Special Issue of the 13th International Conference on Geometric Modeling and Processing (GMP 2019)

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Preface

Special Issue of the 13th International Conference on Geometric Modeling and Processing (GMP 2019)

Geometric Modeling and Processing (GMP) 2019 was co-located in Vancouver with Symposium on Solid and Physical Modeling (SPM), the SIAM conference on Computational Geometric Design, and Shape Modeling International (SMI) as part of the International Geometry Summit in 2019, June 17–21.

The GMP call for papers attracted a total of 82 abstract submissions, followed by 62 full paper submissions. Each submission received three reviews by members of the GMP International Program Committee (counting 73 members evenly spread over Asia, Europe and North America). The two-cycle double-blind review process conducted with the help of the SRM system led to 18 accepted papers that were presented at the conference, and 12 fast-track papers referred to Computer Aided Geometric Design (CAGD), pending a major revision. The 18 accepted paper presentations were complemented by six CAGD paper invitations and one IEEE Transactions on Visualization and Computer Graphics (TVCG) paper invitation. All combined, 25 papers were presented at GMP 2019, spread over 6 sessions on topics spanning: geometry processing and fabrication, reconstruction and augmentation, correspondence, shape and transport, functions and splines, and parameterization and IGA.

For the third consecutive year, GMP featured a Best Paper Award contest, sponsored this year by Adobe. Authors of the three award-winning papers received a certificate and a $500 CAD prize. The GMP 2019 Best Paper Award winners were, in no particular order: *Arc fibrations of planar domains* by *Bert Jüttler*, Sofia Maroscheck, Myung-Soo Kim and Q Youn Hong, *A fast numerical solver for local barycentric coordinates* by *Jiong Tao*, Bailin Deng and Juyong Zhang, and *A bivariate* C^1 *subdivision scheme based on cubic half-box splines* by *Pieter Barendrecht*, Malcolm Sabin and Jiří Kosinka. The presenting authors are emphasized. We congratulate each of the Best Paper Award winners, thank Adobe for the financial support of the contest, and thank the independent award committee for their efforts in selecting the best papers based on their quality, reviews, and presentations.

GMP also organized, in collaboration with the International Geometry Summit and its collocated conferences, a joint poster session. In total 21 posters were presented at the Summit. The presentation included a video fast forward and an hour-long poster viewing session. Three posters were selected to win the best poster award, also sponsored by Adobe.

The paper and poster program of GMP 2019 was complemented by three excellent keynotes delivered by Mark Gammon: *Why CAD Geometry is Not CAE Geometry*, Hui Huang: *Consolidating, Modelling and Learning Point Clouds*, and Emily Whiting: *Mechanics-Based Design for Computational Fabrication*.

We extend our sincere thanks to all of the participants, authors and international program committee members, whose combined effort has led to this outstanding compilation of recent advances in geometric modeling and processing. We are also grateful to the conference co-chairs Niloy Mitra, Alla Sheffer, and Wenping Wang for their much appreciated support and advice, and we thank Stefanie Behnke for providing assistance with the reviewing system SRM. Special thanks go to Rida T. Farouki and Konrad Polthier, the Editors-in-Chief of Computer Aided Geometric Design, and to the entire Elsevier support team for the production of this special issue. We also thank the organizing team of the International Geometry Summit 2019: Konrad Polthier, Wenping Wang, Richard (Hao) Zhang, and especially the local organizer Ali Mahdavi-Amiri. Last, but not least, we thank Simon Fraser University for hosting the conference in Vancouver.

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