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Short bio

I am Research Scientist at Oculus, working on the future of VR/AR/MR/XR/*R. My background is at the interface of computer vision, graphics, and machine learning.

Before my time at Oculus, I headed the Imaging and Video group at Disney Research. The research and technologies developed by my group have significantly impacted Disney park attractions and movie productions such as Soarin' over California and Soarin' around the World, Pirates of the Caribbean, Maleficent, Cinderella, Big Hero 6, and various others.

Work

- 06/2017 – present **Research Scientist**
Oculus / Facebook, Zurich, Switzerland
- 07/2016 – 05/2017 **Technical Advisor**
Beijing Advanced Innovation Center for Future Visual Entertainment
- 01/2014 – 05/2017 **Senior Research Scientist**
Head of Imaging and Video Group, Disney Research Zurich, Switzerland
- 10/2010 – 12/2013 **Research Scientist,**
Head of Imaging and Video Group, Disney Research Zurich, Switzerland
- 11/2009 – 09/2010 **Postdoctoral researcher**
Disney Research Zurich, Switzerland
- 11/2008 – 10/2009 **Postdoctoral researcher**
Computer Graphics Lab, Swiss Federal Institute of Technology (ETH) Zurich
- 04/2003 – 07/2003 **Research associate**
Laboratory for Mixed Realities, Academy of Media Arts, Cologne, Germany
- 05/2001 – 01/2003 **Founder and executive board member**
IT-Develop AG, Aachen, Germany
- 04/2001 – 12/2001 **Volunteer coach**
Startsocial.de Initiative, Cologne, Germany
- 12/1999 – 03/2002 **Student researcher**
Virtual Reality Center Aachen (VRCA), Aachen, Germany

Education

- 08/2003 – 10/2008 **Doctorate in Computer Science (Dr. rer. nat., summa cum laude)**
RWTH-Aachen University, Germany
Thesis: Shape Representations for Image-based Applications
- 10/1997 – 03/2003 **Diplom in Computer Science (summa cum laude)**
RWTH-Aachen University, Germany
Thesis: Autonomous Real-Time Camera Agents in Interactive Narratives and Games

Awards

2016	Nominee for 'Best of Disney Technology' Award
2016	Best paper award, International Conference on 3D Vision
2012	EUROGRAPHICS Young Researcher Award
2010	Borchers-Plakette for outstanding PhD dissertation, RWTH-Aachen University
2005	Best paper award, GI-Fachgruppe VR/AR
2004	Multimedia Transfer Award for Diplom thesis, Karlsruhe University
2004	Springorum-Denkünze for Diplom, RWTH-Aachen University
2003	GI-Tweenwork Award for outstanding interdisciplinary student projects, 2nd prize

Technologies used in Disney Films and Parks

3D Set Scanning	Based on our SIGGRAPH 2013 and ACM TOG 2016 papers on densely captured light fields for 3D reconstruction of highly detailed film sets, used in various movie productions including Maleficent (2014) and Cinderella (2015).
Real-World VR	We developed a panoramic video stitching technology that enables seamless, extremely high resolution video from camera arrays (published at EUROGRAPHICS 2015). This technology is used in Disney theme park attractions such as Soarin' around the World, and other Disney VR productions.
Denosing	Contributions to denosing and filtering technologies for animation movies, described in our EGSR 2015 and SIGGRAPH 2015 paper, are credited in the movie Big Hero 6 (2014), Pirates of the Caribbean 5 (2017), and have been integrated into Pixar's RenderMan 20.
Retiming	Our technology for high quality frame interpolation has become a standard component in post production pipelines, used in many productions including Maleficent (2014), Transformers 4 (2014), Tomorrowland (2015), or the Soarin' theme park attractions.

