

Daniele Panozzo

CONTACT INFORMATION

Full address:
Courant Institute of Mathematical Sciences
New York University
60 5th Avenue, 5th floor
New York, NY 10011
Tel: +1 212 998 3208
Email: panozzo@nyu.edu
Website: <http://cs.nyu.edu/panozzo/>

RESEARCH INTERESTS

Geometric Modeling, Discrete Differential Geometry, Interactive Graphics, Architectural Geometry, Computational Photography

CURRENT OCCUPATION

Assistant Professor
Courant Institute of Mathematical Sciences, New York University, USA

EDUCATION

Senior Researcher
ETH Zurich, Switzerland
October 2013 - January 2016

Postdoctoral Researcher
ETH Zurich, Switzerland
May 2012 - September 2013

PhD in Computer Science,
May 2012, University of Genoa, DISI, Italy,
Thesis title: *"From irregular meshes to structured models"*

Master of Computer Science,
October 2008, University of Genoa, DISI, Italy,
Final Grade: 110/110 summa cum laude
Thesis title: *"News visualization on maps"*

Bachelor of Computer Science,
September 2007, University of Genoa, DISI, Italy,
Final Grade: 110/110 summa cum laude
Thesis title: *"Selectively refinable subdivision meshes"*

High School Degree,
ITIS Galileo Ferraris, Savona, Italy,
July 2004
Grade: 100/100

AWARDS

SNF CAREER Award Coupling Geometric Acquisition and Digital Fabrication, 2017
SGP 2015 **Software Award** for libigl, July 2015
Eurographics **Young Researcher Award**, May 2015
SGP 2014 Best Paper Award, July 2014
Eurographics **Best PhD Thesis Award**, May 2013
Three years fellowship awarded from the University of Genoa to support my PhD studies. January 2009
Fellowship from ISICT (www.isict.it) to support my Master studies . September 2007

FUNDING	NSF Career Award, USD 554,000	2017-2021
	Adobe software gift	2017-2019
	Adobe gift, USD 5,000	2017
	Ntopology gift, USD 75,000	2016
PATENTS	US patent, Sketch-based generation and editing of quad meshes.	2013
TEACHING EXPERIENCE	Lecturer Geometry Processing, New York University, NY, USA	Spring 2017
	Lecturer Computer Graphics, New York University, NY, USA	Fall 2016
	Lecturer Shape Modeling and Geometry Processing, ETH, Zurich, Switzerland	Fall 2015
	Teaching Assistant Shape Modeling and Geometry Processing, ETH, Zurich, Switzerland	Fall 2014
	SGP 2014 Tutorial , LIBIGL: A C++ Library for Geometry Processing without a Mesh Data Structure, Cardiff, UK,	Summer 2014
	Teaching Assistant Shape Modeling and Geometry Processing, ETH, Zurich, Switzerland	Fall 2013
	Teaching Assistant Computer Graphics, ETH, Zurich, Switzerland	Winter 2013
	Teaching Assistant Computer Graphics, ETH, Zurich, Switzerland	Winter 2012
	Teaching Assistant Shape Modeling and Geometry Processing, ETH, Zurich, Switzerland	Fall 2012
	Teaching Assistant Calculus, University of Genoa, DISI, Italy	Spring 2010
	Teaching Assistant Geometric Algorithms, University of Genoa, DISI, Italy	Fall 2008, Fall 2009
	Teaching Assistant Interactive Graphics, University of Genoa, DISI, Italy	Fall 2008, Fall 2009
	Research Assistant University of Genoa, DISI, Italy	Winter 2008
	Teaching Assistant Linear Algebra, University of Genoa, DISI, Italy	Fall 2007
	Laboratory Technical Assistant ITIS - Galileo Ferraris, Savona, Italy	Fall 2005

