

WICED 2017

Eurographics Workshop on Intelligent Cinematography and Editing

**Lyon, France
April 24, 2017**

Workshop Chairs

William Bares, College of Charleston, South Carolina, USA
Vineet Gandhi, International Institute of Information Technology, India
Quentin Galvane, Technicolor R & D, France
Rémi Ronfard, Univ. Grenoble Alpes, Inria, LJK, France

Programme Chairs

William Bares, College of Charleston, South Carolina, USA
Rémi Ronfard, Univ. Grenoble Alpes, Inria, LJK, France

Proceedings Production Editor

Dieter Fellner (TU Darmstadt & Fraunhofer IGD, Germany)

Sponsored by EUROGRAPHICS Association

Dieter W. Fellner, Werner Hansmann, Werner Purgathofer, François Sillion
Series Editors

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 978-3-03868-031-4

ISSN 2411-9733 (online)

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

Table of Contents

Table of Contents	iii
International Steering and Programme Committee	v
Author Index	vi
Keynote	vii
Reasoning and Knowledge	
Declarative Spatial Reasoning for Intelligent Cinematography	1
<i>Mehul Bhatt, Carl Schultz, Jakob Suchan, and Przemyslaw Walega</i>	
La Caméra Enchantée	3
<i>Jarek Rossignac</i>	
Implementing Hitchcock - the Role of Focalization and Viewpoint	5
<i>Quentin Galvane and Rémi Ronfard</i>	
CaMor: Screw Interpolation between Perspective Projections of Partial Views of Rectangular Images	13
<i>Gokul Raghuraman, Nicholas Barrash, and Jarek Rossignac</i>	
Styles and Challenges	
Inferring the Structure of Action Movies	19
<i>Danila Potapov, Matthijs Douze, Jérôme Revaud, Zaid Harchaoui, and Cordelia Schmid</i>	
Analyzing Elements of Style in Annotated Film Clips	29
<i>Hui-Yin Wu, Quentin Galvane, Christophe Lino, and Marc Christie</i>	
Five Challenges for Intelligent Cinematography and Editing	37
<i>Rémi Ronfard</i>	
Live-action Cinematography	
Zooming On All Actors: Automatic Focus+Context Split Screen Video Generation	43
<i>Moneish Kumar, Vineet Gandhi, Rémi Ronfard, and Michael Gleicher</i>	
Pano2Vid: Automatic Cinematography for Watching 360° Videos	45
<i>Yu-Chuan Su, Dinesh Jayaraman, and Kristen Grauman</i>	
A Probabilistic Logic Programming Approach to Automatic Video Montage	47
<i>Bram Aerts, Toon Goedemé, and Joost Vennekens</i>	
Automatic Camera Selection and PTZ Canvas Steering for Autonomous Filming of Reality TV	49
<i>Timothy Callemein, Wiebe Van Ranst, and Toon Goedemé</i>	

Table of Contents

Human-Machine Collaborations in Film

Making Movies from Make-Believe Games	51
<i>Adela Barbulescu, Maxime Garcia, Dominique Vaufreydaz, Marie Paule Cani, and Rémi Ronfard</i>	
Design of an Intelligent Navigation System for Participative Computer Animation	55
<i>Iou-Shiuan Liu, Tsai-Yen Li, and Marc Christie</i>	
Using ECPs for Interactive Applications in Virtual Cinematography	63
<i>Hui-Yin Wu, Tsai-Yen Li, and Marc Christie</i>	
Film Ties: A Web-based Virtual 3D Lab for Teaching the Film Art from Script to Blocking	71
<i>William Bares, Caroline Requierme, and Elizabeth Obisesan</i>	

International Steering Committee

Paolo Burelli, Aalborg University Copenhagen, Denmark
Arnav Jhala, North Carolina State University, USA
Joseph Magliano, Northern Illinois University, USA
Rémi Ronfard, Univ. Grenoble Alpes, Inria, LJK, France
Magy Seif El-Nasr, Northeastern University, USA
R. Michael Young, University of Utah, USA

