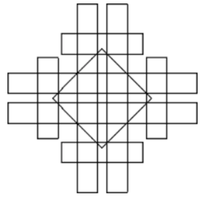
CG:SHOP



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

CG Challenge 2026

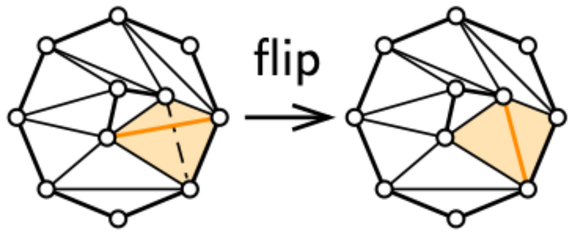
Oswin Aichholzer, Joseph Dorfer, Sándor P. Fekete, Dominik Krupke, Phillip Keldenich, Peter Kramer, Stefan Schirra

Supported by:
DFG

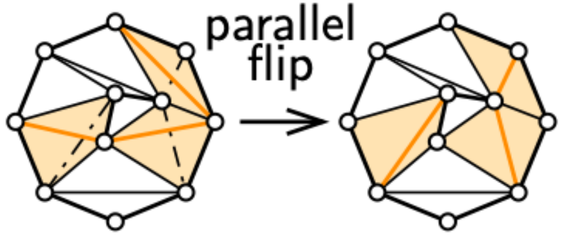
Central Triangulation under Parallel Flip Operations

CG:SHOP

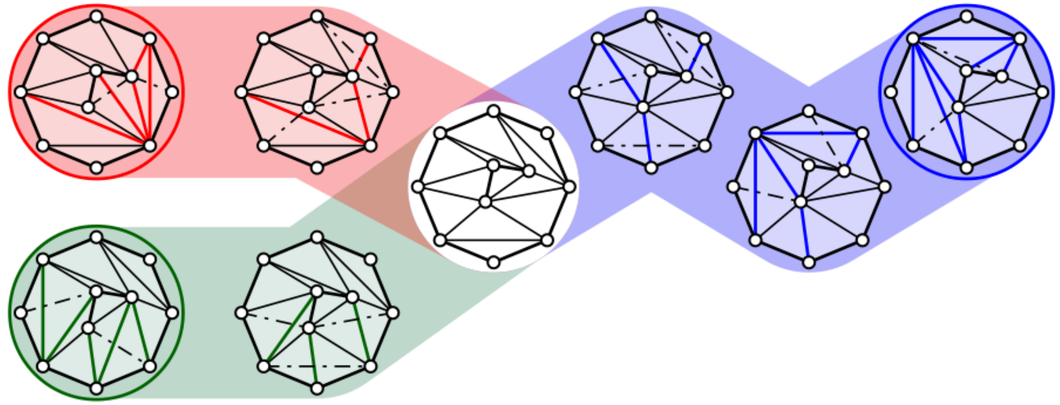
Flip:



Parallel flip:



