Designs, Codes, Graphs and Related Areas

This is a RIMS joint research which will take place as a part of the joint research service of Research Institute for Mathematical Sciences (RIMS) in the 2013 fiscal year.

**Dates**: Monday 1st July to Wednesday 3rd July 2013.

**Venue**: RIMS, Kyoto University, Room 111
Kyoto 606-8502 Japan

**Program**

**1st July**

13:00 – 13:50    Oleg Musin (Univ. of Texas at Brownsville and Yaroslavl State University)  
                 Optimal packings of congruent circles on spheres and flat tori

14:00 – 14:50    Alexey Glazyrin (Univ. of Texas at Brownsville and Yaroslavl State University)  
                 The price of SDP relaxations for spherical codes

15 : 10 – 16 : 00 Keisuke Shiromoto (Kumamoto University)  
                 On critical exponents of matroids and linear codes

16 : 10 – 17 : 00 Michiaki Onodera (Kyushu University)  
                 Evolution equations for quadrature identities

**2nd July**

9 : 00 – 9 : 50    Ryoh Fuji-Hara (University of Tsukuba)  
                   Descendent sets and codes

10 : 00 – 10 : 50  Yuichiro Fujiwara (California Institute of Technology)  
                   Codes and designs for quantum error correction

11 : 00 – 11 : 50  Ken-ichi Kawarabayashi (National Institute of Informatics)  
                   Combinatorial coloring of 3-colorable graphs

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1RIMS is easily accessible by a number of public transportation services provided conveniently throughout Kyoto City. Details can be found in http://www.kurims.kyoto-u.ac.jp/en/access-01.html
14:00 – 14:50   Yuan Xu (University of Oregon)  
Cubature rules and orthogonal polynomial

15:00 – 15:50   Bruce Reed (McGill University)  
The structure of a typical $H$-free graph

16:00 – 16:50   Satoshi Aoki (Kagoshima University)  
Markov chain Monte Carlo methods for regular two-level fractional factorial designs and cut ideals

3rd July

9:00 – 9:50   Alexander Barg (University of Maryland)  
On the theory of association schemes

10:00 – 10:50   Hiroto Sekido (Kyoto University)  
An approximate approach to $E$-optimal designs for weighted polynomial regression by using Tchebycheff systems and orthogonal polynomials

11:00 – 11:50   Mikio Kano (Ibaraki University)  
Discrete geometry on 3 colored point sets in the plane

14:00 – 14:50   Ferenc Szöllősi (Tohoku University)  
Equiangular lines with angle 1/5 and Seidel matrices with 3 distinct eigenvalues

15:00 – 15:50   Akihiro Higashitani (Osaka University)  
Ehrhart polynomials of polytopes and orthogonal polynomial systems

16:00 – 16:50   Takayuki Okuda (Tohoku University)  
Relation among designs on compact homogeneous spaces

Organizers:  
Hiroshi Nozaki (Aichi University of Education)  
Jun Fujisawa (Keio University)  
Masanori Sawa (Nagoya University)  
Masatake Hirao (Tokyo Woman’s Christian University)