

The 23rd Pacific Conference on Computer Graphics and Applications
Short Papers Proceedings



Tsinghua University, Beijing
October 7 – 9, 2015

In cooperation with



EUROGRAPHICS
THE EUROPEAN ASSOCIATION
FOR COMPUTER GRAPHICS

Organized by



Conference Co-Chairs

Daniel Cohen-Or, Tel Aviv University
Ming C. Lin, University of North Carolina
Shi-Min Hu, Tsinghua University

Program Co-Chairs

Jos Stam, Autodesk
Niloy J. Mitra, University College London
Kun Xu, Tsinghua University

Proceedings Production Editor

Dieter Fellner (TU Darmstadt & Fraunhofer IGD, Germany)

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 ©2015 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 978-3-905674-96-5

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

Table of Contents

Short Papers

Pairwise Surface Registration Using Local Voxelizer	1
<i>Peng Song and Xiaoping Chen</i>	
Robust and GPU-friendly Isotropic Meshing Based on Narrow-banded Euclidean Distance Transformation	7
<i>Yuen Shan Leung, Xiaoning Wang, Ying He, Yong-Jin Liu, and Charlie C. L. Wang</i>	
Structure-Preserving Image Smoothing via Phase Congruency-aware Weighted Least Square	13
<i>Jinze Yu and Yoichi Sato</i>	
Modal Space Subdivision for Physically-plausible 4D Shape Sequence Completion from Sparse Samples	19
<i>Qing Xia, Shuai Li, Hong Qin, and Aimin Hao</i>	
Incomplete 3D Shape Retrieval via Sparse Dictionary Learning	25
<i>Lili Wan, Jingyu Jiang, and Hao Zhang</i>	
Complex Modulation Computer-Generated Hologram with Occlusion Effect by a Fast Hybrid Point-source/Wave-field Approach	31
<i>Antonin Gilles, Patrick Gioia, Rémi Cozot, and Luce Morin</i>	
Adaptive Hierarchical Shape Matching	37
<i>Yuan Tian, Yin Yang, Xiaohu Guo, and Balakrishnan Prabhakaran</i>	
Efficient Interactive Image Segmentation with Local and Global Consistency	41
<i>Hong Li, Wen Wu, and Enhua Wu</i>	
Simultaneous Stereo Rectification and Distortion Correction with Application to DoF Synthesis	47
<i>Chen Ting Yeh, Tien-Yu Ho, Szu-Hao Huang, and Shang-Hong Lai</i>	
Light-Guided Tree Modeling of Diverse Biomorphs	53
<i>Lei Yi, Hongjun Li, Jianwei Guo, Oliver Deussen, and Xiaopeng Zhang</i>	
Accelerating Graph-based Path Planning Through Waypoint Clustering	59
<i>Nicholas Mario Wardhana, Henry Johan, and Hock-Soon Seah</i>	
Parallel Importing of OBJ Meshes in CUDA	65
<i>Aidan. L. Possemiers and Ickjai Lee</i>	
Superpixels Generation of RGB-D Images Based on Geodesic Distance	71
<i>Xiao Pan, Yuanfeng Zhou, Shuwei Liu, and Caiming Zhang</i>	
A Voronoi based Labeling Approach to Curve Reconstruction and Medial Axis Approximation	77
<i>Jiju Peethambaran, Amal Dev Parakkat, and Ramanathan Muthuganapathy</i>	