LANGUAGE SKILLS
Mother language: Italian
Other languages: English

- PUBLICATIONS**
- Robust Hex-Dominant Mesh Generation using Field-Guided Polyhedral Agglomeration**,
Xifeng Gao, Wenzel Jakob, Marco Tarini, and Daniele Panozzo,
ACM Transactions on Graphics 2017 (Proceedings of SIGGRAPH 2017)
 - Field-Aligned Online Surface Reconstruction**,
Nico Schertler, Marco Tarini, Wenzel Jakob, Misha Kazhdan, Stefan Gumhold,
Daniele Panozzo,
ACM Transactions on Graphics 2017 (Proceedings of SIGGRAPH 2017)
 - Scalable Locally Injective Maps**,
Michael Rabinovich, Roi Poranne, Daniele Panozzo, Olga Sorkine-Hornung,

ACM Transactions on Graphics, 2017

4. **How Was It Made? Rig Animation with a Tangible and Modular Input Device,**
Oliver Glauser, Benedek Vartok, Alex (Wan-Chun) Ma, Daniele Panozzo, Alec Jacobson, Otmar Hilliges, Olga Sorkine-Hornung,
Invited article ACM Interactions, 2017
5. **Blended barycentric coordinates,**
Dmitry Anisimov, Daniele Panozzo, Kai Hormann,
Computer Aided Geometric Design, 2017
6. **Directional Field Synthesis, Design, and Processing,**
Amir Vaxman, Marcel Campen, Olga Diamanti, Mirela Ben-Chen, David Bommes,
Klaus Hildebrandt, Daniele Panozzo,
Course, SIGGRAPH ASIA, 2016
7. **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 Schller,
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, Tim Weyrich,
Digital Scholarship in the Humanities, 2016
8. **Confocal reference free traction force microscopy,**
Martin Bergert, Tobias Lendenmann, Manuel Zundel, Alexander E. Ehret, Daniele Panozzo,
Patrizia Richner, David K. Kim, Stephan J.P. Kress, David J. Norris,
Olga Sorkine-Hornung, Edoardo Mazza, Dimos Poulikakos, Aldo Ferrari,
Nature Communications, 2016
9. **Rig Animation with a Tangible and Modular Input Device,**
Oliver Glauser, Benedek Vartok, Alex (Wan-Chun) Ma, Daniele Panozzo, Alec Jacobson,
Otmar Hilliges, Olga Sorkine-Hornung,
UIST 2016 Demo
10. **Image Content Retargeting,**
Alessandro Artusi, Francesco Banterle, Tunc Ozan Aydin, Daniele Panozzo,
Olga Sorkine-Hornung,
BOOK A K Peters/CRC Press
11. **Computational Thermoforming,**
Christian Schller, Daniele Panozzo, Anselm Grundhofer, Henning Zimmer, Evgeni Sorkine,
Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH, 2016)
12. **Rig Animation with a Tangible and Modular Input Device,**
Oliver Glauser, Alex (Wan-Chun) Ma, Daniele Panozzo, Alec Jacobson, Otmar Hilliges,
Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH, 2016)
13. **Directional Field Synthesis, Design, and Processing,**
Amir Vaxman, Marcel Campen, Olga Diamanti, Daniele Panozzo, David Bommes,
Klaus Hildebrandt, Mirela Ben-Chen,
State-of-the-art Report (Eurographics 2016)
14. **Instant Field-Aligned Meshes,**
Wenzel Jakob, Marco Tarini, Daniele Panozzo, Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH Asia, 2015)

