

Program of JCDCG² 2015

September 14–16, 2015
Clock Tower Centennial Hall, Kyoto University, Kyoto, Japan

[Day 1] Monday, September 14

09:00 The Clock Tower Open & Registration Desk Open

09:40 Opening Remark (by Naoki Katoh. International Conference Hall III)

09:45–10:35 Session I1: Invited Talk 1 (Chair: Jin Akiyama. International Conference Hall III)

- János Pach. “The role of touch”

10:35–11:05 Coffee break

11:05–12:05 Sessions MA, MB, MC: Contributed Talks

Session MA (Chair: Chie Nara. International Conference Hall III)

- Jin Akiyama, Kiyoko Matsunaga. “Reversible Pairs of Tessellative Figures”
- Hideki Tsuiki, Yasuyuki Tsukamoto. “Sudoku Colorings of the 16-cell Imaginary Hypercube”
- Andreas Holmsen, Seunghun Lee. “Orthogonal colorings of the sphere”

Session MB (Chair: Yasuko Matsui. International Conference Hall II)

- Jia-Jie Liu, Shun-Chieh Chang, Chiou-Jiun Lin. “The 2-rainbow domination of Sierpiński graphs and extended Sierpiński graphs”
- Kristīne Čīpola, Rūsiņš Freivalds. “Ultrametric algorithms and finite geometries”
- Kārlis Jēriņš, Rūsiņš Freivalds. “Cellular automata on finite graphs” Withdrawn.

Session MC (Chair: Matias Korman. International Conference Hall I)

- Michael Biro, Tomohisa Hamamoto, Christiane Schmidt, Yushi Uno. “Bounds on the number of hint squares for Shakashaka”
- Kazuho Katsumata, Ryuhei Uehara. “Convex Configurations of Dissection Puzzles with Seven Pieces”
- Masanori Aratani. “The First Round Choice of Minesweeper”

12:05–13:30 Lunch break

13:30–14:20 Session I2: Invited Talk 2 (Chair: Stefan Langerman. International Conference Hall III)

- John Iacono. “The geometry of data structures”

14:20–14:35 Break

14:35–17:35 Session S1: A session in honor of Prof. Katoh’s change from Kyoto University to Kwansai Gakuin University (International Conference Hall III)

Organizer and Chair: Hiro Ito. (* This session includes a 30-min coffee break.)

- Invited Talk 3: Toshihide Ibaraki. “From My Half-Century of Research Life” (50 min)
- Makoto Osaki. “Optimization approach to design of link mechanism” (20 min)
- Naoyuki Kamiyama. “What I learned from Professor Naoki Katoh” (20 min)
- Hiro Ito. “Sublinear-time algorithms and a crest bigdata project” (20 min)
- Naoki Katoh. “Combinatorial rigidity theory: recent developments” (40 min)

[Day 2] Tuesday, September 15

09:00 The Clock Tower Open

09:15–10:05 Session I4: Invited Talk 4 (Chair: Mikio Kano. International Conference Hall III)

- David Rappaport. “Line Segments and Other Objects”

10:05–10:35 Coffee break

10:35–12:35 Sessions TA, TB, TC: Contributed Talks

Session TA (Chair: Chie Nara. International Conference Hall III)

- Supanut Chaidee, Kokichi Sugihara. “Fitting Spherical Laguerre Voronoi Diagrams to Real World Tessellations Using Planar Photographic Images”
- Shinji Imahori, Shizuka Kawade, Yoko Yamakata. “Escher-like tilings with weights”
- Yohji Akama, Min Yan. “Tiling of the Sphere by Congruent Equilateral Pentagons”
- Yohji Akama. “(An)isohedrality and skeleton of spherical monohedral polygonal tilings”
- Takashi Horiyama, Yoshio Okamoto, Ryuhei Uehara. “Ls in L and Sphinxes in Sphinx”
- Katsuhisa Yamanaka, Takafumi Ohmori, Takashi Hirayama, Yasuaki Nishitani. “ $(2.6n+2)$ -Bit Code of Slicing Floorplans”

Session TB (Chair: Ryuhei Uehara. International Conference Hall II)

