

1 Curriculum Vitae

Wenzel Jakob

Realistic Graphics Laboratory (RGL)
School of Computer and Communication Sciences (IC)
École Polytechnique Fédérale de Lausanne (EPFL)

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| EPFL-IC-RGL | +41 21 693 13 29 (direct) |
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| Switzerland | https://rgl.epfl.ch/people/wjakob |

Research interests

Inverse Graphics, Appearance Modeling, Physically Based Rendering

Education

Ph.D. in Computer Science, Cornell University 2008–2013

Advised by Prof. Steve Marschner. Thesis: “*Light Transport on Path-Space Manifolds*”.

M.Eng. in Computer Science, Cornell University 2007–2008

Thesis: “*An Analytic Framework for Anisotropic Diffusion in Computer Graphics*”.

Dual Vordiplom in CS & Mathematics at Karlsruhe Institute of Technology 2004–2007

Thesis: “*Accelerating the bidirectional path tracing algorithm using a dedicated intersection processor*”.

Employment (excerpt)

EPFL, Switzerland 2016–present

Tenure-track Assistant Professor in Computer and Communication Science

ETH Zürich, Switzerland 2013–2016

Postdoctoral researcher at the Interactive Graphics Lab working with Prof. Olga Sorkine-Hornung.

Cornell University, Ithaca, USA 2008–2013

Graduate Research Assistant in Prof. Steve Marschner’s group.

Wētā Digital 2012

Research Intern in the rendering group working on rendering of caustics and layered materials. Credited in the films “The Hobbit: An Unexpected Journey” and “The Hobbit: The Desolation of Smaug”.

Disney Research Zürich 2010–2011

Research Intern in the group of Wojciech Jarosz. Worked on volume rendering and fabrication for computational materials (goal-based caustics).

2 Publication List

2.1 Publications in peer-reviewed journals and conferences

2022

Dr.Jit: A Just-In-Time Compiler for Differentiable Rendering. Wenzel Jakob, Sébastien Speierer, Nicolas Roussel, and Delio Vicini. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2022)*.

Differentiable Signed Distance Function Rendering. Delio Vicini, Sébastien Speierer, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2022)*.

Unbiased Inverse Volume Rendering with Differential Trackers. Merlin Nimier-David, Thomas Müller, Alexander Keller, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2022)*.

2021

Large Steps in Inverse Rendering of Geometry. Baptiste Nicolet, Alec Jacobson, Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH Asia 2021)*.

Monte Carlo Estimators for Differential Light Transport. Tizian Zeltner, Sébastien Speierer, Iliyan Georgiev, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2021)*.

Path Replay Backpropagation: Differentiating Light paths using Constant Memory and Linear Time. Delio Vicini, Sébastien Speierer, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2021)*.

A Non-exponential Transmittance Model for Volumetric Scene Representations. Delio Vicini, Wenzel Jakob, and Anton Kaplanyan. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2021)*.

Wide-Depth-Range 6D Object Pose Estimation in Space. Yinlin Hu, Sebastien Speierer, Wenzel Jakob, Pascal Fua, and Mathieu Salzmann. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*.

Material and Lighting Reconstruction for Complex Indoor Scenes with Texture-space Differentiable Rendering. Merlin Nimier-David, Zhao Dong, Wenzel Jakob, and Anton Kaplanyan. In *Eurographics Symposium on Rendering (2021) - Experimental Ideas & Implementations*.

2020

Slope-Space Integrals for Specular Next Event Estimation. Guillaume Loubet, Tizian Zeltner, Nicolas Holzschuch, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH Asia 2020)*.

A General Framework for Pearlescent Materials. Ibón Guillén, Julio Marco, Diego Guttierrez, Wenzel Jakob, and Adrian Jarabo. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH Asia 2020)*.

Specular Manifold Sampling for Rendering High-frequency Caustics and Glints. Tizian Zeltner, Iliyan Georgiev, Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2020)*.

Radiative Backpropagation: An Adjoint Method for Lightning-Fast Differentiable Rendering. Merlin Nimier-David, Sébastien Speierer, Benoît Ruiz, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2020)*.

Image-based Acquisition and Modeling of Polarimetric Reflectance. Seung-Hwan Baek, Tizian Zeltner, Hyun Jin Ku, Inseung Hwan, Xin Tong, Wenzel Jakob, Min H. Kim. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2020)*.

