The European Association for Computer Graphics
$47^{th}$ Annual Conference

# EUROGRAPHICS 2026

Aachen, Germany
May 4 – 8, 2026

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Organized by

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THE EUROPEAN ASSOCIATION
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# Preface

This issue of the Computer Graphics Forum contains the technical full papers program of the Eurographics Association 47th Annual Conference, held in Aachen, Germany from May 4th to 8th, 2026. The Eurographics annual conference presents a unique opportunity to present outstanding technical contributions in computer graphics. The full papers selected for publication in the Computer Graphics Forum journal are arguably the most prestigious feature of the conference.

The technical paper selection process involved a group of 114 experts forming the International Program Committee (IPC). We invited experts without more than two consecutive years of participation in the IPC so that the committee could be regularly renewed. The IPC members covered a diverse range of research subareas in computer graphics. An Advisory Board formed by six senior members of the community helped throughout the process, providing experienced advice.

We received a total of 254 full submissions, out of which one was desk-rejected and three were withdrawn at the request of the authors. A Sorting Committee of seven members, together with the two Chairs, subsequently assigned each submission to two IPC members, either as primary or secondary reviewers. Each member was assigned up to five submissions, respecting their preferences, expertise, and conflicts; automatically computed matching scores between IPC members and submitted papers assisted the process. The primary and secondary reviewers in turn invited three additional tertiary reviewers for each submission.

After the initial five reviews per submission were collected, the authors had seven days to consult these reviews and write a 1000-word rebuttal, addressing key questions and potential misinterpretations. Finally, all reviewers assigned to a paper read the rebuttal and all reviews and discussed the paper among themselves to reach an initial decision.

Then, following an established tradition that started in 2012 and has been continuously improved throughout the years, all IPC members participated in a one-week virtual asynchronous meeting, where the discussions between the IPC members leading to the final decisions were performed offline through a bulletin board and other means of personal communication. As introduced in 2025, the members of the Sorting Committee also acted as moderators of the discussions. This process led to extensive discussions where papers and reviews were debated, involving other IPC members as extra readers when needed. Each paper had a discussion board accessible to the entire IPC, and every IPC member contributed to discussions where they felt competent, provided they were not conflicted.

All papers conditionally accepted with minor revisions went through a short second review cycle, with evaluations from the primary reviewer, and sometimes the secondary reviewer, before being finally accepted.

In the end, 96 papers out of the 253 valid submissions were accepted with minor revisions for a 37.9% acceptance rate, while 18 were recommended to a fast-track review process with major revisions to be considered for publication in a future issue of Computer Graphics Forum. This year we had papers on a diverse range of topics including generative modeling of images, videos and 3D content, image and video editing, geometry processing, physically-based and non-photorealistic rendering, neural rendering, material appearance modeling, texture synthesis, character animation, digital avatars, motion reconstruction, physical simulation, visualization, virtual reality, and digital fabrication.

All accepted full papers are published in the Computer Graphics Forum journal. It is worth noting that for all submissions conflicts of interest were managed at all levels, from reviewers and committee members up to the Chairs. The review process was double-blind for tertiary reviewers and single-blind for primary and secondary IPC members, and in cases where the original set of reviewers did not concur on a decision, additional reviewers were invited to perform a full review and assist in the decision process.

The best paper will be selected by a dedicated awards committee among the top 17 papers based on overall review scores, and will be presented with the Günter Enderle Best Paper Award at the Eurographics conference. In an initiative to strengthen ties between venues and further highlight the work, a “Best of Eurographics” session will be held at the SIGGRAPH 2026 conference, showcasing the best papers, as well as talks by other Eurographics awardees.

New this year, in light of recent trends in the field and in collaboration with the Sustainability Chair Dennis Bukenberger, we asked the authors of accepted papers to provide voluntary information about the usage of machine/deep learning-based techniques, data, and compute needed for their submitted work. The survey was filled out by authors of 93 submissions (97% of the accepted submissions), and 57% reported the usage of machine/deep learning techniques. Of these, a majority of 69% were trained on a consumer-level PC with a single GPU (7% used a machine with up to 4 GPUs, 19% a server with up to 8

GPUs and 5% a cluster), and 65% required less than 12 hours to train (24% less than one hour). Notably, 82% of all respondents indicated that they will make their code available.

