 106**
Chair: Béla Bollobás

14:00 – 14:15	**Oliver M Riordan,** SFB 343, Universität Bielefeld, Bielefeld, Germany *Spanning subgraphs of random graphs*	*(p.284)*
14:15 – 14:30	**Diane M. Spresser,** James Madison University, Arlington, Virginia, USA *Graphs with degree sets of maximal cardinality II*	*(p.285)*
14:30 – 14:45	**Andrew G. Thomason,** University of Cambridge, Cambridge, Great Britain *Hereditary hypergraph properties*	*(p.286)*

Finite Groups and Cayley Graphs Chair: Andreas W.M. Dress		**H 106**
15:00 – 15:15	**Reinaldo Giudici,** Universidad Simón Bolívar, Caracas, Venezuela *Cayley's Graphs of order 12*	*(p.276)*
15:15 – 15:30	**Cai-Heng Li,** Mathematics Dept. UWA, Nedlands, WA, Australia *On Isomorphisms of Finite Cayley Graphs*	*(p.280)*
15:30 – 15:45	**Mikhail H. Klin,** Ben-Gurion-University of the Negev, Beer-Sheva, Israel *On transitive permutation groups without semi-regular subgroups*	*(p.279)*

Short Communications — Wednesday, 26 August

Combinatorial Constructions Chair: Mark Kayll		**H 106**
16:15 – 16:30	**Abdelkader Khelladi,** USTHB Institut de Mathematiques, El Alia, Alger, Algeria *Some Results on the Fiber Product of Graphs*	*(p.278)*
16:30 – 16:45	**Andrew J. Woldar,** Villanova University, Villanova, PE, USA *General properties of algebraically defined graphs*	*(p.287)*
16:45 – 17:00	**Mark Kayll,** The University of Montana, Missoula, MT, USA *Stochastic independence properties of hard-core distributions*	*(p.278)*

Geometry IV Chair: Yuri Grigoriyevich Stoyan		**H 106**
17:15 – 17:30	**Alexei A. Tuzhilin,** Moscow State University, Moscow, Russia *Planar Local Minimal Networks with Convex Boundaries*	*(p.286)*
17:30 – 17:45	**Alexandr O. Ivanov,** Moscow State University, Moscow, Russia *Linear Networks in Euclidean Spaces R^n*	*(p.277)*
17:45 – 18:00	**Yuri Grigoriyevich Stoyan,** Inst. for Problems in Machinery, Kharkov, Ukraine *Properties of combinatorial set images into the arithmatic Euclidean spaces*	*(p.285)*

Poster Session — Friday, 21 August

14:00 – 15:45 **MA 144**

André Kündgen, Universität Ulm, Ulm, Germany
Turán problems for weighted graphs *(p.280)*

Frank H. Lutz, Technische Universität Berlin, Berlin, Germany
Combinatorial manifolds with vertex-transitive automorphism group *(p.281)*

Slobodan K. Simić, University of Belgrade, Belgrade, Yugoslavia
On graphs whose second largest eigenvalue does not exceed the golden section *(p.284)*

Indulis Strazdins, Riga Technical University, Jelgava, Latvia
Universal classification of Boolean functions by the affine and linear groups *(p.285)*

Kai-Yao Xiang, No. 1 High School, Dongfeng Motor Corporation, Hamamatsu, Japan
The Minimal Group with Graph and Its Permutation Elements *(p.287)*

Tomoyuki Yoshida, Hokkaido University, Sapporo, Japan
Exponential formulas and Krull-Schmidt categories *(p.288)*