Sponsors



TSINGHUA UNIVERSITY-TENCENT
JOINT LABORATORY

International Program Committee

Hujun Bao, Zhejiang University
Jernej Barbic, University of Southern California
Christopher Batty, University of Waterloo
Thabo Beeler, Disney Research Zurich
Bernd Bickel, IST Austria
Nicolas Bonneel, CNRS
Michael Brown, National University of Singapore
Stefan Bruckner, University of Bergen
Duygu Ceylan, EPFL
Bing-Yu (Robin) Chen, National Taiwan University
Falai Chen, University of Science and Technology of China
Guoning Chen, University of Houston
Baoquan Chen, Shandong University
Tao Chen, Columbia University
Tim Chen, Hasso Plattner Institute
Xiaowu Chen, Beihang University
Ming-Ming Cheng, Nankai University
Yung-Yu Chuang, National Taiwan University
Carsten Dachsbacher, Karlsruhe Institute of Technology
Zhigang Deng, University of Houston
Yoshinori Dobashi, Hokkaido University
Weiming Dong, Institute of Automation, Chinese Academy of Sciences
Yue Dong, Microsoft Research Asia
Zhao Dong, Autodesk
Xianfeng (David) Gu, Stony Brook University
Diego Gutierrez, University of Zaragoza
Stephen J. Guy, University of Minnesota
Min H. Kim, KAIST
Toshiya Hachisuka, The University of Tokyo
Qiming Hou, Zhejiang University
Qixing (Peter) Huang, Stanford University
Hui Huang, SIAT
Alec Jacobson, Columbia University
Stefan Jeschke, IST Austria
Tao Ju, Washington University in St. Louis
Oliver van Kaick, Tel Aviv University
Vladimir G. Kim, Stanford University
Young J. Kim, Ewha Womans University

International Program Committee

Theodore Kim, UCSB
Myung-Soo Kim, Seoul National University
Leif Kobbelt, RWTH Aachen University
Taku Komura, Edinburgh University
Johannes Kopf, Microsoft Research
Yu-Kun Lai, Cardiff University
Seungyong Lee, Pohang University of Science and Technology
David Levin, Disney Research Boston
Yangyan Li, Stanford University
Chenfeng Li, Swansea University
Hao Li, University of Southern California
Wen-Chieh (Steve) Lin, National Chiao Tung University
Steve Lin, Microsoft Research Asia
Ligang Liu, University of Science and Technology of China
Feng Liu, Portland State University
Tianqiang Liu, Princeton University
Yang Liu, Microsoft Research Asia
Chongyang Ma, University of Southern California
Lizhuang Ma, Shanghai Jiaotong University
Belen Masia, University of Zaragoza
Ken Museth, DreamWorks Animation
Rahul Narain, University of Minnesota
Manuel M. Oliveira, UFRGS
Carol O'Sullivan, Trinity College Dublin & Disney Research LA
Miguel Otaduy, URJC Madrid
Daniele Panozzo, ETH Zurich
Pieter Peers, College of William & Mary
Fabio Pellacini, Sapienza University of Rome
Nico Pietroni, CNR-ISTI
Hong Qin, Stony Brook University
Xueying Qin, Shandong University
Zhong Ren, Zhejiang University
Taehyun Rhee, Victoria University of Wellington
Holly Rushmeier, Yale University
Ryan Schmidt, Autodesk Research
Hans-Peter Seidel, MPI Informatik
Pradeep Sen, UCSB
Claudio Silva, New York University

International Program Committee

Cyril Soler, Inria
Xin Sun, Microsoft Research Asia
Kalyan Sunkavalli, Adobe
Hiromasa Suzuki, The University of Tokyo
Matthias Teschner, University of Freiburg
Nils Thuerey, TU Munich
James Tompkin, Harvard University
Ruo-Feng Tong, Zhejiang University
Xin Tong, Microsoft Research Asia
Changhe Tu, Shandong University
Nobuyuki Umetani, Disney Research Zurich
Jack M. Wang, the University of Hong Kong
Bin Wang, Tsinghua University
Huamin Wang, Ohio State University
Rui Wang, University of Massachusetts
Guoping Wang, Peking University
Jue Wang, Adobe
Lili Wang, Beihang University
Lvdi Wang, Microsoft Research Asia
Wenping Wang, The University of Hong Kong
Yu-Shuen Wang, National Chiao Tung University
Emily Whiting, Dartmouth College
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 (Kevin) Xu, National University of Defense Technology
Weiwei Xu, Hangzhou Normal University
Dong-ming Yan, KAUST
Ruigang Yang, University of Kentucky
Yongliang Yang, University of Bath
Sai-Kit Yeung, Singapore University of Technology and Design
Sung-Eui Yoon, KAIST
Jingyi Yu, University of Delaware
Eugene Zhang, Oregon State University
Lei Zhang, Beijing Institute of Technology
Jianmin Zheng, Nanyang Technological University
Kun Zhou, Zhejiang University
Matthias Zwicker, University of Bern