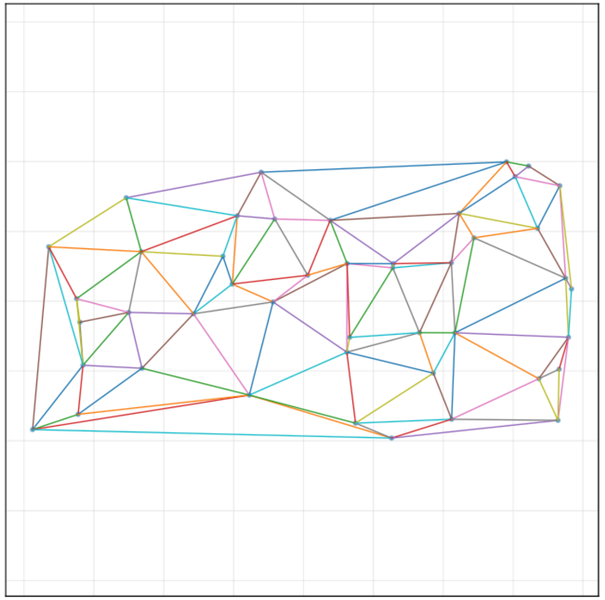
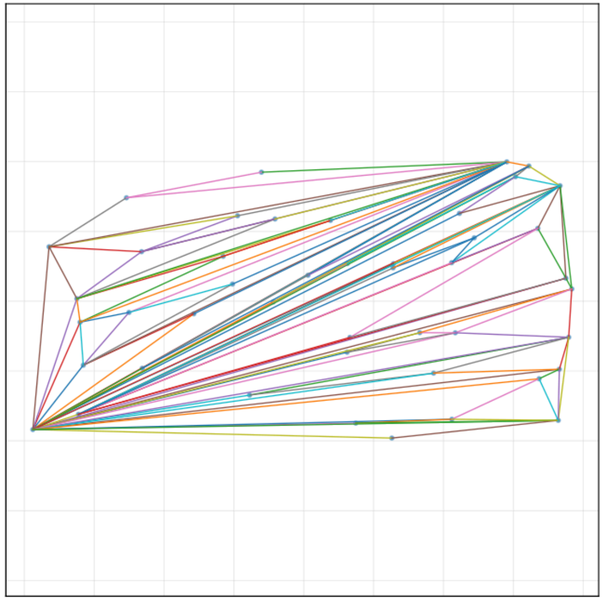
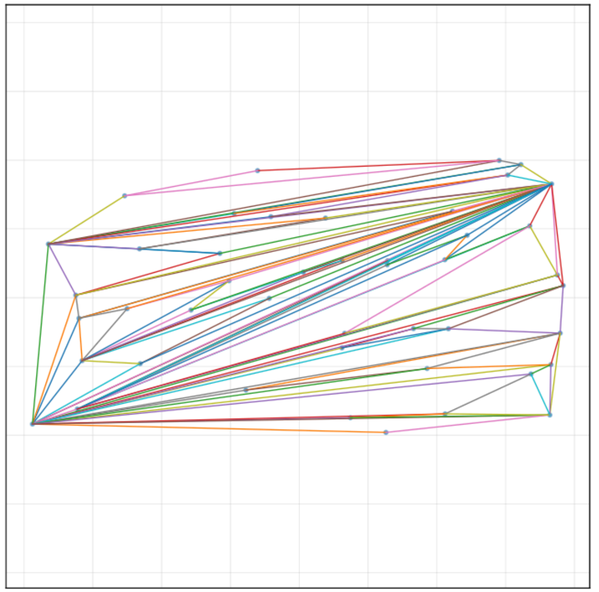
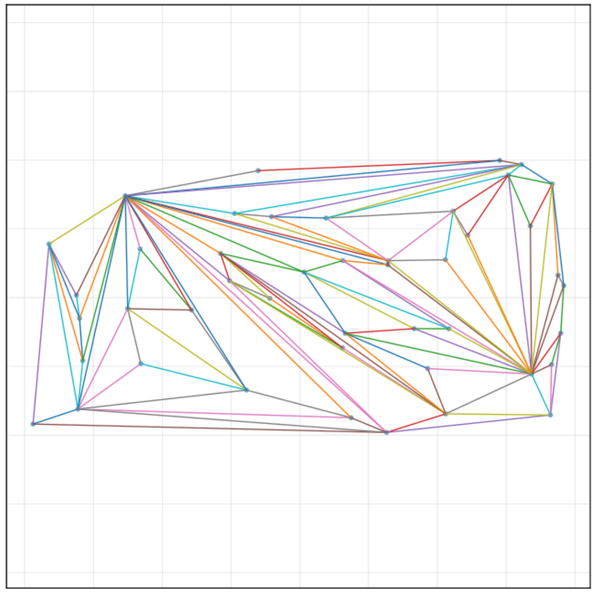
Central triangulation



