

Curriculum Vitae

Name: Daniel Scherzer
Academic Degree: Dipl.-Ing. Mag.rer.soc.oec. Dr.techn.
Date of birth: 4. September 1978 in Munich, Germany
Nationality: Austrian
Marital status: single
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Education

November 2009: Ph.D. in Technical Science (with honors) as “Doktor der Technik” from the VUT (thesis [15])
May 2008: Graduation (with honors) in ”Informatikmanagement” as “Mag. rer. soc. oec.” from the VUT¹
2006-2009: Ph.D. student in Technical Science at the VUT (Institute of Computer Graphics and Algorithms)
2006-2008: Studies in “Informatikmanagement” at the VUT
Since 2006: Studies in Technical Mathematics at the VUT with special emphasis on Computer Mathematics
October 2005: Graduation in Computer Science (with honors) as “Diplom-Ingenieur der Informatik” from the VUT (thesis [16])
1998–2005: Studies in Computer Science at the VUT with special emphasis on Computer Graphics
June 1997: Graduation (Abitur) from BRG Kufstein

Professional

since Nov 2010: Researcher at the Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology
Nov 2006–Oct 2010: Assistant Professor at the Institute of Computer Graphics and Algorithms (VUT)
Dec 2005–Oct 2006: Research Assistant within the EU project CROSSMOD (VUT)
Summer 2000: Internship at the Institute for Technical Informatics, project “DSOS” (VUT)
Jul 1997–Feb 1998: Army Service
Summer 1994: Internship at the computer company SciCon

¹VUT = Vienna University of Technology

Research

Publications in each category are in chronological order. Please note that most publications are available in PDF form from the homepage: http://www.cg.tuwien.ac.at/research/publications/show_list.php?login=scherzer

Journal Publications

1. Markus Lipp, **Daniel Scherzer**, Michael Wimmer, Interactive Modeling of City Layouts using Layers of Procedural Content, to appear in *Computer Graphics Forum (Proceedings EG 2011)*.
2. **Daniel Scherzer**, Michael Wimmer and Werner Purgathofer, A Survey of Real-Time Hard Shadow Mapping Methods, to appear in *Computer Graphics Forum*.
3. Oliver Mattausch, **Daniel Scherzer** and Michael Wimmer, High Quality Screen-Space Ambient Occlusion using Temporal Coherence, *Computer Graphics Forum*, volume 29, number 8, December 2010.
4. Florian Bagar, **Daniel Scherzer** and Michael Wimmer, A Layered Particle-Based Fluid Model for Real-Time Rendering of Water, *Computer Graphics Forum (Proceedings EGSR 2010)*, volume 29, number 4, June 2010.
5. **Daniel Scherzer** and Michael Wimmer, Frame Sequential Interpolation for Discrete Level-of-Detail Rendering, *Computer Graphics Forum (Proceedings EGSR 2008)*, volume 27, number 4, June 2008.

Conference Publications

6. **Daniel Scherzer**, An Overview of Temporal Coherence Methods in Real-Time Rendering, *14th International Conference on System Theory and Control 2010*.
7. **Daniel Scherzer**, Michael Schwärzler, Oliver Mattausch and Michael Wimmer, Real-time soft shadows using temporal coherence. *Lecture Notes in Computer Science 2009 (International Symposium on Visual Computing)*, November 2009.
8. **Daniel Scherzer**, Stefan Jeschke and Michael Wimmer, Pixel-Correct Shadow Maps with Temporal Reprojection and Shadow Test Confidence, *In Rendering Techniques 2007 (Proceedings EGSR)*, June 2007.
9. Michael Wimmer, **Daniel Scherzer** and Werner Purgathofer, Light Space Perspective Shadow Maps, *In Rendering Techniques 2004 (Proceedings EGSR 2004)*, June 2004.

