

WADS/CCCG 2021 Program

WADS 2021: August 9-11

CCCG 2021: August 10-12

Notes:

1. The time zone is **ADT** (UTC -3).
2. Each session has a *chair* who is responsible for introducing speakers, keeping everything on time and moderating questions, as well as a *host* who provides technical support, e.g., allowing speakers to share screen.
3. The name of the speaker of each presentation in WADS 2021 and CCCG 2021 is shown in italic font. Furthermore, since there will be a best student presentation award for WADS 2021, each student speakers of WADS are marked with an asterisk; this is not done for CCCG 2021, which awarded the Best Young Researcher Award to the author of the best student paper.

August 9 (Monday)			
11:00	12:00	WADS Plenary talk: Adjacency Labelling of Planar Graphs <i>Vida Dujmović</i> Chair: Anna Lubiw Host: Meng He	
12:00	12:10	Break	
12:10	12:30	Presentation of the Alejandro López-Ortiz Best Paper: Better Distance Labeling for Unweighted Planar Graphs <i>Pawel Gawrychowski and Przemysław Uznański</i> Chair: Mohammad Salavatipour Host: Meng He	
12:30	12:40	Break	
		WADS Session 1A Chair: Yoshio Okamoto Host: Michael St Denis	WADS Session 1B Chair: Brendan Lucier Host: Nathaniel Brown
12:40	13:00	Euclidean Maximum Matchings in the Plane--Local to Global <i>Ahmad Biniaz, Anil Maheshwari and Michiel Smid</i>	Fast deterministic algorithms for computing all eccentricities in (hyperbolic) Helly graphs <i>Feodor Dragan, Guillaume Ducoffe and Heather Guarnera</i>
13:00	13:20	Planar Drawings with Few Slopes of Halin Graphs and Nested Pseudotrees <i>Steven Chaplick, Giordano Da Lozzo, Emilio Di Giacomo, Giuseppe Liotta and Fabrizio Montecchiani</i>	Computing the Union Join and Subset Graph of Acyclic Hypergraphs in Subquadratic Time <i>Arne Leitert</i>
13:20	13:40	Reverse Shortest Path Problem for Unit-Disk Graphs <i>Haitao Wang and Yiming Zhao*</i>	Independent Sets in Semi-random Hypergraphs <i>Yash Khanna, Anand Louis and Rameesh Paul*</i>
13:40	14:00	Mapping Multiple Regions to the Grid with Bounded Hausdorff Distance <i>Ivor van der Hoog, Mees van de Kerkhof, Marc Van Kreveld, Maarten Löffler, Frank Staals, Jérôme Urhausen* and Jordi L. Vermeulen</i>	Computing Weighted Subset Transversals in H-Free Graphs <i>Nick Brettell, Matthew Johnson and Daniel Paulusma</i>

14:00	14:20	Pattern Matching in Doubling Spaces Corentin Allair and <i>Antoine Vigneron</i>	Solving Problems on Generalized Convex Graphs via Mim-Width Flavia Bonomo-Braberman, Nick Brettell, <i>Andrea Munaro</i> and Daniel Paulusma
14:20	14:30	Break	
		WADS Session 2A Chair: Anna Lubiw Host: Younan Gao	WADS Session 2B Chair: Shahin Kamali Host: Zhen Liu
14:30	14:50	Algorithms for the Line-Constrained Disk Coverage and Related Problems Logan Pedersen and <i>Haitao Wang</i>	Parameterized Complexity of Categorical Clustering with Size Constraints Fedor Fomin, Petr Golovach and <i>Nidhi Purohit*</i>
14:50	15:10	Finding a Largest-Area Triangle in a Terrain in Near-Linear Time Sergio Cabello, <i>Arun Kumar Das*</i> , Sandip Das and Joydeep Mukherjee	Fair Correlation Clustering with Global and Local Guarantees Zachary Friggstad and <i>Ramin Mousavi*</i>
15:10	15:30	Diverse Partitions of Colored Points Marc van Kreveld, Bettina Speckmann and <i>Jérôme Urhausen*</i>	Graph Pricing With Limited Supply <i>Zachary Friggstad</i> and Maryam Mahboub
15:30	15:50	The Minimum Moving Spanning Tree Problem Hugo Akitaya, <i>Ahmad Biniaz</i> , Prosenjit Bose, Jean-Lou De Carufel, Anil Maheshwari, Luís Fernando Schultz Xavier Da Silveira and Michiel Smid	An APTAS for Bin Packing with Clique-graph Conflicts <i>Ilan Doron-Arad*</i> , Ariel Kulik and Hadas Shachnai
15:50	16:10	Particle-Based Assembly Using Precise Global Control Jakob Keller, <i>Christian Rieck*</i> , Christian Scheffer and Arne Schmidt	Online Bin Packing of Squares and Cubes Leah Epstein and <i>Loay Mualem*</i>
16:10	16:20	Break	
16:20	17:05	Business Meeting	

