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## Personal

Born in 1981 in Mendeleevo, Moscow region. Nationality: Israeli. Married, two children (born 2015).  
Brief bio available at <http://igl.ethz.ch/people/sorkine/>

## Research interests

Geometric modeling, geometry processing and computer graphics. In particular: algorithms and user interfaces for interactive shape modeling, image and video processing, digital fabrication, computer animation, simulation.

## Academic positions

- |                |   |
|----------------|---|
| 2015 – present | <b>Associate Professor of Computer Science</b><br>Institute of Visual Computing, Interactive Geometry Lab<br>Current Head of the Institute of Visual Computing<br>ETH Zurich, Switzerland |
| 2011 – 2014    | <b>Assistant Professor of Computer Science</b><br>Institute of Visual Computing, Interactive Geometry Lab<br>ETH Zurich, Switzerland  |
| 2008 – 2011    | <b>Assistant Professor of Computer Science</b><br>Courant Institute of Mathematical Sciences<br>New York University, USA  |
| 2006 – 2008    | <b>Postdoctoral researcher, Alexander von Humboldt fellow</b><br>Faculty of Computer Science and Electrical Engineering<br>Technische Universität Berlin, Germany                         |

## Education

- |             |   |
|-------------|---|
| 2002 – 2006 | Tel Aviv University, Israel<br><b>PhD in Computer Science</b><br>Thesis title: Laplacian mesh processing. Supervised by Prof. Daniel Cohen-Or.  |
| 2001 – 2002 | Tel Aviv University, Israel<br><b>MSc in Computer Science</b><br>Admitted to fast-track PhD program after one year.   |
| 1996 – 2000 | Tel Aviv University, Israel<br><b>BSc in Mathematics and Computer Science</b> (double major)<br>Graduated <i>summa cum laude</i> .  |
| 1993 – 1999 | <b>Alliance High School, Ramat Aviv, Israel</b><br>Admitted to the undergraduate program at Tel Aviv University in the ninth grade (age of 15), studied in parallel at high school and at the university. |

## Honors and Awards

2017	Rössler Prize (accompanied by CHF 200,000 in research funds)
2017	EUROGRAPHICS Outstanding Technical Contributions Award
2016	Best Paper Award at the International Conference on 3D Vision (3DV) 2016
2015	Symposium on Geometry Processing Software Award for <code>libigl</code> , a C++ geometry processing library
2015	Fellow of the Eurographics Association
2014	Best Paper Award at Eurographics Symposium on Geometry Processing 2014
2013	Intel Early Career Faculty Award
2012	ERC Starting Grant
2012	Latsis Prize of ETH Zurich
2011	ACM SIGGRAPH Significant New Researcher Award
2008	EUROGRAPHICS Young Researcher Award
2006 – 2008	Alexander von Humboldt research fellowship
2003	Excellence award, School of Computer Science, Tel Aviv University
1999 – 2000	Dean’s List of Excellence, Raymond and Beverly Sackler Faculty of Exact Sciences, Tel Aviv University

## Funding

2017 – 2020	Deep Learning for Image and Geometry Processing, The Walt Disney Company grant, sole PI, CHF 146,088
2017 – present	Max Rössler Prize, CHF 200,000 unrestricted research funding
2016 – present	PI at the National Centre of Competence in Research (NCCR) “Digital Fabrication in Architecture”, SNF grant, 1 PhD position.
2015 – 2018	Deformation and Motion Modeling using Modular, Sensor-based Input Devices, SNF grant 200021_162958, PI, CHF 497,394
2013 – present	Intel gift, \$35,000
2013 – 2016	Artistic Control and Simulation of Complex Visual Appearance, The Walt Disney Company grant, sole PI, CHF 170,000
2012 – 2017	iModel: Intelligent Shape Modeling, <b>ERC Starting Grant</b> 306877, sole PI, €1,497,442
2011 – 2014	Interactive Shape Deformation and Animation, SNF grant 200021_137879, sole PI, CHF 208,112
2011 – 2016	Multi-View Geometry Reconstruction Techniques for Video-based View Synthesis Applications, The Walt Disney Company grant, sole PI, CHF 243,479
2010 – present	Adobe Systems gift
2010 – 2011	NVIDIA hardware gift
2009 – 2012	HCC: Medium: Robust and Accurate Modeling with Multifield Geometry, NSF grant IIS-0905502, PI, \$739,111
2009 – 2010	Retargeting Legacy Visual Content to Novel Display Devices, NYU University Research Challenge Fund (URCF) award, sole PI, \$10,396
2009	Feature-Based Geometric Modeling of Discrete Surfaces, NSF ADVANCE PAID Research Challenge Grant (HRD-0820202), sole PI, \$10,000
2009	Interactive Shape Modeling and Deformation, NSF ADVANCE PAID Travel Grant, sole PI, \$3,000
2006 – 2008	Alexander von Humboldt research fellowship
2003 – 2006	Colton doctoral scholarship
2002	Minerva short term research grant
1998	Excellence scholarship for young students, Tel Aviv University

## Patents

- 2016 US patent, "Sketch-based generation and editing of quad meshes" (US 20150002510).
- 2015 US patent, "Transfusive image manipulation" (US 20140104295).

## Research group

### Current PhD students and postdocs

08.2017 – present	Yifan Wang, PhD student
05.2016 – present	Katja Wolff, PhD student
05.2016 – present	Michael Rabinovich, PhD student
09.2015 – present	Roi Poranne, postdoc
10.2014 – present	Oliver Glauser, PhD student
03.2013 – present	Christian Schüller, PhD student

### Past PhD students and postdocs

04.2017 – 07.2017	Noam Aigerman, postdoc.
09.2011 – 11.2016	Kaan Yücer, PhD student. Thesis title: “Inferring multidimensional correspondences in multi-image scenarios”.
04.2013 – 10.2016	Romain Prévost, PhD student. Thesis title: “Physics-based optimization for assisted creation of tangible artifacts”.
09.2015 – 08.2016	Changil Kim, postdoc. Now postdoc at MIT.
09.2011 – 01.2016	Daniele Panozzo, postdoc. Now faculty at the Courant Institute of Mathematical Sciences, New York University, USA.
08.2013 – 01.2016	Wenzel Jakob, postdoc, ETH / Marie Curie COFUND Fellow. Now faculty at EPFL, Switzerland.
07.2015 – 01.2016	Alex Wan-Chun Ma, visiting postdoctoral scholar. Now at Google.
09.2011 – 10.2015	Olga Diamanti, PhD student. Thesis title: “Algorithms for user-guided surface mappings”, awarded the ETH Medal for an Outstanding Doctoral Thesis. Now postdoc at Stanford University.
04.2012 – 08.2014	Kenshi Takayama, postdoc, JSPS Fellow. Now faculty at the National Institute of Informatics, Tokyo, Japan)
11.2011 – 06.2014	Emily Whiting, postdoc, ETH / Marie Curie COFUND Fellow. Now faculty at Boston University, USA.
09.2009 – 07.2013	Alec Jacobson, PhD student. PhD thesis title: “Algorithms and interfaces for real-time deformation of 2D and 3D shapes”, awarded the ETH Medal for an Outstanding Doctoral Thesis and the EUROGRAPHICS 2014 Best PhD Thesis Award. Now faculty at University of Toronto, Canada.
09.2012 – 06.2013	Leonardo Sacht, visiting PhD student from IMPA, Rio de Janeiro, Brazil, winner of the Swiss Government Scholarship. Now faculty at Universidade Federal de Santa Catarina, Brazil.
11.2011 – 12.2012	Ladislav Kavan, postdoc. Now faculty at University of Utah, USA.
09.2010 – 09.2011	Ofir Weber, postdoc. Now faculty at Bar Ilan University, Israel.
06.2010 – 09.2011	David Harmon, postdoc.
03.2009 – 02.2011	Tino Weinkauff, postdoc, Feodor-Lynen Fellow. Now faculty at KTH Stockholm, Sweden.
11.2009 – 04.2010	Nico Pietroni, postdoc. Now senior researcher at ISTI/CNR, Pisa, Italy.
10.2009 – 11.2009	Yu-Shuen Wang, visiting PhD student from The National Cheng-Kung University. Now faculty at National Chiao Tung University, Taiwan.
09.2009 – 02.2011	Qingnan (James) Zhou, PhD student. Now research engineer at Adobe Research.