Patents

1. Scene reconstruction from high spatio-angular resolution light fields, US 9786062
2. Systems and methods for facilitating three-dimensional reconstruction of scenes from videos, US 9648303
3. Systems and methods for interpolating frames of a video, US 9571786
4. System and Method for Scene-Space Video Processing, US App. 14/743,618
5. Flicker removal for high speed video, US 9509886
6. Color balancing based on reference points, US 9491428
7. Synthesizing views based on image domain warping, US 9445072
8. Sparse light field representation, US 9412172
9. Stereoscopic Panoramas, US 9398215
10. Device and Method for Calibrating a Temporal Contrast Sensor with a Frame-Based Camera Sensor, US 9363427
11. Sketch-based generation and editing of quad meshes, US 9349216

12. Content-aware image compression method, US 9324161
13. Transfusive Image Manipulation, US 9202431
14. Light-based caustic surface calibration, US 9148658
15. Temporal noise control for sketchy animation, US 9123145
16. Multi-perspective stereoscopy from light fields, US 9113043
17. Smart scribbles for sketch segmentation, US 9082005
18. Robotic texture, US 9067320
19. Visual saliency estimation for images and video, US 9025880
20. Optimized stereoscopic camera for real-time applications, US 8885021
21. Vectorization of line drawings using global topology and storing in hybrid form, US 8766982
22. Art-directable retargeting for streaming video, US 8717390, US 8373802, WO app. 2011026850
23. Stereoscopic editing for video production, post-production and display adaptation, US 8711204, EP 2323416, NZ 589170
24. Discontinuous Warping for 2D-to-3D Conversions, US 8666146
25. Content adaptive and art directable scalable video coding, US 8514932, EP 2355515, NZ 590990
26. Apparatus and method to correct image, US 8339582, US 8743349
27. Method for estimating a pose of an articulated object model, EP 2383699, US 20110267344
28. Panoramic Video from Unstructured Camera Arrays with Globally Consistent Parallax Removal, US 20160028950
29. Interactive Synchronization of Multiple Videos, US 20150332096
30. Methods and systems of performing video object segmentation, US Patent App. 15/045,102
31. Image decomposition and path-space motion estimation, US App. 14/997,453

Publications

Edited volumes

- [1] Thomas Deselaers, Alexander Hornung and Olga Sorkine, editors. Proceedings of the ECCV Media Retargeting Workshop, September 10, 2010.

Journal publications

- [2] Efficient 3D Object Segmentation from Densely Sampled Light Fields with Applications to 3D Reconstruction. Kaan Yucer, Alexander Sorkine-Hornung, Oliver Wang, Olga-Sorkine-Hornung. ACM Transactions on Graphics 2016.
- [3] Sampling Based Scene-Space Video Processing. Felix Klose, Oliver Wang, Jean-Charles Bazin, Marcus Magnor, Alexander Sorkine-Hornung. ACM Transactions on Graphics, Vol. 34(4), 2015 (*ACM SIGGRAPH 2015 Proceedings issue*).

