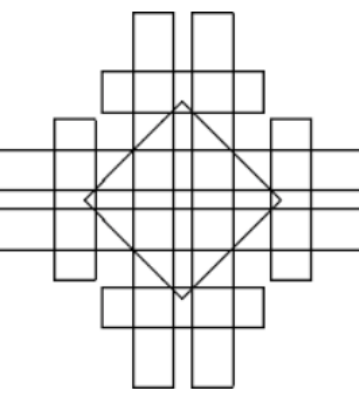


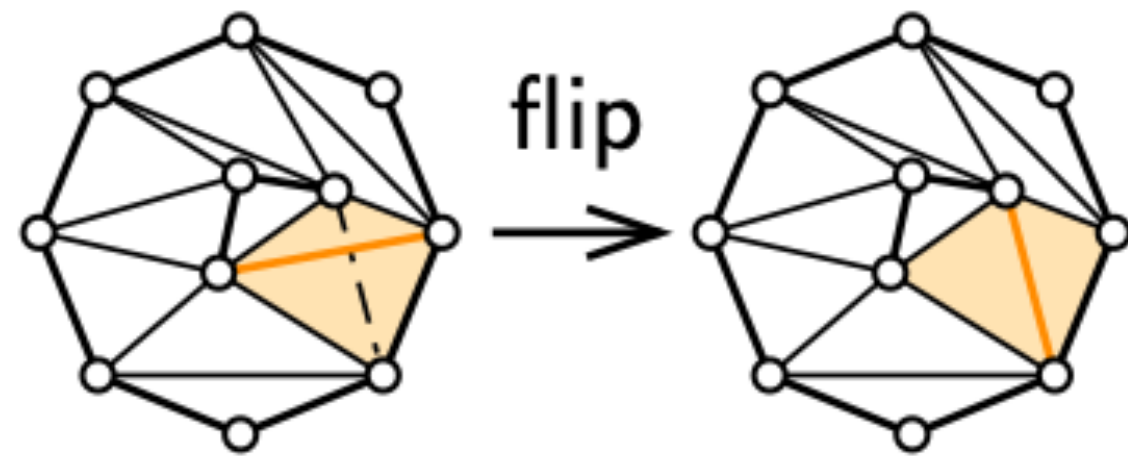


Computational Geometry: Solving Hard Optimization Problems (CG:SHOP)