## Supervised Master students (MS theses)

2017	Carlota Soler, ETH Zurich. Cosserat rods with projective dynamics (collaboration with VirtaMed).
2016	Benedek Vartok, ETH Zurich. Integration of animation input device in Blender and pose space interpolation with dynamics.
2016	Sandro Huber, ETH Zurich. Fast shape optimization.
2016	Jonathan Forman, ETH Zurich. Light field reconstruction from sparse input.
2016	Michael Rabinovich, ETH Zurich. Scalable flipless mappings.
2015	Alexandra Trif, ETH Zurich. Efficient shape-aligned hexahedral mesh generation. <i>ETH Medal for an Outstanding Master Thesis.</i>
2015	Stefan Brugger, ETH Zurich. Dynamic cross-parameterization (collaboration with Disney Research).
2015	Stefan Messmer, ETH Zurich. Variational shape modeling and deformation on mobile devices.
2014	Pascal Spörri, ETH Zurich. Data-driven fitting of discrete elements (collaboration with Disney Research).
2014	Joël Bohnes, ETH Zurich. Non-rigid reconstruction of articulated objects from monocular video.
2014	Victor Savu, ETH Zurich. An augmented Lagrangian method for locally injective mapping.
2014	Xiang Gao, ETH Zurich. Cross parameterization via edge straightening and domain smoothing.
2013	Remo Meyer, ETH Zurich. A robust method for brush-based interactive geometry cloning.
2013	Nikolay Kobyshev, ETH Zurich. Consistent 3D scene modeling and integration from layered light field reconstructions (collaboration with Disney Research).
2013	Daniel Leuenberger, ETH Zurich. Light field rendering in Unity3D (collaboration with Disney Research).
2013	Matthias Schelker, ETH Zurich. Color correction for videos (collaboration with Disney Research).
2013	Romain Prévost, ETH Zurich. Accelerated diffusion curves using irradiance caching (collaboration with Disney Research).
2013	Christian Schüller, ETH Zurich. Locally injective mappings.
2012	Cyrill Peterhans, ETH Zurich. Interactive surface reconstruction (collaboration with Disney Research).
2012	David Meier, ETH Zurich. Guided geometry reconstruction (collaboration with LiberoVision).
2010 – 2011	Yang Song, New York University. User interfaces for skinning animation.
2006 – 2007	Mathias Eitz, TU Berlin. Sketch-based image deformation.
2006 – 2007	Ofir Weber, Technion. Example-based character animation.
2005 – 2006	Ran Gal, Tel Aviv University. Content-aware image warping.

## Teaching

### Department of Computer Science, ETH Zurich, Switzerland

Spring 2018	Sabbatical
Fall 2017	401-0131-00 Linear Algebra 252-5701-00 Seminar, Advanced Topics in Computer Graphics and Vision 264-5800-00 Seminar, Doctoral Seminar in Visual Computing
Spring 2017	252-0538-00 Shape Modeling and Geometry Processing 252-5704-00 Seminar, Advanced Methods in Computer Graphics 264-5800-00 Seminar, Doctoral Seminar in Visual Computing

Fall 2016 401-0131-00 Linear Algebra  
252-5701-00 Seminar, Advanced Topics in Computer Graphics and Vision  
264-5800-00 Seminar, Doctoral Seminar in Visual Computing

Spring 2016 No teaching, maternity leave

Fall 2015 252-0543-01 Computer Graphics  
252-5701-00 Seminar, Advanced Topics in Computer Graphics and Vision  
264-5800-00 Seminar, Doctoral Seminar in Visual Computing

Spring 2015 252-0538-00 Shape Modeling and Geometry Processing  
252-5704-00 Seminar, Advanced Methods in Computer Graphics  
264-5800-00 Seminar, Doctoral Seminar in Visual Computing

Fall 2014 252-0543-01 Computer Graphics  
252-5701-00 Seminar, Advanced Topics in Computer Graphics and Vision  
264-5800-00 Seminar, Doctoral Seminar in Visual Computing

Spring 2014 252-0538-00 Shape Modeling and Geometry Processing  
252-5704-00 Seminar, Advanced Methods in Computer Graphics  
264-5800-00 Seminar, Doctoral Seminar in Visual Computing

Fall 2013 252-0543-01 Computer Graphics  
252-5701-00 Seminar, Advanced Topics in Computer Graphics and Vision  
264-5800-00 Seminar, Doctoral Seminar in Visual Computing

Spring 2013 252-0538-00 Shape Modeling and Geometry Processing  
252-5704-00 Seminar, Advanced Methods in Computer Graphics  
264-5800-00 Seminar, Doctoral Seminar in Visual Computing

Fall 2012 252-0543-01 Computer Graphics  
252-5701-00 Seminar, Advanced Topics in Computer Graphics and Vision

Spring 2012 252-0538-00 Shape Modeling and Geometry Processing  
252-5704-00 Seminar, Advanced Methods in Computer Graphics

Fall 2011 252-0543-01 Computer Graphics  
252-5701-00 Seminar, Advanced Methods in Computer Graphics and Vision

#### **Computer Science Department, Courant Institute of Mathematical Sciences, NYU, USA**

Fall 2010 – 2011 G22.2274-001 Advanced computer graphics

Spring 2009 – 2010 G22.3033-008 Geometric modeling

Fall 2009 – 2010 G22.2274-001 Advanced computer graphics

Spring 2008 – 2009 G22.3033-004 Interactive shape modeling

Fall 2008 – 2009 G22.3850-005 Computational topology, algebra and geometry seminar

#### **Faculty of Electrical Engineering and Computer Science, TU Berlin, Germany**

Fall 2007 – 2008 Computational photography seminar

Spring 2006 – 2007 Computer Graphics II (assistant, guest lecturer)

Fall 2006 – 2007 Computational photography seminar

#### **School of Computer Science, Tel Aviv University, Israel**

Fall 2005 – 2006 Mathematical tools for Computer Graphics (lecture)  
Programming in C for engineers (recitations)

Spring 2004 – 2005 Mathematical tools for Computer Graphics (lecture)

Fall 2005 – 2006 Software programming project (instructor)

Spring 2003 – 2004 Mathematical tools for Computer Graphics (lecture)  
Advanced topics in Computer Graphics (guest lecturer)

Fall 2003 – 2004 Software programming project (instructor)  
Workshop in Computer Graphics (instructor)

Spring 2002 – 2003 Mathematical tools for Computer Graphics (lecture)  
Software programming project (instructor)

Spring 2002 – 2003 Advanced topics in Computer Graphics (guest lecturer)  
Fall 2002 – 2003 Programming in C for engineers (recitations)

## Member of PhD thesis committees

07.2017 Stamatios Georgoulis (KU Leuven): Extraction of surface characteristics and lighting in 3D reconstruction from uncalibrated images.  
07.2016 Mikhail Bessmeltsev (University of British Columbia): Recovering 3D shape from concept and pose drawings.  
07.2016 Daniel Sieger (University of Bielefeld): Constrained deformation for evolutionary optimization.  
10.2015 Amit Bermano (ETH Zurich): Geometric methods for realistic facial animation.  
10.2015 Olga Diamanti (ETH Zurich): Algorithms for user-guided surface mappings.  
09.2013 Benjamin Schindler (ETH Zurich): Efficient algorithms for Lagrangian visualization of flow structures.  
05.2013 Alec Jacobson (ETH Zurich): Algorithms and interfaces for real-time deformation of 2D and 3D shapes.  
04.2013 Christian Schulz (Freie Universität Berlin): Interactive spacetime control of deformable objects and modal shape analysis beyond Laplacian.  
12.2012 Peter Kaufmann (ETH Zurich): Discontinuous Galerkin FEM in Computer Graphics.  
12.2012 David Günther (Saarland University): Topological analysis of discrete scalar data.  
05.2012 Daniele Panozzo (University of Genova): From irregular meshes to structured models.  
05.2011 Marcio Cabral (INRIA Sophia-Antipolis): Reshape and relighting for interactive content creation and manipulation.  
09.2010 Adrian Secord (New York University): Creating collections and evaluating viewpoints: selection techniques for interface design.  
05.2010 Darko Pavić (RWTH Aachen): Combining raster- and vector-representations for image and geometry processing applications.  
05.2009 Yotam Gingold (New York University): 2D-Centric interfaces and algorithms for 3D modeling.  
05.2009 Benjamin Galehouse (New York University): Topologically accurate meshing using spatial subdivision techniques.  
08.2008 Elif Tosun (New York University): Geometric modeling with high order derivatives.