15. **Texture Mapping Real-World Objects with Hydrographics**,
Daniele Panozzo, Olga Diamanti, Sylvain Paris, Marco Tarini, Evgeni Sorkine,
Olga Sorkine-Hornung,
SGP 2015
16. **Integrable PolyVector Fields**,
Olga Diamanti, Amir Vaxman, Daniele Panozzo, Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH, 2015)
17. **Data-Driven Interactive Quadrangulation**,
Giorgio Marcias, Kenshi Takayama, Nico Pietroni, Daniele Panozzo, Olga Sorkine-
Hornung, Enrico Puppo, Paolo Cignoni,
ACM Transactions on Graphics (SIGGRAPH, 2015)
18. **Demystifying Quadrilateral Remeshing**,
Daniele Panozzo,
IEEE Computer Graphics and Applications, 2015
19. **Appearance-mimicking surfaces**,
Christian Schüller, Daniele Panozzo, Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH Asia, 2014)
20. **Assembling self-supporting structures**,
Mario Deuss, Daniele Panozzo, Emily Whiting, Yang Liu, Philippe Block, Olga
Sorkine-Hornung, Mark Pauly,
ACM Transactions on Graphics (SIGGRAPH Asia, 2014)
21. **Frame Fields: Anisotropic and Non-Orthogonal Cross Fields**,
Daniele Panozzo, Enrico Puppo, Marco Tarini, Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH, 2014)
22. **Tangible and Modular Input Device for Character Articulation** Alec Jacob-
son, Daniele Panozzo, Oliver Glauser, Cedric Pradalier, Otmar Hilliges, Olga
Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH, 2014)
23. **LIBIGL: A C++ Library for Geometry Processing without a Mesh Data Struc-
ture**,
Daniele Panozzo, Alec Jacobson,
SGP 2014 Graduate School
24. **Designing N-PolyVector Fields with Complex Polynomials**,
Olga Diamanti, Amir Vaxman, Daniele Panozzo, Olga Sorkine-Hornung,
SGP 2014 (*Best Paper Award*)
25. **Pattern-Based Quadrangulation for N-Sided Patches**,
Kenshi Takayama, Daniele Panozzo, Olga Sorkine-Hornung,
SGP 2014
26. **Best-Fit Thrust Network Analysis: Rationalization of Freeform Meshes**,
Tom Van Mele, Daniele Panozzo, Olga Sorkine-Hornung, Philippe Block,
Book Chapter in Shell Structures for Architecture: Form Finding and Optimiza-
tion
27. **Accurate and Efficient Lighting for Skinned Models**,
Marco Tarini, Daniele Panozzo, Olga Sorkine-Hornung,
Computer Graphics Forum (EUROGRAPHICS 2014)
28. **Content-Aware Surface Parameterization for Interactive Restoration of His-
torical Documents**,
Kazim Pal, Christian Schüller, Daniele Panozzo, Olga Sorkine-Hornung, Tim
Weyrich,
Computer Graphics Forum (EUROGRAPHICS 2014)