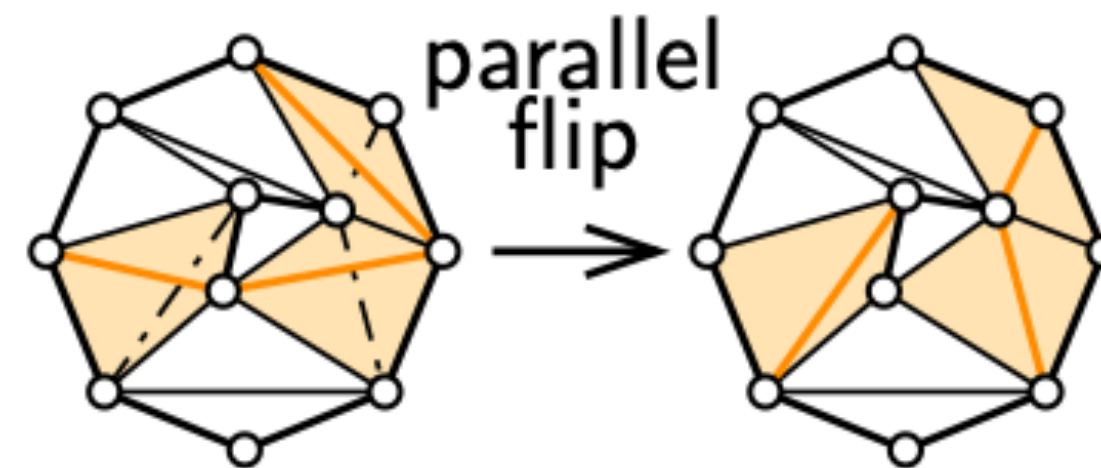
CG Challenge 2026

**Oswin Aichholzer, Joseph Dorfer, Sándor P. Fekete, Dominik Krupke,
Phillip Keldenich, Peter Kramer, Stefan Schirra**

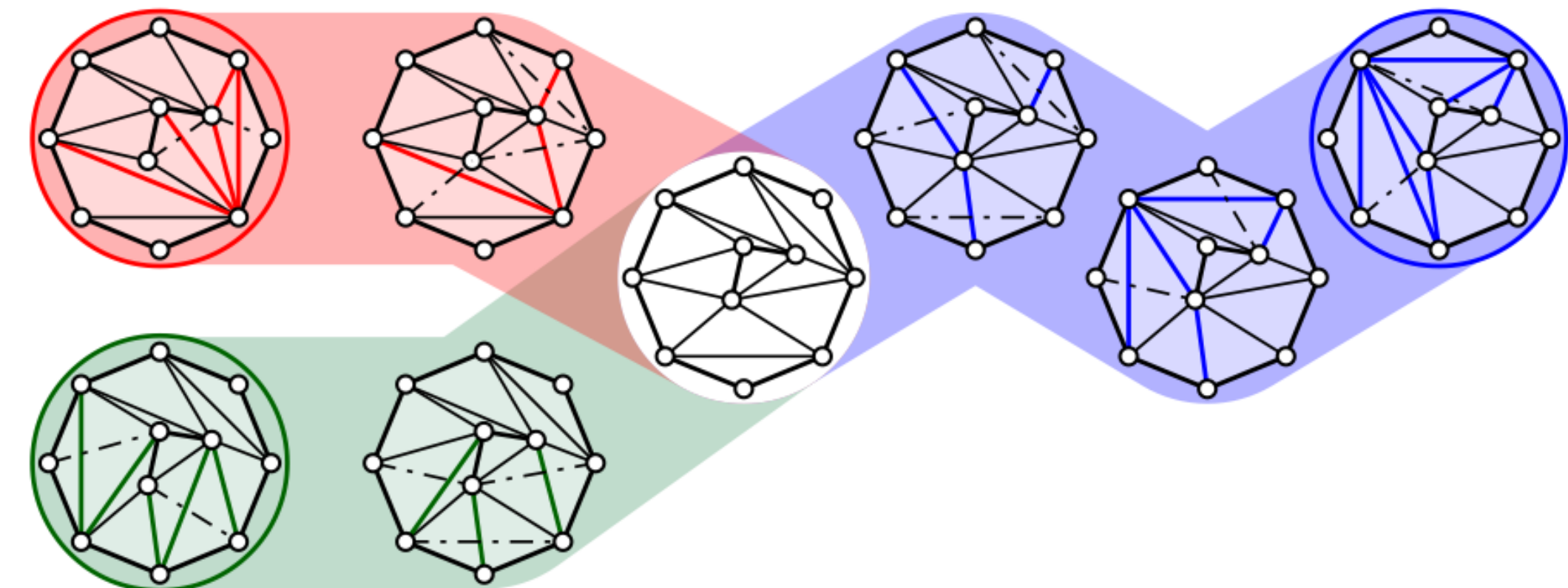
Flip:



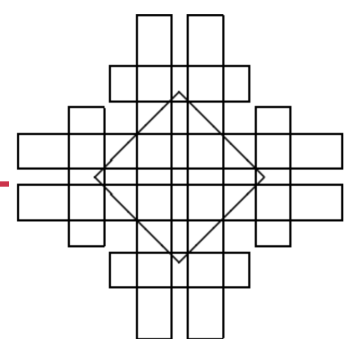
Parallel flip:



