

ISAAC 2023 Program

December 3

17:00	Welcome Reception (Room SEN)
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December 4

8:50	Opening Remarks (Room KACHO (AB))
	Invited Talk (Room KACHO (AB))
9:00	Seok-Hee Hong: <i>Faithful Graph Drawing</i>
10:00	

Coffee Break

	Session 1A (Room KACHO (A))	Session 1B (Room KACHO (B))
10:30	Petr Gregor, Torsten Mütze and Namrata <i>Pattern-avoiding binary trees - generation, counting, and bijections</i>	Gang Liu and Haitao Wang <i>On the Line-Separable Unit-Disk Coverage and Related Problems</i>
	Duncan Adamson, Pamela Fleischmann, Annika Huch, Tore Koß, Florin Manea and Dirk Nowotka <i>k-Universality of Regular Languages</i>	Walter Didimo, Michael Kaufmann, Giuseppe Liotta, Giacomo Ortali and Maurizio Patrignani <i>Rectilinear-Upward Planarity Testing of Digraphs</i>
	Alessio Conte, Roberto Grossi, Giulia Punzi and Takeaki Uno <i>A Compact DAG for Storing and Searching Maximal Common Subsequences</i>	Michaela Borzechowski, Patrick Schnider and Simon Weber <i>An FPT Algorithm for Splitting a Necklace Among Two Thieves</i>
12:00		

Lunch (Room SEN)

	Session 2A (Room KACHO (A))	Session 2B (Room KACHO (B))
13:30	Anubhav Dhar, Soumita Hait and Sudeshna Kolay <i>Efficient Algorithms for Euclidean Steiner Minimal Tree on Near-Convex Terminal Sets</i>	Benjamin Bergougnoux, Jakub Gajarský, Grzegorz Guspiel, Petr Hlineny, Filip Pokrývka and Marek Sokolowski <i>Sparse Graphs of Twin-width 2 Have Bounded Tree-width</i>
	Henk Alkema and Mark de Berg <i>Geometric TSP on Sets</i>	Lars Jaffke, Paloma T. Lima and Roohani Sharma <i>Structural Parameterizations of b-Coloring</i>
	Jannis Blauth, Meike Neuwohner, Luise Puhmann and Jens Vygen <i>Improved guarantees for the a priori TSP</i>	Hovhannes Harutyunyan, Kamran Koupayi and Denis Pankratov <i>Temporal Separators with Deadlines</i>
15:00		

Coffee Break

	Session 3A (Room KACHO (A))	Session 3B (Room KACHO (B))
15:30	Cornelius Brand and Alexandra Lassota <i>Fast Convolutions for Near-Convex Sequences</i>	Bart M. P. Jansen, Jari J. H. de Kroon and Michal Włodarczyk <i>Single-Exponential FPT Algorithms for Enumerating Secluded F-Free Subgraphs and Deleting to Scattered Graph Classes</i>
	Joachim Gudmundsson, Zijin Huang, André van Renssen and Sampson Wong <i>Computing a Subtrajectory Cluster from c-packed Trajectories</i>	Jungho Ahn, Jinha Kim and O-Joung Kwon <i>Unified almost linear kernels for generalized covering and packing problems on nowhere dense classes</i>
	Hugo Akitaya, Maike Buchin, Majid Mirzanezhad, Leonie Ryvkin and Carola Wenk <i>Realizability of Free Spaces of Curves</i>	Nicolas El Maalouly, Raphael Steiner and Lasse Wulf <i>Exact Matching: Correct Parity and FPT Parameterized by Independence Number</i>
17:00		

December 5

9:00	Invited Talk (Room KACHO (AB))
10:00	Edith Elkind: <i>Group Fairness: From Multiwinner Voting to Participatory Budgeting</i>

Coffee Break

	Session 4A (Room KACHO (A))	Session 4B (Room KACHO (B))
10:30	Sampriti Roy and Yadu Vasudev <i>Testing properties of distributions in the streaming model</i>	Fedor Fomin, Petr Golovach, Tuukka Korhonen and Giannos Stamoulis <i>Computing paths of large rank in planar frameworks deterministically</i>
	Ben Jourdan, Peter Macgregor and He Sun <i>Is the Algorithmic Kadison-Singer Problem Hard?</i>	Liana Khazaliya, Philipp Kindermann, Giuseppe Liotta, Fabrizio Montecchiani and Kirill Simonov <i>The st-Planar Edge Completion Problem is Fixed-Parameter Tractable</i>
12:00	Bodo Manthey and Jesse van Rhijn <i>Improved Smoothed Analysis of 2-Opt for the Euclidean TSP</i>	Frank Kammer and Johannes Meintrup <i>Succinct Planar Encoding with Minor Operations</i>

Lunch (Room SEN)

	Session 5A (Room KACHO (A))	Session 5B (Room KACHO (B))
13:30	Tomer Cohen, Ariel Kulik and Hadas Shachnai <i>Improved Approximation for Two-dimensional Vector Multiple Knapsack</i>	Shuichi Hirahara and Dana Moshkovitz <i>Regularization of Low Error PCPs and an Application to MCSP</i>
	Mong-Jen Kao <i>Improved Approximation Algorithm for Capacitated Facility Location with Uniform Facility Cost</i>	Kazuyuki Amano <i>Depth-Three Circuits for Inner Product and Majority Functions</i>
15:00	Matthias Englert, Nicolaos Matsakis and Pavel Vesely <i>Approximation Guarantees for Shortest Superstrings: Simpler and Better</i>	Supartha Podder, Penghui Yao and Zekun Ye <i>On the fine-grained query complexity of symmetric functions</i>

