Pacific Graphics 2017

The 25th Pacific Conference on Computer Graphics and Applications Short Papers Proceedings

Taipei, Taiwan October 16 – 19, 2017

Conference Co-Chairs

Leif Kobbelt, RWTH Aachen University Jung Hong Chuang, National Chiao Tung University Bing-Yu Chen, National Taiwan University

Program Co-Chairs

Jernej Barbic, University of Southern California Wen-Chieh Lin, National Chiao Tung University Olga Sorkine-Hornung, ETH Zurich

Proceedings Production Editor

Dieter Fellner (TU Darmstadt & Fraunhofer IGD, Germany)



DOI: 10.2312/pg.20172022

This work is subject to copyright.

All rights reserved, whether the whole or part of the material is concerned, specifically those of translation, reprinting, re-use of illustrations, broadcasting, reproduction by photocopying machines or similar means, and storage in data banks.

Copyright ©2017 by the Eurographics Association Postfach 2926, 38629 Goslar, Germany

Published by the Eurographics Association

—Postfach 2926, 38629 Goslar, Germany—
in cooperation with
Institute of Computer Graphics & Knowledge Visualization at Graz University of Technology and
Fraunhofer IGD (Fraunhofer Institute for Computer Graphics Research), Darmstadt

ISBN 978-3-03868-051-2

The electronic version of the proceedings is available from the Eurographics Digital Library at http://diglib.eg.org

Table of Contents

Short Papers

Adaptive Measurement of Anisotropic Material Appearance	1
Transferring Pose and Augmenting Background Variation for Deep Human Image Parsing	7
Real-time Shadow Removal using a Volumetric Skeleton Model in a Front Projection System	3
Robust Edge-Preserved Surface Mesh Polycube Deformation	7
Computing Restricted Voronoi Diagram on Graphics Hardware	3
Robust Gas Condensation Simulation with SPH based on Heat Transfer	7

Organizers

















Sponsors







Ministry of Science and Technology















Preface

The 25th Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2017) was held in Taipei, Taiwan, on October 16-19, 2017. Pacific Graphics is one of flagship conferences of Asia Graphics Association. As a highly successful conference series, Pacific Graphics provides a premium forum for researchers, developers, and practitioners in the Pacific Rim and around the world to present and discuss new problems, solutions, and technologies in computer graphics and related areas.

There were 98 papers submitted, which were reviewed by a program committee of 102 international experts, as well as 195 external reviewers. Of these submissions, 22 papers were selected for full oral presentation at the conference, as well as for inclusion in this issue of Computer Graphics Forum. Each paper received at least 4 reviews by members of the program committee and external experts. Each of the accepted papers underwent a second review cycle to ensure that the necessary revisions indicated in the reviews were carried out.

In addition to the paper presentations, the conference also featured three invited talks by Hirokazu Kato, Johannes Kopf, and Miguel A. Otaduy. There was also a short paper session, where seven short papers were presented. The short papers are published electronically through the EG Digital Library. The topics of the papers in this volume are diverse, including fabrication and design, analyzing geometries, coloring rendering and sampling, video and visualization, interaction and creation, reconstruction and generation based on RGBD Images, representing and editing Images, and simulation and animation. Some of the papers were submitted with supplementary materials that EUROGRAPHICS members can access through the EG Digital Library.

We would like to thank the authors and participants at the conference, the program committee members, and the external reviewers, all of whom made their best effort to ensure the high quality of the Pacific Graphics 2017 technical program. We also wish to thank The Ministry of Science and Technology of Taiwan, Digital Domain Holdings Limited, Rayark Inc., NTU IoX Center, CyberLink Corp., Industrial Technology Research Institute, and International Games System Co. Ltd, for their financial support. Finally, we would like to thank Stefanie Behnke, whose administrative help and technical support was invaluable.

Jernej Barbic, University of Southern California, USA Wen-Chieh Lin, National Chiao Tung University, Taiwan Olga Sorkine-Hornung, ETH Zurich, Switzerland