Central triangulation

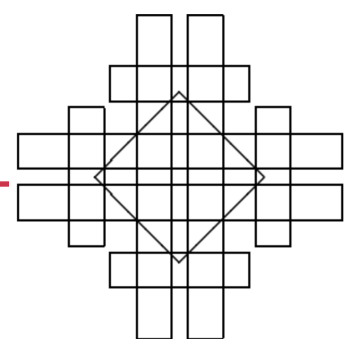
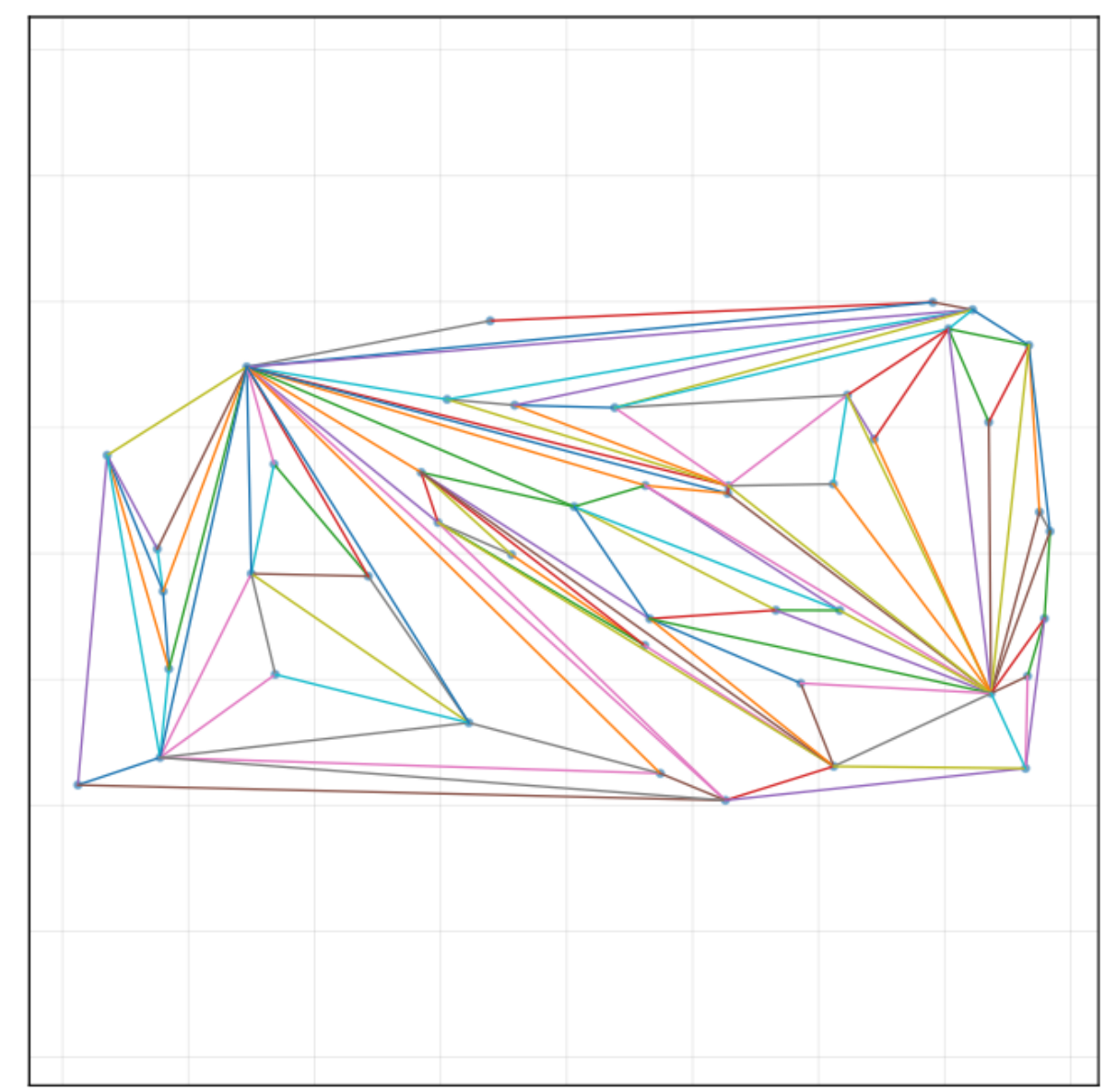
