

Curriculum Vitae

Peter Wonka, May 2014
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KAUST, Arizona State University

Personal Information

- Name: Peter Wonka (Dipl.-Ing. Dipl.-Ing. Dr.techn.)
- Place of birth: Vienna, Austria
- Languages: English, German, French

Professional Preparation

- Vienna University of Technology, M.S., Urban Planning, 2002 (Dipl.-Ing. – 5 year degree)
- Vienna University of Technology, Ph.D., Computer Science, 2001 (Dr. techn.)
- Vienna University of Technology, M.S., Computer Science, 1997 (Dipl.-Ing. – 5 year degree)

Appointments

- August 2011 - current: Associate Professor, KAUST, KSA
- Aug 2010 - current: Associate Professor, Arizona State University, USA
- Aug 2004 – May 2010: Assistant Professor, Arizona State University, USA
- Aug 2002 – Aug 2004: Postdoctoral Researcher, Georgia Institute of Technology, USA
- Oct 1997 – Aug 2002: Research Assistant, Vienna University of Technology, Austria
- June 2000 - Jan 2001: Researcher, UJF Grenoble (iMAGIS - GRAVIR/IMAG, INRIA), France
- March 2000 – June 2000: Lecturer, Fachhochschule Hagenberg, Austria
- March 1999 – June 1999: Lecturer, Fachhochschule Hagenberg, Austria
- Sept 1998 – Jan 1999: Researcher, University of Rennes I, France

Awards and Stipends:

- 2014: Eurographics best paper award (honorable mention – one best paper award and two honorable mention given in total)
- 2011: Eurographics best paper award (2nd place)
- 2006: NSF CAREER Award
- 2006: Best Proposal Award for GAMEWORLD, 2006
- 2006: Best Paper Award at VAST – 2nd place
(Eurographics Symposium on Virtual Reality, Archaeology and Cultural Heritage)
- 2001: Eurographics best paper award (Günther Enderle Award for the best paper)
The same paper also received the best student paper award

Conference Activities - Program Committee Member:

- ACM Siggraph 2009, 2010
- ACM Siggraph Asia, 2011, 2014
- IEEE Visualization 2009, 2010, 2011
- Eurographics 2012, 2014
- Eurographics Symposium on Rendering 2003, 2007, 2008
- ACM Symposium on Interactive 3D Graphics 2007, 2008, 2009, 2010, 2011, 2012, 2013
- IEEE Symposium of Interactive Ray Tracing 2007, 2008
- Eurographics Short Paper 2007
- Pacific Graphics 2004
- Shape Modeling International 2011, 2012, 2013
- AAG 2014

Conference Activities - Organization

- Pacific Graphics, Papers Chair, 2014
- IEEE Symposium of Interactive Ray Tracing, Treasurer, 2008

Conference Activities - Reviewing

- SIGGRAPH Conference
- SIGGRAPH Asia
- SIGGRAPH Symposium on Interactive 3D Graphics
- IEEE Visualization
- IEEE Virtual Reality
- IEEE Symposium on Interactive Ray Tracing
- EUROGRAPHICS Annual Conference
- EUROGRAPHICS Workshop on Rendering
- EUROGRAPHICS Workshop on Virtual Environments
- EUROGRAPHICS Workshop on Computational Aesthetics
- Joint EUROGRAPHICS - IEEE TCVG Symposium on Visualization
- Virtual Reality Modeling Language Symposium
- AAPR conference
- Summer Conference on Computer Graphics (Bratislava, Slovakia)
- Shape Modeling International
- Winter School on Computer Graphics (Plzen, Czech Republic)
- Pacific Graphics
- Graphics Interface

Journal Guest Editor

- Computers and Graphics, 2010
- IEEE Computer Graphics and Applications, 2008

Journal Editorial Board

- ACM Transactions on Graphics 2013 - current
- Computer Graphics Forum 2010 - 2013

Journal Referee Service

- IEEE Transactions on Visualization and Computer Graphics (TVCG)
- ACM Transactions on Graphics (TOG)
- IEEE PAMI
- Computer Graphics Forum
- IEEE Computer Graphics and Applications
- Visual Computer
- International Journal of Computers and Application
- Graphical Models

- Computers and Graphics
- Geoscience and Remote Sensing Letters
- IEEE Transactions on Computational Intelligence and AI in Games

Proposal Reviewer Service

- National Science Foundation
- Ireland, Hong Kong, Israel, Czech Republic, France
- Thompson Publishing