## Service activities

2017 – 2021 Member of the ACM Turing Award committee  
2017 Member of the Executive Board of the Department of Computer Science, ETH Zurich  
2011 – present Professor-in-charge of CSNOW: Network of Women in Computer Science, Department of Computer Science, ETH Zurich (<http://www.frauen.inf.ethz.ch/>)  
2016 – present Member of the Studies Committee (Unterrichtskommission) of the Department of Computer Science, ETH Zurich  
2014 – 2015 Member of the Executive Board of the Department of Computer Science, ETH Zurich  
2013 – 2016 Member of the Colloquium committee at the Department of Computer Science, ETH Zurich (<http://www.inf.ethz.ch/news-and-events/colloquium.html>)  
2012 – 2017 Member of the EUROGRAPHICS Executive Committee  
2011 Google Summer of Code mentor, co-mentoring the project “Implementation of As-Rigid-As-Possible Surface Modeling in CGAL” together with Andreas Fabri  
2009 – 2010 Member of the PhD Fellowship Committee, NYU’s Computer Science Department (responsible for graduate student admissions, fellowships and status monitoring)

## Other work experience

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|-------------|--|
| 2000 – 2002 | Israel Defense Forces<br>Regular military service  |
| 1999 – 2000 | School of Mathematics, Tel Aviv University, Israel<br>Course grader: Linear algebra, Discrete Mathematics, Introduction to programming |
| 1999        | Hebrew Language Unit, Tel Aviv University, Israel<br>Computer lab operator   |



## Publications

<http://igl.ethz.ch/publications/>  
<https://scholar.google.ch/citations?hl=en&user=GBU568oAAAAJ>

### Books

- [1] Image content retargeting: maintaining color, tone, and spatial consistency. Alessandro Artusi, Francesco Banterle, Tunç Ozan Aydın, Daniele Panozzo, Olga Sorkine-Hornung. AK Peters/CRC Press, 2016.
- [2] A sampler of useful computational tools for applied geometry, computer graphics, and image processing. Daniel Cohen-Or, Chen Greif, Tao Ju, Niloy Mitra, Ariel Shamir, Olga Sorkine-Hornung and Hao (Richard) Zhang. AK Peters/CRC Press, 2015.
- [3] Digital representations of the real world: How to capture, model, and render visual reality. Marcus Magnor, Oliver Grau, Olga Sorkine-Hornung and Christian Theobalt, editors. AK Peters/CRC Press, 2015.

### Edited volumes

- [1] Proceedings of EUROGRAPHICS Full Papers, May 4-8, 2015. Olga Sorkine-Hornung and Michael Wimmer, editors. Special Issue of Computer Graphics Forum, Vol. 34(2), 2015.
- [2] Real-world visual computing (Dagstuhl Seminar 13431). Oliver Grau, Marcus A. Magnor, Olga Sorkine-Hornung and Christian Theobalt. Dagstuhl reports, Vol. 3(10), pp. 72-91, 2013.
- [3] Proceedings of EUROGRAPHICS Short Papers, May 6-10, 2013. Miguel A. Otaduy and Olga Sorkine, editors. The Eurographics Association.
- [4] Proceedings of 3DIMPVT, October 13-15, 2012. Jan-Michael Frahm and Olga Sorkine, editors. IEEE Computer Society Conference Publishing Services.
- [5] Proceedings of Shape Modeling International, June 22-24, 2011. Niloy Mitra and Olga Sorkine, editors. Special Issue of Computers & Graphics, Vol. 35(3), 2011.
- [6] Proceedings of the ECCV Media Retargeting Workshop, September 10, 2010. Thomas Deselaers, Alexander Hornung and Olga Sorkine, editors.
- [7] Proceedings of the 8th Symposium on Geometry Processing, July 5-7, 2010. Olga Sorkine and Bruno Lévy, editors. Special Issue of Computer Graphics Forum, Vol. 29(5), 2010, in cooperation with EUROGRAPHICS and ACM SIGGRAPH.

### Journal publications

- [1] Autocuts: Simultaneous distortion and cut optimization for UV mapping. Roi Poranne, Marco Tarini, Sandro Huber, Daniele Panozzo and Olga Sorkine-Hornung. Accepted to ACM Transactions on Graphics, Vol. 36(6), 2017 (*ACM SIGGRAPH ASIA 2017 issue*).
- [2] Spin-It: optimizing moment of inertia for spinnable objects. Moritz Bächer, Emily Whiting. Bernd Bickel and Olga Sorkine-Hornung. Communications of the ACM, Section: Research Highlights, Vol. 60(8), pp. 92-99, August 2017 (reprint of the SIGGRAPH 2014 article with a foreword “Technical perspective: Linking form, function, and fabrication” by Helmut Pottmann).
- [3] Geometric optimization via composite majorization. Anna Shtengel, Roi Poranne, Olga Sorkine-Hornung, Shahar Kovalsky and Yaron Lipman. ACM Transactions on Graphics, Vol. 36(4), 2017 (*ACM SIGGRAPH 2017 issue*).
- [4] Scalable locally injective mappings. Michael Rabinovich, Roi Poranne, Daniele Panozzo and Olga Sorkine-Hornung. ACM Transactions on Graphics, Vol. 36(2), 2017.
- [5] Digitally reconstructing the Great Parchment Book: 3D recovery of fire-damaged historical documents. Kazim Pal, Nicola Avery, Pete Boston, Alberto Campagnolo, Caroline De Stefani, Helen Matheson-Pollock, Daniele Panozzo, Matthew Payne, Christian Schiller, Chris Sanderson, Chris Scott, Philippa Smith, Rachael Smither, Olga Sorkine-Hornung, Ann Stewart, Emma Stewart, Patricia Stewart, Melissa Terras, Bernadette Walsh, Laurence Ward, Liz Yamada and Tim Weyrich. Digital Scholarship in the Humanities (Oxford University Press), December 2016.

- [6] Confocal reference free traction force microscopy. Martin Bergert, Tobias Lendenmann, Manuel Zündel, Alexander E. Ehret, Daniele Panozzo, Patrizia Richner, David K. Kim, Stephan J. P. Kress, David J. Norris, Olga Sorkine-Hornung, Edoardo Mazza, Dimos Poulikakos and Aldo Ferrari. *Nature Communications*, Vol. 7, September, 2016.
- [7] Computational thermoforming. Christian Schüller, Daniele Panozzo, Anselm Grundhöfer, Henning Zimmer, Evgeni Sorkine and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 35(4), 2016 (*ACM SIGGRAPH 2016 issue*).
- [8] Rig animation with a tangible and modular input device. Oliver Glauser, Alex (Wan-Chun) Ma, Daniele Panozzo, Alec Jacobson, Otmar Hilliges and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 35(4), 2016 (*ACM SIGGRAPH 2016 issue*).
- [9] Large-scale spray painting of photographs by interactive optimization. Romain Prévost, Alec Jacobson, Wojciech Jarosz and Olga Sorkine-Hornung. *Computers & Graphics*, Vol. 55 (April), 2016.
- [10] Efficient 3D object segmentation from densely sampled light fields with applications to 3D reconstruction. Kaan Yücer, Alexander Sorkine-Hornung, Oliver Wang and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 35(3), 2016.
- [11] Instant field-aligned meshes. Wenzel Jakob, Marco Tarini, Daniele Panozzo and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 34(6), 2015 (*ACM SIGGRAPH ASIA 2015 issue*).
- [12] SHED: Shape edit distance for fine-grained shape similarity. Yanir Kleiman, Oliver van Kaick, Olga Sorkine-Hornung and Daniel Cohen-Or. *ACM Transactions on Graphics*, Vol. 34(6), 2015 (*ACM SIGGRAPH ASIA 2015 issue*).
- [13] Texture mapping real-world objects with hydrographics. Daniele Panozzo, Olga Diamanti, Sylvain Paris, Marco Tarini, Evgeni Sorkine and Olga Sorkine-Hornung. *Computer Graphics Forum*, Vol. 34(5), 2015 (*EUROGRAPHICS Symposium on Geometry Processing 2015 issue*).
- [14] 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 and Alexander Sorkine-Hornung. *Computer Graphics Forum*, Vol. 34(4), 2015 (*EUROGRAPHICS Symposium on Rendering 2015 issue*).
- [15] Integrable PolyVector fields. Olga Diamanti, Amir Vaxman, Daniele Panozzo and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 34(4), 2015 (*ACM SIGGRAPH 2015 issue*).
- [16] Data-driven interactive quadrangulation. Giorgio Marcias, Kenshi Takayama, Nico Pietroni, Daniele Panozzo, Olga Sorkine-Hornung, Enrico Puppo and Paolo Cignoni. *ACM Transactions on Graphics*, Vol. 34(4), 2015 (*ACM SIGGRAPH 2015 issue*).
- [17] Synthesis of complex image appearance from limited exemplars. Olga Diamanti, Connelly Barnes, Sylvain Paris, Eli Shechtman and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 34(2), 2015.
- [18] A vectorial framework for ray traced diffusion curves. Romain Prévost, Wojciech Jarosz and Olga Sorkine-Hornung. *Computer Graphics Forum*, Vol. 34(1), 2015.
- [19] A simple method for correcting facet orientations in polygon meshes based on ray casting. Kenshi Takayama, Alec Jacobson, Ladislav Kavan and Olga Sorkine-Hornung. *Journal of Computer Graphics Techniques (JCGT)*, Vol. 3(4), 53–63, 2014.
- [20] Appearance-mimicking surfaces. Christian Schüller, Daniele Panozzo and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 33(6), 2014 (*ACM SIGGRAPH ASIA 2014 issue*).
- [21] Assembling self-supporting structures. Mario Deuss, Daniele Panozzo, Emily Whiting, Yang Liu, Philippe Block, Olga Sorkine-Hornung and Mark Pauly. *ACM Transactions on Graphics*, Vol. 33(6), 2014 (*ACM SIGGRAPH ASIA 2014 issue*).
- [22] Fast and memory-efficient topological denoising of 2D and 3D scalar fields. David Günther, Alec Jacobson, Jan Reininghaus, Hans-Peter Seidel, Olga Sorkine-Hornung and Tino Weinkauff. *IEEE Transactions on Visualization and Computer Graphics*, Vol. 20(12), 2014 (*IEEE SciVis 2014 issue*).
- [23] Designing  $N$ -PolyVector fields with complex polynomials. Olga Diamanti, Amir Vaxman, Daniele Panozzo and Olga Sorkine-Hornung. *Computer Graphics Forum*, Vol. 33(5), 2014 (*EUROGRAPHICS Symposium on Geometry Processing 2014 issue*). **Winner of the Best Paper Award at SGP 2014.**

