

# Thomas Leimkühler

✉ [thomas.leimkuehler@mpi-inf.mpg.de](mailto:thomas.leimkuehler@mpi-inf.mpg.de)

🌐 <https://people.mpi-inf.mpg.de/~tleimkue>

## Positions & Experience

09/2021 – ongoing **Research Group Leader**  
Max-Planck-Institut für Informatik, Saarbrücken, Germany

09/2019 – 08/2021 **Postdoctoral Researcher**  
GraphDeco Team, INRIA Sophia-Antipolis, France

05/2018 – 08/2018 **Research Intern**  
Facebook Reality Labs, Redmond, USA

02/2014 – 01/2015 **Research Assistant**  
Max-Planck-Institut für Informatik, Saarbrücken, Germany

2007 – 2014 **Freelancer**  
Visual effects, color grading, and motion graphics for films, TV, and events.  
Writing articles on image/video post-processing.

### Teaching

2022 Lecturer: Computer Vision and Machine Learning for Computer Graphics, Saarland Uni.  
2016 + 2017 Teaching Assistant: Geometric Modeling, Saarland Uni.  
2009 + 2010 Teaching Assistant: Computer Science Lab, Stuttgart Media Uni.

## Education

05/2015 – 06/2019 **Dr.-Ing. (PhD) in Computer Science** (summa cum laude)  
Saarland University & Max-Planck-Institut für Informatik, Saarbrücken, Germany  
Advisors: Tobias Ritschel, Hans-Peter Seidel  
Thesis: Artificial intelligence for efficient image-based view synthesis

09/2011 – 03/2015 **M.Sc. in Visual Computing**  
Saarland University, Saarbrücken, Germany  
Course contents: Computer graphics, image processing, computer vision, applied math

09/2007 – 02/2011 **B.Eng. in Audiovisual Media**  
Stuttgart Media University, Stuttgart, Germany  
Course contents: Media technology & design, computer science

## Publications

- 2023 C. Wang, A. Serrano, X. Pan, B. Chen, K. Myszkowski, H.-P. Seidel, C. Theobalt, **T. Leimkühler**. *GlowGAN: Unsupervised Learning of HDR Images from LDR Images in the Wild*. ICCV 2023.
- X. Pan, A. Tewari, **T. Leimkühler**, L. Liu, A. Meka, C. Theobalt. *Drag Your GAN: Interactive Point-based Manipulation of the Generative Image Manifold*. SIGGRAPH 2023.
- B. Kerbl, G. Kopanas, **T. Leimkühler**, G. Drettakis. *3D Gaussian Splatting for Real-time Radiance Field Rendering*. ACM Transactions on Graphics (SIGGRAPH 2023).
- C. Jambon, B. Kerbl, G. Kopanas, S. Diolatzis, **T. Leimkühler**, G. Drettakis. *NeRFshop: Interactive Editing of Neural Radiance Fields*. Proc. ACM i3D, 2023.
- 2022 G. Kopanas, **T. Leimkühler**, G. Rainer, C. Jambon, G. Drettakis. *Neural Point Catacaustics for Novel-view Synthesis of Reflections*. ACM Transactions on Graphics (SIGGRAPH Asia 2022).
- L. Lyu, A. Tewari, **T. Leimkühler**, M. Habermann, C. Theobalt. *Neural Radiance Transfer Fields for Relightable Novel-view Synthesis with Global Illumination*. ECCV 2022 (Oral).
- 2021 **T. Leimkühler**, G. Drettakis. *FreeStyleGAN: Free-view Editable Portrait Rendering with the Camera Manifold*. ACM Transactions on Graphics (SIGGRAPH Asia 2021).
- G. Kopanas, J. Philip, **T. Leimkühler**, G. Drettakis. *Point-based Neural Rendering with Per-view Optimization*. Computer Graphics Forum (Eurographics Symposium on Rendering, 2021).
- S. Prakash, **T. Leimkühler**, S. Rodriguez, G. Drettakis. *Hybrid Image-based Rendering for Free-view Synthesis*. ACM Symp. on Computer Graphics and Interactive Techniques, 2021.
- 2020 S. Rodriguez, **T. Leimkühler**, S. Prakash, C. Wyman, P. Shirley, G. Drettakis. *Glossy Probe Reprojection for Interactive Global Illumination*. ACM Transactions on Graphics (SIGGRAPH Asia 2020).
- 2019 **T. Leimkühler**. *Artificial Intelligence for Efficient Image-based View Synthesis*. PhD Thesis. Saarland University & Max-Planck-Institut für Informatik, 2019.
- T. Leimkühler**, G. Singh, K. Myszkowski, H.-P. Seidel, T. Ritschel. *Deep Point Correlation Design*. ACM Transactions on Graphics (SIGGRAPH Asia 2019).
- A. Kaplanyan, A. Sochenov, **T. Leimkühler**, M. Okunev, T. Goodall, G. Rufo. *Deep Fovea: Neural Reconstruction for Foveated Rendering and Video Compression using Learned Statistics of Natural Videos*. ACM Transactions on Graphics (SIGGRAPH Asia 2019).
- 2018 **T. Leimkühler**, H.-P. Seidel, T. Ritschel. *Laplacian Kernel Splatting for Efficient Depth-of-field and Motion Blur Synthesis or Reconstruction*. ACM Transactions on Graphics (SIGGRAPH 2018).

- T. Leimkühler**, P. Kellnhofer, T. Ritschel, K. Myszkowski, H.-P. Seidel. *Perceptual Real-time 2D-to-3D Conversion using Cue Fusion*. IEEE Transactions on Visualization and Computer Graphics, 2018.
- 2017 **T. Leimkühler**, H.-P. Seidel, T. Ritschel. *Minimal Warping: Planning Incremental Novel-view Synthesis*. Computer Graphics Forum (Eurographics Symposium on Rendering, 2017).
- 2016 **T. Leimkühler**, P. Kellnhofer, T. Ritschel, K. Myszkowski, H.-P. Seidel. *Perceptual Real-time 2D-to-3D Conversion using Cue Fusion*. Proc. Graphics Interface, 2016.
- 2015 P. Kellnhofer, **T. Leimkühler**, T. Ritschel, K. Myszkowski, H.-P. Seidel. *What Makes 2D-to-3D Stereo Conversion Perceptually Plausible?* ACM Symp. on Applied Perception, 2015.

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## Awards

### **Best Paper Award**

SIGGRAPH, 2023

### **Eurographics PhD Award**

Eurographics annual award for best PhD theses, 2020

### **Otto Hahn Medal of the Max Planck Society**

Awarded for outstanding scientific achievement by junior scientists, 2020

### **Best Student Paper Award**

Eurographics Symposium on Rendering, 2017

### **Michael A. J. Sweeney Award: Best Student Paper**

Graphics Interface, 2016

### **Best Student Presentation Award**

ACM Symposium on Applied Perception, 2015

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## Service

### **Program Committee Member**

Eurographics Short Papers 2021+2023, HPG 2021-2023, EGSR 2023

### **Editor**

TVCG

### **Reviewer**

SIGGRAPH, SIGGRAPH Asia, CVPR, ICCV, Eurographics, TVCG, TPAMI, EGSR, High Performance Graphics, Pacific Graphics, The Visual Computer, Computers & Graphics, Journal of Computer Graphics Techniques, Journal of Imaging