August 10 (Tuesday)			
11:00	12:00	WADS Plenary talk: Algorithms for Explainable Clustering <i>Ola Svensson</i> Chair: Mohammad Salavatipour Host: Meng He	
12:00	12:10	Break	
		WADS Session 3 Chair: Carola Wenk Host: Zhen Liu	CCCG Session 1 Chair: Hsien-Chih Chang Host: Younan Gao
12:10	12:30	ANN for Time Series under the Fréchet Distance Anne Driemel and <i>Ioannis Psarros</i>	Near-Delaunay Metrics <i>Nathan van Beusekom</i> , Kevin Buchin, Hidde Koerts, Wouter Meulemans, Benjamin Rodatz and Bettina Speckmann
12:30	12:50	Computing the Fréchet Distance Between Uncertain Curves in One Dimension Kevin Buchin, Maarten Löffler, Tim Ophelders, <i>Aleksandr Popov*</i> , Jérôme Urhausen and Kevin Verbeek	Shortcut Hulls: Vertex-restricted Outer Simplifications of Polygons <i>Annika Bonerath</i> , Jan-Henrik Haunert, Joseph S. B. Mitchell and Benjamin Niedermann

12:50	13:10	How to Catch Marathon Cheaters: New Approximation Algorithms for Tracking Paths Michael Goodrich, Siddharth Gupta, Hadi Khodabandeh and <i>Pedro Matias*</i>	Stochastic Analysis of Empty-Region Graphs Olivier Devillers and <i>Charles Duménil</i>
13:10	13:30	Upper and Lower Bounds for Fully Retroactive Graph Problems Monika Henzinger and <i>Xiaowei Wu</i>	Rearranging a Sequence of Points onto a Line <i>Taehoon Ahn</i> , Jongmin Choi, Chaeyoon Chung, Hee-Kap Ahn, Sang Won Bae and Sang Duk Yoon
13:30	13:50	Exploration of k-Edge-Deficient Temporal Graphs Thomas Erlebach and <i>Jakob T. Spooner*</i>	Mapping Points to the Grid with Bounded Hausdorff Distance Maarten Löffler and <i>Jérôme Urhausen</i>
13:50	14:00	Break	
		WADS Session 4 Chair: Anthony Bonato Host: Nathaniel Brown	CCCG Session 2 Chair: Yusu Wang Host: Meng He
14:00	14:20	Generalized Disk Graphs <i>Ívar Arnþórsson*</i> , Steven Chaplick, Jökull Gylfason, Magnús M. Halldórsson, Jökull Reynisson and Tigran Tonoyan	Angles of Arc-Polygons and Lombardi Drawings of Cacti David Eppstein, <i>Daniel Frishberg</i> and Martha C Osegueda
14:20	14:40	Reachability Problems for Transmission Graphs <i>Shinwoo An*</i> and Eunjin Oh	Practical Methods for the Embroidery Problem <i>Michelle Tran</i>
14:40	15:00	The Neighborhood Polynomial of Chordal Graphs <i>Helena Bergold*</i> , Winfried Hochstättler and Uwe Mayer	Another Small but Long Step for Crossing Numbers: $cr(13)=225$ and $cr(14)=315$ <i>Oswin Aichholzer</i>
15:00	15:20	Uniform Embeddings for Robinson Similarity Matrices Jeannette Janssen and <i>Zhiyuan Zhang*</i>	Generalized LR-Drawings of Trees <i>Therese Biedl</i> , Giuseppe Liotta, Jayson Lynch and Fabrizio Montecchiani
15:20	15:30	Break	
		WADS Session 5 Chair: David Eppstein Host: Michael St Denis	CCCG Session 3 Chair: Jean-Lou De Carufel Host: Travis Gagie
15:30	15:50	A 4-Approximation of the $\frac{2\pi}{3}$-MST <i>Stav Ashur*</i> and Matthew Katz	Massively Winning Configurations in the Convex Grabbing Game on the Plane Martin Dvorak and <i>Sara Nicholson</i>
15:50	16:10	On the Spanning and Routing Ratios of the Directed Θ_6-Graph <i>Hugo Akitaya</i> , Ahmad Biniiaz and Prosenjit Bose	Yin-Yang Puzzles are NP-Complete <i>Erik D. Demaine</i> , Jayson Lynch, Mikhail Rudoy and Yushi Uno
16:10	16:30	Routing on Heavy-Path WSPD-Spanners <i>Tyler Tuttle*</i> and Prosenjit Bose	Constant Delay Lattice Train Schedules <i>Darryl Hill</i> , Jean-Lou De Carufel, Luís Fernando Schultz Xavier Da Silveira, Sasanka Roy and Anil Maheshwari
16:30	16:50	Improved Bounds on the Spanning Ratio of the Θ_5 Graph Prosenjit Bose, Aurélien Ooms and <i>Darryl Hill</i>	Block Dude Puzzles are NP-Hard (and the Rugs Really Tie the Reductions Together) Austin Barr, Calvin Chung and <i>Aaron Williams</i>

