

**Национален семинар с международно участие
по Теория на кодирането „Професор Стефан Додунеков“**

Рибарица, 4-7.12.2025 г.

**Научна програма
5.12.2025 г.**

Chair Peter Boyvalenkov

09.00 – 09.20 **Ferruh Özbudak**, Results on the covering radius and the generalized covering radius of codes

09.20 – 09.40 **Maria Pashinska-Gadzheva**, Dusan Bikov, Ilija Bouyukliev, How to find covering radius of linear codes over finite fields in parallel

09.40 – 10.00 **Maryam Bajalan**, Duality on additive group codes over chain rings

10.00 – 10.20 **Mikhail Ganzhinov**, Pekka Lampio, Classification of weighing matrices of small orders

10.20 – 10.40 **Silvia Boumova**, Cyclic invariants in free associative algebras

10.40 – 11.10 Кафе-пауза

Chair Hristo Kostadinov

11.10 – 11.30 **Assia Rousseva**, Ivan Landjev, Leo Storme, A new reducibility result for minihypers related to codes and arcs

11.30 – 11.50 **Ivan Landjev**, Assia Rousseva, Emiliyan Rogachev, A chain ring analogue of the Erdős-Ko-Rado theorem

11.50 – 12.10 **Maya Stoyanova**, Peter Boyvalenkov, Ferruh Özbudak, On the covering radius of orthogonal arrays of even strength

12.10 – 12.30 **Peter Boyvalenkov**, Peter Dragnev, Danila Cherkashin, Daniel Yorgov, Vasil Yorgov, On optimal T-avoiding spherical codes and designs in $\mathbb{R}^{32}$

12.30 – 12.50 **Mikhail Ganzhinov**, Patric Östergård, Spherical codes with prescribed automorphisms inside shells of low-dimensional integer lattices

12.50 – 15.00 Обяд

Chair Maya Stoyanova

15.00 – 15.20 **Tsonka Baicheva**, Svetlana Topalova, On $(v, k, 1)$ cyclically permutable constant weight codes with $k \leq 6$

15.20 – 15.40 Svetlana Topalova, **Stela Zhelezova**, Cyclic resolvability of cyclic $S(2, 4, v)$ s with $v \leq 64$

15.40 – 16.00 **Antoaneta Tsvetanova**, **Stela Zhelezova**, Hexagon and crown configurations in cyclic $STS(v)$ s of small order

16.00 – 16.20 **Kristian Vasilev**, An introduction to the Gilbert-Steiner problem

16.20 – 16.40 **Danila Cherkashin**, Triple branching in the Gilbert–Steiner problem

6.12.2025 г.

Chair *Ivan Landjev*

09.00 – 09.20 **Yuri Borissov**, Miroslav Markov, Weight distribution verification for binary Reed–Muller code RM(4,9)

09.20 – 09.40 **Mariya Dzhumalieva-Stoeva**, Stefka Bouyuklieva, Enumeration of optimal binary and ternary linear codes with different hull dimensions and their connection to EAQECCs

09.40 – 10.00 **Hristo Kostadinov**, Nikolai Manev, General construction of integer codes correcting error in t^2 -TQAM

10.00 – 10.20 **Dragomir Grozev**, Navid Safaei, The Zagier phenomenon for quadratic polynomials and its generalizations

10.20 – 10.40 **Maya Armanova**, Todorka Alexandrova, Konstantin Delchev, Applications of Karma economies

10.40 – 11.10 *Кафе-пауза*

Chair *Ferruh Özbudak*

11.10 – 11.30 **Valentin Bakoev**, On lexicographic and colexicographic orders and the mirror (left-recursive) reflected Gray code for m-ary vectors

11.30 – 11.50 **Ivan Nedeliev**, A BER-driven constant false-alarm ratio technique for Pulse-Doppler radars using communication waveforms

11.50 – 12.10 **Konstantin Delchev**, Ernesto Lupercio, Higinio Serrano, Mikhail Shkolnikov, Daniel Tabares, Properties of the Teotitlan subgroup of the Abelian sandpile group

12.10 – 12.30 **Peter Kazakov**, Zilong Liu, Designs for odd binary Z-complementary pairs

12.30 – 12.50 **Toma Sydnes**, Development of an origami unraveling evaluation algorithm

12.50 – 15.00 *Обяд*

Chair *Stefka Bouyuklieva*

15.00 – 15.20 Sergiy Borodachov, **Peter Boyvalenkov**, Peter Dragnev, Douglas Hardin, Edward Saff, Maya Stoyanova, On universal polar dual pairs of spherical codes

15.20 – 15.40 **Teodora Todorova**, Stefka Bouyuklieva, Equiangular lines and special graph families

15.40 – 16.00 **Pascal Piperkov**, Trace transform matrix in case of odd field characteristics

16.00 – 16.20 **Svetoslava Minkova**, Iliya Bouyukliev, Polynomial multiplication and FFT

16.20 – 16.40 **Vesselin Vavrek**, Internet computing cluster

19.00 *Работна вечеря*