

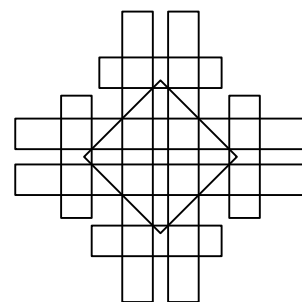
36th International Symposium on Computational Geometry

SoCG 2020, June 23–26, 2020, Zürich, Switzerland
(Virtual Conference)

Edited by

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■ Preface

The 36th International Symposium on Computational Geometry (SoCG 2020) was held online, June 23-26, 2020, as part of the Computational Geometry Week (CG Week 2020). The event was planned to take place in Zürich, Switzerland, but eventually it was organized online because of the COVID-19 pandemic. We are very grateful to the organizing team at ETH Zürich to organize the event and adapt to the unusual situation.

Altogether, 205 papers have been submitted to SoCG 2020. After a thorough review process, in which each paper has been evaluated by three or more independent reviewers, the Program Committee accepted 70 papers for presentation at SoCG 2020. These proceedings contain extended abstracts of the accepted papers, limited to 500 lines plus references. If any supporting material (e.g., proofs or experimental details) does not fit in the line limit, the full paper is available at a public repository and referenced in the corresponding extended abstract.

The Best Paper Award of SoCG 2020 went to the paper “*Convex Hulls of Random Order Types*” by Xavier Goaoc and Emo Welzl. The Best Student Presentation Award will be determined and announced at the symposium, based on ballots cast by the attendees. A few selected papers with very positive reviews will be invited to forthcoming special issues of *Discrete & Computational Geometry* and the *Journal of Computational Geometry* dedicated to the symposium.

This year, for the first time, there is a SoCG Test of Time Award and a committee was appointed for this task. In this first edition, the winners of the first edition of this new award are the papers “*Epsilon-Nets and Simplex Range Queries*” by David Haussler and Emo Welzl, presented at SoCG 1986, “*Applications of Random Sampling in Computational Geometry, II*” by Kenneth L. Clarkson, presented at SoCG 1988, and “*Algorithms for Diametral Pairs and Convex Hulls That Are Optimal, Randomized, and Incremental*” by Kenneth L. Clarkson and Peter W. Shor, presented at SoCG 1988.

The scientific program of the CG Week 2020 was enriched by two distinguished invited speakers. An invited talk, entitled “Geometric statistics for computational anatomy”, was delivered by **Xavier Pennec**, from Université Côte d’Azur and Inria. Another invited talk, entitled “Discrete developable surfaces: Theory and fabrication of 3D shapes from 2D sheets”, was delivered by **Olga Sorkine-Hornung**, from ETH Zürich. We thank the invited speakers for their excellent invited talks.

The Media Exposition was significantly changed from previous years, no longer restricted to video submissions. The media portfolio now included animations, software and games, scientific artwork, sculptures, paintings, and more. We only required it to be related to computational geometry, broadly interpreted, as well as being “displayable” during CG Week. All SoCG attendees were also invited to bring media “side pieces” to display during CG Week to complement the Exposition collection. We reviewed 15 submissions (of all media types), of which 12 were accepted. The extended abstracts that describe these lovely submissions are included in this proceedings volume, while their corresponding media content can be found at <http://www.computational-geometry.org>.

A new feature in this year’s proceedings is the CG Challenge. The goal was to compute minimum convex decompositions for a benchmark collection of point sets in the plane. 21 teams submitted solutions; these proceedings contain contributions by the three top-placed teams describing their winning approaches.



We thank the authors of all submitted works. We are most grateful to the members of the SoCG Program Committee, the Media Exposition Committee and the CG Challenge Committee for their dedication, expertise, and hard work that ensured the high quality of the works in these proceedings. We are grateful to the assistance provided by 331 additional reviewers; without their help it would be nearly impossible to run the selection process.

Finally, we would like to thank Matias Korman, who kindly accepted to be the Proceedings Chair for a second year and did a meticulous work. Many other people contributed to the success of SoCG 2020 and the entire CG Week. We especially thank the local organizers, all the members of the Workshop and YRF Committees, and the Computational Geometry Steering Committee.

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