- [4] Panoramic Video from Unstructured Camera Arrays. Federico Perazzi, Alexander Sorkine-Hornung, Henning Zimmer, Peter Kaufmann, Oliver Wang, Scott Watson, Markus Gross. Computer Graphics Forum, 2015 (*EUROGRAPHICS 2015 Proceedings issue*).
- [5] Path-space Motion Estimation and Decomposition for Robust Animation Filtering. Henning Zimmer, Fabrice Rousselle, Wenzel Jakob, Oliver Wang, David Adler, Wojciech Jarosz, Olga Sorkine-Hornung, Alexander Sorkine-Hornung. Computer Graphics Forum, 2015 (*EGSR Proceedings issue*).
- [6] VideoSnapping: Interactive Synchronization of Multiple Videos. Oliver Wang, Christopher Schroers, Henning Zimmer, Markus Gross, Alexander Sorkine-Hornung. ACM Transactions on Graphics, Vol. 33(4), 2014 (*ACM SIGGRAPH 2014 Proceedings issue*).
- [7] Scene Reconstruction from High Spatio-Angular Resolution Light Fields. Changil Kim, Henning Zimmer, Yael Pritch, Alexander Sorkine-Hornung, Markus Gross. ACM Transactions on Graphics, Vol. 32(4), 2013 (*ACM SIGGRAPH 2013 Proceedings issue*).
- [8] Sketch-Based Generation and Editing of Quad Meshes. Kenshi Takayama, Daniele Panozzo, Alexander Sorkine-Hornung, Olga Sorkine-Hornung. ACM Transactions on Graphics, Vol. 32(4), 2013 (*ACM SIGGRAPH 2013 Proceedings issue*).
- [9] Painting by Feature: Texture Boundaries for Example-based Image Creation. Michal Lukac, Jakub Fiser, Jean-Charles Bazin, Ondrej Jamriska, Alexander Sorkine-Hornung, Daniel Sykora. ACM Transactions on Graphics, Vol. 32(4), 2013 (*ACM SIGGRAPH 2013 Proceedings issue*).
- [10] Scalable Music: Automatic Music Retargeting and Synthesis. Simon Wenner, Jean-Charles Bazin, Alexander Sorkine-Hornung, Changil Kim, Markus Gross. Computer Graphics Forum, 2013 (*EUROGRAPHICS 2013 Proceedings issue*).
- [11] Finite Element Image Warping. Peter Kaufmann, Oliver Wang, Alexander Sorkine-Hornung, Olga Sorkine-Hornung, Aljoscha Smolic, Markus Gross. Computer Graphics Forum, 2013 (*EUROGRAPHICS 2013 Proceedings issue*).
- [12] Topology-Driven Vectorization of Clean Line Drawings. Gioacchino Noris, Alexander Hornung, Maryann Simmons, Robert Sumner, Markus Gross. ACM Transactions on Graphics, 2013.
- [13] Transfusive Image Manipulation. Kaan Yucer, Alec Jacobson, Alexander Hornung, Olga Sorkine. ACM Transactions on Graphics, Vol. 31(6), 2012 (*ACM SIGGRAPH ASIA 2012 Proceedings issue*).
- [14] Smart Scribbles for Sketch Segmentation. Gioacchino Noris, Daniel Sykora, Ariel Shamir, Stelian Coros, Brian Whited, Maryann Simmons, Alexander Hornung, Markus Gross, Robert Sumner. Computer Graphics Forum, 2012.
- [15] Multi-Perspective Stereoscopy from Light Fields. Changil Kim, Alexander Hornung, Simon Heinzle, Wojciech Matusik, Markus Gross. ACM Transactions on Graphics, Vol. 30(6), 2011 (*ACM SIGGRAPH ASIA 2011 Proceedings issue*).
- [16] OSCAM - Optimized Stereoscopic Camera Control for Interactive 3D. Thomas Oskam, Alexander Hornung, Huw Bowles, Kenny Mitchell, Markus Gross. ACM Transactions on Graphics, Vol. 30(6), 2011 (*ACM SIGGRAPH ASIA 2011 Proceedings issue*).
- [17] Three-Dimensional Video Postproduction and Processing. Aljoscha Smolic, Peter Kauff, Sebastian Knorr, Alexander Hornung, Matthias Kunter, Marcus Müller and Manuel Lang. Proceedings of the IEEE, Vol. 99(4), 2011
- [18] Novel Stereoscopic Content Production Tools. Alexander Hornung, Aljoscha Smolic, Markus Gross. SMPTE Motion Imaging Journal, May/June 2011.
- [19] Nonlinear Disparity Mapping for Stereoscopic 3D. Manuel Lang, Alexander Hornung, Oliver Wang, Steven Poulakos, Aljoscha Smolic, Markus Gross. ACM Transactions on Graphics, Vol. 29(4), 2010 (*ACM SIGGRAPH 2010 Proceedings issue*).