International Programme Committee

John Bateman, University of Bremen, Germany
Jean-Charles Bazin, ETH Zurich, Switzerland
Paolo Burelli, Aalborg University Copenhagen, Denmark
Peter Carr, Disney Research, Pittsburgh, USA
Brad Cassell, NC State University, USA
Yun-Gyung Cheong, ITU Copenhagen, Denmark
Marc Christie, U. Rennes and INRIA, France
Michael Gleicher, University of Wisconsin, Madison, USA
Arnav Jhala, North Carolina State University, USA
Tsai-yen Li, National Cheng Chi University, Taiwan
Henry Lowood, Stanford University, USA
Joseph Magliano, Northern Illinois University, USA
Roberto Ranon, University of Udine, Italy
Magy Seif El-Nasr, Northeastern University, USA
Oliver Wang, Adobe Research, USA
I-Cheng Yeh, Yuan Ze University, Taiwan
R. Michael Young, University of Utah, USA

Author Index

Aerts, Bram	47	Lino, Christophe	29
Barbulescu, Adela	51	Liu, Iou-Shiuan	55
Bares, William	71	Obisesan, Elizabeth	71
Barrash, Nicholas	13	Potapov, Danila	19
Bhatt, Mehul	1	Raghuraman, Gokul	13
Callemein, Timothy	49	Ranst, Wiebe Van	49
Cani, Marie Paule	51	Requierme, Caroline	71
Christie, Marc	29, 55, 63	Revaud, Jérôme	19
Douze, Matthijs	19	Ronfard, Rémi	5, 37, 43, 51
Galvane, Quentin	5, 29	Rossignac, Jarek	3, 13
Gandhi, Vineet	43	Schmid, Cordelia	19
Garcia, Maxime	51	Schultz, Carl	1
Gleicher, Michael	43	Su, Yu-Chuan	45
Goedemé, Toon	47, 49	Suchan, Jakob	1
Grauman, Kristen	45	Vaufreydaz, Dominique	51
Harchaoui, Zaid	19	Vennekens, Joost	47
Jayaraman, Dinesh	45	Walega, Przemyslaw	1
Kumar, Moneish	43	Wu, Hui-Yin	29, 63
Li, Tsai-Yen	55, 63		

Keynote

Through the lens of 25 Years: The Real Lessons of Through-the-Lens Camera Control

Michael Gleicher

University of Wisconsin, Madison

Abstract

I was invited to reflect on Through-the-Lens Camera Control, a paper that I wrote 25 years ago. Its original vision never materialized, its specific ideas are long forgotten, and its mathematical details have been rendered obsolete. Yet, the ideas continue to shape my thinking today. In this talk, I will try to distill some lessons from Through-the-Lens Camera Control, with the lens of 25 years of hindsight. I will point out the aspects rendered obsolete by advances in Graphics and Vision. I will critique the interaction techniques to assess why they never caught on. And, I will explain how the philosophy of Through the Lens Control still serves as a basis for my work, with recent examples from Visualization, Virtual Reality, and Robotics.

Short Biography

Michael Gleicher is a Professor in the Department of Computer Sciences at the University of Wisconsin, Madison. Prof. Gleicher is founder of the Department's Visual Computing Group. His research interests span the range of visual computing, including data visualization, robotics, image and video processing tools, virtual reality, and character animation. His current foci are human data interaction and human robot interaction. Prior to joining the university, Prof. Gleicher was a researcher at The Autodesk Vision Technology Center and in Apple Computer's Advanced Technology Group. He earned his Ph. D. in Computer Science from Carnegie Mellon University, and holds a B.S.E. in Electrical Engineering from Duke University. In 2013-2014, he was a visiting researcher at INRIA Rhone-Alpes. Prof. Gleicher is an ACM Distinguished Scientist.