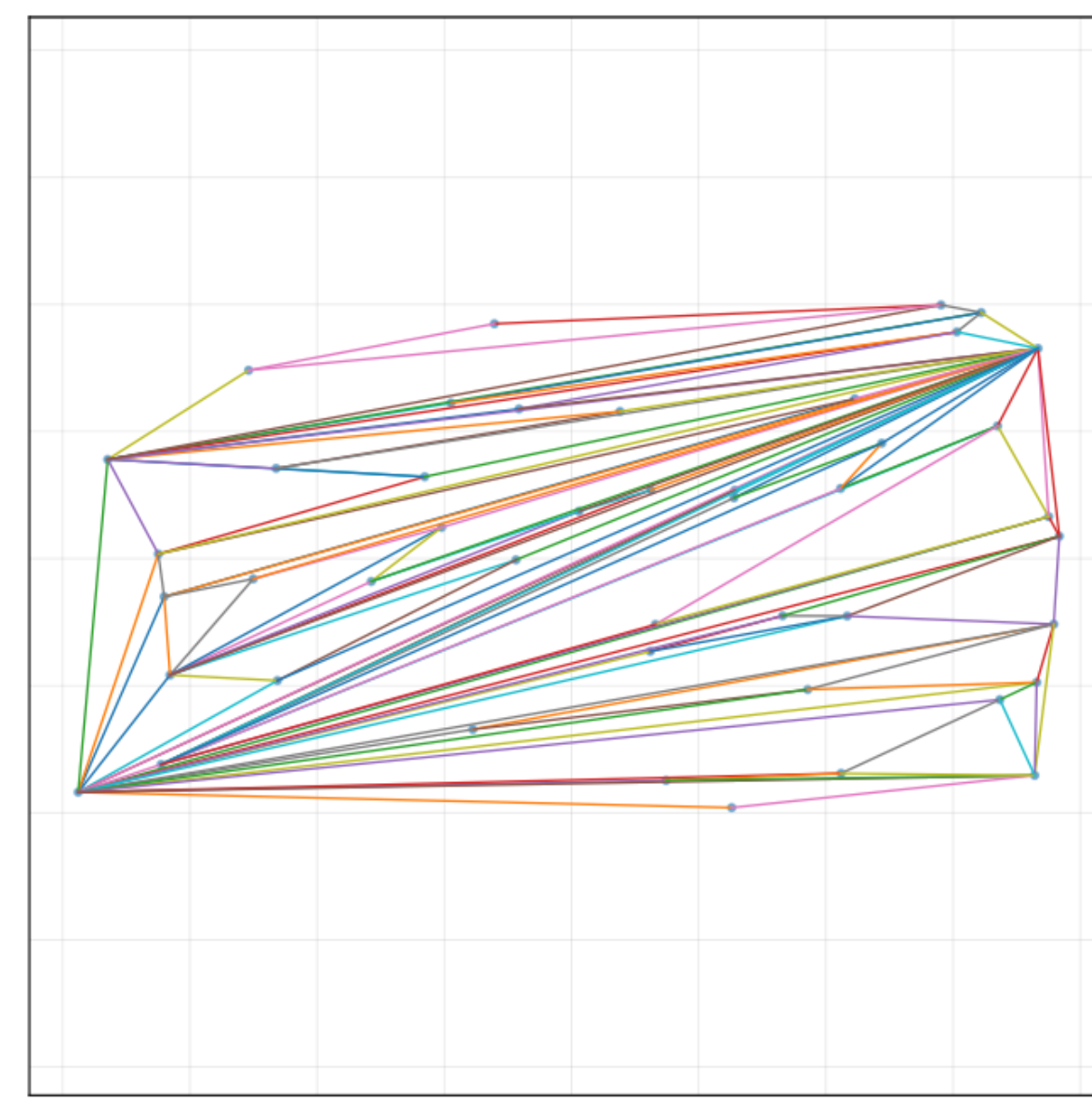
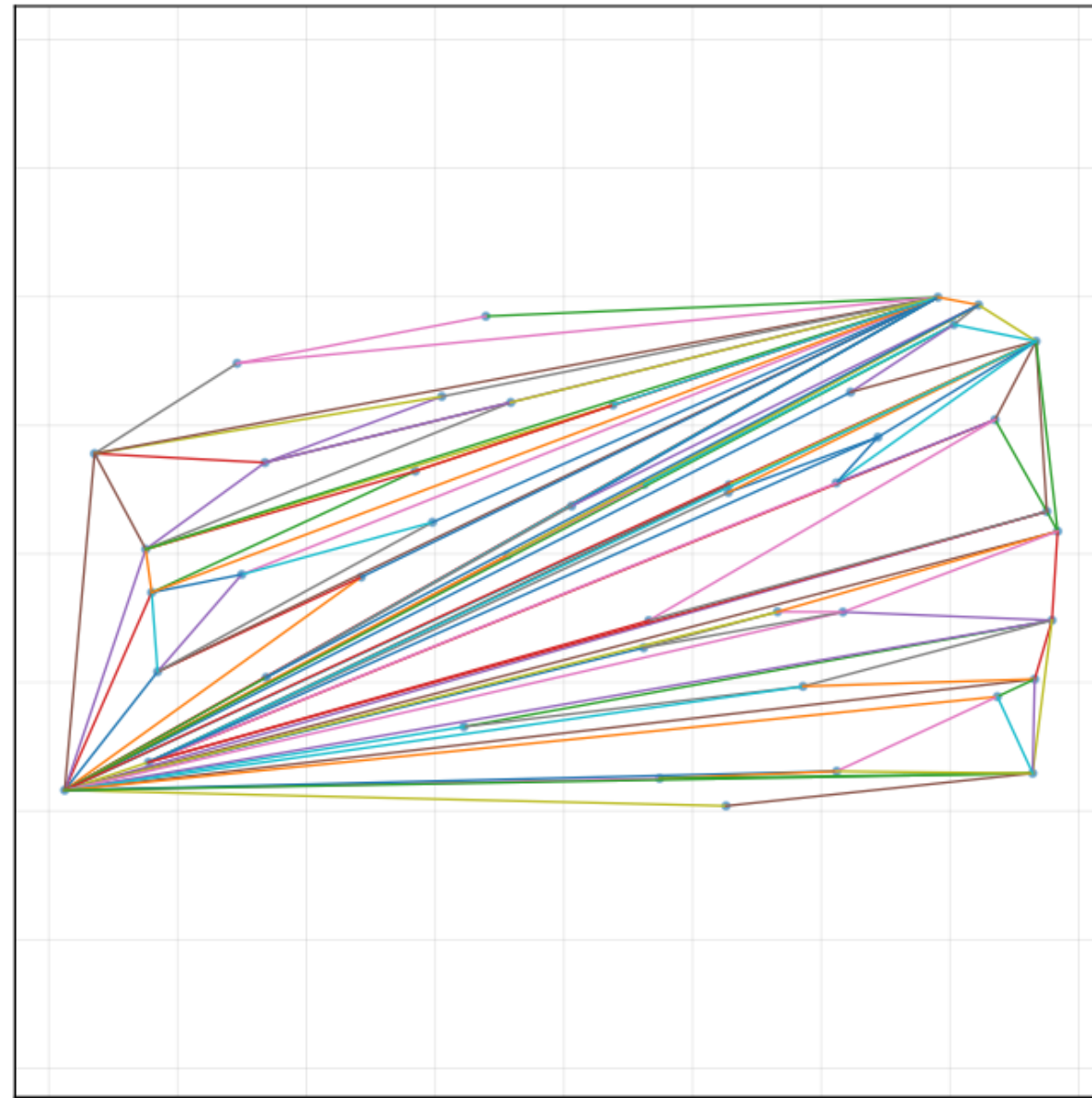