Other Publications

10. **Daniel Scherzer**, Michael Schwärzler and Oliver Mattausch, Fast Soft Shadows with Temporal Coherence to appear in *GPU Pro 2*.
11. Oliver Mattausch, **Daniel Scherzer**, Michael Wimmer, Temporal Screen-Space Ambient Occlusion to appear in *GPU Pro 2*.
12. **Daniel Scherzer** Temporal Coherence in Real-Time Rendering, *Verlag Dr. Müller*, ISBN: 978-3-639-09196-0, March 2010.
13. Michael Wimmer, **Daniel Scherzer**, Robust Shadow Mapping with Light Space Perspective Shadow Maps, *In Shader X4 - Advanced Rendering Techniques*, March 2006.
14. **Daniel Scherzer**, Robust Shadow Maps for Large Environments, *In Proceedings of the Central European Seminar on Computer Graphics*, 2005.

Theses

15. **Daniel Scherzer**, *Applications of Temporal Coherence in Real-Time Rendering*, PhD Thesis, Institute of Computer Graphics and Algorithms, Vienna University of Technology, November 2009.
16. **Daniel Scherzer**, *Shadow Mapping of Large Environments*, MSc Thesis, Institute of Computer Graphics and Algorithms, Vienna University of Technology, October 2005.

Projects

1. **CROSSMOD** – *Cross-Modal Perceptual Interaction and Rendering*
Dec 2005 – Nov 2008
Funding Agency: EU IST FP6 FET
Partners: see www.crossmod.org
Grant: EUR 1,555,000 (VUT: EUR 224,766)
Role: Research Assistant

Awards

- Best Presentation CESC² 2005
- Best Presentation EPILOG³ 2005

Courses at Conferences

1. *A Survey on Temporal Coherence Methods in Real-Time Rendering*
Daniel Scherzer, Lei Yang, Oliver Mattausch, Diego Nehab, Pedro V. Sander, Michael Wimmer, Elmar Eisemann,
State of the Art Reports Eurographics 2011.
2. *Exploiting Temporal Coherence in Real-Time Rendering*
Daniel Scherzer, Lei Yang, Oliver Mattausch,
Course Notes of the ACM SIGGRAPH Asia 2010.
3. *A Survey of Real-Time Hard Shadow Mapping Methods*
Daniel Scherzer, Michael Wimmer, Werner Purgathofer,
State of the Art Reports Eurographics 2010.
4. *Casting Shadows in Real Time* (presenter only)
Elmar Eisemann, Michael Schwarz, Ulf Assarsson, Michael Wimmer,
Course Notes of the ACM SIGGRAPH Asia 2009.

²Central European Seminar on Computer Graphics for students

³Alumni event of the faculty of informatics of VUT

Lectures

- Winter term 2010: *Advanced Computer Graphics (DM432)*, FH Hagenberg
Summer term 2010: *Algorithms for Real-Time Rendering*, VUT
July 2009: *Theory and Practice of Real-Time Rendering in OpenGL*,
guest lecture, University of Computer Sciences (Cuba)
2006-2010: *Computer Graphics 1* (with Prof. Purgathofer), 250 students,
VUT
2006-2010: *Research Seminar on Computer Graphics and Image Processing*,
VUT
2006-2010: *Seminar on Computer Graphics*, VUT

Teaching Experience

- Summer term 2010: Examiner for the Vienna PhD School of Informatics
Summer term 2005: Teaching Assistant for lab *Advanced Computer Graphics*,
FH Hagenberg
Summer term 2005: Teaching Assistant for lab *Computer Graphics 2+3*, VUT
2006–2010: Supervision of various internships in the field of rendering, VUT
2004–2006: Teaching Assistant for lab *Real-Time Graphics*, VUT
2000–2002: Organisation of lecture and lab *System Programming*, 400 stu-
dents, VUT
Winter term 2000: Teaching Assistant for lab *System Programming*, VUT
Winter term 1999: Teaching Assistant for lab *Introduction to Programming*, VUT