- [24] Pattern-based quadrangulation for  $N$ -sided patches. Kenshi Takayama, Daniele Panozzo and Olga Sorkine-Hornung. *Computer Graphics Forum*, Vol. 33(5), 2014 (*EUROGRAPHICS Symposium on Geometry Processing 2014 issue*).
- [25] Spin-It: optimizing moment of inertia for spinnable objects. Moritz Bächer, Emily Whiting, Bernd Bickel and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 33(4), 2014 (*ACM SIGGRAPH 2014 issue*).
- [26] Frame fields: anisotropic and non-orthogonal cross fields. Daniele Panozzo, Enrico Puppo, Marco Tarini and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 33(4), 2014 (*ACM SIGGRAPH 2014 issue*).
- [27] Tangible and modular input device for character articulation. Alec Jacobson, Daniele Panozzo, Oliver Glauser, Cédric Pradalier, Otmar Hilliges and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 33(4), 2014 (*ACM SIGGRAPH 2014 issue*).
- [28] Metarepresentation of shape families. Noa Fish, Melinos Averkiou, Oliver van Kaick, Olga Sorkine-Hornung, Daniel Cohen-Or and Niloy Mitra. *ACM Transactions on Graphics*, Vol. 33(4), 2014 (*ACM SIGGRAPH 2014 issue*).
- [29] Bounded biharmonic weights for real-time deformation. Alec Jacobson, Ilya Baran, Jovan Popović and Olga Sorkine-Hornung. *Communications of the ACM*, Section: Research Highlights, Vol. 57(4), pp. 99-106, April 2014 (reprint of the SIGGRAPH 2011 article with a foreword “Technical perspective: A ‘reasonable’ solution to deformation methods” by Joe Warren).
- [30] Object detection and classification from large-scale cluttered indoor scans. Oliver Mattausch, Daniele Panozzo, Claudio Mura, Olga Sorkine-Hornung and Renato Pajarola. *Computer Graphics Forum*, Vol. 33(2), 2014 (*EUROGRAPHICS 2014 issue*).
- [31] Content-aware surface parameterization for interactive restoration of historical documents. Kazim Pal, Christian Schüller, Daniele Panozzo, Olga Sorkine-Hornung and Tim Weyrich. *Computer Graphics Forum*, Vol. 33(2), 2014 (*EUROGRAPHICS 2014 issue*).
- [32] Accurate and efficient lighting for skinned models. Marco Tarini, Daniele Panozzo and Olga Sorkine-Hornung. *Computer Graphics Forum*, Vol. 33(2), 2014 (*EUROGRAPHICS 2014 issue*).
- [33] Ink-and-ray: bas-relief meshes for adding global illumination effects to hand-drawn characters. Daniel Sýkora, Ladislav Kavan, Martin Čadík, Ondřej Jamriška, Alec Jacobson, Brian Whited, Maryann Simmons and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 33(2), 2014.
- [34] Facial performance enhancement using dynamic shape space. Amit Bermano, Derek Bradley, Thabo Beeler, Fabio Zünd, Derek Nowrouzezahrai, Ilya Baran, Olga Sorkine-Hornung, Hanspeter Pfister, Robert Sumner, Bernd Bickel and Markus Gross. *ACM Transactions on Graphics*, Vol. 33(2), 2014.
- [35] Sketch-based generation and editing of quad meshes. Kenshi Takayama, Daniele Panozzo, Alexander Sorkine-Hornung and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 32(4), 2013 (*ACM SIGGRAPH 2013 issue*).
- [36] Designing unreinforced masonry models. Daniele Panozzo, Philippe Block and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 32(4), 2013 (*ACM SIGGRAPH 2013 issue*).
- [37] Weighted averages on surfaces. Daniele Panozzo, Ilya Baran, Olga Diamanti and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 32(4), 2013 (*ACM SIGGRAPH 2013 issue*).
- [38] Robust inside-outside segmentation using generalized winding numbers. Alec Jacobson, Ladislav Kavan and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 32(4), 2013 (*ACM SIGGRAPH 2013 issue*).
- [39] Make It Stand: Balancing shapes for 3D fabrication. Romain Prévost, Emily Whiting, Sylvain Lefebvre and Olga Sorkine-Hornung. *ACM Transactions on Graphics*, Vol. 32(4), 2013 (*ACM SIGGRAPH 2013 issue*).
- [40] Depth synthesis and local warps for plausible image-based navigation. Gaurav Chaurasia, Sylvain Duchêne, Olga Sorkine-Hornung and George Drettakis. *ACM Transactions on Graphics*, Vol. 32(3), 2013.
- [41] Locally injective mappings. Christian Schüller, Ladislav Kavan, Daniele Panozzo and Olga Sorkine-Hornung. *Computer Graphics Forum*, Vol. 32(5), 2013 (*EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing 2013 issue*).

- [42] Consistent volumetric discretizations inside self-intersecting surfaces. Leonardo Sacht, Alec Jacobson, Daniele Panozzo, Christian Schüller and Olga Sorkine-Hornung. *Computer Graphics Forum*, Vol. 32(5), 2013 (*EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing 2013 issue*).
- [43] Animation-aware quadrangulation. Giorgio Marcias, Nico Pietroni, Daniele Panozzo, Enrico Puppo and Olga Sorkine-Hornung. *Computer Graphics Forum*, Vol. 32(5), 2013 (*EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing 2013 issue*).
- [44] Finite element image warping. Peter Kaufmann, Oliver Wang, Alexander Sorkine-Hornung, Olga Sorkine-Hornung, Aljoscha Smolic and Markus Gross. *Computer Graphics Forum*, Vol. 32(2), pp. 31–39, 2013 (*EUROGRAPHICS 2013 issue*).
- [45] Transfusive image manipulation. Kaan Yücer, Alec Jacobson, Alexander Hornung and Olga Sorkine. *ACM Transactions on Graphics*, Vol. 31(6), 2012 (*ACM SIGGRAPH ASIA 2012 issue*).
- [46] Elasticity-inspired deformers for character articulation. Ladislav Kavan and Olga Sorkine. *ACM Transactions on Graphics*, Vol. 31(6), 2012 (*ACM SIGGRAPH ASIA 2012 issue*).
- [47] Towards a living earth simulator. M. Paolucci, D. Kossman, R. Conte, P. Lukowicz, P. Argyrakis, A. Blandford, G. Bonelli, S. Anderson, S. Freitas, B. Edmonds, N. Gilbert, M. Gross, J. Kohlhammer, P. Koumoutsakos, A. Krause, B.-O. and Linnér, P. Slusallek, O. Sorkine, R. Sumner and D. Helbing. *The European Physical Journal (Special Topics)*, Vol. 214(1), 2012.
- [48] Smooth shape-aware functions with controlled extrema. Alec Jacobson, Tino Weinkauff and Olga Sorkine. *Computer Graphics Forum*, Vol. 32(5), 2012 (*EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing 2012 issue*).
- [49] Fast automatic skinning transformations. Alec Jacobson, Ladislav Kavan, Ilya Baran, Jovan Popović, Olga Sorkine. *ACM Transactions on Graphics*, Vol. 31(4), 2012 (*ACM SIGGRAPH 2012 issue*).
- [50] Robust image retargeting via axis-aligned deformation. Daniele Panozzo, Ofir Weber and Olga Sorkine. *Computer Graphics Forum*, Vol. 31(2), 2012 (*EUROGRAPHICS 2012 issue*).
- [51] Stretchable and twistable bones for skeletal shape deformation. Alec Jacobson and Olga Sorkine. *ACM Transactions on Graphics*, Vol. 30(6), 2011 (*ACM SIGGRAPH ASIA 2011 issue*).
- [52] Interference aware geometric modeling. David Harmon, Daniele Panozzo, Olga Sorkine and Denis Zorin. *ACM Transactions on Graphics*, Vol. 30(6), 2011 (*ACM SIGGRAPH ASIA 2011 issue*).
- [53] Global parametrization of range image sets. Nico Pietroni, Marco Tarini, Olga Sorkine and Denis Zorin. *ACM Transactions on Graphics*, Vol. 30(6), 2011 (*ACM SIGGRAPH ASIA 2011 issue*).
- [54] Bounded biharmonic weights for real-time deformation. Alec Jacobson, Ilya Baran, Jovan Popović and Olga Sorkine. *ACM Transactions on Graphics*, Vol. 30(4), 2011 (*ACM SIGGRAPH 2011 issue*).
- [55] Scalable and coherent video resizing with per-frame optimization. Yu-Shuen Wang, Jen-Hung Hsiao, Olga Sorkine and Tong-Yee Lee. *ACM Transactions on Graphics*, Vol. 30(4), 2011 (*ACM SIGGRAPH 2011 issue*).
- [56] Silhouette-aware warping for image-based rendering. Gaurav Chaurasia, Olga Sorkine and George Drettakis. *Computer Graphics Forum* Vol. 30(4), 2011 (*EUROGRAPHICS Symposium on Rendering (EGSR) 2011 issue*).
- [57] GeoBrush: Interactive mesh geometry cloning. Kenshi Takayama, Ryan Schmidt, Karan Singh, Takeo Igarashi, Tamy Boubekeur and Olga Sorkine. *Computer Graphics Forum*, Vol. 30(2), 2011 (*EUROGRAPHICS 2011 issue*). *Selected for the Best of EUROGRAPHICS session at FMX 2011.*
- [58] Template-based 3D model fitting using dual-domain relaxation. I-Cheng Yeh, Chao-Hung Lin, Olga Sorkine and Tong-Yee Lee. *IEEE Transactions on Visualization and Computer Graphics*, Vol. 17(8), pp. 1178–1190, 2011.
- [59] Volumetric modeling with diffusion surfaces. Kenshi Takayama, Olga Sorkine, Andrew Nealen and Takeo Igarashi. *ACM Transactions on Graphics*, Vol. 29(5), 2010 (*ACM SIGGRAPH ASIA 2010 issue*).
- [60] A comparative study of image retargeting. Michael Rubinstein, Diego Gutierrez, Olga Sorkine and Ariel Shamir. *ACM Transactions on Graphics*, Vol. 29(5), 2010 (*ACM SIGGRAPH ASIA 2010 issue*).