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

Central Triangulation under Parallel Flip Operations

CG:SHOP

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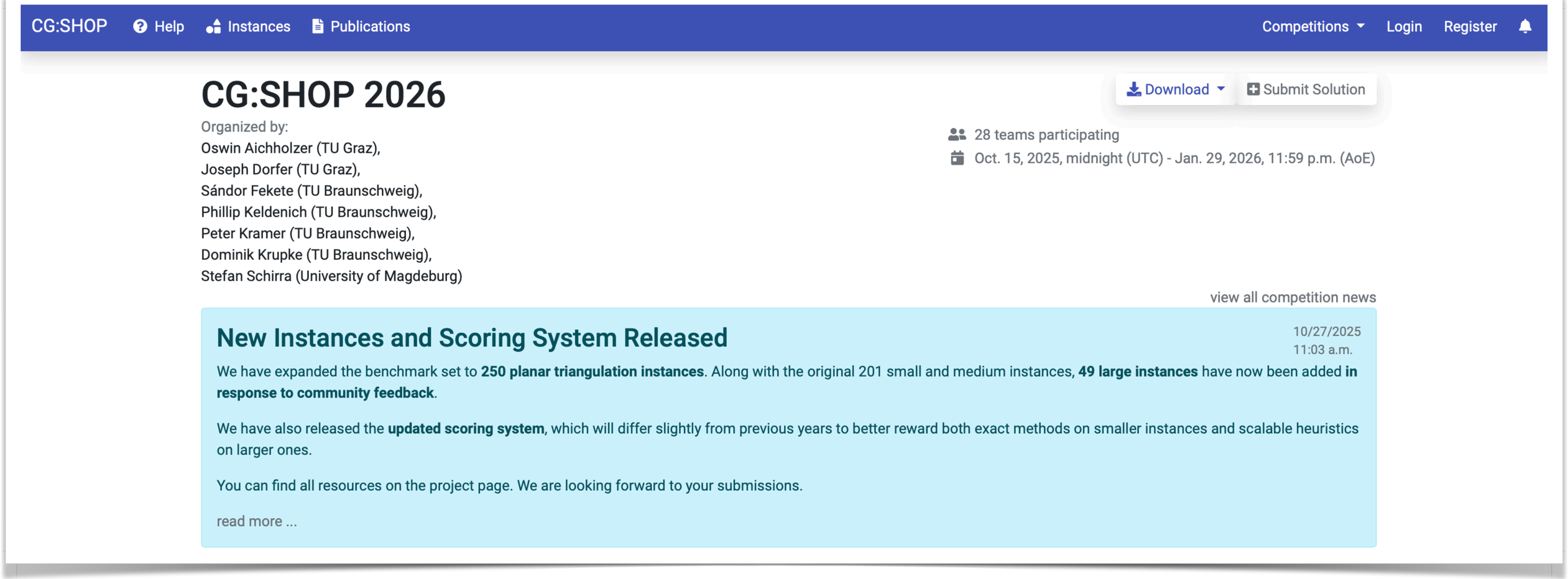
Contest Setup