Department Committee Service ASU

- Graduate Admissions Committee 2004, 2005, 2006, 2007
- Computing Resources Committee 2007, 2008
- Faculty Hiring Committee 2008 (Chair), 2009, 2010, 2011
- College Hiring Committee 2009, 2010
- Graduate Program Committee 2009, 2010, 2011
- Personnel Committee 2010, 2011
- Informatics Committee 2010, 2011

Department Committee Service KAUST

- Graduate Admissions Committee 2011 (chair), 2012, 2013, 2014
- Recruiting Committee 2013, 2014

University Committee Service KAUST

- Academic Council 2011, 2012

Visual Computing Center KAUST

- Associate Director, Visual Computing Center (VCC, previously GMSV)
- Acting director of GMSV Nov 2013 - Jan 2014

Local Professional Committees

- Intel Science Fair 2005

Invited Presentations

1. University of Hong Kong, “Modeling of Street Layouts, Mass Models, and Facades”, November 2013
2. UCL London, “Modeling of Street Layouts, Mass Models, and Facades”, June 2013
3. Tsinghua University, “Connectivity Editing for Polygonal Meshes”, November 2012
4. Microsoft Research Asia, “Recent Work in Urban and Architectural Modeling”, November 2012
5. SIAT. “Architectural Modeling and Reconstruction”, November 2012
6. TU Graz, “Recent Work in Urban and Architectural Modeling”, June 2012
7. TU Vienna, “Interactive Modeling with Procedural Extrusions”, June 2012
8. IST Austria, “Connectivity Editing of Irregular Vertices”, August 2011
9. Purdue, “Procedural Modeling of Patterns on Surfaces”, October 2010
10. KAUST, “Modeling and Visualization of Urban Environments”, September 2010
11. University of Utah, “Modeling and Visualization of Urban Environments”, June 2010
12. Navteq, Chicago “Modeling and Visualization of Urban Environments”, May 2010
13. Lawrence Livermore National Laboratory, “Remote Sensing Research at PRISM”, December 2008
14. University of Girona, “Procedural Modeling of Urban Environments”, July 2008
15. VRVIS Vienna, “Modeling of Urban Environments”, June 2008
16. Technical University of Vienna, “Computer Graphics Education for Graduate Students”, June 2008
17. Google Research, California, “Urban Reconstruction & Modeling for Building Virtual Worlds”, March 2008
18. University of Utah, “Modeling and Visualization of Urban Environments”, November 2007
19. Oregon State University, February 2007
20. Valve, Seattle, October 2006
21. Universitaet Stuttgart, September 2006
22. Intel Research, Santa Clara, February 2006
23. Eidgenössische Technische Hochschule Zürich (ETH), July 2005
24. Eidgenössische Technische Hochschule Zürich (ETH), June 2004
25. Simon Frasier University, April 2004
26. Arizona State University, April 2004
27. Stony Brook University, March, 2004
28. University College London, England, June 2002
29. Graz University of Technology, Graz, Austria, May 2001
30. Karlava University of Prague, Prague, Czech Republic, April 2001
31. iMAGIS seminar, Grenoble, France, March 2000
32. University of Rennes I, Rennes, France, January 1999

Teaching

- Computer Graphics (AMCS 248), KAUST, Fall 2011, Fall 2012, Fall 2013
- Geometry Processing (AMCS 272), KAUST, Spring 2012, Spring 2013
- Graphics for Games (CPI411), Arizona State University, Spring 2009, Spring 2010, Spring 2011
- Introduction to Computer Graphics (CSE 470), Arizona State University, Fall 2005, Fall 2006, Fall 2007, Fall 2009, Fall 2010
- Real-time Rendering (CSE 591), Arizona State University, Spring 2005, Spring 2007, Spring 2008, Fall 2009
- Introduction to ASU (ASU 101), Arizona State University, Fall 2008
- Advanced Computer Graphics (CSE 570), Arizona State University, Spring 2006, Spring 2008
- Introduction to Theoretical Computer Science (CSE355), Arizona State University, Spring 2005
- Multi-media Programming (MMP6), Fachhochschule Hagenberg, Spring 1999, Spring 2000

Courses at Conferences and Workshops

1. **A Survey of Urban Reconstruction**
Przemyslaw Musialski, Peter Wonka, Daniel G. Aliaga, Michael Wimmer, Luc van Gool, Werner Purgathofer
State of the Art Report at Eurographics 2012
2. **Modeling 3D Urban Spaces Using Procedural and Simulation-Based Techniques**
Peter Wonka, Daniel Aliaga, Pascal Müller, Carlos Vanegas, Michael Frederickson
Course Notes of the ACM SIGGRAPH 2011
3. **Modeling the Appearance and Behavior of Urban Spaces**
Carlos Vanegas, Daniel G. Aliaga, Pascal Müller, Paul Waddell, Ben Watson, Peter Wonka
State of the Art Report at Eurographics 2009

4. **Urban Design and Procedural Modeling.**
B. Watson, P. Müller, P. Wonka and A. Fuller.
Course Notes of the ACM SIGGRAPH 2007.
5. **Procedural Modeling of Urban Environments.**
Peter Wonka, Ben Watson, Pascal Mueller, Eric Haines.
Course Notes of the ACM SIGGRAPH 2006

Current Projects

Notes: The percentages indicate the allocated recognition for each project as tracked by ASU.