29. **Object Detection and Classification from Large-Scale Cluttered Indoor Scans**,
Oliver Mattausch, Daniele Panozzo, Claudio Mura, Olga Sorkine-Hornung, Renato Pajarola,
Computer Graphics Forum (EUROGRAPHICS 2014)
30. **Mobile Image Retargeting**,
Daniel Graf, Daniele Panozzo, Olga Sorkine-Hornung,
Vision, Modeling and Visualization 2013 (VMV 2013)
31. **Designing Unreinforced Masonry Models**,
Daniele Panozzo, Philippe Block, Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH 2013)
32. **Weighted Averages on Surfaces**,
Daniele Panozzo, Ilya Baran, Olga Diamanti, Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH 2013)
33. **Sketch-Based Generation and Editing of Quad Meshes**,
Kenshi Takayama, Daniele Panozzo, Alexander Sorkine-Hornung, Olga Sorkine-Hornung,
ACM Transactions on Graphics (SIGGRAPH 2013)
34. **Locally Injective Mappings**,
Christian Schüller, Ladislav Kavan, Daniele Panozzo, Olga Sorkine-Hornung,
SGP 2013
35. **Consistent Volumetric Discretizations Inside Self-Intersecting Surfaces**,
Leonardo Sacht, Alec Jacobson, Daniele Panozzo, Christian Schüller, Olga Sorkine-Hornung,
SGP 2013
36. **Animation-Aware Quadrangulation**,
Giorgio Marcias, Nico Pietroni, Daniele Panozzo, Enrico Puppo, Olga Sorkine-Hornung,
SGP 2013
37. **Fields on Symmetric Surfaces**,
Daniele Panozzo, Yaron Lipman, Enrico Puppo, Denis Zorin,
ACM Transactions on Graphics (SIGGRAPH 2012)
38. **Robust Interactive Image Retargeting via Axis-Aligned Deformation**,
Daniele Panozzo, Ofir Weber, Olga Sorkine,
Eurographics, 2012
39. **Patchwork Terrains**,
Luigi Rocca, Daniele Panozzo, Enrico Puppo,
International Conference on Computer Graphics Theory and Applications, 2012
40. **Fast neighborhood search on polygonal meshes**,
Luigi Rocca, Nikolas De Giorgis, Daniele Panozzo, Enrico Puppo,
Eurographics Italian Chapter, 2011
41. **Interference Aware Geometric Modeling**,
David Harmon, Daniele Panozzo, Olga Sorkine, Denis Zorin,
ACM Transactions on Graphics, (SIGGRAPH Asia 2011)
42. **Simple Quad Domains for Field Aligned Mesh Parametrization**,
Marco Tarini, Enrico Puppo, Daniele Panozzo, Nico Pietroni, Paolo Cignoni,
ACM Transactions on Graphics, (SIGGRAPH Asia 2011)
43. **Automatic Construction of Quad-Based Subdivision Surfaces using Fitmaps**,
Daniele Panozzo, Enrico Puppo, Marco Tarini, Nico Pietroni, Paolo Cignoni,
IEEE Transactions on Visualization and Computer Graphics, 2011

44. **Implicit Hierarchical Quad-Dominant Meshes**,
Daniele Panozzo, Enrico Puppo,
Computer Graphics Forum, 2011
45. **Adaptive quad mesh simplification**,
Alessandro Bozzo, Daniele Panozzo, Enrico Puppo, Nico Pietroni, Luigi Rocca,
Eurographics Italian Chapter 2010,
Genoa, Italy, November 18-19, 2010.
46. **Efficient Multi-scale Curvature and Crease Estimation**,
Daniele Panozzo, Enrico Puppo, Luigi Rocca,
In Proceedings of Computer Graphics, Computer Vision and Mathematics, Brno,
Czech Republic, September 7-10, 2010
47. **A Dimension-Independent Data Structure for Simplicial Complexes**,
Leila De Floriani, Annie Hui, Daniele Panozzo, David Canino,
In Proceedings of the 19th International Meshing Roundtable, Chattanooga,
Tennessee, October 3-6, 2010
48. **Adaptive LOD Editing of Quad Meshes**,
Daniele Panozzo, Enrico Puppo,
In Proceedings of the 7th international Conference on Computer Graphics, Virtual Reality, Visualisation and interaction in Africa, Franschhoek, South Africa,
June 21 - 23, 2010 (*Best Paper Award*)
49. **Practical quad mesh simplification**,
Marco Tarini , Nico Pietroni , Paolo Cignoni , Daniele Panozzo, Enrico Puppo,
Computer Graphics Forum, (EUROGRAPHICS 2010)
50. **Computing and Visualizing a Graph-Based Decomposition for Non-Manifold Shapes**,
Leila De Floriani, Daniele Panozzo, Annie Hui,
In Proceedings of the 7th IAPR-TC-15 International Workshop on Graph-Based Representations in Pattern Recognition, 2009
51. **Rgb Subdivision**,
Enrico Puppo, Daniele Panozzo,
IEEE Transactions on Visualization and Computer Graphics, 2009
52. **Interpolatory Adaptive Subdivision for Mesh Lod Editing**,
Daniele Panozzo, Enrico Puppo,
In Proceedings of the Fourth International Conference on Computer Graphics Theory and Applications, Lisbon, Portugal, February 5-8, 2009
53. **NewsStand: A New View on News**
Benjamin Teitler, Michael Lieberman, Daniele Panozzo, Jagan Sankaranarayanan, Hanan Samet, Jon Sperling
In Proceedings of the 16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, Irvine, CA, November 2008.
(*ACM SIGSPATIAL GIS 2008 Best Paper Award*)