- Tsai-Lien Wong, Xuding Zhu. “Total weighting of graphs by combinatorial nullstellensatz”
- Adi Jarden, Vadim Levit, Eugen Mandrescu. “Unions of Critical Independent Sets of a Graph”
- Narong Punnim. “The Linear Forest Number in the Class of Regular Graphs”
- Hidefumi Hiraishi, Sonoko Moriyama. “Excluded Minors for \mathbb{Q} -Representable Matroids in Algebraic Extension”
- Adiwijayaa, B. Erfianto, M. Abdurrohmana, A.N.M. Salman. “A classification of the corona product of a complete graph with some graphs based on f -coloring”
- Juan José Montellano-Ballesteros, Eduardo Rivera-Campo, Ricardo Strausz. “On the number of heterochromatic spanning trees for certain edge colourings of complete graphs”

Session TC (Chair: Matias Korman. International Conference Hall I)

- Michael Cruz-Rojas, David Flores-Peñaloza, Jorge Urrutia. “Blocking Minimum Spanning Trees and Nearest Neighbor Graphs”
- Toshinori Sakai, Jorge Urrutia. “On weights of islands of weighted point sets”
- Oswin Aichholzer, Thomas Hackl, Pavel Valtr, Birgit Vogtenhuber. “A note on the number of general 4-holes in perturbed grids”
- Jude Buot. “Weight-Equitable Orthogonal Subdivisions of Red and Blue Points in the Plane Lattice”
- Taisuke Izumi. “Improving Lower Bound on Opaque Set for Regular Triangle”
- Vu Khac Ky, Pierre-Louis Poirion, Leo Liberti. “Random projection for linear and integer programming”

12:35–14:00 Lunch break

14:00–17:00 Session S2: Memorial Session of Ferran Hurtado (International Conference Hall III)

Organisers and Chairs: Jin Akiyama and Matias Korman. (* This session includes a 30-min coffee break.)

- Jorge Urrutia. “The mathematics of Ferran Hurtado: A brief survey”
- Erik D. Demaine. “Ferran Plays Pachinko”
- Prosenjit Bose. “Ferran Hurtado: True Renaissance Man”
- Matias Korman. “His creativity in designing open problems”
- Mikio Kano. “Remembering Ferran Hurtado”

18:30 Banquet (at Kyoto Royal Hotel & Spa)

See <http://www.ishinhotels.com/kyoto-royal/en/>

[Day 3] Wednesday, September 16

09:00 The Clock Tower Open

09:15–10:05 Session I5: Invited Talk 5 (Chair: Naoki Katoh. International Conference Hall III)

- Takeshi Tokuyama. “Balancing location of points: Another application of the Borsuk-Ulam Theorem”

10:05–10:35 Coffee break

10:35–12:15 Sessions W1A, W1B, W1C: Contributed Talks

Session W1A (Chair: Yasuko Matsui. International Conference Hall III)

- Ratinan Boonklurb, Authawich Narissayaporn, Sirirat Singhun. “Super Edge-Magic Labeling of m -node k -Uniform Hyperpaths”
- Varanoot Khemmani, Supaporn Saduakdee. “ γ -Labeling of Cycles with One Chord”
- Nattawat Boonyoung, Ratinan Boonklurb, Sirirat Singhun. “Line Graceful Labelings of $SF(n, m)$ Graphs”
- Xiao-Nan Lu. “Graceful labeling of digraphs and related combinatorial designs” Withdrawn.
- Wanee Lapchinda, Nittiya Pabhapote. “GDDs with two associate classes and with one group of size 1 and m groups of size n ”

Session W1B (Chair: Takashi Horiyama. International Conference Hall II)

- Erik D. Demaine, Martin L. Demaine, Jin-ichi Itoh, Chie Nara. “Continuous Flattening of Orthogonal Polyhedra”
- Takashi Horiyama, Jin-ichi Itoh, Naoki Katoh, Yuki Kobayashi, Chie Nara. “Continuous Folding of Regular Dodecahedra”
- Jeffrey Bosboom, Erik D. Demaine, Martin L. Demaine, Jayson Lynch, Pasin Manurangsi, Mikhail Rudoy, Anak Yodpinyanee. “ k -Piece Dissection is NP-hard”
- Hugo A. Akitaya, Kenneth C. Cheung, Erik D. Demaine, Takashi Horiyama, Thomas C. Hull, Jason S. Ku, Tomohiro Tachi, Ryuhei Uehara. “Box Pleating is Hard”
- Erik D. Demaine, Matias Korman, Jason S. Ku, Joseph S.B. Mitchell, Yota Otachi, André van Renssen, Marcel Roeloffzen, Ryuhei Uehara, Yushi Uno. “Symmetric Assembly Puzzles are Hard, Beyond a Few Pieces”