Pacific Graphics 2017 Program Co-chairs

International Program Committee

Hujun Bao, Zhejiang University

Connelly Barnes, University of Virginia

Christopher Batty, University of Waterloo

Bernd Bickel, Disney Research Zurich

David Bommes, RWTH Aachen

Nicolas Bonneel, CNRS

Stefan Bruckner, University of Bergen

Marcel Campen, New York University

Bing-Yu Chen, National Taiwan University

Guoning Chen, University of Houston

Ming-Te Chi, National Chengchi University

Hung-Kuo Chu, National Tsing Hua University

Yung-Yu Chuang, National Taiwan University

Stelian Coros, Carnegie Mellon University

Carsten Dachsbacher, Karlsruhe Institute of Technology

Zhigang Deng, University of Houston

Olga Diamanti, Stanford University

Yoshinori Dobashi, Hokkaido University

Zhao Dong, Autodesk

Christian Duriez, INRIA

Kenny Erleben, University of Copenhagen

Xianfeng Gu, Stony Brook University

Diego Gutierrez, University of Zaragoza

Toshiya Hachisuka, The University of Tokyo

Shimin Hu, Tsinghua University

Hui Huang, Shenzhen University

Qixing Huang, University of Texas at Austin

Alec Jacobson, University of Toronto

Eakta Jain, University of Florida

Wenzel Jakob, EPFL

Stefan Jeschke, NVIDIA Research

Tao Ju, Washington University in St. Louis

Oliver van Kaick, Carleton University

Vladimir G. Kim, Adobe

Young J. Kim, Ewha Womans University

Min H. Kim, KAIST

Leif Kobbelt, RWTH Aachen University

Taku Komura, Edinburgh University

Yu-Kun Lai, Cardiff University

Yu-Chi Lai, National Taiwan University of Science and Technology

Jean-Francois Lalonde, Laval University

Manfred Lau, Lancaster University

Tong-Yee Lee, National Cheng Kung University

Seungyong Lee, Pohang University of Science and Technology

International Program Committee

Hao Li, University of Southern California

Steve Lin, Microsoft Research Asia

I-Chen Lin, National Chiao Tung University

Yang Liu, Microsoft Research Asia

Feng Liu, Portland State University

Ligang Liu, University of Science and Technology of China

Kwan-Liu Ma, University of California at Davis

Belen Masia, University of Zaragoza

Dominik Michels, KAUST

Niloy Mitra, University College London

Rahul Narain, University of Minnesota

Junyong Noh, KAIST

Carol O'Sullivan, Trinity College Dublin

Miguel Otaduy, URJC Madrid

Daniele Panozzo, New York University

Fabio Pellacini, Sapienza University of Rome

Nico Pietroni, CNR-ISTI

Hong Qin, Stony Brook University

Zhong Ren, Zhejiang University

Holly Rushmeier, Yale University

Hubert Shum, Northumbria University

Claudio Silva, New York University

Cyril Soler, Inria

Justin Solomon, MIT

Shinjiro Sueda, Texas A&M

Kalyan Sunkavalli, Adobe

Matthias Teschner, University of Freiburg

Nils Thuerey, TU Munich

James Tompkin, Brown University

Xin Tong, Microsoft Research Asia

Yu-Ting Tsai, Yuan Ze University

Amir Vaxman, Utrecht University

Etienne Vouga, UT Austin

Lvdi Wang, Microsoft Research Asia

Yu-Shuen Wang, National Chiao Tung University

Huamin Wang, Ohio State University

Wenping Wang, The University of Hong Kong

Rui Wang, University of Massachusetts

Sai-Keung Wong, National Chiao Tung University

Tien-Tsin Wong, The Chinese University of Hong Kong

Enhua Wu, Chinese Academy of Sciences & University of Macau

Hongzhi Wu, Zhejiang University

Chris Wyman, NVIDIA Research

Kai Xu, National University of Defense Technology

International Program Committee

Kun Xu, Tsinghua University
Dong-ming Yan, NLPR-CASIA
Yongliang Yang, University of Bath
Ruigang Yang, University of Kentucky
Yin Yang, University of New Mexico
Sai-Kit Yeung, Singapore University of Technology and Design
Sung-Eui Yoon, KAIST
Jingyi Yu, University of Delaware
Craig Yu, University of Massachusetts Boston
Yonghao Yue, Columbia University
Eugene Zhang, Oregon State University
Changxi Zheng, Columbia University
Kun Zhou, Zhejiang University