KEYNOTES:

Generalized Tangent Vector Fields,
32nd Spring conference on Computer Graphics 2016, Smolenice, Slovakia, 28/04/2016

Fabrication-Aware Geometry Processing,
MEIS 2015, Kyushu University, Fukuoka, Japan, 27/09/2015

INVITED TALKS: **Generalized Tangent Vector Fields,**
Stony Brook University, New York, 04/11/2016

Generalized Tangent Vector Fields,
Dresden University of Technology, Dresden, Germany, 17/06/2016

Texturing Real World Objects,
Gradifab 2016, Lisbon, Portugal, 08/05/2016

Generalized Tangent Vector Fields,
University of Utah, Salt Lake City, US, 18/04/2016

Generalized Tangent Vector Fields,
BYU, Provo, US, 14/04/2016

Fabrication-Aware Geometry Processing,
Christian Kerez Zurich AG, Zurich, Switzerland, 23/10/2015

Texture Mapping Real-World Objects with Hydrographics,
Workshop on Interactive Geometry, Tokyo University, Tokyo, Japan, 30/10/2015

Geometry processing in the era of parallel computing,
International Geometry Workshop 2015, Seggau, Austria, 10/07/2015

Generalized Tangent Vector Fields for Fabrication-Aware Geometry Processing,
University College London, London, United Kingdom, 27/04/2015

Generalized Tangent Vector Fields for Fabrication-Aware Geometry Processing,
CS Colloquium, New York University, New York, US, 13/04/2015

Generalized Tangent Vector Fields for Fabrication-Aware Geometry Processing,
UT Austin, Austin, US, 09/04/2015

Generalized Tangent Vector Fields for Fabrication-Aware Geometry Processing,
Nanyang University, Singapore, 11/02/2015

Tangible and Modular Input Device for Character Articulation,
Hong Kong University, Hong Kong, China 8/12/2014

Generalized Tangent Vector Fields,
International Workshop on Computer Graphics, Shenzhen, China 2/12/2014

Restoration of Historical Documents,
ZURICH.MINDS, Zurich, Switzerland 12/11/2014

Tangible and Modular Input Device for Character Articulation,
Remedy Entertainment, Espoo, Finland 29/10/2014

Generalized Tangent Vector Fields,
Aalto University, Aalto, Finland 28/10/2014

Fabrication-Aware Geometry Processing,
Siggraph Finland Chapter Conference, Helsinki, Finland 27/10/2014

Generalized Tangent Vector Fields,
University College London, London, UK 23/09/2014

Tangible and Modular Input Device for Character Articulation,
Double Negative, London, UK 22/09/2014

Designing Self-Supporting Masonry Structures,
Technical University of Catalonia, Barcelona, Spain 05/03/2014

Interactive Geometry Processing,
TU Delft, Netherlands, 13/02/2014

Locally Injective Mappings,
Geometric and Physical Modeling 2013, Denver, USA, 13/11/2013

Consistent Volumetric Discretizations Inside Self-Intersecting Surfaces,
Geometry Workshop, Strobl, Austria, 31/08/2013

Global Parametrization, Symmetry and Self-Supporting Surfaces,
University of Lugano, Lugano, Switzerland, 19/04/2013

Fields on Symmetric Surfaces,
University of Zurich, Zurich, Switzerland, 20/06/2012