August 11 (Wednesday)			
11:00	12:00	<p>CCCG Plenary talk: the Memorial Lecture for Erdős</p> <p>Flood Risk Analysis on Terrains</p> <p><i>Pankaj K. Agarwal</i></p> <p>Chair: Yusu Wang Host: Meng He</p>	
12:00	12:10	Break	
		<p>WADS Session 6</p> <p>Chair: Travis Gagie</p> <p>Host: Zhen Liu</p>	<p>CCCG Session 4</p> <p>Chair: Michiel Smid</p> <p>Host: Younan Gao</p>
12:10	12:30	<p>A Stronger Lower Bound on Parametric Minimum Spanning Trees</p> <p><i>David Eppstein</i></p>	<p>Automatically Testing Containedness Between Geometric Graph Classes Defined by Inclusion, Exclusion and Transfer Axioms</p> <p><i>Hannes Frey and Lucas Böltz</i></p>
12:30	12:50	<p>Algorithms for Radius-Optimally Augmenting Trees in a Metric Space</p> <p>Joachim Gudmundsson and <i>Yuan Sha*</i></p>	<p>Algorithms for Covering Barrier Points by Mobile Sensors with Line Constraint</p> <p><i>Princy Jain and Haitao Wang</i></p>
12:50	13:10	<p>Incomplete Directed Perfect Phylogeny in Linear Time</p> <p><i>Giulia Bernardini, Paola Bonizzoni and Pawel Gawrychowski</i></p>	<p>Approximability of (Simultaneous) Class Cover for Boxes</p> <p>Jean Cardinal, <i>Justin Dallant</i> and John Iacono</p>
13:10	13:30	<p>Strictly In-Place Algorithms for Permuting and Inverting Permutations</p> <p>Bartłomiej Dudek, Pawel Gawrychowski and <i>Karol Pokorski*</i></p>	<p>Efficiently Stabbing Convex Polygons and Variants of the Hadwiger-Debrunner (p, q)-Theorem</p> <p><i>Justin Dallant and Patrick Schneider</i></p>
13:30	13:50	<p>A Universal Cycle for Strings with Fixed-Content</p> <p>Joe Sawada and <i>Aaron Williams</i></p>	<p>Rectangle Stabbing and Orthogonal Range Reporting Lower Bounds in Moderate Dimensions</p> <p>Peyman Afshani and <i>Rasmus Killmann</i></p>
13:50	14:00	Break	
		<p>WADS Session 7</p> <p>Chair: Pat Morin</p> <p>Host: Michael St Denis</p>	<p>CCCG Session 5</p> <p>Chair: Suneeta Ramaswami</p> <p>Host: Meng He</p>
14:00	14:20	<p>HalftimeHash: Modern Hashing without 64-bit Multipliers or Finite Fields</p> <p><i>Jim Apple</i></p>	<p>Decomposing Polygons into Fat Components</p> <p>Maike Buchin and <i>Leonie Selbach</i></p>
14:20	14:40	<p>Support Optimality and Adaptive Cuckoo Filters</p> <p>Tsvi Kopelowitz, <i>Samuel McCauley</i> and Ely Porat</p>	<p>Convex Bichromatic Quadrangulation of Point Sets</p> <p><i>Allan Sapucaia, Andre A. Cire, Pedro J. de Rezende and Cid C. de Souza</i></p>
14:40	15:00	<p>Dynamic Dictionaries for Multisets and Counting Filters with Constant Time Operations</p> <p><i>Ioana Bercea and Guy Even</i></p>	<p>An Improved Kernel for the Flip Distance Problem on Simple Convex Polygons</p> <p><i>Miguel Bosch and Steven Kelk</i></p>
15:00	15:20	<p>On Minimum Generalized Manhattan Connections</p> <p>Antonios Antoniadis, Margarita Capretto, Parinya Chalermsook, Christoph Damerius, Peter Kling, Lukas Nölke, <i>Nidia Obscura Acosta*</i> and Joachim Spoerhase</p>	<p>Minimum-Link Shortest Paths for Polygons amidst Rectilinear Obstacles</p> <p><i>Mincheol Kim and Hee-Kap Ahn</i></p>
15:20	15:30	Break	