Practical Product Path Guiding Using Linearly Transformed Cosines. Stavros Diolatzis, Adrien Gruson, Wenzel Jakob, Derek Nowrouzezahrai, and George Drettakis. In *Computer Graphics Forum (Proceedings of Eurographics Symposium on Rendering 2020)*.

Unified Neural Encoding of BTFs. Gilles Rainer, Abhijeet Ghosh, Wenzel Jakob, Tim Weyrich. In *Computer Graphics Forum (Proceedings of Eurographics 2020)*.

2019

Mitsuba 2: A Retargetable Forward and Inverse Renderer. Merlin Nimier-David, Delio Vicini, Tizian Zeltner, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH Asia 2019)*.

Reparameterizing Discontinuous Integrands for Differentiable Rendering. Guillaume Loubet, Nicolas Holzschuch, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH Asia 2019)*.

Wide Gamut Spectral Upsampling with Fluorescence. Alisa Jung, Alexander Wilkie, Johannes Hanika, Wenzel Jakob, and Carsten Dachsbacher. In *Computer Graphics Form (Proceedings of Eurographics Symposium on Rendering 2019)*.

A Low-Dimensional Function Space for Efficient Spectral Upsampling. Wenzel Jakob and Johannes Hanika. In *Computer Graphics Forum (Proceedings of Eurographics 2019)*.

Neural BTF Compression and Interpolation. Gilles Rainer, Wenzel Jakob, Abhijeet Ghosh, and Tim Weyrich. In *Computer Graphics Forum (Proceedings of Eurographics 2019)*.

A Learned Shape-Adaptive Subsurface Scattering Model. Delio Vicini, Vladlen Koltun, and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2019)*.

Quantifying the Error of Light Transport Algorithms. Adam Celarek, Wenzel Jakob, Michael Wimmer, Jaakko Lehtinen. In *Computer Graphics Form (Proceedings of Eurographics Symposium on Rendering 2019)*.

2018

An Adaptive Parameterization for Efficient Material Acquisition and Rendering. Jonathan Dupuy and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH Asia 2018)*.

The Layer Laboratory: A Calculus for Additive and Subtractive Composition of Anisotropic Surface Reflectance. Tizian Zeltner and Wenzel Jakob. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH 2018)*.

P_N -Method for Multiple Scattering in Participating Media. David Körner, Jamie Portsmouth, and Wenzel Jakob. In *Eurographics Symposium on Rendering (2018) - Experimental Ideas & Implementations*.

Reversible Jump Metropolis Light Transport using Inverse Mappings. Benedikt Bitterli, Wenzel Jakob, Jan Novák and Wojciech Jarosz. In *ACM Transaction on Graphics 37(1), 2017 (Presented at SIGGRAPH 2018)*.

2017

Scratch Iridescence: Wave-Optical Rendering of Diffractive Surface Structure. Sebastian Werner, Zdravko Velinov, Wenzel Jakob, and Matthias Hullin. In *ACM Transaction on Graphics (Proceedings of SIGGRAPH Asia 2017)*.

Robust Hex-Dominant Mesh Generation using Field-Guided Polyhedral Agglomeration. Xifeng Gao, Wenzel Jakob, Marco Tarini, and Daniele Panozzo. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2017)*.

Field-Aligned Online Surface Reconstruction. Nico Schertler, Marco Tarini, Wenzel Jakob, Misha Kazhdan, Stefan Gumhold, and Daniele Panozzo. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2017)*.

2015

Geometric Tools for Exploring Manifolds of Light Transport Paths. Wenzel Jakob and Steve Marschner. In *Communications of the ACM: Research Highlights (November 2015)*.

Instant Field-Aligned Meshes. Wenzel Jakob, Marco Tarini, Daniele Panozzo, Olga Sorkine-Hornung. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2015)*.

Anisotropic Gaussian Mutations for Metropolis Light Transport through Hessian-Hamiltonian Dynamics. Tzu-Mao Li, Jaakko Lehtinen, Ravi Ramamoorthi, Wenzel Jakob, Fredo Durand. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2015)*.

Path-space Motion Estimation and Decomposition for Robust Animation Filtering. Henning Zimmer, Fabrice Rousselle, Wenzel Jakob, Oliver Wang, David Adler, Wojciech Jarosz, Olga Sorkine-Hornung, Alexander Sorkine-Hornung. In *Computer Graphics Forum (Proceedings of Eurographics Symposium on Rendering 2015)*.