Session W1C (Chair: Toshinori Sakai. International Conference Hall I)

- Sergey Bereg, Binay Bhattacharya, Sandip Das, Tiko Kameda. “Geometric k -Center Problem with Centers on Two Parallel Lines”
- Leo Liberti, Grzegorz Swirszcz, Carlile Lavor. “Euclidean Distance Geometry on the Sphere”
- Steven Chaplick, Philipp Kindermann, Fabian Lipp, Alexander Wolff. “Solving Optimization Problems on Orthogonal Ray Graphs”
- William Evans, Krzysztof Fleszar, Philipp Kindermann, Noushin Saeedi, Chan-Su Shin, Alexander Wolff. “Minimum Rectilinear Polygons for Given Angle Sequences”
- Norhazwani Md Yunus, Aleksandar Shurbevski, Hiroshi Nagamochi. “A Polynomial-space Exact Algorithm for TSP in Degree-6 Graphs”

12:15–13:30 Lunch break

13:30–15:30 Sessions W2A, W2B, W2C: Contributed Talks

Session W2A (Chair: Takashi Horiyama. International Conference Hall III)

- Kyle Burke, Erik D. Demaine, Robert A. Hearn, Adam Hesterberg, Michael Hoffman, Hiro Ito, Irina Kostitsyna, Maarten Löffler, Yushi Uno, Christiane Schmidt, Ryuhei Uehara, Aaron Williams. “Single-Player and Two-Player Buttons & Scissors Games”
- Erik D. Demaine, Stefan Langerman. “Bust-a-Move/Puzzle Bobble is NP-complete”
- Jeffrey Bosboom, Erik D. Demaine, Adam Hesterberg, Jayson Lynch, Erik Waingarten. “Mario Kart is Hard”
- Stefan Langerman, Andrew Winslow. “Some Results on Tilemakers”
- Béla Bollobás, Oliver Riordan, Erik Slivken, Paul Smith. “The threshold for jigsaw percolation on random graphs”
- Hiro Ito, Yoshinao Shiono. “How many undefeated signs exist in an efficient generalized janken including ties?”

Session W2B (Chair: Shuichi Miyazaki. International Conference Hall II)

- Photchchara Pisantechakool, Xuehou Tan. “On the Cops and Robbers Game in a Polygonal Region with Holes”
- Satoshi Tayu, Shuichi Ueno. “On Evasion Games on Graphs”
- Kimiyuki Onaka, Masanori Sawa. “Winner of Graph Ramsey Game for Small Orders”
- Yoshio Sano. “On the competition numbers of diamond-free graphs”
- Miki Miyauchi. “Topological graph layouts into a triangular prism”
- Shohei Satake, Masanori Sawa, Masakazu Jimbo. “Erdős-Rényi Theory for Asymmetric Digraphs”

Session W2C (Chair: Toshinori Sakai. International Conference Hall I)

- Chapkit Charnsamorn, Ratinan Boonklurb, Sirirat Singhun. “Pancyclicity and Panconnectedness of line graphs of trees, line graphs of unicyclic graphs, and square of line graphs of connected graphs”
- João Thompson, Loana Nogueira, Fábio Protti, Raquel Bravo. “On the generalized Erdős-Faber-Lovász conjecture”
- Paul Adrian D. Luzon, Mark Anthony C. Tolentino, Mari-Jo P. Ruiz. “On the Sigma Chromatic Number of the Circulant Graphs $C_n(1, 2)$ and $C_{2k}(1, k)$ ”
- Takuma Matsuzawa, Hirotaka Ono. “On the minimum longest monochromatic cycle in all two edge-colored complete graphs”
- Kazuya Sakata, Yushi Uno. “Shortest spanning closed walks in extended theta graphs”

15:30 Closing Remark (International Conference Hall III)