		WADS Session 8 Chair: Parinya Chalermsook Host: Travis Gagie	CCCG Session 6 Chair: Prosenjit Bose Host: Nathaniel Brown
15:30	15:50	A Query-Efficient Quantum Algorithm for Maximum Matching on General Graphs Shelby Kimmel and <i>R. Teal Witter*</i>	An Optimal Algorithm for L₁ Shortest Paths in Unit-Disk Graphs Haitao Wang and <i>Yiming Zhao</i>
15:50	16:10	Characterization of Super-stable Matchings <i>Changyong Hu*</i> and Vijay Garg	Total Domination in Geometric Unit Disk Graphs <i>Sangram Kishor Jena</i> and Gautam K Das
16:10	16:30	Scheduling with Testing on Multiple Identical Parallel Machines Susanne Albers and <i>Alexander Eckl</i>	Simple Linear Time Algorithms for Piercing Pairwise Intersecting Disks Ahmad Biniiaz, Prosenjit Bose and <i>Yunkai Wang</i>
16:30	16:50	Online Makespan Minimization With Budgeted Uncertainty Susanne Albers and <i>Maximilian Janke*</i>	Extensions of the Maximum Bichromatic Separating Rectangle Problem <i>Bogdan Armasselu</i>

August 12 (Thursday)			
11:00	12:00	CCCG Plenary talk: the Joint Memorial Lecture for Hurtado and Toussaint Twisted Topological Tangles or: the Knot Theory of Knitting <i>Sabetta Matsumoto</i> Chair: Prosenjit Bose Host: Meng He	
12:00	12:10	Break	
12:10	12:30	Presentation of the Best Student Paper: Axis-Aligned Square Contact Representations <i>Andrew Nathenson</i> Chair: Don Sheehy Host: Meng He	
12:30	12:40	Break	
		CCCG Session 7A Chair: Binay Bhattacharya Host: Zhen Liu	CCCG Session 7B Chair: Maria Saumell Host: Nathaniel Brown
12:40	13:00	Folding Polyiamonds into Octahedra <i>Eva Vanessa Bolle</i> and <i>Linda Kleist</i>	Dispersion on Intervals <i>Tetsuya Araki</i> , Hiroyuki Miyata and Shin-Ichi Nakano
13:00	13:20	Folding points to a point and lines to a line Hugo A. Akitaya, Brad Ballinger, Erik D. Demaine, <i>Thomas C. Hull</i> and Christiane Schmidt	Approximation Algorithms for The Euclidean Dispersion Problems <i>Pawan K. Mishra</i> and Gautam K Das
13:20	13:40	Cut Locus Realizations on Convex Polyhedra <i>Joseph O'Rourke</i> and Costin Vilcu	The Discrete Median and Center Line Segment Problems in the Plane Ovidiu Daescu and <i>Ka Yaw Teo</i>
13:40	14:00	Unfolding a New Class of Orthographs of Arbitrary Genus <i>Mirela Damian</i> and Robin Flatland	Oblivious Median Slope Selection <i>Thore Thießen</i> and Jan Vahrenhold
14:00	14:10	Break	

		CCCG Session 8A Chair: Hugo Akitaya Host: Michael St Denis	CCCG Session 8B Chair: Hsien-Chih Chang Host: Younan Gao
14:10	14:30	Any Regular Polyhedron Can Transform to Another by $O(1)$ Refoldings Erik Demaine, Martin Demaine, Yevhenii Diomidov, <i>Tonan Kamata</i> , Ryuhei Uehara and Hanyu Zhang	Constrained Obnoxious Facility Location on a Line Segment <i>Vishwanath Reddy Singireddy</i> and Manjanna B
14:30	14:50	Edge-Unfolding Prisms: Tall or Rectangular Base <i>Rachana Madhukara, Vincent Bian</i> and Erik Demaine	Succinct Euler-Tour Trees <i>Travis Gagie</i> and Sebastian Wild
14:50	15:10	On Guarding Polygons with Holes <i>Sharareh Alipour</i>	Turning Around and Around: Motion Planning through Thick and Thin Turnstiles Aster Greenblatt, Robert Hearn, Oscar Hernandez, Yichao Hou, Hiro Ito, Joshua Kang, <i>Aaron Williams</i> and Andrew Winslow
15:10	15:30	An Acrophobic Guard Watchtower Problem on Terrains <i>Ritesh Seth, Anil Maheshwari</i> and Subhas Nandy	Integer Cow-path Problem and Simple Robot Street Search Azadeh Tabatabaei, Farche Soheil, <i>Mohammad Aletaha</i> and Mohammad Ghodsi
15:30	15:40	Break	
15:40	16:25	Open Problem Session Chair: Joseph O'Rourke Host: Meng He	
16:25	17:10	Business Meeting	