Supervised PhD Students

- Markus Lipp (shared with Michael Wimmer), *Direct Artist Control for Procedural Content Generation of Urban Environments*, November 2010

Master Students Currently Under Supervision

- Peter Houska, *Image-based Terrain Rendering*

Supervised Master Students

- Florian Bagar, *A Layered Particle-Based Fluid Model for Real-Time Rendering of Water*, October 2010; first employment: Senior Programmer at Sproing Interactive Media GmbH
- Johannes Scharl, *Artist-Controlled Modeling of Urban Environments*, July 2010; first employment: Lead Programmer at Cliffhanger Productions Software GmbH
- Michael Schwärzler, *Accurate Soft Shadows in Real-Time Applications*, March 2009; first employment: Researcher at VRVis Research Center
- Chris Chiu (shared with Michael Wimmer), *PentaG – A Game Engine for Real-Time Rendering Research*, June 2008; first employment: Lead Programmer at Sproing Interactive Media GmbH

Attended Soft Skill Seminars

- Erfolgreiche Führungsgespräche (Successful Leadership Talks)
- Überzeugend Argumentieren - Erfolgreich Verhandeln (Successful Negotiations)

Other Professional Activities

- June 2008: Organization of the *International Workshop for Rendering* of the Institute of Computer Graphics and Algorithms
- 2005–2010: Management of the *Computer Graphics Club*⁴
<http://www.cg.tuwien.ac.at/staff/CGClub>
- 2006–2010: Institute organizer of the *Beginners' day*⁵
- 2006: Institute organizer of *YoEinstein*⁶

IPC – Conferences

- ACM International Conference on 3D Web Technology, 2010
- IASTED Computer Graphics and Imaging, 2010, 2011
- IASTED Graphics and Virtual Reality, 2011
- Spring Conference on Computer Graphics, 2011

Reviewing – Conferences

- SIGGRAPH Symposium on Interactive 3D Graphics
- IEEE Visualization
- IEEE Virtual Reality
- EUROGRAPHICS Annual Conference (EG)
- EUROGRAPHICS Workshop on Rendering (EGSR)
- EUROGRAPHICS Symposium on Geometry Processing
- Pacific Graphics
- Graphics Interface
- International Conference on Computer Graphics Theory and Applications (GRAPP)
- European Conference on Color in Graphics, Imaging, and Vision (CGIV)
- International Conference on 3D Web Technology
- International Conference on Computer Graphics and Interactive Techniques (GRAPHITE)
- Summer Conference on Computer Graphics (Bratislava, Slovakia)
- Winter School on Computer Graphics (Plzen, Czech Republic)

Reviewing – Journals

- Computer Graphics Forum
- IEEE Computer Graphics and Applications
- Computer and Graphics

⁴ 12 highly motivated students participate in the daily life of a computer graphics institute.

⁵ Information event of the VUT for first semester students

⁶ Information event of the VUT for pupils

Reviewing – Others

- Central European Seminar on Computer Graphics (CESCG)
- Wiley Encyclopedia of Computer Science and Engineering

Attended Conferences/Workshops

2011:	Visual Computing Trends
2010:	CESCG, EG, EGSR, HPG ⁷ , SIGGRAPH, Wintergraph ⁸ , SIMSIS14 ⁹ , SIGGRAPH Asia
2009:	CESCG, EG, EGSR, ISVC ¹⁰ , SIGGRAPH Asia, Visual Computing Trends
2008:	CESCG, EGSR
2007:	CESCG, EGSR, Wintergraph
2006:	CESCG, EG, EGSR, Wintergraph

My full CV can be downloaded at

<http://www.cg.tuwien.ac.at/~scherzer/files/CV.pdf>

⁷High Performance Graphics

⁸Workshop of the Austrian Computer Graphics Community

⁹International Conference on System Theory and Control

¹⁰International Symposium on Visual Computing