Coffee Break

	Session 6A (Room KACHO (A))	Session 6B (Room KACHO (B))
15:30	Mark de Berg, Andrés López Martínez, and Frits Spieksma <i>Finding Diverse Minimum s-t Cuts</i>	Neeldhara Misra, Harshil Mittal, Saket Saurabh and Dhara Thakkar <i>On the Complexity of the Eigenvalue Deletion Problem</i>
	Shuai Shao and Stanislav Živný <i>A strongly polynomial-time algorithm for weighted general factors with three feasible degrees</i>	Huirui Chu and Bingkai Lin <i>FPT Approximation using Treewidth: Capacitated Vertex Cover, Target Set Selection and Vector Dominating Set</i>
17:00	Evrpidis Bampis, Alexander Kononov, Giorgio Lucarelli and Fanny Pascual <i>Non-Clairvoyant Makespan Minimization Scheduling with Predictions</i>	David Eppstein and Daniel Frishberg <i>Rapid mixing for the hardcore Glauber dynamics and other Markov chains in bounded-treewidth graphs</i>

19:00	Banquet (Room KACHO(AB))
21:00	

December 6

Best Paper Session (Room KACHO (AB))	
9:00	[Best Paper] Carl Feghali, Felicia Lucke, Daniel Paulusma and Bernard Ries: <i>Matching Cuts in Graphs of High Girth and H-Free Graphs</i>
	[Best Paper] Ragesh Jaiswal and Amit Kumar: <i>Clustering What Matters in Constrained Settings: Improved Outlier to Outlier-Free Reductions</i>
10:30	[Best Student Paper] Nicola Cotumaccio: <i>Prefix Sorting DFAs: a Recursive Algorithm</i>

Coffee Break

Session 7A (Room KACHO (A))	Session 7B (Room KACHO (B))
11:00	Diptarka Chakraborty and Sanjana Dey <i>Matrix Completion: Approximating the Minimum Diameter</i>
	Gabriel Bathie, Tomasz Kociumaka and Tatiana Starikovskaya <i>Small-space algorithms for the online language distance problem for palindromes and squares</i>
	Jingbang Chen, Meng He, Ian Munro, Richard Peng, Kaiyu Wu and Daniel Zhang <i>Distance Queries over Dynamic Interval Graphs</i>
12:00	Giulia Bernardini, Gabriele Fici, Pawel Gawrychowski and Solon Pissis <i>Substring Complexity in Sublinear Space</i>

Lunch (Room SEN)

Session 8A (Room KACHO (A))	Session 8B (Room KACHO (B))
13:30	Sebastian Berndt, Hauke Brinkop, Klaus Jansen, Matthias Mnich and Tobias Stamm <i>New Support Size Bounds for Integer Programming, Applied to Makespan Minimization on Uniformly Related Machines</i>
	Virginia Ardévol Martínez, Romeo Rizzi, Florian Sikora and Stéphane Vialette <i>Recognizing unit multiple intervals is hard</i>
	Yann Disser and Nils Mosis <i>A unified worst case for classical simplex and policy iteration pivot rules</i>
	Grzegorz Gutowski, Konstanty Junosza-Szaniawski, Felix Klesen, Paweł Rzażewski, Alexander Wolff and Johannes Zink <i>Coloring and Recognizing Mixed Interval Graphs</i>
	Yusuke Kobayashi, Ryoga Mahara and Tamas Schwarcz <i>Reconfiguration of the Union of Arborescences</i>
15:00	Joydeep Mukherjee and Tamojit Saha <i>Connected Vertex Cover on AT-free Graphs</i>

Coffee Break

Session 9A (Room KACHO (A))	Session 9B (Room KACHO (B))
15:30	Yusuke Kobayashi and Takashi Noguchi <i>An Approximation Algorithm for Two-Edge-Connected Subgraph Problem via Triangle-free Two-Edge-Cover</i>
	Mark de Berg, Leyla Biabani, Morteza Monemizadeh and Leonidas Theocharous <i>Clustering in Polygonal Domains</i>
	Ting-Yu Kuo, Yu-Han Chen, Andrea Frosini, Sun-Yuan Hsieh, Shi-Chun Tsai and Mong-Jen Kao <i>On Min-Max Graph Balancing with Strict Negative Correlation Constraints</i>
	Tesshu Hanaka, Hirotaka Ono, Kunihiro Sadakane and Kosuke Sugiyama <i>Shortest Beer Path Queries based on Graph Decomposition</i>
	Kei Kimura and Kazuhisa Makino <i>A Combinatorial Certifying Algorithm for Linear Programming Problems with Gainfree Leontief Substitution Systems</i>
17:00	Joachim Gudmundsson and Yuan Sha <i>Shortest Beer Path Queries in Digraphs with Bounded Treewidth</i>