CG:SHOP



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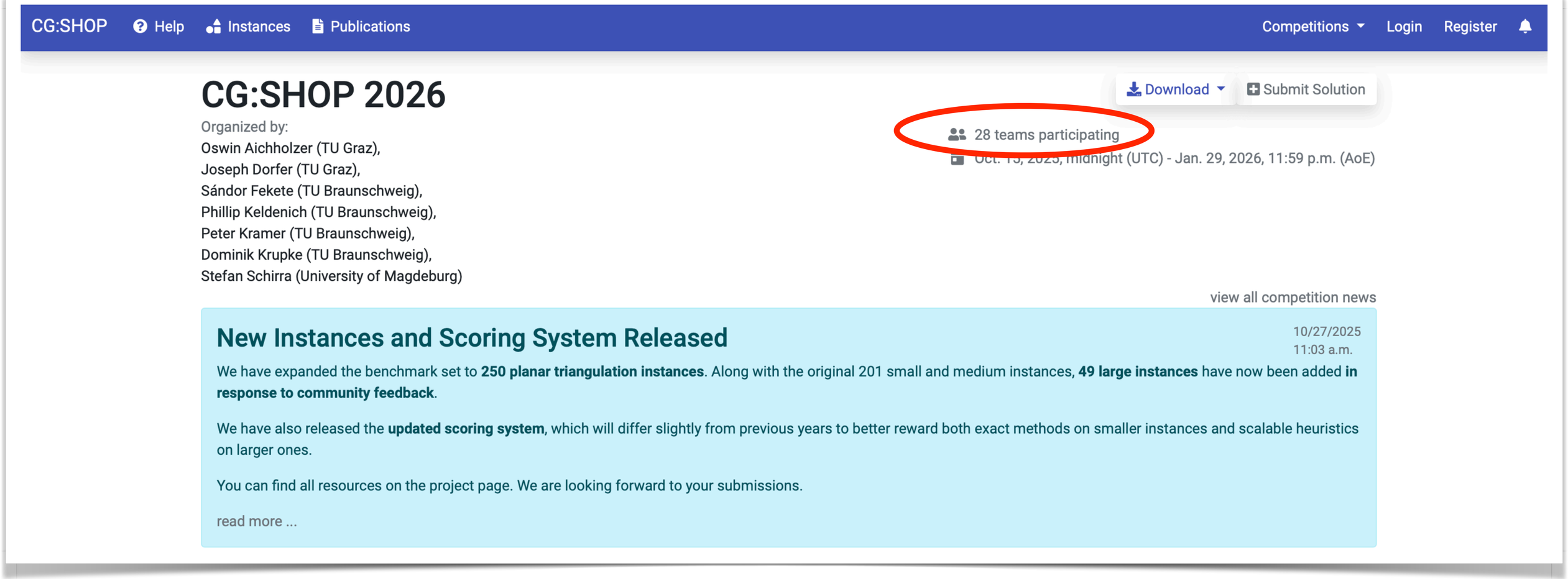
CG:SHOP



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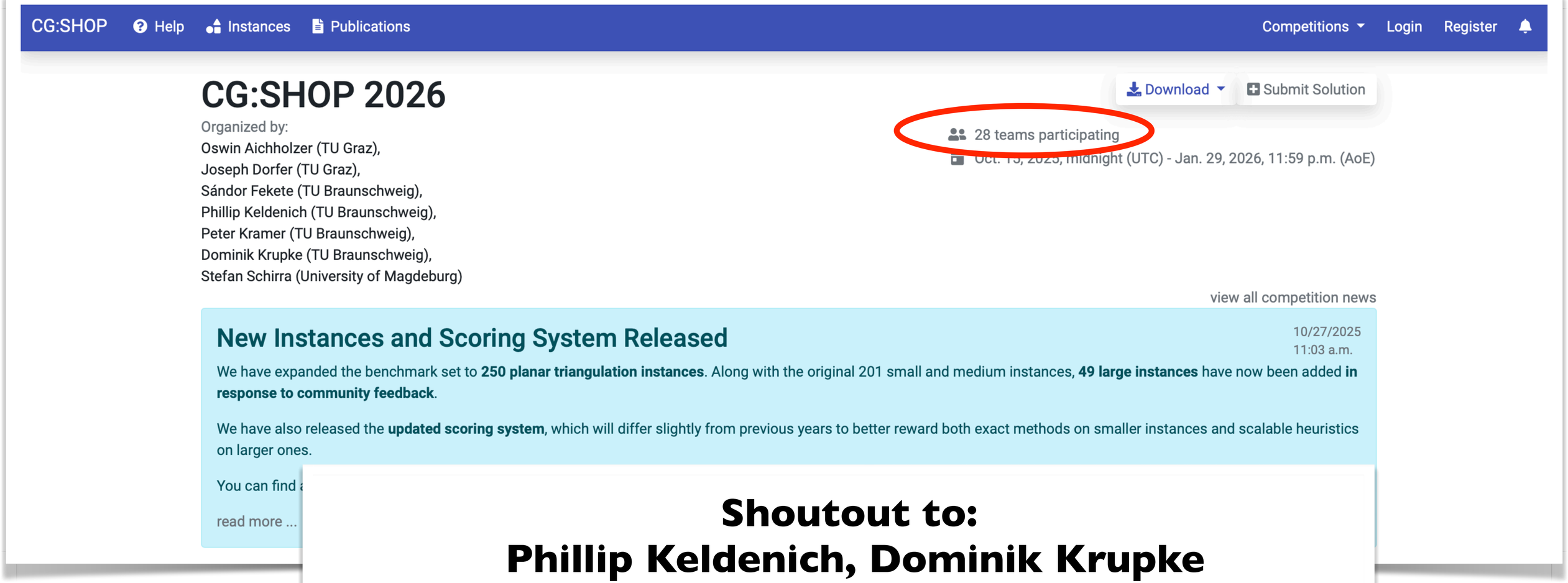