- [61] Mixed finite elements for variational surface modeling. Alec Jacobson, Elif Tosun, Olga Sorkine and Denis Zorin. *Computer Graphics Forum*, Vol. 29(5), pp. 1565–1574, 2010 (*EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing 2010 issue*).
- [62] Motion-based video retargeting with optimized crop-and-warp. Yu-Shuen Wang, Hui-Chih Lin, Olga Sorkine and Tong-Yee Lee. *ACM Transactions on Graphics*, Vol. 29(4), 2010 (*ACM SIGGRAPH 2010 issue*).
- [63] Topology-based smoothing of 2D scalar fields with  $C^1$ -continuity. Tino Weinkauff, Yotam Gingold and Olga Sorkine. *Computer Graphics Forum*, Vol. 29(3), pp. 1221–1230, 2010 (*EuroVis 2010 issue*).
- [64] Motion-aware temporal coherence for video resizing. Yu-Shuen Wang, Hongbo Fu, Olga Sorkine, Tong-Yee Lee and Hans-Peter Seidel. *ACM Transactions on Graphics*, Vol. 28(5), 2009 (*ACM SIGGRAPH ASIA 2009 issue*).
- [65] Evaluation of reverse tone mapping through varying exposure conditions. Belen Masia, Sandra Agustin, Roland Fleming, Olga Sorkine and Diego Gutierrez. *ACM Transactions on Graphics*, Vol. 28(5), 2009 (*ACM SIGGRAPH ASIA 2009 issue*).
- [66] iWIRES: an analyze-and-edit approach to shape manipulation. Ran Gal, Olga Sorkine, Niloy Mitra and Daniel Cohen-Or. *ACM Transactions on Graphics*, Vol. 28(3), 2009 (*ACM SIGGRAPH 2009 issue*).
- [67] Optimized scale-and-stretch for image resizing. Yu-Shuen Wang, Chiew-Lan Tai, Olga Sorkine and Tong-Yee Lee. *ACM Transactions on Graphics*, Vol. 27(5), 2008 (*ACM SIGGRAPH ASIA 2008 issue*).
- [68] On linear variational surface deformation methods. Mario Botsch and Olga Sorkine. *IEEE Transactions on Visualization and Computer Graphics*, Vol. 14(1), pp. 213-230, 2008.
- [69] Context-aware skeletal shape deformation. Ofir Weber, Olga Sorkine, Yaron Lipman and Craig Gotsman. *Computer Graphics Forum*, Vol. 26(3), pp. 265-273, 2007 (*EUROGRAPHICS 2007 issue*).
- [70] FiberMesh: an interface for designing freeform surfaces with 3D curves. Andrew Nealen, Takeo Igarashi, Olga Sorkine and Marc Alexa. *ACM Transactions on Graphics*, Vol. 26(3), article no. 41, 2007 (*ACM SIGGRAPH 2007 issue*).
- [71] Differential representations for mesh processing. Olga Sorkine. *Computer Graphics Forum*, Vol. 25(4), pp. 789-807, 2006.
- [72] Color harmonization. Daniel Cohen-Or, Olga Sorkine, Ran Gal, Tommer Leyvand and Ying-Qing Xu. *ACM Transactions on Graphics*, Vol. 25(3), pp. 624-630, 2006 (*ACM SIGGRAPH 2006 issue*).
- [73] Algebraic analysis of high-pass quantization. Doron Chen, Daniel Cohen-Or, Olga Sorkine and Sivan Toledo. *ACM Transactions on Graphics*, Vol. 24(4), pp. 1259-1282, 2005.
- [74] Linear rotation-invariant coordinates for meshes. Yaron Lipman, Olga Sorkine, David Levin and Daniel Cohen-Or. *ACM Transactions on Graphics*, Vol. 24(3), pp. 479-487, 2005 (*ACM SIGGRAPH 2005 issue*).
- [75] A sketch-based interface for detail preserving mesh editing. Andrew Nealen, Olga Sorkine, Marc Alexa and Daniel Cohen-Or. *ACM Transactions on Graphics*, Vol. 24(3), pp. 1142-1147, 2005 (*ACM SIGGRAPH 2005 issue*).
- [76] Geometry-aware bases for shape approximation. Olga Sorkine, Daniel Cohen-Or, Dror Irony and Sivan Toledo. *IEEE Transactions on Visualization and Computer Graphics*, Vol. 11(2), pp. 171-180, 2005.
- [77] Laplacian framework for interactive mesh editing. Yaron Lipman, Olga Sorkine, Marc Alexa, Daniel Cohen-Or, David Levin, Christian Rössl and Hans-Peter Seidel. *International Journal of Shape Modeling*, Vol. 11(1), pp. 43-62, 2005.
- [78] Ray-space factorization for from-region visibility. Tommer Leyvand, Olga Sorkine and Daniel Cohen-Or. *ACM Transactions on Graphics*, Vol. 22(3), pp. 595-604, 2003 (*ACM SIGGRAPH 2003 issue*).