- 3D Modeling using Multi-Sided Patches, Peter Wonka (PI), Alyn Rockwood, Tamas Varadi
Boeing Company. 2013 – 2015. 3yrs. 550K, KAUST
- CAREER: Constrained Procedural Urban Modeling.
Peter Wonka (PI, 100%),
NSF. 2007 – current. 5 yrs (extended). \$400K, ASU

Completed Projects

- Multi-source Visual Analytics
Jieping Ye, Peter Wonka (Co-PI 25%), Anshuman Razdan
NSF. 2009 – 2014, 3yrs. 500K, ASU
- HCC: Small: Collaborative Research: Graph and Pattern Design on Surfaces
Eugene Zhang, OSU and Peter Wonka, ASU
NSF. 2008 – 2013. 3 yrs. 250K, ASU
- CPA-G&V: Tensor Factory
Peter Wonka (PI, 50%), Jieping Ye (Co-PI)
NSF. 2008 – 2011. 3 yrs. \$299K
- Aerospace and Defense Initiative
Rick Shangraw et al. (Peter Wonka Co-PI 7%)
SFAZ. 2010 – 2011, 1yr, 1M, ASU
- Geospecific Displacement Maps for Real Time, Stereoscopic Training Simulation
Anshuman Razdan, Peter Wonka (Co-PI 50%), John Femiani
SBIR Phase 1. 2010 – 2011, 6 months. 50K, ASU + STRC
- Pilot: SOUZOU - Creativity through Procedural Modeling
Yoshihiro Kobayashi (PI), Peter Wonka (Co-PI, 50%)
NSF. 2008 – 2011. 2+1 yrs. \$199K
- Gameworld.
Michael Wimmer(PI), Peter Wonka(Co-PI, 100K Euro subcontract), Harald Riegler (Co-PI)
FIT-IT. 2007 – 2010. 3 yrs. 500K Euro
- Integrated Spectral Dimensionality Reduction.
Jieping Ye (PI), Peter Wonka (Co-PI, 25%), Anshuman Razdan (Co-PI)
NGA. 2008 – 2010. 2 yrs. \$300K
- Visual Geo-Analytics
Peter Wonka (PI, 50%), Anshuman Razdan (Co-PI), Elisabeth Wentz (Co-PI)
NSF. 2006 – 2010. 3 yrs. \$623K
- Innovative 2D/3D Building, Asset, and Resource Tracking Visualization Tool.
Kutta Consultion (PI), A. Razdan (Co-PI), Peter Wonka (Co-PI, ~20%)
SBIR. 2007 – 2010. 2.5 yrs. Phase I \$100K + Phase II \$450K.
- Procedural Details
Peter Wonka (PI, 80%), Jieping Ye (Co-PI)
NVIDIA. 2008. 6 months. 2008. \$25K
- Interactive Procedural Urban Reconstruction from Aerial Images
Google. Peter Wonka (PI 100%). 2008. \$40000 USD
- Geometry-based Feature Extraction and Analysis for Geospatial Datasets
Anshuman Razdan (PI), Peter Wonka (Co-PI, 50%)
NGA. 2005 – 2008. 3 yrs. \$450K
- Image-based Simplification for 3D GIS.
Peter Wonka (PI)
2002 – 2004, Austrian Science Fund (FWF), 70K Euro

Recent Collaborators (2 years) and Advisors

- Dieter Schmalstieg (TU Graz), PhD advisor
- William Ribarsky (UNC-C), postdoctoral advisor
- Michael Wimmer (TU Vienna), collaborator
- Pascal Mueller (ESRI), collaborator
- Eugene Zhang (Oregon State University), collaborator
- Anshuman Razdan (ASU), collaborator
- John Femiani (ASU), collaborator
- Jieping Ye (ASU), collaborator
- Helmut Pottmann (KAUST, TU Vienna), collaborator
- Niloy Mitra (KAUST, University College London), collaborator
- Xiaopeng Zhang (Chinese Academy of Sciences), collaborator
- Ligang Liu (USTC), collaborator
- Etienne Vouga (Harvard, UT Austin), collaborator