2014

Building Volumetric Appearance Models of Fabric using Micro CT Imaging. Shuang Zhao, Wenzel Jakob, Steve Marschner and Kavita Bala. In *Communications of the ACM: Research Highlights (November 2014)*.

A Comprehensive Framework for Rendering Layered Materials. Wenzel Jakob, Eugene D'Eon, Otto Jakob, Steve Marschner. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2014)*.

Discrete Stochastic Microfacet Models. Wenzel Jakob, Miloš Hašan, Ling-Qi Yan, Jason Lawrence, Ravi Ramamoorthi, Steve Marschner. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2014)*.

Rendering Glints on High-Resolution Normal-Mapped Specular Surfaces. Ling-Qi Yan, Miloš Hašan, Wenzel Jakob, Jason Lawrence, Steve Marschner, Ravi Ramamoorthi. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2014)*.

2012

Manifold Exploration: A Markov Chain Monte Carlo technique for rendering scenes with difficult specular transport. Wenzel Jakob and Steve Marschner. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2012)*.

Structure-aware Synthesis for Predictive Woven Fabric Appearance. Shuang Zhao, Wenzel Jakob, Steve Marschner, and Kavita Bala. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2012)*.

2011

Progressive Expectation–Maximization for Hierarchical Volumetric Photon Mapping. Wenzel Jakob, Christian Regg, and Wojciech Jarosz. In *Computer Graphics Forum (Proceedings of Eurographics Symposium on Rendering 2011)*.

Building Volumetric Appearance Models of Fabric using Micro CT Imaging. Shuang Zhao, Wenzel Jakob, Steve Marschner and Kavita Bala. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2011)*.

Goal-Based Caustics. Marios Papas, Wojciech Jarosz, Wenzel Jakob, Szymon Rusinkiewicz, Wojciech Matusik, Tim Weyrich. In *Computer Graphics Forum (Proceedings of Eurographics 2011)*.

2010

A Radiative Transfer Framework for Rendering Materials with Anisotropic Structure. Wenzel Jakob, Adam Arbree, Jonathan T. Moon, Kavita Bala and Steve Marschner. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2010)*.

2009

Capturing Hair Assemblies Fiber by Fiber. Wenzel Jakob, Jonathan T. Moon, Steve Marschner. In *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia 2009)*.

2.2 Books and Book Chapters

2023

Physically Based Rendering: From Theory To Implementation (fourth edition). Matt Pharr, Wenzel Jakob, Greg Humphreys. Forthcoming (Q1 2023), with *MIT Press*.

2016

Physically Based Rendering: From Theory To Implementation (third edition). Matt Pharr, Wenzel Jakob, Greg Humphreys. Published at *Morgan Kaufmann Publishers (Dec 2016)*.

Path Space MCMC Methods in Computer Graphics. Wenzel Jakob. *The Eleventh International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing*.

3 Invited Talks and Keynotes

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| 15 th International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing (MCQMC, upcoming). Gradient-Based Optimization of Monte Carlo Estimators | <i>2023</i> |
| KAIST Geometric and Visual Computing Workshop, Daejeon, South Korea Inverse Rendering without Black Boxes | <i>2022</i> |
| Virtual Reality Computer Graphics (VECG) Seminar, UCL, UK (virtual) Differentiable Simulation of Light | <i>2021</i> |
| Stanford Center for Image Systems Engineering (virtual) Differentiable Simulation of Light | <i>2021</i> |
| Huawei Intelligent Collaboration Workshop (virtual) Differentiable Simulation of Light | <i>2021</i> |
| ICCV Workshop on Differentiable 3D Vision and Graphics (virtual) Differentiable Simulation of Light | <i>2021</i> |
| Vision Modeling and Visualization (VMV 2020, virtual). An Introduction to Physically Based Differentiable Rendering | <i>2020</i> |
| High Performance Graphics (virtual). Differentiable Simulation of Light: Why it is Important, and What Makes it Hard! | <i>2020</i> |
| CAD/Graphics 2019 conference, Qingdao, China. Capturing and rendering the world of materials | <i>2019</i> |
| University of Tokyo Graphics Seminar Capturing, simulating, and differentiating light | <i>2019</i> |
| HiVisComp 2019—High Visual Computing 2019 workshop, Zadov, Czech Republic. Capturing and rendering the world of materials | <i>2019</i> |
| FMX: Conference on Animation, Effects, Games and Immersive Media, Stuttgart, Germany Modeling, measuring, and rendering the appearance of layered materials | <i>2018</i> |
| RCS18: Summer School on Reproducibility in Computational Sciences, Magliaso, Switzerland. Some thoughts on pybind11 | <i>2018</i> |
| IC Research Day, Lausanne, Switzerland The Quest for Light Paths | <i>2017</i> |
| Mathematical Progress in Expressive Image Synthesis (MEIS), Fukuoka, Japan. Exploiting coherence in light transport simulations | <i>2016</i> |
| 11 th International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing (MCQMC). Path Space MCMC Methods in Computer Graphics | <i>2014</i> |