- [20] Articulated Billboards for Video-based Rendering. Marcel Germann, Alexander Hornung, Richard Keiser, Remo Ziegler, Stephan Würmlin, Markus Gross. Computer Graphics Forum, Vol. 29(2), pp. 585-594, 2010 (*EUROGRAPHICS 2010 Proceedings issue*).
- [21] A System for Retargeting of Streaming Video. Philipp Krähenbühl, Manuel Lang, Alexander Hornung, Markus Gross. ACM Transactions on Graphics, Vol. 28(5), 2009 (*ACM SIGGRAPH ASIA 2009 Proceedings issue*).
- [22] Interactive Pixel-Accurate Free Viewpoint Rendering from Images with Silhouette Aware Sampling. Alexander Hornung, Leif Kobbelt. Computer Graphics Forum, Vol. 28(8), pp. 2090-2103, 2009.
- [23] Character Animation from 2D Pictures and 3D Motion Data. Alexander Hornung, Ellen Dekkers, Leif Kobbelt. ACM Transactions on Graphics, Vol. 26(1), 2007, *Among Top 10 Downloads from ACMs Digital Library in March 2007*.
- [24] Robust and Efficient Photo-Consistency Estimation for Volumetric 3D Reconstruction. Alexander Hornung, Leif Kobbelt. Lecture Notes in Computer Science, Vol. 3952, pp. 179-190, 2006 (*European Conference on Computer Vision (ECCV) 2006 Proceedings issue*).
- [25] Automatic Data Normalization and Parameterization for Optical Motion Tracking. Sandip Sar-Dessai, Alexander Hornung, Leif Kobbelt. Journal of Virtual Reality and Broadcasting (JVBR), Vol. 3, 2006.
- [26] Visualisation of Eclipses and Planetary Conjunction Events. The Interplay between Model Coherence, Scaling and Animation. Walter Oberschelp, Alexander Hornung, Horst Samulowitz. The Visual Computer, Vol. 17(5), pp. 310-317, 2001.

Peer-reviewed international conference publications

- [27] Learning video object segmentation from static images. Federico Perazzi, Anna Khoreva, Rodrigo Benenson, Bernt Schiele, Alexander Sorkine-Hornung. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2017.
- [28] Rapid one-shot acquisition of dynamic VR avatars. Charles Malleson, Maggie Kosek, Martin Kludiny, Ivan Huerta, Jean-Charles Bazin, Alexander Sorkine-Hornung, Mark Mine, Kenny Mitchell. IEEE Virtual Reality (VR) 2017
- [29] Depth from Gradients in Dense Light Fields for Object Reconstruction. Kaan Yucer, Changil Kim, Alexander Sorkine-Hornung, Olga Sorkine-Hornung. International Conference on 3D Vision (3DV) 2016, *oral presentation and best paper award*.
- [30] Point Cloud Noise and Outlier Removal for Image-Based 3D Reconstruction. Katja Wolff, Changil Kim, Henning Zimmer, Christopher Schroers, Mario Botsch, Olga Sorkine-Hornung, Alexander Sorkine-Hornung. International Conference on 3D Vision (3DV) 2016.
- [31] Phase-based Modification Transfer for Video. Simone Meyer, Alexander Sorkine-Hornung, Markus Gross. European Conference on Computer Vision (ECCV) 2016, *oral presentation*.
- [32] ActionSnapping: Motion-based Video Synchronization. Jean-Charles Bazin, Alexander Sorkine-Hornung. European Conference on Computer Vision (ECCV) 2016.
- [33] A Benchmark Dataset and Evaluation Methodology for Video Object Segmentation. Federico Perazzi, Jordi Pont-Tuset, Brian McWilliams, Luc Van Gool, Markus Gross, Alexander Sorkine-Hornung. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2016.
- [34] Bilateral Space Video Segmentation. Nicolas Maerki, Federico Perazzi, Oliver Wang, Alexander Sorkine-Hornung. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2016.
- [35] Efficient Large-scale Approximate Nearest Neighbor Search on the GPU. Patrick Wieschollek, Oliver Wang, Alexander Sorkine-Hornung, Hendrik P.A. Lensch. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2016.