Masters Thesis Awarded

- Sahar A Aseeri (MS), KAUST, graduated 2013
- Mohamed Ibrahim (MS), KAUST, graduated 2012, first employment: PhD student at KAUST
- Yuanyuan Li (MS), ASU, graduated 2010
- Ji Liu (MS), ASU, graduated 2010, first employment: PhD student at U of Wisconsin
- Kaichi Zhou (MS), ASU, graduated 2008, first employment: NVIDIA
- Deepali Bhagvat (MS), ASU, graduated 2008, first employment: Microsoft
- Saif Ali (MS), ASU, graduated 2007, first employment: AMD

Doctoral Dissertations Awarded

- Pushpak Karnick, ASU, graduated August 2009 (co-chair Anshuman Razdan)
- Ming Cui, ASU, graduated February 2010 (co-chair Anshuman Razdan)

Current Graduate Students

- Fan Bao (PhD), ASU, expected graduation July 2014
- Chi-Han Peng (PhD), ASU, expected graduation July 2014
- Sen Yang (PhD), ASU, expected graduation July 2015
- Mohamed Ibrahim (PhD), KAUST, starting date August 2012
- Lama Affara (PhD), KAUST, starting date August 2013

Post-Doctoral Researchers and Visitors

- Yuanyuan Cao, KAUST, 2013 - current
- Liangliang Nan, KAUST, 2013 - 2014
- Mohamed Ben Romdhane, KAUST, 2012
- Dongming Yang, KAUST, 2011 – current
- Michael Schwarz, ASU, 2010 – 2011
- Gurkan Koldas, ASU, 2010
- Tom Kelly, ASU, 2009
- Alejandro Sanchez Guinea, ASU, 2009-2010
- David Cline, ASU, 2007 – 2009
- Stefan Jeschke, ASU, 2007 – 2009
- Fu Yinghua, ASU, 2007

Undergraduate Projects Supervised

- Yazeed AlHarbi, KAUST, Summer 2014,
- Robert Winkler, ASU, Fall 2011, NSF
- Daniel Garvey, ASU, Fall 2010, NSF
- Paul Silkey, ASU, Fall 2010, NSF

- Robert Nelson, ASU, Spring 2008, Fulton Research Initiative for Undergraduates
- Sean Williams, ASU, Spring 2006, Fulton Research Initiative for Undergraduates
- Seth Carpenter, ASU, Spring 2006, Fulton Research Initiative for Undergraduates
- Jacob Boyle, ASU, Fall 2006, Fulton Research Initiative for Undergraduates

Refereed Archival Journal Publications

Notes: students officially under my supervision are marked in italics. In Visual Computing many conferences publish the proceedings as special issues of journals. For example ACM SIGGRAPH has published proceedings in ACM TOG since 2002 and IEEE Visualization has published proceedings in IEEE TVCG since 2006. In case a conference directly publishes proceedings in a journal I only list them as journal publication. For citation statistics please refer to my google scholar page [<http://scholar.google.com/citations?user=0EKXSXgAAAAJ>].