## Peer-reviewed international conference publications

- [79] Animato: 2D shape deformation and animation on mobile devices. Stefan Messmer, Signe Fleischmann and Olga Sorkine-Hornung. ACM SIGGRAPH ASIA Symposium on Mobile Graphics and Interactive Applications 2016.
- [80] Point cloud noise and outlier removal for image-based 3D reconstruction. Katja Wolf, Changil Kim, Henning Zimmer, Christopher Schroers, Mario Botsch, Olga Sorkine-Hornung and Alexander Sorkine-Hornung. International Conference on 3D Vision (3DV) 2016.
- [81] Depth from gradients in dense light fields for object reconstruction. Kaan Yücer, Changil Kim, Alexander Sorkine-Hornung and Olga Sorkine-Hornung. International Conference on 3D Vision (3DV) 2016. *Oral. Winner of the Best Paper Award at 3DV 2016.*
- [82] Balancing 3D models with movable masses. Romain Prévost, Moritz Bächer, Wojciech Jarosz and Olga Sorkine-Hornung. Vision, Modeling and Visualization (VMV) 2016.
- [83] Reconstruction of articulated objects from a moving camera. Kaan Yücer, Oliver Wang, Alexander Sorkine-Hornung and Olga Sorkine-Hornung. ICCV Workshop on 3D Representation and Recognition 2015.
- [84] Efficient salient foreground detection for images and video using Fiedler vectors. Federico Perazzi, Olga Sorkine-Hornung and Alexander Sorkine-Hornung. WICED 2015: 4th Workshop on Intelligent Camera Control, Cinematography and Editing.
- [85] Transfusive weights for content-aware image manipulation. Kaan Yücer, Alexander Sorkine-Hornung and Olga Sorkine-Hornung. Vision, Modeling and Visualization (VMV) 2013.
- [86] Mobile image retargeting. Daniel Graf, Daniele Panozzo and Olga Sorkine-Hornung. Vision, Modeling and Visualization (VMV) 2013.
- [87] Cusps of characteristic curves and intersection-aware visualization of path and streak lines. Tino Weinkauff, Holger Theisel and Olga Sorkine. TopoInVis 2011.
- [88] Selective reverse tone mapping. Belen Masia, Roland Fleming, Olga Sorkine and Diego Gutierrez. CEIG 2010, pp. 135-144.
- [89] Interactive shape modeling and deformation. Olga Sorkine and Mario Botsch. Proceedings of EUROGRAPHICS 2009, Tutorials Volume.
- [90] Understanding exposure for reverse tone mapping. Miguel Martin, Roland Fleming, Olga Sorkine and Diego Gutierrez. CEIG 2008, pp. 189-198.
- [91] As-rigid-as-possible surface modeling. Olga Sorkine and Marc Alexa. Proceedings of EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing (SGP) 2007, pp. 109-116.
- [92] Sketch based image deformation. Mathias Eitz, Olga Sorkine and Marc Alexa. Proceedings of Vision, Modeling and Visualization (VMV) 2007, pp. 135-142.
- [93] SIMOD: Making freeform deformation size-insensitive. Tamy Boubekeur, Olga Sorkine and Christophe Schlick. Proceedings of IEEE/EUROGRAPHICS Symposium on Point-Based Graphics 2007, pp. 47-56.
- [94] 3D collage: expressive non-realistic modeling. Ran Gal, Olga Sorkine, Tiberiu Popa, Alla Sheffer and Daniel Cohen-Or. Proceedings of the 5th International Symposium on Non-Photorealistic Animation and Rendering (NPAR 2007), pp. 7-14.
- [95] Laplacian mesh optimization. Andrew Nealen, Takeo Igarashi, Olga Sorkine and Marc Alexa. Proceedings of ACM GRAPHITE 2006, pp. 381-389.
- [96] Feature-aware texturing. Ran Gal, Olga Sorkine and Daniel Cohen-Or. Proceedings of EUROGRAPHICS Symposium on Rendering (EGSR) 2006, pp. 297-303.
- [97] Laplacian surface editing. Olga Sorkine, Daniel Cohen-Or, Yaron Lipman, Marc Alexa, Christian Rössl, Hans-Peter Seidel. Proceedings of EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing (SGP) 2004, pp. 179-188.
- [98] Least-squares meshes. Olga Sorkine and Daniel Cohen-Or. Proceedings of IEEE Shape Modeling International (SMI) 2004, pp. 191-199.

- [99] Differential coordinates for interactive mesh editing. Yaron Lipman, Olga Sorkine, Daniel Cohen-Or, David Levin, Christian Rössl, Hans-Peter Seidel. Proceedings of IEEE Shape Modeling International (SMI) 2004, pp. 181-190.
- [100] High-pass quantization for mesh encoding. Olga Sorkine, Daniel Cohen-Or and Sivan Toledo. Proceedings of EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing (SGP) 2003, pp. 42-51.
- [101] Bounded-distortion piecewise mesh parameterization. Olga Sorkine, Daniel Cohen-Or, Rony Goldenthal and Dani Lischinsky. Proceedings of IEEE Visualization 2002, pp. 355-362.

### **Book contributions**

- [102] Shell structures for architecture: form finding and optimization. Sigrid Adriaenssens, Philippe Block, Diederik Veenendaal and Chris Williams (editors). Routledge, 2014. Chapter 13: Best-fit thrust network analysis: rationalization of freeform meshes, by Tom Van Mele, Daniele Panozzo, Olga Sorkine-Hornung and Philippe Block, pp. 157–170.
- [103] Emerging technologies for 3D video: creation, coding, transmission and rendering. Frederic Dufaux, Béatrice Pesquet-Popescu, Marco Cagnazzo (editors). Wiley, 2013. Chapter 11: Image domain warping for stereoscopic 3D applications, by Oliver Wang, Manuel Lang, Nikolce Stefanoski, Alexander Hornung, Olga Sorkine, Aljoscha Smolic and Markus Gross, pp. 207–230.

### **Refereed courses and tutorials**

- [104] Modern approaches to media retargeting. Ariel Shamir, Alexander Hornung and Olga Sorkine. ACM SIGGRAPH ASIA 2012 Courses (curated course).
- [105] Visual media retargeting. Ariel Shamir and Olga Sorkine. ACM SIGGRAPH ASIA 2009 Courses.
- [106] Tutorial: Interactive shape modeling and deformation. Olga Sorkine and Mario Botsch. Proceedings of EUROGRAPHICS 2009, Tutorials.
- [107] State-of-the-art report: Laplacian mesh processing. Olga Sorkine. Proceedings of EUROGRAPHICS 2005, STAR Volume.

### **Refereed abstracts**

- [108] Feature-based mesh editing. Qingnan Zhou, Tino Weinkauff and Olga Sorkine. EUROGRAPHICS 2011, Short Papers.
- [109] Scalable freeform deformation. Tamy Boubekeur, Olga Sorkine and Christophe Schlick. ACM SIGGRAPH 2007, Technical Sketches.
- [110] Non-realistic expressive modeling. Ran Gal, Olga Sorkine, Tiberiu Popa, Alla Sheffer and Daniel Cohen-Or. ACM SIGGRAPH 2006, Technical Sketches.
- [111] Warped textures for uv-mapping encoding. Olga Sorkine and Daniel Cohen-Or. EUROGRAPHICS 2001, Short Papers.

### **Invited publications**

- [112] How was it made? Rig animation with a tangible and modular input device. Oliver Glauser, Benedek Vartok, Wan-Chun Ma, Daniele Panozzo, Alec Jacobson, Cédric Pradalier, Otmar Hilliges and Olga Sorkine-Hornung. ACM Interactions, vol. 24(2), pp. 16-17, February 2017.
- [113] Demo hour: Rig animation with a tangible and modular device. Oliver Glauser, Benedek Vartok, Wan-Chun Ma, Daniele Panozzo, Alec Jacobson, Otmar Hilliges and Olga Sorkine-Hornung. ACM Interactions 24(1), pp. 11, January 2017.
- [114] Encoding meshes in differential coordinates. Daniel Cohen-Or and Olga Sorkine. Proceedings of SCCG 2006: the 22nd Spring Conference on Computer Graphics, ACM Press.

## Technical reports

- [115] Shape representation by zippable ribbons. Christian Schüller, Roi Poranne and Olga Sorkine-Hornung. arXiv:1711.02450, November 2017.
- [116] Discrete geodesic nets for modeling developable surfaces. Michael Rabinovich, Tim Hoffmann and Olga Sorkine-Hornung. Accepted to ACM Transactions on Graphics with minor revisions, draft on arXiv (arXiv:1707.08360), July 2017.
- [117] Scalable locally injective mappings. Michael Rabinovich, Roi Poranne, Daniele Panofzo and Olga Sorkine-Hornung. Technical report, ETH Zurich, March 2016. Published as an article in ACM Transactions on Graphics, 2017.
- [118] Large-scale spray painting of photographs by interactive optimization. Romain Prévost, Alec Jacobson, Wojciech Jarosz and Olga Sorkine-Hornung. Technical report, ETH Zurich, July 2015. Published as an article in Computers & Graphics, 2016.
- [119] Consistently orienting facets in polygon meshes by minimizing the Dirichlet energy of generalized winding numbers. Kenshi Takayama, Alec Jacobson, Ladislav Kavan and Olga Sorkine-Hornung. Technical report, ETH Zurich, July 2014.
- [120] Robust and controllable quadrangulation of triangular and rectangular regions. Kenshi Takayama, Daniele Panofzo, Alexander Sorkine-Hornung and Olga Sorkine-Hornung. Technical report, ETH Zurich, 2013.
- [121] A cotangent Laplacian for images as surfaces. Alec Jacobson and Olga Sorkine. Technical report, ETH Zurich, April 2012.
- [122] A note on boundary constraints for linear variational surface design. Andrew Nealen and Olga Sorkine. Technical report, TU Berlin, May 2007.

## Theses

- [123] Olga Sorkine. Laplacian mesh processing. PhD Thesis. Tel Aviv University, 2006.

## Press (selection)

- 11.2017 Tagesanzeiger, “[Die Zahlenkünstlerin](#)” by Simone Luchetta. Print and online.
- 10.2017 SonntagsZeitung, in “[Fokus](#)” by Simone Luchetta. Print and online.
- 06.2017 ETH News, “[Olga Sorkine-Hornung wins Rössler Prize](#)” by Peter Rüegg.
- 05.2017 Bilanz, “[Die Zahlen-Dresseurin](#)” by Philipp Albrecht (Rubrik “Markets: Die Pionierin”).
- 10.2016 Das Magazin, “[Kinderleichte Computeranimation](#)” by Mathias Plüss.
- 09.2016 Schweizer Illustrierte, “[Frauenpower an der ETH: Olga Sorkine-Hornung – die Animations-Künstlerin](#)” by Manuela Enggist.
- 03.2015 ETH Globe Magazine, “[Algorithms that capture the imagination](#)” by Roland Baumann.
- 11.2014 Einstein TV Show on SRF (Swiss Radio and Television), “[Zahlenkünstlerin mit Spieltrieb](#)” and “[Animationsfilme leicht gemacht](#)”. <http://www.srf.ch/sendungen/einstein/ausnahmetalent-animationskunst-affenfroschung>
- 07.2014 watson.ch, “[Filme und Games zu animieren ist eine mühselige Arbeit. Dieser Joystick der ETH macht das Ganze zum Kinderspiel](#)” by Philipp Rüegg.
- 06.2014 Wired UK, “[Animate digital creatures with this pliable modular doll](#)” by Olivia Solon.
- 06.2014 Gizmag, “[3D “Joystick” for animation artists takes shape](#)” by Colin Jeffrey.
- 06.2014 20 Minuten, “[Animations-Figuren im Nu zum Leben erweckt](#)”.
- 06.2014 ETH Life, “[A versatile joystick for animation artists](#)” by Angelika Jacobs.
- 09.2013 Horizonte (Research magazine of the Swiss National Science Foundation and the Swiss Academies of Arts and Sciences). “[Schwierigkeiten spielend meistern](#)” by Leonid Leiva.