Fields on Symmetric Surfaces,
FU Berlin, Berlin, Germany, 21/06/2012

Interference-Aware Geometry Modeling,
Siggraph Tokyo Seminars, 24/02/2012

Interactive Geometric Modeling,
University of Zurich, 21/11/2011

Quad Mesh Simplification and Parametrization,
University of Cambridge, UK, 30/05/2011

Advances in Content-Aware Image Retargeting,
University of Nottingham, UK, 26/05/2011

Patchwork Terrains,
New York University, NY, USA, 09/11/2010

Automatic Construction of Quad-Based Subdivision Surfaces,
CNR, Pisa, Italy, 22/04/2010

ART: **Incidental Space,** La biennale di Venezia, 28/05/2016 - 27/11/2016

PROFESSIONAL ACTIVITIES:	General Chair, Reproducibility Stamp,	2016,2017
	Paper Chair, Symposium on Geometry Processing,	2016
	Paper Chair, Shape Modeling International,	2017
	Paper Chair, SIBGRAPI,	2017

Conference Chair, Tristate Workshop on Imaging and Graphics,	2016
Associate Editor-in-Chief, The Visual Computer,	2014,2015,2016,2017
Associate Editor, Computer Aided Geometric Design,	2016,2017
Associate Editor, Computers & Graphics,	2016,2017
PC Member, ACM SIGGRAPH,	2015, 2016
PC Member, ACM SIGGRAPH Asia,	2015, 2017
PC Member, ACM SIGGRAPH Asia - Courses,	2016
PC Member, Eurographics,	2015, 2016
PC Member, Eurographics - SHORT,	2013,2014
PC Member, Eurographics - STAR,	2016
PC Member, Advances in Architectural Geometry,	2014,2016
PC Member, 3DIMPVT,	2012
PC Member, 3DV,	2013,2014
PC Member, Symposium on Geometry Processing,	2013,2014,2015,2017
PC Member, IEEE EuroVIS - SHORT,	2013
PC Member, CGI,	2013,2014
PC Member, VMV,	2013
PC Member, Pacific Graphics,	2013,2014,2015,2016,2017
PC Member, GMP,	2014, 2015
PC Member, GRAPP,	2014
PC Member, SPM,	2014,2017
PC Member, SMI,	2014,2015,2016
PC Member, IC on Computer-Aided Design and Computer Graphics,	2015
PC Member, Symposium on Indoor Scene Understanding,	2014
PC Member, CAD/Graphics,	2015
Reviewer, ACM SIGGRAPH,	2011,2013,2014
Reviewer, ACM SIGGRAPH Asia,	2012,2013,2014,2016
Reviewer, Eurographics,	2011,2012,2013,2014,2017
Reviewer, ACM Transaction on Graphics,	2012,2013,2014,2016
Reviewer, Computer Graphics Forum,	2009,2012,2013,2014
Reviewer, Nokia Educational Material,	2009,2010,2011
Reviewer, GraVisMa,	2010
Reviewer, The Visual Computer,	2011
Reviewer, Grapp,	2011
Reviewer, IEEE Transactions on Multimedia,	2011,2012
Reviewer, Graphical Models,	2012
Reviewer, Journal on Computing and Cultural Heritage,	2012
Reviewer, IEEE Transactions on Cybernetics,	2013
Reviewer, Journal of Graphics Tools,	2013
Reviewer, CAGD,	2014
Reviewer, IEEE Transactions on Image Processing,	2015
Reviewer, IEEE Signal Processing Letters,	2015
Reviewer, Computational Geometry: Theory and Applications,	2016
Reviewer, Nature Scientific Reports,	2017
Reviewer, Journal of Computational Design and Engineering,	2017
PHD THESIS COMMITTEE MEMBER:	
Hans-Christian Ebke, RWTH Aachen,	2017
Julian Panetta, New York University,	2017
Qingnan Zhou, New York University,	2016
Gabriele Salvati, Sapienza University,	2016