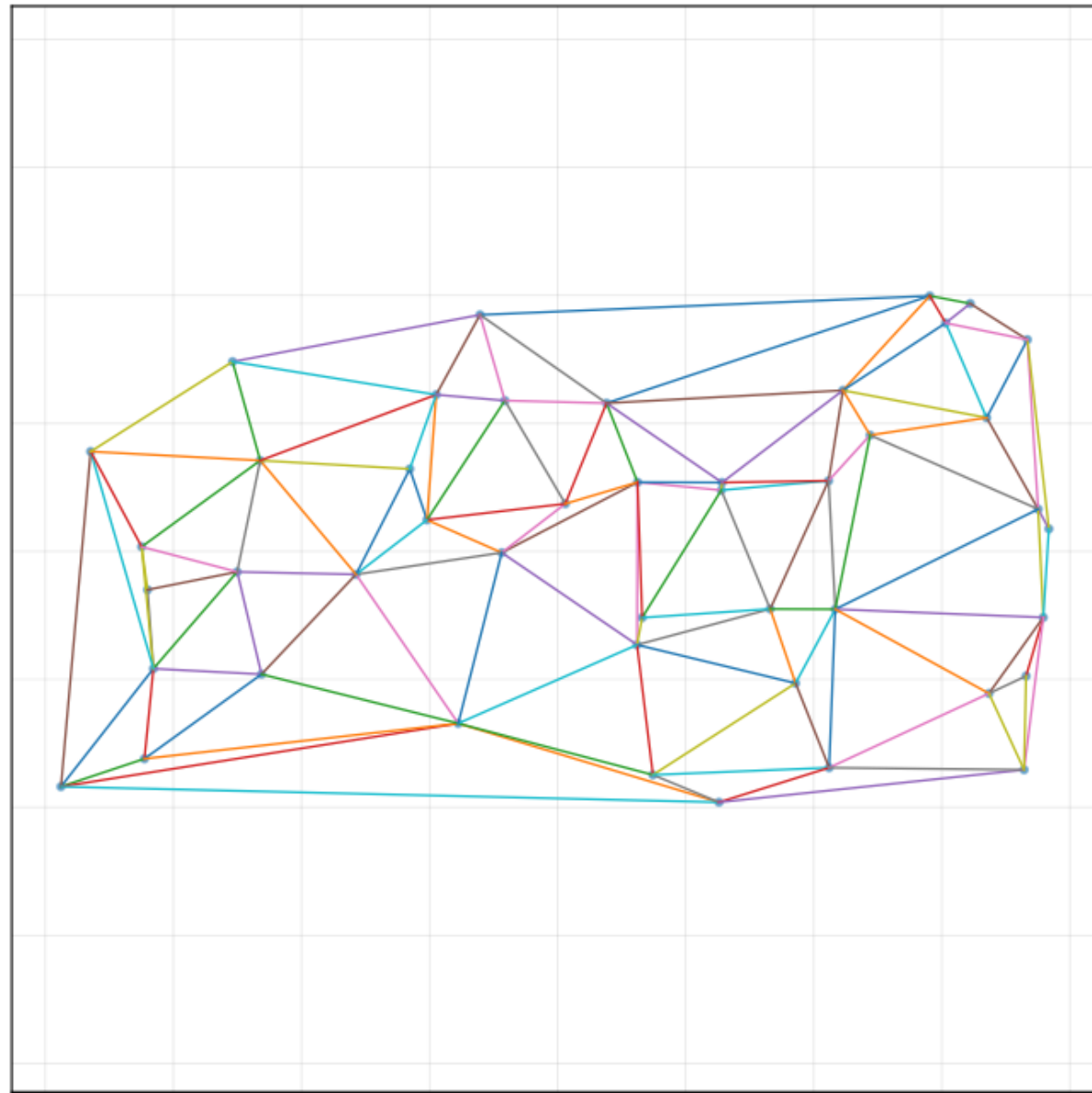