1. **Inverse Procedural Modeling of Facade Layouts**
Fuzhang Wu, Dong-Ming Yan, Weiming Dong, Xiaopeng Zhang, Peter Wonka
ACM Transactions on Graphics (Proceedings of ACM Siggraph), 2014
2. **Computing layouts with deformable templates**
Chi-han Peng, Yong-Liang Yang, Peter Wonka
ACM Transactions on Graphics (Proceedings of ACM Siggraph), 2014
3. **PushPull++**
Markus Lipp, Peter Wonka, Pascal Mueller
ACM Transactions on Graphics (Proceedings of ACM Siggraph), 2014
4. **Exploring Quadrangulations**
Chi-han Peng, Michael Barton, Caigui Jiang, Peter Wonka
ACM Transactions on Graphics, 2014
5. **Edit Propagation using Geometry Relationship Functions**
Paul Guerrero, Stefan Jeschke, Michael Wimmer, Peter Wonka
ACM Transactions on Graphics, 2014
6. **Procedural Design of Exterior Lighting for Buildings with Complex Constraints**
Michael Schwarz, Peter Wonka
ACM Transactions on Graphics, 2014
7. **Unbiased Sampling and Meshing of Isosurfaces**
Dongming Yan, Johannes Wallner, Peter Wonka
IEEE Transactions on Visualization and Graphics (accepted), 2014
8. **Parallel Generation of Architecture on the GPU**
Markus Steinberger, Michael Kenzel, Bernhard Kainz, Joerg Mueller, Peter Wonka, Dieter Schmalstieg
Computer Graphics Forum (Proceedings of Eurographics). 2014.
9. **Combined Derivation and Rendering of Shape-Grammars on the GPU**
Markus Steinberger, Michael Kenzel, Bernhard Kainz, Peter Wonka, Dieter Schmalstieg
Computer Graphics Forum (Proceedings of Eurographics). 2014.
10. **Automatic Generation of Tourist Brochures**
Michael Birsak, Przemyslaw Musialski, Peter Wonka, Michael Wimmer
Computer Graphics Forum (Proceedings of Eurographics). 2014.
11. **Tensor Completion for Estimating Missing Values in Visual Data**
Ji Liu, Przemyslaw Musialski, Peter Wonka, Jieping Ye
IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013
12. **Generating and Exploring Good Building Layouts**
Fan Bao, Dong-Ming Yan, Niloy J. Mitra, Peter Wonka
ACM Transactions on Graphics, 2013 (Proceedings of ACM SIGGRAPH)
13. **Urban Pattern: Layout Design by Hierarchical Domain Splitting**
Yong-Liang Yang, Jun Wang, Etienne Vouga, Peter Wonka
ACM Transactions on Graphics, 2013 (Proceedings of ACM SIGGRAPH ASIA)
14. **Procedural Facade Variations from a Single Layout**
Fan Bao, Michael Schwarz, Peter Wonka
ACM Transactions on Graphics, 2013
15. **Gap Processing for Adaptive Maximal Poisson-Disk Sampling**
Dongming Yan, Peter Wonka
ACM Transactions on Graphics, 2013
16. **Connectivity Editing for Quad-Dominant Meshes**
Chi-han Peng, Peter Wonka
Computer Graphics Forum (Proceedings of the Symposium on Geometry Processing). 2013.

17. **Illustrating the Disassembly of 3D Models**
Jianwei Guo, Dong-Ming Yan, Er Li, Weiming Dong, Peter Wonka, Xiaopeng Zhang
Computers and Graphics (Proceedings of Shape Modeling International). 2013.
18. **A Survey of Urban Reconstruction**
Przemyslaw Musialski, Peter Wonka, Daniel G. Aliaga, Michael Wimmer, Luc van Gool, Werner Purgathofer
Computer Graphics Forum, 2013.
19. **A Framework for Interactive Image Color Editing**
Przemyslaw Musialski, *Ming Cui*, Jieping Ye, Anshuman Razdan, Peter Wonka
The Visual Computer, 2013
20. **Interactive Coherence-Based Façade Modeling**
Przemyslaw Musialski, Michael Wimmer, Peter Wonka
Computer Graphics Forum (Proceedings of Eurographics). 2012
21. **A Multi-Stage Framework for Dantzig Selector and LASSO**
Ji Liu, Peter Wonka, Jieping Ye
Journal of Machine Learning Research, 2012
22. **Sparse Non-negative Tensor Factorization Using Columnwise Coordinate Decent**
Ji Liu, Jun Liu, Peter Wonka, and Jieping Ye,
Pattern Recognition, volume 45, issue 1, pages 649–656, 2012
23. **Connectivity Editing for Quadrilateral Meshes**
Chi-Han Peng, Eugene Zhang, Yoshihiro Kobayashi, Peter Wonka
ACM Transactions on Graphics. 2011
Proceedings of Siggraph Asia
24. **Interactive Architectural Modeling with Procedural Extrusions**
Tom Kelly, Peter Wonka
ACM Transactions on Graphics, volume 30, number 2, pages 14:1-15. 2011
25. **Interactive Modeling of City Layouts using Layers of Procedural Content**
Markus Lipp, Daniel Scherzer, Peter Wonka, Michael Wimmer
Computer Graphics Forum, volume 30. Number 2. Pages 345-354. 2011
Proceedings of Eurographics 2011
26. **Estimating Color and Texture Parameters for Vector Graphics**
Stefan Jeschke, David Cline, Peter Wonka
Computer Graphics Forum, volume 30. number 2. Pages 523 – 532. 2011
Proceedings of Eurographics 2011
(best paper award: 2nd place)
27. **Geometry Synthesis on Surfaces Using Field-Guided Shape Grammars**
Yuanyuan Li, Fan Bao, Eugene Zhang, Yoshihiro Kobayashi, Peter Wonka
IEEE Transactions on Visualization and Computer Graphics, volume 17. number 2. pages 231 – 243. 2011.
28. **A New QEM for Parameterization of Raster Images**
Yin, Femiani, Wonka, Razdan
Computer Graphics Forum. 2011
29. **Editing Operations for Irregular Vertices in Triangle Meshes**
Yuanyuan Li, Eugene Zhang, Yoshihiro Kobayashi, Peter Wonka
ACM Transactions on Graphics, volume 29. number 6. Pages 153:1–11. 2010
Proceedings of Siggraph Asia
30. **Route Visualization using Detail Lenses**
Pushpak Karnick, David Cline, Stefan Jeschke, Anshuman Razdan, Peter Wonka
IEEE Transactions on Visualization and Computer Graphics, volume 16. number 2. pages 235 – 247. 2010.
31. **Color to Gray Conversion Using ISOMAP**
Ming Cui, Jiuxiang Hu, Anshuman Razdan, Peter Wonka
The Visual Computer, volume 26. number 11. pages 1349 – 1360. 2010.
32. **Parallel Generation of Multiple L-Systems**
Markus Lipp, Peter Wonka, Michael Wimmer
Computers and Graphics. volume 34. number 5. Pages 585 – 593. 2010
33. **Modeling the Appearance and Behavior of Urban Spaces**
Carlos Vanegas, Daniel Aliaga, Peter Wonka, Pascal Müller, Paul Waddell, Benjamin Watson
Computer Graphics Forum, volume 29. number 1. 2010.

