

Michael Schwärzler

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Professional Interests and Qualifications

Visual Computing & Algorithms, Smart Modeling, Urban Reconstruction, Cloud Computing, Real-Time Rendering, Shadow & Visibility Algorithms, Global Illumination

Education

Q2 2018 Ph.D. at the Vienna University of Technology, Topic: *“Advances in the Multimodal 3D Reconstruction and Modeling of Buildings”* (thesis submitted, currently awaiting final corrections and thesis defense)
April 2009 Graduation as *“Master of Science”* from the University of Vienna in *“Computer Science in Management”* (*“Informatikmanagement”, Mag.rer.soc.oec*)
February 2009 Graduation as *“Master of Science”* from the Vienna University of Technology in *“Computer Graphics and Digital Image Processing”* (Dipl.-Ing.)
September 2006 Graduation as *“Bachelor of Science”* from the Vienna University of Technology in *“Computer Science in Media”* (*“Medieninformatik”*)

Appointments

2016 - present VRVis, *Area Coordinator* of Research Area *Smart Worlds* (consisting of 3 research groups with a total of 35 researchers)
2009 - present VRVis, *Researcher and Project Manager* in the *Semantic Modeling and Acquisition Group*
2007 - 2009 Tutor at the Vienna University of Technology, *Institute of Computer Graphics and Algorithms*
2006 *Greentube Internet Entertainment Solutions GmbH*, internship
2004 - 2005 *APA-IT Online Systems Department*, 2 internships
2002 - 2003 LKH Feldkirch, *Community Service*, 1st level support & administration of ~600 PCs
1998 - 2000 Teleport Consulting & Systemmanagement GmbH, 3 internships

Selection of Funded Projects

PILLARS, 2017-2020 (48 months), FFG (COMET), *Project Manager*
SHARC, 2017-2020 (48 months), FFG (COMET), *Project Manager*
VGM – Virtual Geodetic Mapper, 2015-2016 (18 months), FFG (COMET), *Researcher*
VAMOS – Visual Analytics for Modeling and Simulation, 2014 – 2016 (36 months), FFG (COMET), *Project Manager*
HILITE – High Quality Lighting Simulation, 2010 – 2014 (48 months), FFG (COMET), *Project Manager*

Refereeing

IPC Member: Central European Seminar on Computer Graphics
Reviewer Conferences: SIGGRAPH Asia; Eurographics; i3D; CESCg; WSCG
Reviewer Journals: IEEE Transaction on Visualization and Computer Graphics (TVCG); Computer Graphics Forum; The Visual Computer; Computers & Graphics

Awards

Nominee for **eAward 2015** in category „Industrie und Gewerbe“ (*Project: HILITE*)
3rd place at **Mercur Award 2015** in category “IKT/Technik” (*Project: HILITE: Interaktive Lichtplanung*)
Best Poster Award from the Faculty of Computer Science at the Vienna University of Technology, **Epilog 2009**, **"Accurate Soft Shadows in Real-Time Applications"**
2nd Best Presentation Award, CESCg 2009, "Real-Time Soft Shadows with Adaptive Light Source Sampling"

Synergistic Activities and Experience

Founder & Coordinator of the VRVis Running Team – Participation at 3-4 public running events each year with up to 30 VRVis employees
Founder & Coordinator of the annual (since 2010) SummerGraph – a workshop for young researchers in the field of Visual Computing for networking & knowledge exchange

Selection of Peer-Reviewed Publications

Walch A., Krösl K., Luksch C., Pichler D., Pipp T., Schwärzler Michael 2018. **An Automated Verification Workflow for Planned Lighting Setups using BIM**. In Proceedings of the 23rd International Conference on Urban Planning and Regional Development in the Information Society (REAL CORP 2018).

Schwärzler M., Kellner L., Maierhofer S., Wimmer M. 2017. **Sketch-based Guided Modeling of 3D Buildings from Oriented Photos**. In Proceedings of ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games 2017 (i3D 2017).

Sorger J., Ortner T., Luksch C., Schwärzler M., Gröller E., Piringner H. 2015. **LiteVis: Integrated Visualization for Simulation-Based Decision Support in Lighting Design**. In IEEE Transactions on Visualization and Computer Graphics (TVCG) / Proceedings of IEEE VAST 2015.

Luksch C., Tobler R.F., Mühlbacher T., Schwärzler M., and Wimmer M. 2014. **Real-Time Rendering of Glossy Materials with Regular Sampling**. In The Visual Computer, 30(6-8): 717-727.

Haaser G., Steinlechner H., May M., Schwärzler M., Maierhofer S., and Tobler R.F. 2014. **Semantic Composition of Language-Integrated Shaders**. In Computer Vision, Imaging and Computer Graphics - Theory and Applications: 45-61.

Haaser G., Steinlechner H., May M., Schwärzler M., Maierhofer S., and Tobler R.F. 2014. **CoSMo: Intent-based Composition of Shader Modules**. In Proceedings of International Conference on Computer Graphics Theory and Applications (GRAPP): 189-199.

Arikan M., Schwärzler M., Flöry S., Wimmer M., and Maierhofer S. 2013. **O-Snap: Optimization-based Snapping for Modeling Architecture**. ACM Trans. Graph. 32, 1, Article 6 (January 2013), 15 pages.

Schwärzler M., Luksch C., Scherzer D., and Wimmer M. 2013. **Fast Percentage Closer Soft Shadows using Temporal Coherence**. In Proceedings of ACM Symposium on Interactive 3D Graphics and Games 2013 (i3D 2013): 79-86.

Luksch C., Tobler R.F., Habel R., Schwärzler M., and Wimmer M. 2013. **Fast Light-Map Computation with Virtual Polygon Lights**. In Proceedings of ACM Symposium on Interactive 3D Graphics and Games 2013 (i3D 2013): 87-94.

Schwärzler M., Mattausch O., Scherzer D., and Wimmer M. 2012. **Fast Accurate Soft Shadows with Adaptive Light Source Sampling**. In Proceedings of the 17th International Workshop on Vision, Modeling, and Visualization (VMV 2012): 39-46.