Proceedings Computational Aesthetics (CAe) 2017

(Part of Expressive 2017)

Los Angeles, California June 29 – 30, 2017

General Chairs

Bruce Gooch (Texas A&M University, USA) Yotam Gingold (George Mason University, USA)

Paper Chairs

Holger Winnemoeller (Adobe Systems, Inc., USA) Lyn Bartram (Simon Fraser University, Canada)

Art Chair

Ergun Akleman (Texas A&M University, USA)

Proceedings Production Editor

Stephen N. Spencer, University of Washington

Co-sponsored by ACM SIGGRAPH and Eurographics

The Association for Computing Machinery, Inc.

2 Penn Plaza, Suite 701 New York, New York 10121-0701

Copyright © 2017 by the Association for Computing Machinery, Inc (ACM). Permission to make digital or hard copies of portions of this work for personal or classroom use is granted without fee provided that the copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyright for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted.

To copy otherwise, to republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permission to republish from: Publications Department, ACM, Inc. Fax +1-212-869-0481 or e-mail permissions@acm.org.

For other copying of articles that carry a code at the bottom of the first or last page, copying is permitted provided that the percopy fee indicated in the code is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

Notice to Past Authors of ACM-Published Articles

ACM intends to create a complete electronic archive of all articles and/or other material previously published by ACM. If you have written a work that was previously published by ACM in any journal or conference proceedings prior to 1978, or any SIG newsletter at any time, and you do NOT want this work to appear in the ACM Digital Library, please inform permissions@acm.org, stating the title of the work, the author(s), and where and when published.

ACM ISBN: 978-1-4503-5080-8 Additional copies may be ordered prepaid from:

ACM Order Department P.O. Box 11405 Church Street Station New York, NY 10286-1405

(USA and Canada) +1-212-626-0500 (All other countries) Fax: +1-212-944-1318 E-mail: acmhelp@acm.org

Phone: 1-800-342-6626

Table of Contents

| Preface | 4 |
|--|------------|
| Session: Brushes | |
| FlowBrush: Optical Flow Art | Article 1 |
| Session: 3D (The Third Dimension) | |
| Polygons, Points, or Voxels? Stimuli Selection for Crowdsourcing Aesthetics Preferences of 3D Shape Pairs Kapil Dev, Nicolas Villar, Manfred Lau | Article 2 |
| Soft Shadow Art | Article 3 |
| Session: Mapping, Patterns, and Order | |
| Organized Order in Ornamentation | Article 4 |
| Session: Abstraction | |
| Detail and Color Enhancement in Photo Stylization | Article 5 |
| Session: Image BCC (benchmarking, coloring, and clustering) | |
| Context-aware Clustering and Assessment of Photo Collections | Article 6 |
| General Submissions (Abstracts) | |
| A taxonomy of motion applications in data visualization | Article 7 |
| Shading with Painterly Filtered Layers: A Technique to Obtain Painterly Portrait Animations | Article 8 |
| Modeling Go: A mobile sketch-based modeling system for extracting objects | Article 9 |
| Characterizing User Behavior for Speech and Sketch-based Video Retrieval Interfaces | Article 10 |
| Sketch and Shade : An interactive assistant for sketching and shading | Article 11 |
| Organizing and Program Committees | |

Preface

Expressive is the joint symposium on Computational Aesthetics, Non-Photorealistic Animation and Rendering, and Sketch-Based Interfaces and Modeling. Expressive 2017 is the seventh annual Expressive event.

Expressive fuses three symposia centered on expressive aspects of computer graphics. Computational Aesthetics (CAe) integrates aspects of computer science, philosophy, psychology, and the fine, applied & performing arts. CAe investigates both tools to enhance the expressiveness of fine and applied arts as well as theoretical approaches that further our understanding of aesthetic evaluation, perception and meaning. Non-Photorealistic Animation and Rendering (NPAR) investigates computational techniques for visual communication. Such techniques usually focus on imagery and motion which is expressive, rather than photorealistic, although they may incorporate realistic elements. Sketch-Based Interfaces and Modeling (SBIM) focuses on the exploration of models, algorithms, and technologies for efficient sketch-based interfaces. It investigates the classification and recognition of hand-drawn shapes, and ways of using these techniques for creating or editing digital models, text, mathematics or 3D shapes.

This year there were 38 paper submissions, 21 of which were accepted (55%). There were also 10 general submissions (posters, demos, and art), which went through a peer review process. 5 general submissions were accepted (50%) and will be archived as two-page abstracts.

Expressive 2017 was made possible by the efforts of a large number of people. Taylor Day made our web site. Paul Taele and Blake Williford helped with the General Submissions. The numerous members of the program committee contributed, collectively, hundreds of reviews and discussion posts. The authors and artists contributed the papers and other material comprising the conference program. We are grateful to them and to the attendees, without whom there would be no conference.

Bruce Gooch, General chair Yotam Gingold, General chair

Lyn Bartram, Papers chair Holger Winnemoeller, Papers chair

Ergun Akleman, General Submissions chair Cassidy Curtis, General Submissions chair Tracy Hammond, General Submissions chair