

**Conference Programme**  
**Time zone: CEST (GMT+2)**

**Monday, 12 July**

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13:55-14:00 Opening

14:00-14:50 **W. Haemers: Spectral characterizations for regular graphs**

14:50-15:00 Break

15:00-15:20 Edwin R. van Dam: Unit gain graphs with two distinct eigenvalues and systems of lines in complex space

15:20-15:40 Pepijn Wissing: A Hermitian adjacency matrix for Signed Directed Graphs

15:40-16:00 Vladislav Kabanov: Constructions of divisible design Cayley graphs

16:00-16:20 Maarten De Boeck: Neumaier graphs

16:20-16:40 Tianxiao Zhao: On the non-existence of  $\text{srg}(85,14,3,2)$  and the Euclidean representation

16:40-17:00 Nina Mostarac: Distance-regular graphs from the Mathieu groups

17:00-17:50 **C. Colbourn: Double, double toil and trouble**

17:50-18:00 Break

18:00-18:20 K. T. Arasu: Unimodular Perfect and Nearly Perfect Sequences: A Variation of Björck's Scheme

18:20-18:40 Simone Costa: Generalizations of Heffter arrays and biembedding (multi)graphs on surfaces

18:40-19:00 Raúl M. Falcón: On the fractal dimension of strongly isotopism classes of Latin squares

19:00-19:20 Letong Hong: A Markov chain on the solution space of edge-colorings of bipartite graphs

## Tuesday, 13 July

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14:00-14:50 **M. Buratti: Tales from my diary of symmetries**

14:50-15:00 Break

15:00-15:20 John R. Schmitt: New methods to attack the Buratti-Horak-Rosa conjecture

15:20-15:40 Alessandro Montinaro: On flag-transitive symmetric  $2$ - $(v, k, \lambda)$  designs

15:40-16:00 Wojciech Bruzda: Quantum Solution to the Problem of 36 Officers of Euler

16:00-16:20 Peter Danziger: Cycle Decompositions of Complete Digraphs

16:20-16:40 David Pike: Perfect 1-Factorisations

16:40-17:00 Andrea Burgess: On the spouse-loving variant of the Oberwolfach Problem

17:00-17:50 **H. Kharaghani: Constructing some combinatorial matrices by using orthogonal arrays**

17:50-18:00 Break

18:00-18:20 Ronan Egan: On the Hadamard maximal determinant problem

18:20-18:40 Ivan Bailer: Butson Hadamard full propelinear codes

18:40-19:00 Thomas Y. Chen: Speeding up Inference in Machine Learning Algorithms using Hadamard Matrices

## Wednesday, 14 July

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14:00-14:50 **L. Storme: Erdős-Ko-Rado, Cameron-Liebler and Hilton-Milner results in finite projective spaces**

14:50-15:00 Break

15:00-15:20 Ivan Mogilnykh: Completely regular codes in Johnson and Grassmann graphs with small covering radii

15:20-15:40 Daniel Hawtin: Neighbour-transitive codes in generalised quadrangles

15:40-16:00 Jonathan Mannaert: Cameron-Liebler line classes in  $AG(3, q)$

16:00-16:20 Francesco Pavese: Small complete caps in  $PG(4n+1, q)$

- 16:20-16:40 Ferdinando Zullo: The geometric counterpart of maximum rank metric codes
- 16:40-17:00 Sam Mattheus: Eigenvalues of oppositeness graphs and Erdős-Ko-Rado for flags
- 17:00-17:50 **V. Tonchev: Pless symmetry codes, ternary QR codes, and related Hadamard matrices and designs**
- 17:50-18:00 Break
- 18:00-18:20 Patrick Solé: Bounds on permutation designs
- 18:20-18:40 Shuxing Li: Intersection Distribution and Its Application
- 18:40-19:00 Tin Zrinski:  $S(2,5,45)$  designs constructed from orbit matrices using a modified genetic algorithm

### Thursday, 15 July

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- 14:00-14:50 **A. Wassermann: Linear Codes from  $q$ -analogues in Design Theory**
- 14:50-15:00 Break
- 15:00-15:20 Michael Kiermaier: On  $\alpha$ -points of  $q$ -analogues of the Fano plane
- 15:20-15:40 Kristijan Tabak: On Automorphisms of a binary Fano plane
- 15:40-16:00 Relinde Jurrius: Constructions of new matroids and designs over  $\mathbb{F}_q$
- 16:00-16:20 Miguel Ángel Navarro-Pérez: A Combinatorial Approach to Flag Codes
- 16:20-16:40 Domenico Labbate: Extending perfect matchings to Hamiltonian cycles in line graphs
- 16:40-16:50 Break
- 16:50-17:10 Renata Vlahović Kruc: Quasi-symmetric  $2$ -(28,12,11) designs with an automorphism of order 5
- 17:10-17:30 Vedran Krčadinac: On 4-designs with three intersection numbers
- 17:30-17:50 Krystal Guo: Entanglement of free Fermions on distance-regular graphs
- 17:50-18:10 Marina Šimac: On some LDPC codes
- 18:10-18:30 Ana Grbac: On some constructions of LCD codes

## Friday, 16 July

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- 14:00-14:50 **M. Greferath: Group Testing as Coding over the binary semifield via Residuation Theory**
- 14:50-15:00 Break
- 15:00-15:20 Faina Solov'eva: Reed-Muller like codes and their intersections
- 15:20-15:40 Ludmila Tsiovkina: On abelian distance-regular covers of complete graphs related to rank 3 permutation groups
- 15:40-16:00 Eric Swartz: Restrictions on parameters of partial difference sets in nonabelian groups
- 16:00-16:20 Marko Orel: A family of non-Cayley cores that is constructed from vertex-transitive or strongly regular self-complementary graphs
- 16:20-16:40 Sara D. Cardell: Counting erasure patterns of SPC product codes by means of bipartite graphs
- 16:40-17:00 Sara Ban: A construction of  $\mathbb{Z}_4$ -codes from generalized bent functions
- 17:00-17:20 Matteo Mravić: On extremal self-dual  $\mathbb{Z}_4$ -codes
- 17:20-17:30 Closing