34. **Grammar-based Encoding of Facades**
Simon Haegler, Peter Wonka, Stefan Müller Arizona, Luc J. Van Gool, Pascal Müller
Computer Graphics Forum. volume 29. number 4. pages 1479-1487. 2010
Proceedings of EG Symposium on Rendering
35. **Adaptive Global Visibility Sampling**
Jiri Bittner, Oliver Mattausch, Peter Wonka, Vlastimil Havran, Michael Wimmer
ACM Transactions on Graphics. volume 28, number 3, article #94, pages 1-10. 2009.
Proceedings of SIGGRAPH 2009
36. **A Minimal Surface Poisson Solver for Diffusion Curves and Image Editing**
Stefan Jeschke, David Cline, Peter Wonka
ACM Transactions on Graphics. volume 28, number 5, 2009.
Proceedings of SIGGRAPH ASIA 2009
37. **Rendering Surface Details with Diffusion Curves**
Stefan Jeschke, David Cline, Peter Wonka
ACM Transactions on Graphics. volume 28, number 5, 2009.
Proceedings of SIGGRAPH ASIA 2009
38. **Compressed Façade Displacement Mapping**
Saif Ali, Jieping Ye, Anshuman Razdan, Peter Wonka
IEEE Transactions on Visualization and Computer Graphics, volume 15. number 2. pages 262-273. 2009.
39. **Interactive Hyperspectral Image Visualization Using Convex Optimization**
Ming Cui, Anshuman Razdan, Jiuxiang Hu, and Peter Wonka
IEEE Transactions on Geoscience and Remote Sensing. volume 47. number 6. pages 1673-1684. 2009.
40. **Interactive Geometric Simulation of 4D Cities**
Basil Weber, Pascal Mueller, Peter Wonka, Markus Gross
Computer Graphics Forum, volume 28, number 2. pages 481-492. 2009.
Proceedings of Eurographics 2009
41. **Dart throwing on surfaces**
David Cline, Stefan Jeschke, Anshuman Razdan, Kenric White, Peter Wonka
Computer Graphics Forum, volume 28, number 4. pages 1217-1226. 2009.
Proceedings of Eurographics Symposium on Rendering
42. **A Shape Grammar for Developing Glyph-based Visualizations**
P. Karnick, S. Jeschke, D. Cline, A. Razdan, E. Wentz, P. Wonka
Computer Graphics Forum, volume 28, number 8. Pages 2176-2188. 2009.
43. **A Comparison of Tabular PDF Inversion Methods.**
David Cline, Anshuman Razdan, Peter Wonka.
Computer Graphics Forum. volume 28. number 1. pages 154-160. 2009.
44. **GPU Rendering of Relief Mapped Concial Frusta**
Deepali Bhagvat, Stefan Jeschke, David Cline, Peter Wonka
Computer Graphics Forum, volume 28, number 8. Pages 2131-2139. 2009.
45. **Curve Matching for Open 2D Curves**
Ming Cui, *John C Femiani*, Jiuxiang Hu, Peter Wonka, Anshuman Razdan
Pattern Recognition Letters. volume 30. number 1. pages 1-10. 2009.
46. **Generating 3D Building Models from Architectural Drawings: A Survey**
Xuetao Yin, Peter Wonka, Anshuman Razdan
IEEE Computer Graphics and Applications. volume 29. issue 1. pages 20-30. 2009
47. **Interactive Procedural Street Modeling**
Guoning Chen, Gregory Esch, Peter Wonka, Pascal Müller, Eugene Zhang
ACM Transactions on Graphics. volume 27. number 3. article# 103, pages 1-10. 2008.
Proceedings of SIGGRAPH 2008
48. **Interactive Visual Editing of Grammars for Procedural Architecture**
Markus Lipp, Peter Wonka, Michael Wimmer
ACM Transactions on Graphics. volume 27. number 3. article# 102, pages 1-10. 2008.
Proceedings of SIGGRAPH 2008
49. **Visibility-driven Mesh Analysis and Visualization through Graph Cuts**
Kaichi Zhou, Eugene Zhang, Jiri Bittner, Peter Wonka
IEEE Transactions on Visualization and Computer Graphics, 14(6), pages 1667-1674. 2008.
Proceedings of Visualization 2008