- [36] Fully Connected Object Proposals For Video Segmentation. Federico Perazzi, Oliver Wang, Markus Gross, Alexander Sorkine-Hornung. International Conference on Computer Vision (ICCV) 2015.
- [37] FaceDirector: Continuous Control of Facial Performance in Video. Charles Malleson, Jean-Charles Bazin, Oliver Wang, Derek Bradley, Thabo Beeler, Adrian Hilton, Alexander Sorkine-Hornung. International Conference on Computer Vision (ICCV) 2015.
- [38] Reconstruction of Articulated Objects from a Moving Camera. Kaan Yucer, Oliver Wang, Alexander Sorkine-Hornung, Olga Sorkine-Hornung. ICCV Workshop on 3D Representation and Recognition 2015.
- [39] Online View Sampling for Estimating Depth from Light Fields. Changil Kim, Kartic Subr, Kenny Mitchell, Alexander Sorkine-Hornung, Markus Gross. IEEE International Conference on Image Processing (ICIP) 2015, *top 10% papers*.
- [40] Efficient Filtering of Scene-Space Points from Video Data. Felix Klose, Oliver Wang, Jean-Charles Bazin, Marcus Magnor, Alexander Sorkine-Hornung. International Workshop on Vision Modeling and Visualization (VMV) 2015.
- [41] Phase-Based Frame Interpolation for Video. Simone Meyer, Oliver Wang, Henning Zimmer, Max Grosse, Alexander Sorkine-Hornung. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2015, *oral presentation*.
- [42] Scalable Structure from Motion for Densely Sampled Videos. Benjamin Resch, Hendrik P. A. Lensch, Oliver Wang, Marc Pollefeys, Alexander Sorkine-Hornung. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2015.
- [43] Efficient Salient Foreground Detection for Images and Video using Fiedler Vectors. Federico Perazzi, Olga Sorkine-Hornung, Alexander Sorkine-Hornung. Eurographics Workshop on Intelligent Cinematography and Editing (WICED) 2015.
- [44] Memory Efficient Stereoscopy from Light Fields. Changil Kim, Ulrich Mueller, Henning Zimmer, Yael Pritch, Alexander Sorkine-Hornung, Markus Gross. International Conference on 3D Vision (3DV) 2014, *oral presentation*.
- [45] High-Speed Object Tracking Using an Asynchronous Temporal Contrast Sensor. Daniel Saner, Oliver Wang, Simon Heinzele, Yael Pritch, Aljoscha Smolic, Alexander Sorkine-Hornung, Markus Gross. Vision, Modeling, and Visualization (VMV) 2014.
- [46] Transfusive Weights for Content-Aware Image Manipulation. Kaan Yucer, Alexander Sorkine-Hornung, Olga Sorkine-Hornung. Vision, Modeling, and Visualization (VMV) 2013.
- [47] Content-Aware Compression using Saliency-Driven Image Retargeting for Wireless Video. Fabio Zund, Yael Pritch, Alexander Sorkine-Hornung, Stefan Mangold, Thomas Gross. International Conference on Image Processing (ICIP), 2013.
- [48] Megastereo: Constructing High-Resolution Stereo Panoramas. Christian Richardt, Yael Pritch, Henning Zimmer, Alexander Sorkine-Hornung. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2013, *oral presentation, acceptance rate 3.2%*.
- [49] Fast and Stable Color Balancing for Images and Augmented Reality. Thomas Oskam, Alexander Hornung, Robert Sumner, and Markus Gross. 3DimPVT 2012, *oral presentation*.
- [50] Saliency Filters: Contrast Based Filtering for Salient Region Detection. Federico Perazzi, Philipp Krähenbühl, Yael Pritch, Alexander Hornung. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2012.
- [51] Cache-efficient graph cuts on structured grids. Ondrej Jamriska, Daniel Sykora, Alexander Hornung. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2012.