Shoutout to:
Phillip Keldenich, Dominik Krupke
&
Oswin Aichholzer, Joseph Dorfer, Peter Kamer!

Results

CG:SHOP

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

CG:SHOP

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 Mayer[1]
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 Ahn[1]
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

Overview

CG:SHOP

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

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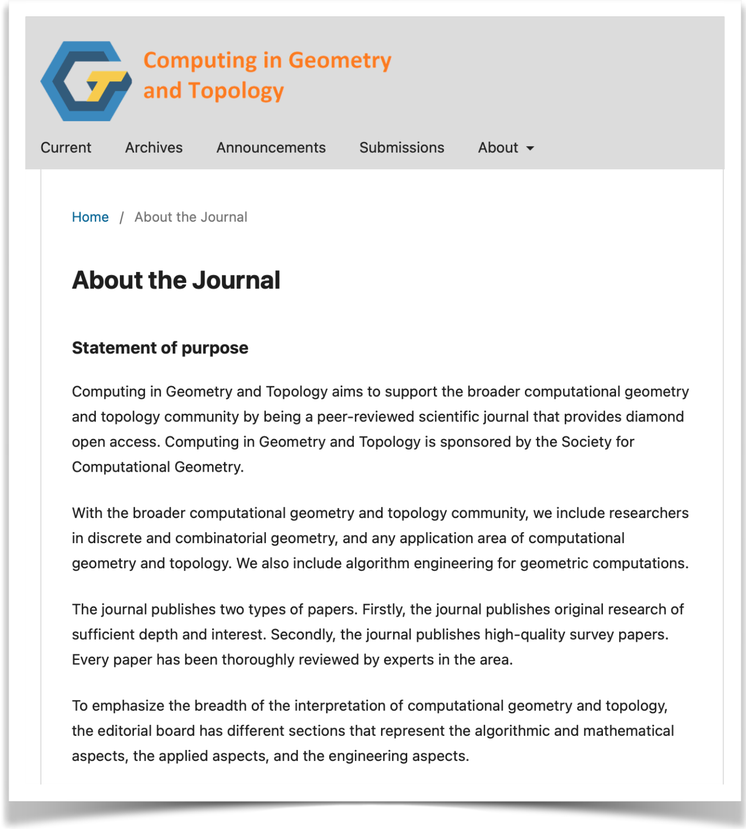
Overall Situation

CG:SHOP

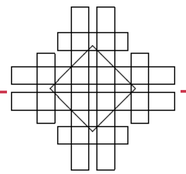
- Advisory Board:
  - Bill Cook
  - Andreas Fabri
  - Dan Halperin
  - Michael Kerber
  - Philipp Kindermann
  - Joe Mitchell
  - Kevin Verbeek

- Special issues 2019, 2021, 2022, 2023, 2024
- Renewal as of January 2026
- Problem for 2027?!



Supported by:
DFG Deutsche Forschungsgemeinschaft
German Research Foundation

Thank you!



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