- 04.2013 Der Landbote. “Die simpelste Lösung ist immer die beste (Olga Sorkine im Interview)” by Daniel Stehula.
- 03.2013 nano on 3sat (TV channel in the German-speaking part of Europe), “[Die perfekte Formel](#)” by Sabine Olf.
- 12.2012 ETH Life, “[3-D-Technik für besseres Hören](#)” by Peter Rüegg.
- 10.2012 ETH Life, “[Spezieller Preis für Grafikspezialistin](#)” by Peter Rüegg.
- 08.2012 Swiss Radio DRS 2, “[Was die Informatik in Hollywood zu suchen hat](#)” (Folge 5 der Reihe “Grosse Träume der Wissenschaft”) by Maya Brändli.
- 08.2012 ETH Life, “[Distinguished talents](#)” by Franziska Schmid. Report on the ERC Starting Grant 2012 winners.
- 03.2012 Das Magazin, “[Ein Tag im Leben](#)” by Birgit Schmid. Print version (10.03.2012) and online.
- 11.2011 SonntagsZeitung, “[Die Herrin der 3-D-Monster](#)” by Simone Luchetta. Print version and online.
- 11.2011 Game Developer Magazine, “The Game Developer 50” by Brandon Sheffield and Frank Cifaldi. Annual list of top 50 persons who have made a significant impact on the game industry.
- 09.2011 ETH Life, “[Genial in Computergrafik](#)” by Peter Rüegg.
- 12.2006 TU intern (newspaper of TU Berlin), “[Die Kunst, Bilder zu erschaffen](#)”; “[Humboldt-Stipendiatin Olga Sorkine will Maschinen das Lernen beibringen](#)” by Christian Hohfeld.

## Professional activities

### Program chair

2019	ACM SIGGRAPH, technical papers
2018	Advanced in Architectural Geometry, technical papers
2017	Pacific Graphics, technical papers
2015	EUROGRAPHICS, technical papers
2013	EUROGRAPHICS, short papers
2012	3DimPVT, technical papers
2011	Shape Modeling International, technical papers
2010	Eurographics Symposium on Geometry Processing, technical papers
2010	ECCV Workshop on Media Retargeting

### Editorial board member (associate editor)

2016 – present	ACM Transactions on Graphics
2015 – present	IEEE Transactions on Visualization and Computer Graphics
2011 – 2015	IEEE Computer Graphics and Applications
2010 – 2013	Computer Graphics Forum (Wiley-Blackwell)
2010 – 2015	Graphical Models (Elsevier)
2009 – 2015	The Visual Computer (Springer)
2008 – 2014	Computers & Graphics (Elsevier)

### Event organizer

2013	Dagstuhl Seminar “Real-World Visual Computing”
2010	ECCV Workshop on Media Retargeting

### Program committee member

ACM SIGGRAPH, technical papers: 2008, 2009, 2011, 2012, 2014, 2017  
ACM SIGGRAPH ASIA, technical papers: 2010, 2017 (sorter)  
EUROGRAPHICS, technical papers: 2007, 2008, 2011, 2012, 2014, 2015 (co-chair)  
EUROGRAPHICS, short papers: 2008, 2009, 2013 (co-chair)  
Eurographics Symposium on Geometry Processing: 2008–2018 (2010 co-chair)  
Pacific Graphics, technical papers: 2007, 2008, 2011–2013, 2017 (co-chair)  
ACM Symposium on Interactive 3D Graphics and Games (I3D): 2010–2013  
ACM/SIAM Symposium on Solid and Physical Modeling: 2008–2013  
Shape Modeling International: 2008, 2009, 2011 (co-chair), 2013  
SIBGRAPI, technical papers: 2009, 2011, 2012  
ACM SIGGRAPH, sketches & posters: 2007  
ACM SIGGRAPH ASIA, sketches & posters 2008 (advisory board), 2009  
ACM SIGGRAPH, Student research competition Jury: 2010  
International Symposium on Sketch-based Interfaces and Modeling: 2010, 2012, 2013  
3D Data Processing, Visualization and Transmission (3DPVT): 2008, 2010, 2012 co-chair  
CVPR Workshop on Non-rigid Shape Analysis and Deformable Image Alignment: 2010, 2011  
Geometric Modeling and Processing (GMP): 2012  
ICSE Workshop on Games and Software Engineering: 2012  
Computer Animation and Social Agents (CASA): 2008  
International Symposium on Visual Computing (ISVC): 2009, 2010  
Asia-Pacific Signal and Information Processing Association (APSIPA): 2009  
IADIS International Conference on Computer Graphics and Visualization: 2007, 2008

## Reviewer

- Journals:** ACM Transactions on Graphics, IEEE Transactions on Visualization and Computer Graphics, IEEE Computer Graphics and Applications, IEEE Transactions on Systems Man & Cybernetics, IEEE Transactions on Circuits and Systems for Video Technology, Computer Graphics Forum, Computers & Graphics, The Visual Computer, Graphical Models, Computer Aided Geometric Design, Computer Aided Design, Journal of Computational Physics.
- Conferences:** ACM SIGGRAPH, ACM SIGGRAPH ASIA, EUROGRAPHICS, EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing, EUROGRAPHICS Symposium on Rendering, EUROGRAPHICS/ACM SIGGRAPH Symposium on Computer Animation, Pacific Graphics, IEEE Visualization, Shape Modeling International, Symposium on Interactive 3D Graphics and Games, Point-based Graphics, ACM Solid and Physical Modeling Symposium, Geometric Modeling and Processing, Computer Graphics International, Afrigraph, SIBGRAPI, Computer Animation and Social Agents.
- Grants:** National Science Foundation (USA), Israel Science Foundation, Swiss National Science Foundation, European Research Council, Austrian Science Fund

## Keynote talks

- 07.2018 Symposium on Geometry Processing 2018, Paris, France.
- 11.2017 Symposium on Geometry and Computational Design 2017, Vienna, Austria.
- 06.2017 International Conference on Computational Science 2017, Zurich, Switzerland.
- 09.2014 ECCV Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA) 2014, Zurich, Switzerland. “Interactive mesh deformation with reality-inspired constraints”.
- 09.2013 Vision, Modeling and Visualization (VMV) 2013, Lugano, Switzerland. “Reality-inspired constraints for shape modeling and editing”.
- 06.2013 Computer Graphics International 2013, Hannover, Germany. “Challenges in interactive mesh modeling”.
- 05.2013 EUROGRAPHICS 2013, Girona, Spain. “Interactive shape modeling: progress and challenges”.
- 12.2012 European Conference on Media Production (CVMP) 2012, London, UK. “Really real-time 3D shape modeling and animation”.
- 05.2012 Spring Conference on Computer Graphics (SCCG) 2012, Smolenice, Slovakia. “Really real-time mesh editing”.
- 07.2010 Euroscience Open Forum 2010, Turin, Italy. “Shape spaces: representation, interpolation and editing of 3D objects”.
- 10.2009 SIBGRAPI 2009, Rio de Janeiro, Brazil. “Modeling and editing shapes: from local structure to high-level features”.
- 02.2007 Imagina’07, Monte Carlo, Monaco. “Geometric manipulation in shape and image domain”.

## Invited talks, conference presentations and seminars (external)

- 11.2017 Invited talk at Google Zurich.
- 10.2014 Colloquium of the School of Computer and Communication Sciences (IC) at EPFL, Lausanne, Switzerland (invited talk). “3D shape modeling, animation and fabrication using computation-friendly variational methods”.
- 06.2014 Mathematical Institute, University of Graz, Austria (invited talk). “Reality-inspired constraints for shape modeling and editing”.
- 03.2014 IMAGINE research seminar, INRIA Rhône-Alpes, Grenoble, France (invited talk). “Reality-inspired constraints for shape modeling and editing”.
- 01.2014 French-German Mathematical Image Analysis Conference, Institut Henri Poincaré, Paris, France (invited talk). “Variational warping for multi-image editing”.