External Reviewers

Aanjaneya, Mridul	Deng, Bailin	Jhuo, I-Hong
Aittala, Miika	Denning, Jon	Kakimoto, Masanori
Al-Halawani, Sawsan Nabeel	Dobos, Jozef	Kalantari, Nima Khademi
Alhashim, Ibraheem	Dong, Bo	Kallmann, Marcelo
Aliaga, Daniel	Dong, Weisheng	Kalogerakis, Evangelos
Ando, Ryoichi	Dong, Zhao	Kanai, Satoshi
Bærentzen, Jakob Andreas	Erleben, Kenny	Karras, Tero
Banterle, Francesco	Fan, Xin	Kaspar, Alexandre
Bauszat, Pablo	Fortunato, Horacio	Kavan, Ladislav
Belcour, Laurent	Frey, Steffen	Kehrer, Johannes
Bell, Sean	Fu, Hongbo	Kesteron, Todd
Bénard, Pierre	Fu, Xiaoming	Kim, Byungmoon
Bender, Jan	Galin, Eric	Kim, Duksu
Berger, Kai	Gao, Jizhou	Kim, HyungSeok
Bertholet, Peter	Gao, Lin	Kim, Minho
Bittner, Jiri	Garces, Elena	Kim, Yong-Joon
Blanz, Volker	Garland, Michael	Krivánek, Jaroslav
Bojsen-Hansen, Morten	Gastal, Eduardo	Kuo, Yin-Hsi
Botsch, Mario	Ge, Shiming	Kwan, Kin Chung
Bouaziz, Sofien	Ge, Xiaoyin	Laga, Hamid
Bousseau, Adrien	Georgiev, Iliyan	Lasa, Martin De
Bradley, Derek	Ghosh, Abhijeet	Lau, Rynson W. H.
Brochu, Tyson	Gong, Minglun	Le, Binh
Brownlee, Carson	Guo, Guodong	Lecocq, Pascal
Calic, Janko	Hall, Peter	Lee, Hyunjoon
Cao, Junjie	Hao, Qin	Lee, Joon-Young
Cao, Xun	Harmon, David	Lee, Kyoung Mu
Carlson, Mark	Hasan, Milos	Lee, Sungkil
Castellani, Umberto	He, Xiaowei	Lee, Yunjin
Chai, Menglei	Heitz, Eric	León, Alejandro
Chaurasia, Gaurav	Hill, David	Levy, Bruno
Chen, Chen	Hou, Fei	Lewis, J. P.
Chen, Wei	Hu, Liwen	Li, Chen
Chen, Weikai	Hu, Ruizhen	Li, Guiqing
Chen, Xiang	Hu, Zhe	Li, Kun
Chen, Yan-Ying	Huang, Haibin	Li, Xiao
Chen, Zhonggui	Huang, Hui	Li, Yu
Cheng, Dewen	Huang, Jia-Bin	Lim, Isaak
Childs, Hank	Huang, Jin	Lin, Chun-Cheng
Choi, Myung Geol	Huang, Shi-Sheng	Lin, Haiting
Chu, Hung-Kuo	Ichim, Alexandru	Lin, I-Chen
Cirio, Gabriel	Inglis, Tiffany	Lin, Zhouchen
Corenthy, Loïc	Itoh, Takayuki	Liu, Fuchang
Corman, Etienne	Iwasaki, Kei	Liu, Xiaopei
Dang, Minh	Jarabo, Adrián	Liu, Yebin

