acm Transactions on Graphics

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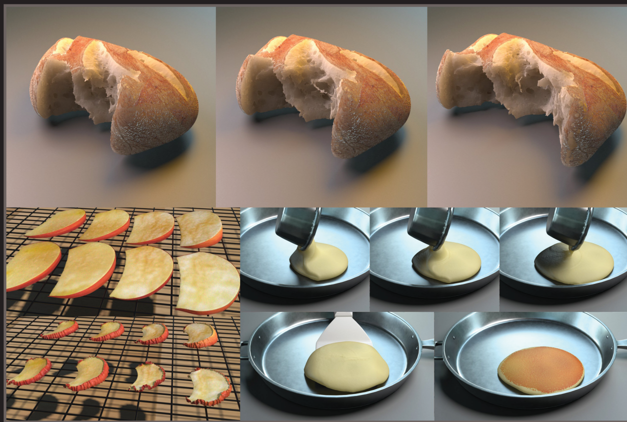


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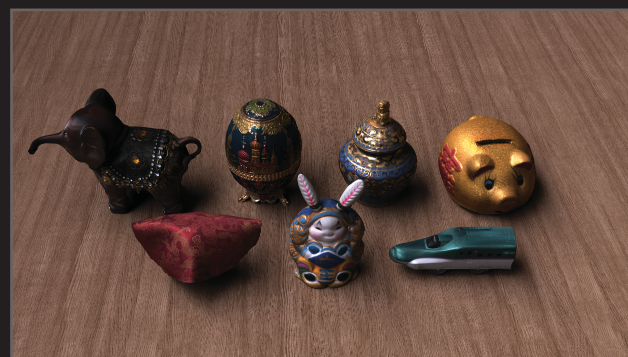


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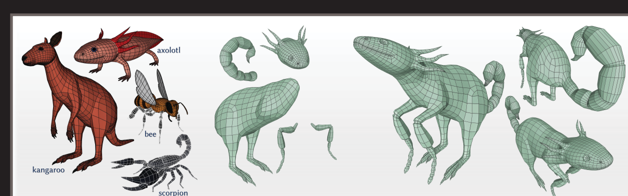
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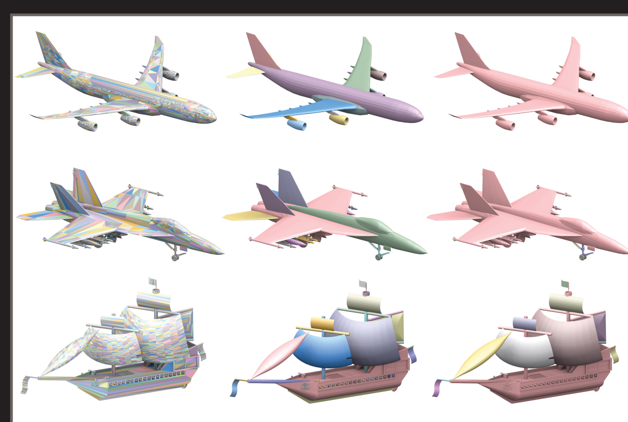

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Articles in this journal issue are paginated by article number and page number within the article, rather than by consecutive page numbers from the start of the first issue of the journal's current volume. The table of contents, author index and reference format all use this article-based pagination system.

ACM is transitioning to an article-based, "online first" content publishing system and all ACM journals are undergoing a similar transition.

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Preface

Welcome to the ACM SIGGRAPH Asia 2019 Technical Papers program!

The SIGGRAPH Asia Technical Papers Program, together with the SIGGRAPH Technical Papers program, and ACM Transactions on Graphics (TOG), constitute the premier international forum for disseminating new scholarly work in computer graphics and interactive techniques. As in years past, this year's program features papers that propel the field forward rapidly and vibrantly, while keeping us well grounded academically, ensuring that SIGGRAPH Asia remains a breeding ground for significant new areas of research. In sync with the global phenomenon of machine learning and artificial intelligence proliferation, we continue to see an overwhelming number of papers in all subfields of graphics employ and contribute to AI science in general.

This year's program was selected from the collective work of 1398 authors from 36 different countries! We received 309 submissions of very high quality, making the selection task a particularly difficult one. The Technical Papers Committee (PC), comprised of 45 experts from academia and industry, decided to accept 93 of the submissions, resulting in an acceptance rate of 30%. As in previous years, all of the papers accepted to the SIGGRAPH Asia conference are included in a special issue of TOG. At the same time, 5 articles that were accepted to TOG will be presented alongside with the other papers in the Technical Papers Program. New this year, a selected number of papers partake in the Posters program to foster interactive discussions and networking opportunities for the contributors and conference attendees.