- [52] Structure and Motion from Scene Registration. Tali Basha, Shai Avidan, Alexander Hornung, Wojciech Matusik. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2012.
- [53] Temporal Noise Control for Sketchy Animations. Gioacchino Noris, Daniel Sykora, Stelian Coros, Brian Whited, Maryann Simmons, Alexander Hornung, Markus Gross, Robert Sumner. International Symposium on Non-Photorealistic Animation and Rendering (NPAR) 2011.
- [54] StereoBrush: Interactive 2D to 3D Conversion Using Discontinuous Warps. Oliver Wang, Manuel Lang, Matthias Frei, Alexander Hornung, Aljoscha Smolic, Markus Gross. International Symposium on Sketch-Based Interfaces and Modeling (SBIM) 2011.
- [55] Extending SVC by Content-Adaptive Spatial Scalability. Yongzhe Wang, Nikolce Stefanoski, Manuel Lang, Alexander Hornung, Aljoscha Smolic, Markus Gross. IEEE International Conference on Image Processing (ICIP) 2011.
- [56] Disparity-aware Stereo 3D Production Tools. Aljoscha Smolic, Steven Poulakos, Simon Heinzle, Pierre Greisen, Manuel Lang, Alexander Hornung, Miquel Farre, Nikolce Stefanoski, Oliver Wang, Lars Schnyder, Rafael Monroy, Markus Gross. European Conference on Visual Media Production 2011.
- [57] Automatic Content Creation for Multiview Autostereoscopic Displays using Image Domain Warping. Miquel Farre, Oliver Wang, Manuel Lang, Nikolce Stefanoski, Alexander Hornung, Aljoscha Smolic. IEEE International Workshop on Hot Topics in 3D 2011.
- [58] Evaluation of Backward Mapping DIBR for FVV Applications. Daniel Berjon, Alexander Hornung, Francisco Moran, Aljoscha Smolic. IEEE International Workshop on Hot Topics in 3D 2011.
- [59] Non-linear Warping and Warp Coding for Content-Adaptive Prediction in Advanced Video Coding Applications. Aljoscha Smolic, Yongzhe Wang, Nikolce Stefanoski, Manuel Lang, Alexander Hornung, Markus Gross. IEEE International Conference on Image Processing (ICIP) 2010.
- [60] Image Selection For Improved Multi-View Stereo. Alexander Hornung, Boyi Zeng, Leif Kobbelt. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2008.
- [61] City Virtualization. Gregor Fabritius, Jan Krassnigg, Lars Krecklau, Christopher Manthei, Alexander Hornung, Martin Habbecke, Leif Kobbelt. 5. Workshop Virtuelle und Erweiterte Realität der GI-Fachgruppe VR/AR 2008.
- [62] Robust Reconstruction of Watertight 3D Models from Non-uniformly Sampled Point Clouds Without Normal Information. Alexander Hornung, Leif Kobbelt. Eurographics Symposium on Geometry Processing (SGP) 2006.
- [63] Hierarchical Volumetric Multi-view Stereo Reconstruction of Manifold Surfaces based on Dual Graph Embedding. Alexander Hornung, Leif Kobbelt. IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2006, *oral presentation, acceptance rate 4.8%*.
- [64] Automatic Data Normalization and Parameterization for Optical Motion Tracking. Sandip Sar-Dessai, Alexander Hornung, Leif Kobbelt. 2. Workshop Virtuelle und Erweiterte Realität der GI-Fachgruppe VR/AR 2005, *best paper award*.
- [65] High Quality Splatting on Today's GPUs. Mario Botsch, Alexander Hornung, Matthias Zwicker, Leif Kobbelt. ACM and EUROGRAPHICS Symposium on Point-Based Graphics (PBG) 2005.
- [66] Self-Calibrating Optical Motion Tracking for Articulated Bodies. Alexander Hornung, Sandip Sar-Dessai, Leif Kobbelt. IEEE Virtual Reality Conference (VR) 2005.
- [67] The Virtual Real-Time Dramaturge: Formalisation of Dramaturgic Principles. Richard Wages, Alexander Hornung. International Conference on Virtual Systems and Multimedia (SVMM) 2005.
- [68] Robust and Automatic Optical Motion Tracking. Alexander Hornung, Leif Kobbelt. 1. Workshop Virtuelle und Erweiterte Realität der GI-Fachgruppe VR/AR 2004.
- [69] An Autonomous Real-Time Camera Agent for Interactive Narratives and Games. Alexander Hornung, Gerhard Lakemeyer, Georg Trogemann. Intelligent Virtual Agents (IVA) 2003.