50. **Procedural Urban Modeling in Practice**
Benjamin Watson, Pascal Müller, Peter Wonka, Chris Sexton, Oleg Veryovka, Andy Fuller
IEEE Computer Graphics and Applications. 28(3), pages 18 – 26. 2008
51. **Image-Based Procedural Modeling of Building Facades.**
Pascal Müller, Gang Zeng, Peter Wonka, Luc Van Gool.
ACM Transactions on Graphics. 26(3), pages 85:1-85:9. 2007
Proceedings of SIGGRAPH 2007
52. **Road Network Extraction and Intersection Detection from Aerial Images by Tracking Road Footprints .**
Jiuxiang Hu, Anshuman Razdan, *John Femiani, Ming Cui*, Peter Wonka.
IEEE Transactions on Geoscience and Remote Sensing, 45(12), pages 4144-4157. 2007.
53. **A New Image Registration Scheme Based on Curvature Scale Space Curve Matching.**
Ming Cui, Peter Wonka, Jiuxiang Hu, Anshuman Razdan.
Visual Computer, 23(8), pages 607-618. 2007.
54. **Guided Visibility Sampling.**
Peter Wonka, Michael Wimmer, *Kaichi Zhou*, Stefan Maierhofer, Gerd Hesina, Alexander Reshetov.
ACM Transactions on Graphics, 25(3), pages 494-502. 2006.
Proceedings of SIGGRAPH 2006
55. **Procedural Modeling of Buildings.**
Pascal Mueller, Peter Wonka, Simon Haegler, Andreas Ulmer, Luc Van Gool.
ACM Transactions on Graphics. 25(3), pages 614-623. 2006.
Proceedings of SIGGRAPH 2006
56. **Punctuated Simplification.**
Justin Jang, Peter Wonka, Bill Ribarsky, Chris Shaw.
The Visual Computer. Volume 22. number 2. pages 136-145. 2006.
57. **Instant Architecture.**
Peter Wonka, Michael Wimmer, François Sillion, and William Ribarsky.
ACM Transactions on Graphics, volume 22, number 3, pages 669-677. 2003.
Proceedings of SIGGRAPH 2003
58. **Visibility in Computer Graphics.**
Jiri Bittner and Peter Wonka.
Journal of Environment and Planning B: Planning and Design, volume 30, number 5, pages 729-755. 2003.
59. **Instant Visibility.**
Peter Wonka, Michael Wimmer, and François Sillion.
Computer Graphics Forum, volume 20, number 3. September 2001.
Proceedings of Eurographics 2001
(**Günther Enderle Award for the best paper at Eurographics 2001**).
60. **Occluder Shadows for Fast Walkthroughs of Urban Environments.**
Peter Wonka and Dieter Schmalstieg.
Computer Graphics Forum, volume 18, number 3, pages 51-60, 1999.
Proceedings of Eurographics 1999

Refereed Conference Proceedings

Notes: All papers are reviewed based on the complete paper.