4 Student and Staff Advising

4.1 Doctoral Students

Miguel Crespo *2021–present*

Topic: inverse rendering of the earth’s atmosphere.

Ziyi Zhang *2021–present*

Topic: handling discontinuous integrals in differentiable rendering.

Baptiste Nicolet *2020–present*

Topic: reconstructing shapes, and reusing sampling information in the context of inverse rendering.

Delio Vicini *2017–2022*

Thesis: *Efficient and Accurate Physically-Based Differentiable Rendering*.

Currently a Research Scientist at Google (Zürich).

Merlin Nimier-David *2017–2022*

Thesis: *Differentiable Physically Based Rendering: Algorithms, Systems and Applications*.

Currently a Research Scientist at NVIDIA (Zürich).

Tizian Zeltner *2016-2021*

Thesis: *Light Path Gradients for Forward and Inverse Rendering*.

Currently a Research Scientist at NVIDIA (Zürich).

4.2 Postdoctoral Students

Mandy Xia *2022-present*

Guillaume Loubet *2018-2020*

Currently at Ubisoft Montpellier.

4.3 Research Engineers

Nicolas Roussel *2022-present*

Sébastien Speierer *2019-2022*

Currently a Research Engineer at Meta, Zürich.

4.4 Master Theses

Mariia Soroka *2023*

TBA

Liliane-Joy Dandy *2023*

TBA

Matthieu Verdet *2023*

TBA

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| Ningwei Ma TBA | <i>2023</i> |
| Nuic Lovro TBA | <i>2023</i> |
| Thomas Ibanez Thesis: Hardware-accelerated neural networks in the Dr.Jit framework | <i>2022</i> |
| Héloïse Dupont De Dinechin Thesis: Rendering Layered Materials with Lambertian Interfaces | <i>2021</i> |
| Damien Martin Thesis: Differentiable Rendering of Signed Distance Functions for 3D Shape Optimization | <i>2020</i> |
| Philippe Weier Thesis: Rendering layered materials with anisotropic interfaces | <i>2020</i> |
| Grégoire Hirt Thesis: Realtime Lightfield Rendering | <i>2020</i> |
| Nicolas Roussel Thesis: BTDF measurement using Reparameterizations | <i>2019</i> |
| Hofer Nataniel Thesis: Web-GIS: Vector Tiles | <i>2018</i> |
| Quentin Kuenlin Thesis: Realtime Lightfield Rendering | <i>2018</i> |
| Sébastien Speierer Thesis: Metropolis Virtual Point Light Rendering | <i>2018</i> |
| Merlin Nimier-David Thesis: Rendering Procedural Microstructure using Adaptive Gaussian Processes | <i>2017</i> |

4.5 Semester Projects

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| Yinhao Wang TBA | <i>2023</i> |
| Vishal Pani TBA | <i>2023</i> |
| Yuxin Wang TBA | <i>2023</i> |
| Qiyuan Dong Hardware-accelerated spline curve intersection | <i>2023</i> |
| Ningwei Ma Reproducing a state-of-the-art fiber scattering model in Mitsuba 3 | <i>2023</i> |
| Auguste Poiroux Global optimization in the context of differentiable rendering | <i>2023</i> |

