



21st IAPR

International Conference on Discrete Geometry for Computer Imagery

25-29 March 2019, Paris, France

<https://dgci2019.sciencesconf.org/>

General Chairs:

[Michel Couprie](#) (LIGM, ESIEE Paris, France)

[Jean Cousty](#) (LIGM, ESIEE Paris, France)

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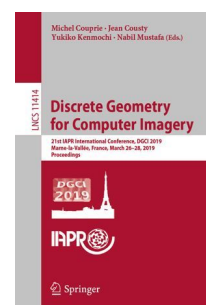
Report by General Chairs

The 21th International Conference on Discrete Geometry for Computer Imagery, DGCI 2019, was held at [ESIEE Paris](#), France, during March 26–28, 2019, following, the 20th edition held in Vienna in 2017. We would like to highlight that this was the second time that a DGCI conference was held at ESIEE Paris: the 8th edition was already organized at the same place precisely 20 years earlier, in 1999.



The DGCI conference is the main event of the Technical Committee 18 “Discrete Geometry and Mathematical Morphology” of the International Association of Pattern Recognition ([IAPR](#)). The aim of the DGCI conference is to bring together researchers, students and practitioners of discrete geometry, including discrete topology, geometric models, and mathematical morphology, to present and discuss new advances in these fields, be they purely theoretical developments or novel applications. This DGCI edition gained, as usual, the endorsement of the [IAPR](#), as well as the financial sponsorships of [Springer](#), of our institutions, namely, [ESIEE Paris](#), [Université Paris-Est](#), [Université Paris-Est Marne-la-Vallée](#), [Laboratoire d’Informatique Gaspard-Monge](#), Centre National de la Recherche Scientifique ([CNRS](#)) and [Bézout Labex](#), and of Agence National de la Recherche ([ANR](#)).

This DGCI conference attracted 50 submissions by authors from 20 countries: Australia, Austria, Belgium, Brazil, China, France, Hungary, India, Iran, Italy, Japan, The Netherlands, Peru, Poland, Russia, Serbia, Spain, Sweden, UK, and USA. Out of these 50 submissions, 38 were selected for presentation at the conference after a review-and-rebuttal process. The proceedings were published by Springer in the Lecture Notes in Computer Science book series ([LNCS volume 11414](#)).



During the conference, participants (92 in total from 17 countries: Austria, Belgium, Brazil, Cyprus, France, Hungary, India, Italy, Japan, Russia, Serbia, Spain, Sweden, Swiss, Czech Republic, UK and USA) actively experienced a rich program of presentations, punctuated by ample breaks for discussions. Thanks to IAPR, we could provide financial supports dedicated in particular to student participants. The scientific program consisted in 3 keynote lectures, 28 oral and 10 poster presentations. The presented works were of very high quality, and the Springer best student paper prize was awarded to:

- "Efficient Algorithms to Test Digital Convexity" by Loïc Crombez, Guilherme D. da Fonseca and Yan Gérard (Université Clermont Auvergne - LIMOS, France).

The success of DGCI 2019 can also be attributed to the three great keynote lectures. We are very grateful to the keynote speakers:

- [Alexandre Xavier Falcão](#) (University of Campinas, Brazil) gave a lecture on "The Role of Optimum Connectivity in Image Segmentation: Can the Algorithm Learn Object Information During the Process?"
- [Longin Jan Latecki](#) (Temple University, USA) gave a lecture on "Computing Maximum Weight Cliques with Local Search on Large Graphs with Application to Common Object Discovery"
- [János Pach](#) (École Polytechnique Fédérale de Lausanne, Switzerland) gave a lecture on "The Blessing of Low Dimensionality"

Together with the main DGCI 2019 event, a one-day pre-conference [workshop on Discrete Topology and Mathematical Morphology in honor of the retirement of Gilles Bertrand](#) and a half-day post-conference [workshop on Approximation Algorithms: Combinatorics, Geometry and Statistics](#) were also organized, leading to a rich one-week program. Through the week, we hope that participants could enjoy many conversations and discussions, also during three evening social events (two cocktails and the banquet), two of which were in the center of Paris.

Now, we are working on a special issue of the event that will be published in the Journal of Mathematical Imaging and Vision (JMIV). Ten papers have been selected and their authors have been invited to submit an extended version. We expect a very valuable and insightful special issue on our research topics.

We would like to thank all contributors, the keynote speakers, the Program and Steering Committees of DGCI, the Organizing Committee of DGCI 2019, and all those who made this conference happen. Last, but not least, we thank all participants and we hope that everyone had great interest in DGCI 2019.

The next DGCI is planned in the summer of 2020, organized jointly with the International Symposium on Mathematical Morphology (ISMM). Both steering committees are actively working on this exciting first joint event.

See you in 2020!