1. **A Highly Scalable Parallel Algorithm for Isotropic Total Variation Models**
Jie Wang, Qingyang Li, *Sen Yang*, Wei Fan, Peter Wonka, Jieping Ye
ICML. 2014
2. **Scaling SVM and Least Absolute Deviations via Exact Data Reduction**
Jie Wang, Peter Wonka, Jieping Ye
ICML. 2014
3. **Lasso Screening Rules via Dual Polytope Projection**
Jie Wang, Jiayu Zhou, Peter Wonka, Jieping Ye
Neural Information Processing Systems (NIPS). 2013.
4. **An Efficient ADMM Algorithm for Multidimensional Anisotropic Total Variation Regularization Problems**
Sen Yang, Jie Wang, Wei Fan, Xiatian Zhang, Peter Wonka, and Jieping Ye
ACM SIGKDD. 2013.
5. **Feature Grouping and Selection Over an Undirected Graph**
Sen Yang, Lei Yuan, Ying-Cheng Lai, Xiaotong Shen, Peter Wonka, Jieping Ye
ACM SIGKDD. 2012.
6. **Multi-Stage Dantzig Selector**
Ji Liu, Peter Wonka, Jieping Ye
Neural Information Processing Systems (NIPS). 2010.
7. **Tensor completion for estimating missing values in visual data.**
Ji Liu, Przemyslaw Musialski, Peter Wonka, and Jieping Ye.
International Conference on Computer Vision (ICCV). 2009.
8. **Parallel Generation of L-Systems**
Markus Lipp, Peter Wonka, Michael Wimmer
Vision, Modeling, and Visualization Workshop. 2009.
9. **Symmetry-Based Facade Repair**
Przemyslaw Musialski, Peter Wonka, Meinrad Recheis, Stefan Maierhofer, Werner Purgathofer
Vision, Modeling, and Visualization Workshop. 2009.
10. **Tiamat: A Three-Dimensional Editing Tool for Complex DNA Structures.**
Sean Williams, Kyle Lund, Chenxiang Lin, Peter Wonka, Stuart Lindsay, Hao Yan.
DNA Computing. 2008.
11. **Optimized Subdivisions for Preprocessed Visibility.**
Oliver Mattausch, Jiří Bittner, Peter Wonka, Michael Wimmer.
In Proceedings of Graphics Interface 2007, pages - 335-342. May 2007.
12. **Fourier Shape Descriptors of Pixel Footprints For Road Extraction From Satellite Images.**
J. Hu, *J. Femiani*, A. Razdan, *Ming Cui*, P. Wonka.
IEEE International Conference on Image Processing 2007 (ICIP), pages I - 49 - I - 52. 2007.
13. **Procedural 3D Reconstruction of Puuc Buildings in Xkipché.**
Pascal Müller, T. Vereenooghe, Peter Wonka, I. Paap and Luc Van Gool.
Eurographics Symposium on Virtual Reality, Archaeology and Cultural Heritage (VAST), pages 139-146. 2006.
(Won best papers award. (2nd))
14. **Point Sampling with Uniformly Distributed Lines.**
J. Rovira, P. Wonka, F. Castro, M. Sbert.
Eurographics Symposium on Point-Based Graphics 2005. June 2005.
15. **Fast Exact From-Region Visibility in Urban Scenes.**
J. Bittner, P. Wonka and M. Wimmer.
Eurographics Symposium on Rendering 2005. June 2005.
16. **Appearance-Preserving View-Dependent Visualization.**
Justin Jang, William Ribarsky, Chris Shaw, and Peter Wonka.
IEEE Visualization 2003. pages 473 - 480. 2003.
17. **Rendering Time Estimation for Real-Time Rendering.**
Michael Wimmer and Peter Wonka.
Proceedings of Eurographics Symposium on Rendering 2003, pages 118-129. June 2003.

18. **Visibility Preprocessing for Urban Scenes using Line Space Subdivision.**
Jiri Bittner, Peter Wonka, and Michael Wimmer.
In Proceedings of Pacific Graphics (PG'01), pages 276-284, Tokyo, Japan, October 2001.
19. **Point-Based Impostors for Real-Time Visualization.**
Michael Wimmer, Peter Wonka, and François Sillion.
Proceedings of the Eurographics Workshop on Rendering 2001. pages 163-176. 2001.
20. **Visibility Preprocessing with Occluder Fusion for Urban Walkthroughs.**
Peter Wonka, Michael Wimmer, and Dieter Schmalstieg.
Proceedings of the Eurographics Workshop on Rendering 2000. pages 71-82. 2000.
21. **Raytracing of Nonlinear Fractals.**
Peter Wonka, Michael Gervautz.
WSCG Plzen 1998 Proceedings, pages 424-431, February 1998

Other Publications

- Procedural Methods for Urban Modeling.
Benjamin Watson, Peter Wonka
IEEE Computer Graphics and Applications, 28(3): 16-17. 2008.
(Introduction to a special issue of CG & A)
- Transformations in Design.
Pascal Mueller, Peter Wonka, Simon Haegler, Luc Van Gool.
Siggraph Animation Festival. Animated Movie. 2005.
- Modellierung und Rendering mit nichtlinearen CSG-pL-systemen
Peter Wonka. (Diploma Thesis)
Institute of Computer Graphics, Vienna University of Technology. 1997.
- Occlusion Culling for Real-Time Rendering of Urban Environments
Peter Wonka. (PhD Thesis)
Institute of Computer Graphics, Vienna University of Technology. 2001.
- Digitale Bausteine zur Fassadenmodellierung
Peter Wonka (Diploma Thesis).
Institute of Local Planning, Vienna University of Technology. 2002.