Book contributions

- [70] Emerging technologies for 3D video: creation, coding, transmission and rendering. Frederic Dufaux, Beatrice Pesquet-Popescu, Marco Cagnazzo. Wiley, 2013. Chapter 11: Image domain warping for stereoscopic 3D applications, by Oliver Wang, Manuel Lang, Nikolce Stefanoski, Alexander Hornung, Olga Sorkine, Aljoscha Smolic, Markus Gross, pp. 207–230.

Refereed courses and tutorials

- [71] Modern Approaches to Media Retargeting. Ariel Shamir, Olga Sorkine-Hornung, Alexander Sorkine-Hornung. ACM SIGGRAPH ASIA 2012 Courses.

Technical reports

- [72] Robust and Controllable Quadrangulation of Triangular and Rectangular Regions. Kenshi Takayama, Daniele Panozzo, Alexander Sorkine-Hornung, Olga Sorkine-Hornung. Technical report, ETH Zurich, 2013.
- [73] Character Reconstruction and Animation from Uncalibrated Video. Alexander Hornung, Ellen Dekkers, Martin Habbecke, Markus Gross, Leif Kobbelt. Technical report, RWTH-Aachen, 2010.

Theses

- [74] Alexander Hornung. Shape Representations for Image-based Applications. Ph.D. Thesis. RWTH-Aachen University, Shaker Verlag Aachen, 2009.
- [75] Alexander Hornung. Autonomous Real-Time Camera Agents in Interactive Narratives and Games. Diplom Thesis. RWTH-Aachen University, 2003.

Scientific Service Activities

Editorial board member

- 2013 – 2016 Computer Graphics Forum (Wiley-Blackwell) – associate editor
2012 – 2016 Computers & Graphics (Elsevier) – associate editor

Program chair

- 2014 ECCV Industrial Liaison Chair
2010 ECCV Workshop on Media Retargeting

Program committee member

- 2017 Conference on Computer Vision and Pattern Recognition (CVPR) Papers
2016 European Conference on Computer Vision (ECCV) Papers
2015 IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Papers
 International Conference on Computer Vision (ICCV) Papers
 Eurographics Workshop on Intelligent Camera Control, Cinematography and Film
 Editing (WICED)
 IEEE International Workshop on Computational Cameras and Displays (CCD)

2014	ACM SIGGRAPH Papers EUROGRAPHICS Papers EUROGRAPHICS Symposium on Rendering (EGSR) Papers European Conference on Computer Vision (ECCV) Papers Light Fields for Computer Vision (ECCV Workshop) Papers
2013	ACM SIGGRAPH Papers EUROGRAPHICS Papers IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Papers International Conference on Computer Vision (ICCV) Papers 3DV Papers High Performance Computing Papers
2012	IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Papers European Conference on Computer Vision (ECCV) Papers European Conference on Visual Media Production (CVMP) Papers 3DIMPVT Papers EUROGRAPHICS Short Papers
2011	EUROGRAPHICS Papers International Conference on Computer Vision (ICCV) Papers Shape Modeling International Papers SIBGRAPI Papers
2010	EUROGRAPHICS Papers

Reviewer

Journals:	ACM Transactions on Graphics, IEEE Transactions on Visualization and Computer Graphics, IEEE Computer Graphics and Applications, Proceedings of the IEEE, Computer Graphics Forum, Computer Aided Geometric Design, Signal Processing: Image Communication, The Visual Computer, Journal of Mathematical Imaging and Vision, Journal of Virtual Reality and Broadcasting.
Conferences:	ACM SIGGRAPH, ACM SIGGRAPH ASIA, EUROGRAPHICS, Pacific Graphics, 3DPVT, European Conference on Visual Media Production, IEEE Virtual Reality, Shape Modeling International, Geometric Modeling and Processing, Vision, Modeling, and Visualization, SIBGRAPI, Winter School on Computer Graphics.
Grants:	European Research Council, Swiss National Science Foundation, Vienna Science and Technology Fund

Keynote Talks

10/2015	International Conference on 3D Vision (3DV), ENS, Lyon, France.
03/2015	Zurich Machine Learning and Data Science, Zurich, Switzerland.
09/2014	ECCV Workshop on Light Fields for Computer Vision (LF4CV) 2014, Zurich, Switzerland.