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| Yanni Zhang Rendering using light path expressions | <i>2023</i> |
| David Neill-Asanza Alternative Optimization Methods for Differential Rendering | <i>2022</i> |
| Nathan Greslin Real-World Captures | <i>2021</i> |
| Ekrem Fatih Yilmazer Solving Inverse PDE Problems using Grid-Free Monte Carlo Estimators (2nd project) | <i>2021</i> |
| Ekrem Fatih Yilmazer Implementation of the Disney BSDF in Mitsuba 2 | <i>2021</i> |
| Juliette Parchet The FLIP algorithm | <i>2021</i> |
| Dorian Ros Mitsuba 3 integration in Blende | <i>2021</i> |
| Haley Owsianko Differentiable MIP-mapping in Mitsuba 2 | <i>2021</i> |
| Dorian Guyot Differential Rendering Based Physical Attacks against Face Detection Co-supervised project with SPRING. | <i>2021</i> |
| Vincent Tournier Denoising for Differentiable Rendering | <i>2021</i> |
| Yingxuan Duan Towards Robust Physical Adversarial 3D rendering with PyTorch 3D Co-supervised project with SPRING. | <i>2020</i> |
| Lionel Pellier Hair Rendering in Mitsuba 2 | <i>2020</i> |
| Marc Bickel Fitting of wavelength-dependent parametric material models to spectral measurements | <i>2020</i> |
| Valentin Borgeaud Light Hierarchies and Efficient Emitter Sampling for the Many-Lights problem | <i>2020</i> |
| Nathan Greslin Instanced Geometry in Mitsuba 2 | <i>2020</i> |
| Marie Jaillot Physically Based Rendering of the Sun and Sky | <i>2020</i> |
| Guirec Maloisel Multiscattering Correction for Microfacet Models | <i>2019</i> |
| Philippe Weier Mesh-based Prefiltering of Complex Assets | <i>2019</i> |
| Jan Horesovsky Implementing null-scattering path integral formulation in Mitsuba 2 | <i>2019</i> |

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| Hugues Saltini RealNVP and Neural Importance Sampling for Monte-Carlo Path-Tracing | <i>2018</i> |
| Merlin Nimier-Davide Rendering Procedural Microstructure using Adaptive Gaussian Processes | <i>2017</i> |
| Sebastien Speierer Caustic Connection Strategies for Bidirectional Path Tracing (2nd project) | <i>2017</i> |
| Benoit Célestin Tekari: an interactive viewer of spectral reflectance measurements | <i>2017</i> |
| Quentin Kuenlin Efficient approximations to multiple scattering in microfacet models | <i>2017</i> |
| Hannes Hergeth Measuring polarized reflectance | <i>2017</i> |
| Nicolas Roussel Parametric acquisition of transparent materials and fabrics | <i>2017</i> |
| Etienne Ferrier Sampling BSSRDFs with Non-perpendicular Incidence | <i>2016</i> |
| Sebastien Speierer Metropolis Virtual Point Light Rendering | <i>2016</i> |

5 Summary of Teaching Activities

5.1 Courses Taught

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| CS-328: Numerical Methods for Visual Computing and ML | (BSc, 194 students) | <i>Fall 2022</i> |
| CS-440: Advanced Graphics | (MSc, 62 students) | <i>Spring 2022</i> |
| CS-328: Numerical Methods for Visual Computing and ML | (BSc, 110 students) | <i>Fall 2021</i> |
| CS-440: Advanced Graphics | (MSc, 56 students) | <i>Spring 2021</i> |
| CS-328: Numerical Methods for Visual Computing and ML | (BSc, 104 students) | <i>Fall 2020</i> |
| CS-440: Advanced Graphics | (MSc, 41 students) | <i>Spring 2020</i> |
| CS-307: Introduction to Multiprocessor Architecture | (BSc, 83 students) | <i>Fall 2019</i> |
| CS-440: Advanced Graphics | (MSc, 36 students) | <i>Spring 2019</i> |
| CS-328: Numerical Methods for Visual Computing and ML | (BSc, 97 students) | <i>Fall 2018</i> |
| CS-440: Advanced Graphics | (MSc, 45 students) | <i>Spring 2018</i> |
| CS-328: Numerical Methods for Visual Computing and ML | (BSc, 85 students) | <i>Fall 2017</i> |
| CS-440: Advanced Graphics | (MSc, 36 students) | <i>Spring 2017</i> |
| CS-328: Numerical Methods for Visual Computing and ML | (BSc, 128 students) | <i>Fall 2016</i> |

6 Other Professional Activities

Advisory Boards

- Graphics Replicability Stamp Initiative (GRSI)** 2017–present
I serve on the advisory board of this initiative, which sets standards for reproducibility in the field.
- Monte Carlo and Quasi-Monte Carlo Methods (MCQMC)** 2016–present
I serve on the scientific advisory board of this conference.