Solicited from and supported by
Oswin Aichholzer, Joseph Dorfer, Peter Kramer



Central Triangulation under Parallel Flip Operations

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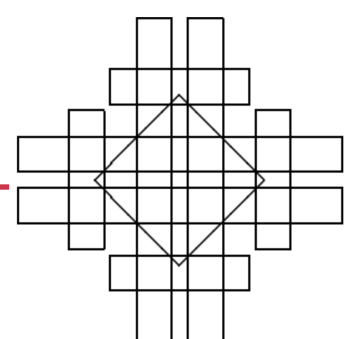
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11:03 a.m.

We have expanded the benchmark set to **250 planar triangulation instances**. Along with the original 201 small and medium instances, **49 large instances** have now been added in response to community feedback.

We have also released the **updated scoring system**, which will differ slightly from previous years to better reward both exact methods on smaller instances and scalable heuristics on larger ones.

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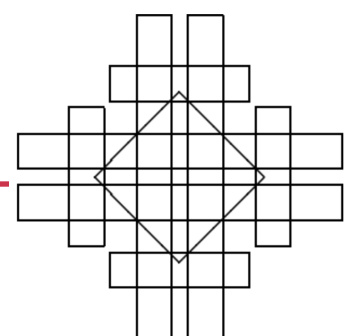
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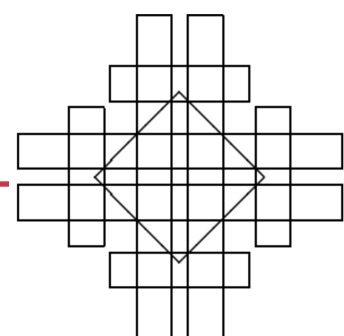
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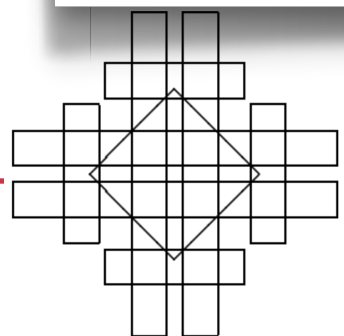
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Shoutout to:
Phillip Keldenich, Dominik Krupke
&
Oswin Aichholzer, Joseph Dorfer, Peter Kamer!



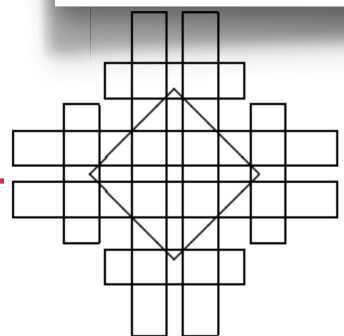
Results

Rank	Team Name	Score	Junior	# best	# sole best
1	Shadoks	9992		249	56
2	ETH Flippers	8474	✓	186	1
3	CG#Hunters	7777		103	0
4	jflip2	7764		114	0
5	TU Dortmund	6265		81	0
6	UCPH	3100	✓	41	0
7	Anonymous	2840		29	0
8	misojiro	2612	✓	28	0
9	Too square to triangle	2451	✓	32	0
10	Anonymous	953	✓	14	0
11	SWP TI FU Berlin Team T	923	✓	12	0
12	UMass Lowell ComGeo Group	887		10	0



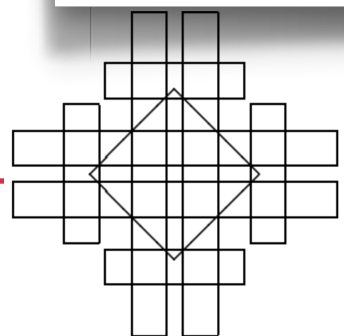
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Results

Engineering Greedy Heuristics and Simulated Annealing Methods for the Median Triangulation under the Parallel Flip Distance (CG Challenge)