- 11.2013 Discrete Curvature: Theory and Applications, workshop at Centre International de Rencontres Mathématiques, Marseille, France (invited talk). “Reality-inspired constraints for shape modeling”.
- 06.2013 Adidas, Herzogenaurach, Germany (invited talk). “Research at the Interactive Geometry Lab”.
- 05.2013 Max Planck Institute for Intelligent Systems, Tuebingen, Germany (invited talk). “Interactive shape modeling: progress and challenges”.
- 03.2013 Symposium Innovative und interdisziplinäre Arbeitswelten, Novartis Campus Basel, Switzerland (invited talk). “Digital 3D modeling and animation: from physical to virtual desktop and back”.
- 11.2012 ACM SIGGRAPH ASIA, Singapore. “Modern approaches to media retargeting” (invited half-day course, together with Dr. Alexander Hornung and Prof. Ariel Shamir).
- 06.2012 Berlin Colloquium for Scientific Visualization, Freie Universität Berlin, Germany (invited talk). “Fast shape deformation using skinning”.
- 03.2012 Phonak AG, Stäfa, Switzerland (invited talk). “Interactive real-time shape modeling with irregular meshes using variational techniques”.
- 12.2011 ACM SIGGRAPH ASIA, Hong Kong. “How to write a serious SIGGRAPH paper and get away with it”, invited speaker at the special course “How to write a SIGGRAPH paper”.
- 11.2011 LiberoVision AG, Zurich, Switzerland (invited talk). “Research at the Interactive Geometry Lab”.
- 11.2011 ETH Zurich, Switzerland. Inaugural lecture: “Modeling and animation of digital shapes”.
- 08.2011 ACM SIGGRAPH, Vancouver, Canada. Award talk: “Shape modeling in scale: from local to global”.
- 08.2011 Pixar Animation Studios, Emeryville, USA (invited talk). “bounded biharmonic weights for skinning deformations”.
- 05.2011 FMX 2011, Stuttgart, Germany (invited talk). “GeoBrush: interactive mesh geometry cloning”.
- 02.2011 MFO Workshop “Trends in Mathematical Imaging and Surface Processing”, Oberwolfach, Germany (invited talk). “Smooth weights for real-time shape deformation”.
- 10.2010 MIT Graphics Group annual retreat, Boston, USA (invited talk). “GeoBrush: interactive mesh geometry cloning”.
- 07.2010 ACM SIGGRAPH, Los Angeles, USA. “Motion-based video retargeting with optimized crop-and-warp”.
- 05.2010 RWTH Aachen, Germany (invited talk). “Topology-based smoothing of 2D scalar fields with  $C^1$ -continuity”.
- 12.2009 ACM SIGGRAPH ASIA, Yokohama, Japan. “Half-day course: Visual media retargeting”.
- 07.2009 Disney Research/ETH Zurich, Switzerland (invited talk). “iWIRES: an analyze-and-edit approach to shape manipulation”.
- 04.2009 Adobe Systems, Boston, USA (invited talk). “iWIRES: an analyze-and-edit approach to shape manipulation”.
- 04.2009 Massachusetts Institute of Technology, Boston, USA (invited talk). “iWIRES: an analyze-and-edit approach to shape manipulation”.
- 03.2009 EUROGRAPHICS Conference, Munich, Germany. “Tutorial: Interactive shape modeling and deformation”.
- 12.2008 Workshop on City Modeling, Simulation and Visualization, Shenzhen, China. “Optimized scale-and-stretch for image resizing”.
- 11.2008 Princeton University, USA (invited talk). “Optimized scale-and-stretch for image resizing”.
- 09.2008 University of Zaragoza, Spain (invited talk). “Optimized scale-and-stretch for image resizing”.

- 06.2008 University of Konstanz, Germany (invited talk). “The art and science of skeletal shape deformation”.
- 04.2008 University of Magdeburg, Germany (invited talk). “Context-aware skeletal shape deformation”.
- 02.2008 Universitat Politècnica de Catalunya, Barcelona, Spain (invited talk). “Interfaces and algorithms for the creation and animation of surface meshes”.
- 08.2007 University of Montreal, Canada. “ Interfaces and algorithms for the creation and editing of surface meshes”.
- 07.2007 EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing, Barcelona, Spain. “As-rigid-as-possible surface modeling”.
- 11.2006 ETH Zurich, Switzerland. “Feature-aware texturing and 3D collages”.
- 10.2006 Helsinki University of Technology, Finland (invited talk). “Linear rotation-invariant coordinates”.
- 08.2006 Max-Planck-Institut für Informatik, Saarbrücken, Germany (invited talk). “Feature-aware texturing and 3D collages”.
- 07.2006 ACM SIGGRAPH Conference, Boston, USA. “ Color harmonization”.
- 10.2005 The University of Tokyo, Japan (invited talk). “Laplacian mesh processing”.
- 09.2005 EUROGRAPHICS Conference, Dublin, Ireland (State-of-the-art report). “Laplacian mesh processing”.
- 01.2005 Tel Hai Academic College, Israel (invited talk).
- 07.2004 EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing, Nice, France. “Laplacian surface editing”.
- 06.2004 International Conference on Shape Modeling and Applications, Genoa, Italy. “Least-squares meshes”.
- 07.2003 Max-Planck-Institut für Informatik, Saarbrücken, Germany. “Ray space factorization for from-region visibility”.
- 06.2003 EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing, Aachen, Germany. “High-pass quantization for mesh encoding”.
- 06.2003 Center for Graphics and Geometric Computing Seminar, Israel Institute of Technology (Technion). “High-pass quantization for mesh encoding”.
- 02.2003 The 4th Israel-Korea Bi-National Conference on Geometric Modeling and Computer Graphics, Tel Aviv, Israel. “Bounded-distortion piecewise mesh parameterization”.
- 12.2002 Center for Graphics and Geometric Computing Seminar, Israel Institute of Technology (Technion). “Ray space factorization for from-region visibility”.
- 10.2002 IEEE Visualization Conference, Boston, USA. “Bounded-distortion piecewise mesh parameterization”.
- 10.2002 Massachusetts Institute of Technology, Boston, USA (invited talk). “Ray space factorization for from-region visibility”.
- 10.2002 Princeton University, USA (invited talk). “Ray space factorization for from-region visibility”.
- 09.2002 WSI/GRIS, University of Tübingen, Germany (invited talk). “Bounded-distortion piecewise mesh parameterization”.
- 09.2002 Max-Planck-Institut für Informatik, Saarbrücken, Germany. “Bounded-distortion piecewise mesh parameterization”.
- 09.2002 RWTH Aachen, Germany (invited talk). “Ray space factorization for from-region visibility”.
- 08.2002 AT&T Research Labs at Florham Park, USA. “Bounded-distortion piecewise mesh parameterization”.
- 08.2002 State University of New York at Stony Brook, USA (invited talk). “Bounded-distortion piecewise mesh parameterization”.
- 09.2001 EUROGRAPHICS Conference, Manchester, England. “Warped textures for uv-mapping encoding”.

## Extended research visits and collaborations (selection)

06.2012 – 07.2012	Freie Universität Berlin, Germany Prof. Konrad Polthier Digital shape analysis
11.2009	REVES/INRIA Sophia-Antipolis, France Dr. George Drettakis Image based rendering
07.2009	ETH Zurich and Disney Research Zurich, Switzerland Dr. Alexander Hornung and Prof. Markus Gross Media retargeting
09.2008	University of Zaragoza, Spain Prof. Diego Gutierrez Reverse tone mapping
06.2007	REVES/INRIA Sophia-Antipolis, France Dr. Sylvain Lefebvre and Dr. George Drettakis Interactive image editing
11.2006	ETH Zurich, Switzerland Dr. Mario Botsch and Prof. Markus Gross Variational deformation methods
08.2005 – 10.2005	Microsoft Research Asia (Beijing), internship in the Internet Graphics Group Dr. Baining Guo and Dr. Ying-Qing Xu Color harmonization
07.2005	Imager Laboratory, University of British Columbia, Canada Prof. Alla Sheffer and Tiberiu Popa Expressive non-realistic modeling of 3D collages
07.2004	Discrete Geometric Modeling Group, Technische Universität Darmstadt, Fraunhofer Institute, Germany Prof. Marc Alexa and Andrew Nealen Interactive shape editing
07.2003 – 09.2003	Max-Planck-Institut für Informatik, Germany Prof. Hans-Peter Seidel and Dr. Christian Rössl Feature-sensitive surface representation and editing
09.2002	Max-Planck-Institut für Informatik, Germany Prof. Alexander Belyaev and Prof. Hans-Peter Seidel Surface parameterization

## Associations

2014 – present	Member of ACM
2012 – present	Member of the ETH Women Professors Forum
2007 – present	Member of ACM SIGGRAPH
2007 – present	Member of EUROGRAPHICS

## Languages

Hebrew, English, Russian, German, basic French.

## Hobbies

Hiking, knitting, chocolatier, [INGVERIT](#).