External Reviewers

Liu, Yiming
Liu, Youquan
Lloyd, Brandon
Lopez-Moreno, Jorge
Lu, Jingwan
Lu, Lin
Luo, Linjie
Luo, Sheng-Jie
Maciejewski, Ross
Mai, Long
Malomo, Luigi
Manocha, Dinesh
Mao, Xiangyu
Mao, Xiaoyang
Martin, Ralph
Maule, Marilena
McCann, James
Mei, Xing
Mellado, Nicolas
Mi, Haipeng
Milliez, Antoine
Mould, David
Nan, Liangliang
Neubert, Boris
Nielsen, Michael
Niessner, Matthias
Niu, Yuzhen
Noh, Junyong
Novak, Jan
Okabe, Makoto
Olano, Marc
Olsson, Ola
Ostromoukhov, Victor
Oztireli, Cengiz
Pacanowski, Romain
Pan, Hao
Pan, Zhigeng
Panne, Michiel van de
Park, Jun
Peng, Jingliang
Pettre, Julien
Pfaff, Tobias
Pirk, Sören
Ritschel, Tobias
Rosen, Paul
Rousselle, Fabrice
Sapidis, Nickolas S.
Schneider, Rosália
Schulz, Christian
Schumacher, Christian
Schwarz, Michael
Selle, Andrew
Shao, Tianjia
Shen, Xiaohui
Shuai, Li
Si, Weiguang
Sifakis, Eftychios
Skouras, Melina
Solenthaler, Barbara
Stava, Ondrej
Stomakhin, Alexey
Su, Hao
Su, Zhixun
Subr, Kartic
Sun, Feng
Sun, Jian
Tai, Yu-Wing
Takayama, Kenshi
Tam, Gary Kl
Thamjaroenporn, Papoj
Tong, Weihua
Trutoiu, Laura
Váša, Libor
Velázquez-Armendáriz, Edgar
Vouga, Etienne
Wan, Yong
Wand, Michael
Wang, Baoyuan
Wang, Dangxiao
Wang, He
Wang, Jindong
Wang, Miao
Wang, Oliver
Wang, Rui
Wang, Yan
Wang, Yunhai
Wang, Yuxiang
Way, Der-Lor
Wilkie, David
Wong, Sai-Keung
Wu, Baoyuan
Wu, Chunlin
Wu, Hsiang-Yun
Wu, Shihao
Xia, Jun
Xiao, Chunxia
Xie, Jinrong
Xin, Jin
Xing, Jun
Xu, Feng
XU, Weiwei
Xu, Xuemiao
Xue, Su
Yan, Feilong
Yan, Ling-Qi
Yang, Baoguang
Yang, Yin
Ye, Jinwei
Yoon, Seung-Hyun
Yue, Yonghao
Zhang, Chenxi
Zhang, Fang-Lue
Zhang, Guofeng
Zhang, Juyong
Zhang, Lei
Zhang, Min
Zhang, Song-Hai
Zhang, Yubo
Zhang, Yue
Zhang, Yun
Zhao, Shuang
Zhao, Ye
Zhao, Yili
Zheng, Qian
Zheng, Youyi
Zhong, Zichun
Zhou, Qianyi
Zhou, Qingnan
Zhou, Shizhe
Zhou, Zihan
Zhu, Bo
Zhuang, Yixin
Zimmer, Henrik

Author Index

Chen, Xiaoping	1	Parakkat, Amal Dev	77
Cozot, Rémi	31	Peethambaran, Jiju	77
Deussen, Oliver	53	Possemiers, Aidan. L.	65
Gilles, Antonin	31	Prabhakaran, Balakrishnan	37
Gioia, Patrick	31	Qin, Hong	19
Guo, Xiaohu	37	Sato, Yoichi	13
Guo, Jianwei	53	Seah, Hock-Soon	59
Hao, Aimin	19	Song, Peng	1
He, Ying	7	Tian, Yuan	37
Ho, Tien-Yu	47	Wan, Lili	25
Huang, Szu-Hao	47	Wang, Xiaoning	7
Jiang, Jingyu	25	Wang, Charlie C. L.	7
Johan, Henry	59	Wardhana, Nicholas Mario	59
Lai, Shang-Hong	47	Wu, Wen	41
Lee, Ickjai	65	Wu, Enhua	41
Leung, Yuen Shan	7	Xia, Qing	19
Li, Shuai	19	Yang, Yin	37
Li, Hong	41	Yeh, Chen Ting	47
Li, Hongjun	53	Yi, Lei	53
Liu, Yong-Jin	7	Yu, Jinze	13
Liu, Shuwei	71	Zhang, Hao	25
Morin, Luce	31	Zhang, Xiaopeng	53
Muthuganapathy, Ramanathan	77	Zhang, Caiming	71
Pan, Xiao	71	Zhou, Yuanfeng	71