Jacobus Conradi ✉ 

BARC, University of Copenhagen, Denmark

Benedikt Kolbe ✉ 

University of Bonn, Hausdorff Center for Mathematics, Germany

Philip Mayer¹ ✉ 

Institute of Computer Science, University of Bonn, Germany

Jonas Sauer ✉ 

Karlsruhe Institute of Technology, Germany

Jack Spalding-Jamieson ✉ 

CG#Hunters Approach to Central Triangulation Under Parallel Flip Operations

Jaegun Lee ✉ 

Department of Computer Science and Engineering, Pohang University of Science and Technology, Pohang, Republic of Korea

Seokyun Kang ✉ 

Graduate School of Artificial Intelligence, Pohang University of Science and Technology, Pohang, Republic of Korea

Hyeonseok Lee ✉ 

Department of Computer Science and Engineering, Ulsan National Institute of Science and Technology, Ulsan, Republic of Korea

Hyeyun Yang ✉ 

School of Computational Sciences, Korea Institute for Advanced Study, Seoul, Republic of Korea

Taehoon Ahn¹ ✉ 

Department of Computer Science, Sookmyung Women's University, Seoul, Republic of Korea

ETH Flippers Approach to Parallel Reconfiguration of Triangulations: SAT formulation and Heuristics

Lorenzo Battini ✉ 

ETH Zürich, Switzerland

Marko Milenković ✉  

ETH Zürich, Switzerland

Shadoks Approach to Parallel Reconfiguration of Triangulations

Guilherme D. da Fonseca ✉ 

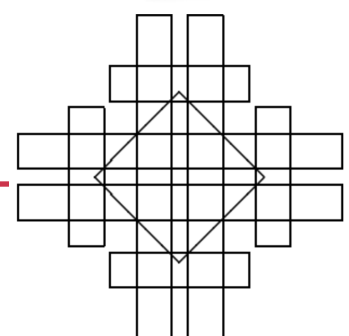
LIS, Aix-Marseille Université

Fabien Feschet ✉ 

LIMOS, Université Clermont Auvergne

Yan Gerard ✉ 

LIMOS, Université Clermont Auvergne



Central Triangulation under Parallel Flip Operations: The CG:SHOP Challenge 2026

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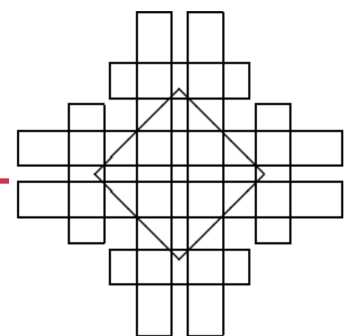
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Stefan Schirra 

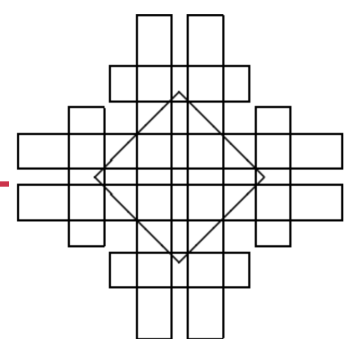
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stschirr@isg.cs.uni-magdeburg.de



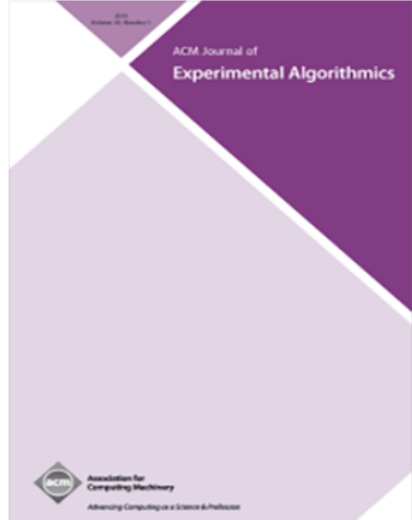
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 - Dan Halperin
 - Michael Kerber
 - Philipp Kindermann
 - Joe Mitchell
 - Kevin Verbeek
- Special issues 2019, 2021, 2022, 2023, 2024
- Renewal as of January 2026
- Problem for 2027?!

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