Editorial Boards

- Associate Editor of Transactions on Graphics (ToG)** 2018–2022
Associate Editor of the Journal of Computer Graphics Techniques (JCGT) 2014–2022
Associate Editor of Computer Graphics Forum (CGF) 2018–2020

Conference Organization

- Eurographics Symposium on Rendering** 2018
I co-chaired the papers program of the EGSR together with Toshiya Hachisuka.
- Eurographics Tutorial Track** 2018
I co-chaired the tutorials track of the EG together with Enrico Puppo.

PhD Thesis Committees

- Deblina Bhattacharjee, EPFL** 2023
Thesis: TBA
- Tanaboon Tongbuasirilai, Linköping University** 2023
Thesis: *Data-driven approaches for sparse reflectance modeling and acquisition*
- Merlin Nimier-David, EPFL** 2022
Thesis: *Differentiable Physically Based Rendering: Algorithms, Systems and Applications*
- Delio Vicini, EPFL** 2022
Thesis: *Efficient and Accurate Physically-Based Differentiable Rendering*
- Remelli Edoardo, EPFL** 2022
Thesis: *Synthesis and Analysis of 3D shapes with Geometric Deep Learning in Computer-Aided Engineering*
- Wasilewski Stephen William, EPFL** 2022
Thesis: *Traversing Time Dependent Light Fields for Daylight Glare Evaluation*
- Tizian Zeltner, EPFL** 2021
Thesis: *Light Path Gradients for Forward and Inverse Rendering*
- Ruofan Zhou, EPFL** 2020
Thesis: *Towards Real-World Super-Resolution using Deep Neural Networks*
- Mina Konaković Luković, EPFL** 2019
Thesis: *Computational Design of Auxetic Shells*
- Martin Šik, Charles University** 2019
Thesis: *Global exploration in Markov chain Monte Carlo methods for light transport*

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| Sami Arpa, EPFL | <i>2018</i> |
| Thesis: <i>New Approaches to Artistic Synthesis Relying on Visual Perception</i> | |
| Julio Marco, University of Zaragoza | <i>2018</i> |
| Thesis: <i>Efficient Methods for Computational Light Transport</i> | |
| Guillaume Loubet, INRIA Grenoble | <i>2018</i> |
| Thesis: <i>Efficient models for representing sub-pixel appearances</i> | |
| Stefan Lienhard, EPFL | <i>2017</i> |
| Thesis: <i>Visualization, Adaptation, and Transformation of Procedural Grammars</i> | |
| Dat Ngo, EPFL | <i>2016</i> |
| Thesis: <i>Template-based Monocular 3-D Shape Reconstruction And Tracking Using Laplacian Meshes</i> | |

Program Committees

SIGGRAPH is the top-tier conference in my field. For every two years of PC membership, SIGGRAPH imposes a mandatory 1-year pause. I declined all PC invitations in 2022.

- *2023*: SIGGRAPH
- *2021*: EGSR
- *2019*: SIGGRAPH, PG, EGSR, MCQMC
- *2018*: MCQMC, SIGGRAPH
- *2017*: SMI
- *2016*: PG, EGSR, SIGGRAPH, MCQMC
- *2015*: SIGGRAPH, EGSR, ICCV Inverse Rendering Workshop, EG, EG STAR
- *2014*: EGSR

The abbreviations refer to

1. EG: Eurographics Conference
2. EGSR: Eurographics Symposium on Rendering
3. EG STAR: Eurographics State of the Art Report (STAR) committee
4. SMI: Shape Modeling International
5. MCQMC: Monte Carlo and Quasi Monte-Carlo Methods
6. PG: Pacific Graphics

7 Administrative Activities

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| EPFL Faculty Recruiting Committee (FRC) | <i>2020, 2021, 2023</i> |
| EDIC Open House (PhD student visit day) Organizer | <i>2022</i> |
| EDIC Doctoral School Committee | <i>2016–present</i> |
| IC Research Day | <i>2017</i> |
| Co-chaired the IC research day (~ 600 attendees) with Mark Pauly and gave a keynote presentation. | |
| IC Visual Computing Seminar | <i>2016–2019</i> |
| Organized a weekly seminar series covering papers in vision, graphics, and signal processing | |