The SIGGRAPH Asia Technical Papers selection procedure is renowned in computer science and adjacent scientific communities as one of the most careful and rigorous peer review processes, adhering to the highest scientific standards and resulting in exceptional quality of output – both in terms of the accepted papers and the informative depth of feedback provided to submitters. In sync with SIGGRAPH 2019, this year we implemented two major changes spearheaded by Olga Sorkine-Hornung, the Technical Papers Chair of SIGGRAPH 2019. First, we implemented the double blind peer reviewing which hopefully makes the evaluation process even more fair and bias free. Second, we changed the continuous scores on a scale of 1.0 to 5.0 with decimal digit precision to verbal scores on a discrete scale of six ratings (strong accept, accept, borderline accept, borderline reject, reject, and strong reject). The purpose of this change is to help authors and peer reviewers understand a reviewer's opinion more clearly and unambiguously,

At the conference, the accepted papers are presented in 21 sessions of four to five papers each, running in up to two parallel tracks, with 20 minutes for each presentation. The program opens with the Technical Papers Fast Forward session, a fun evening event in which each paper is presented in just 30 seconds, to give attendees a glimpse into the talks that will be available over the following days.

It was both inspiring and humbling to see first-hand from the Chair's perspective the incredible amount of dedication, professionalism, and sheer hard work that went into the process. The responsibility of the Technical Papers Chair is huge, but the support and help I received from our community is even greater. I am greatly indebted to the people who selflessly helped out in various invaluable ways, including:

- All the authors who submitted their work to the conference—without the incredibly high-quality pool of submissions the rest of the process would not matter!
- The 577 tertiary reviewers, who wrote most of the reviews and brought the highest levels of expertise into the deliberations;
- The 45 members of my Papers Committee, who did an outstanding job and showed great spirit, open mind and patience with the newly introduced changes to the process.
- The 20 Conflict of Interest Coordinators, whose service made high quality, double blind reviewing possible.
- My advisory board: Marie-Paule Cani, Takeo Igarashi, Karol Myszkowski, Szymon Rusinkiewicz, Olga Sorkine-Hornung, and Greg Turk, for their guidance throughout the process; I am also grateful to the PAG (Papers Advisory Group) for their sound advice and vast collective wisdom and memory.
- My sort committee: Kayvon Fatahalian, Karol Myszkowski, Noah Snavely, Greg Turk, and Hao (Richard) Zhang, who spent two days with me at Georgia Tech to assign the submissions to PC members;

Preface

- Adam Finkelstein for updating and maintaining the Hepcat system as a volunteer. It greatly facilitated the papers committee meeting and contributed to making fair, informed decisions. I am also grateful for his advice on how to run a successful PC meeting that ends before 8:30pm on the first day;
- Stephen Spencer for assembling the proceedings and dealing with the process of final submissions of all accepted works;
- Brian Wyvill for creating the video trailer for the Papers Program;
- Benny Garcia for overseeing, and compiling all the video for, the Fast Forward session;
- Mark Montague and his team at Linklings for supporting the online review system and always being reliable. He made time to meet with me every week for half a year, adding various new features to the system and providing detailed guidance;
- Carrie de Souza, the program manager for the conference, as well as her colleagues at Koelnmesse Pte Ltd, Christine Jeremiah, and Clariss Chin, for outstanding administrative support for the whole process. This included running the various meetings, answering numerous email requests from authors and reviewers alike, and reminding me of the next steps that needed to be taken in the process, to name just a few of their contributions;
- Tomasz Bednarz, the SIGGRAPH Asia 2019 Conference Chair, for his leadership, creative vision, and understanding of my constraints on traveling due to family responsibilities;
- Takeo Igarashi and Olga Sorkine-Hornung, for showing me the ropes and providing excellent advice and support throughout the process. The recent changes they made to the review process were nearly perfect with very little room for me to improve, which was a pleasant surprise to me;
- Finally, I want to thank my family, Dave, Connor, and Dashiell, for their understanding and support that made chairing SIGGRAPH Asia during cross-country family relocation possible!

I hope you enjoy SIGGRAPH Asia 2019 in beautiful Brisbane, Australia, and find the papers program both inspirational and educational. With the publication of these proceedings, I am pleased to pass the baton to the capable hands of Karol Myszkowski, who will serve as the Technical Papers Chair for next year's conference. Please submit your best work to SIGGRAPH Asia 2020 in Daegu, South Korea!

C. Karen Liu
Stanford University,
Technical Papers Chair, SIGGRAPH Asia 2019