Bo Zhu, MIT

External Reviewers

Alliez, Pierre Hennessey, James Moon, Bochang Ando, Ryoichi Hochstetter, Hendrik Mueller, Paul Assarsson, Ulf Hongyi, Xu Nan, Liangliang Azencot, Omri Hormann, Kai Nguyen, Rang Hou, Junhui Niu, Yuzhen Baecher, Moritz Belcour, Laurent Hovet, Ludovic Nogneng, Dorian Bitterli, Benedikt Hu, Xinghong Okabe, Makoto Bittner, Jiří Hu, Zhe Ovsjanikov, Maks Bo, Pengbo Hua, Binh-Son Pan, Hao Boll Nielsen, Jannik Huang, Jia-Bin Panetta, Julian Boominathan, Vivek Huang, Jingwei Park, Kyoungju Bousseau, Adrien Hyde, David Peers, Pieter Bowman, Doug Iwasaki, Kei Qiu, Linhai Bryan, Chris Jansen, Yvonne Renoust, Benjamin Calian, Dan Andrei Jarabo, Adrián Rhee, Taehyun Casas, Dan Ji, Yu Rodola, Emanuele Ceylan, Duygu Jin, Xiaogang Roy, Lawrence Chapiro, Alexandre Kalkofen, Denis Sahillioglu, Yusuf Chen, Renjie Kalojanov, Javor Sauer, Franz Chen, Xiaodiao Kazhdan, Misha Seok Heo, Yong Chen, Yi-Ling Khademi Kalantari, Nima Serrano, Ana Chentanez, Nuttapong Kim, Kujin Shao, Tianjia Chien, Edward Kim, Min H. Sharf, Andrei Chu, James Kim, Young J. Shi, Fuhao Cline, David Langlois, Tim Song, Ying Crnovrsanin, Tarik Lei, Na Su, Hao Darabi, Soheil Lepetit, Vincent Su, Zhengyu Du. Peng Leung, Howard Tagliasacchi, Andrea Dudte, Levi Li, Chen Tai, Yu-Wing Duncan, Noah Li, Guiqing Takahashi, Tetsuya Ebeida, Mohamed Li, Jun Tam, Gary Kl.

Feiner, Steven K.

Feng, Jie

Fišer, Jakub

Fratarcangeli, Marco

Frigo, Oriel

Li, Kun

Li, Xiao

Lin, Chao-Hung

Lin, Haiting

Lin, Hongwei

Lin, Kaimo

Fu, Chi-Wing Lin, Shih-Syun Fu, Xiaoming Lin, Stephen Gao, Lin Liu, Shuaicheng Gao, Xifeng Liu, Xueting Garces, Elena Liu, Zhiguang Goes, Fernando de Livesu, Marco Goswami, Prashant Lu, Xuequan Guennebaud, Gael Mao, Xiangyu Guo, Jianwei Mao, Xiaoyang Hädrich, Torsten Martínez, Jonas Harada, Takahiro McCann, Jim Merrell, Paul He, Ying

Song, Ying
Su, Hao
Su, Zhengyu
Tagliasacchi, Andrea
Tai, Yu-Wing
Takahashi, Tetsuya
Tam, Gary Kl.
Tanahashi, Yuzuru
Tang, Chengcheng
Tang, Chengchou
Tarini, Marco
Thanh Nguyen, Duc
Thomaszewski, Bernhard
Wang, Baoyuan
Wang, Beibei
Way, Derlor

Weinmann, Michael Won, Jungdam Wu, Chia-Min Wu, Hsiang-Yun Xi, Pengcheng Xin, Tong Xu, Feng Xu, Pengfei Xu, Xu

External Reviewers

Xue, Su	Yeh, I-Cheng	Zhang, Jianjie
Yan, Ling-Qi	You, Shaodi	Zhang, Lei
Yang, Xiaosong	Yu, Hongfeng	Zhang, Xiaoting
Yang, Xubo	Yu, Lap-Fai	Zheng, Yi
Yang, Zhou	Yuan, Ye	Zhong, Zichun
Yao, Chih-Yuan	Zhang, Fang-Lue	Zhou, Qingnan
Ye, Jinwei	Zhang, Guofeng	Zollhoefer, Michael

Author Index

Cha, Seunghoon	13	Noh, Junyong	13
Endo, Yuki	. 7	Qin, Hong	
Filip, Jiri	. 1	Seo, Hyunggoog	13
Gu, Xianfeng		Shi, Jiajun	27
Han, Jiawei	23	Vávra, Radomir	1
Hashimoto, Taisuke		Wang, Changbo	
Kanamori, Yoshihiro	. 7	Wang, Lili	
Kikuchi, Takazumi	. 7	Xu, Ke	17
Kim, Jaedong	13	Yan, Dongming	
Lei, Na	17	Zeng, Peng	17
Li, Chen	27	Zhang, Taiyou	
Li, Xuan	17	Zhao, Hui	
Mitani, Jun		Zhao, Qinping	23