We would like to express our deep appreciation to everyone who made this possible, generously volunteering their time and expertise. First and foremost, we are grateful to all the members of the IPC who dedicated a remarkable amount of their time to finding tertiaries, reviewing and discussing papers, and to reviewing the conditionally accepted papers undergoing the minor revision cycle. We also wish to thank all the reviewers, who provided more than 1250 high-quality and thoughtful reviews and, of course, all the authors for their efforts in preparing and revising the submitted papers. We are especially grateful to Michael Wimmer who shared with us the insights from previous years and was indefatigable with his help and assistance. We would also like to express strong appreciation to the Sorting Committee for their help in assigning the papers and monitoring and fostering the discussions, to the Best Paper Award committee, and to the Advisory Board for their guidance about the overall reviewing process. Our gratitude also goes to Stefanie Behnke and Viktoriia Kaeidi from Eurographics Publishing for their outstanding support with SRM functionality, and for their constant responsiveness, which was key to the successful outcome of the paper selection process. Finally, we sincerely thank the keynote speakers for accepting our invitation to share their vision and expertise at the conference, serving as cornerstones of an exciting program, and the Conference Chairs for their support and instrumental work.

We are very happy to present the Full Papers Proceedings of Eurographics 2026. We believe that these papers reflect the extraordinary variety of computer graphics research and its best contributions. It was both an honor and a pleasure for us to lead this selection process, and we hope that you will find both the papers and the entire conference thought-provoking and inspiring for your future endeavors.

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Justus Thies, Technical University of Darmstadt, Germany
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# Keynotes

## Title: The Quest for Easy Creation, Editing and Real-Time Rendering of Realistic 3D Scenes

*George Drettakis*

*Inria Université Côte d'Azur*

**Abstract**

In this talk we will present over 25 years of research motivated by the goal of providing solutions to easily create realistic 3D scenes by capturing real content, allowing subsequent editing — most importantly re-lighting — and allowing real-time rendering of the resulting scenes. We look back at several early projects, and how they allowed us to advance our understanding of the fundamental difficulties of developing algorithms to achieve our goals by building on physics-based rendering and traditional graphics solutions. We will then stress the importance of being open to new tools and methodologies, most importantly deep learning. We will illustrate how adopting such techniques and methodologies early provided a significant advantage, both in relighting and real-time rendering for novel view synthesis, in part by building on our expertise in realistic rendering for training data generation. We will discuss the importance of efficiency and optimization even in early stages of these research projects, and finally discuss how the power of recent generative models provides exciting new possibilities, opening the way to powerful solutions to our overarching goals of easily creating, editing and rendering realistic 3D content.

**Bio:**

George Drettakis graduated in Computer Science (CS) in Crete, Greece, and obtained an M.Sc. and a Ph.D. (1994) in CS at the University of Toronto, Canada, under the supervision of Eugene Fiume, followed by an ERCIM postdoc in Grenoble, Barcelona and Bonn (94–95). He obtained an Inria researcher position in the iMAGIS group in Grenoble (1995), and the degree of "Habilitation" at the University of Grenoble (1999). In 2000 he founded the REVES research group at Inria Sophia-Antipolis (2002–2015), followed by the current GRAPHDECO group. He has received several awards: the Eurographics (EG) Outstanding Technical Contributions award in 2007, EG Distinguished Career Award (2024), Inria-French Academy of Sciences Grand Prix (2024), the ACM SIGGRAPH Computer Graphics Achievement Award (2025), and was named EG (2007) and ACM (2026) Fellow. He was papers co-chair of the EG Rendering Workshop in 1998, EG conference in 2002 and 2008, technical papers chair of SIGGRAPH Asia 2010, associate editor for major graphics journals, and chairs the EG working group on Rendering. His research spans many topics in computer graphics, with an emphasis on rendering. He initially concentrated on lighting and shadow computation and subsequently worked on 3D audio, perceptually-driven algorithms, virtual reality and 3D interaction. In recent years he has focused more on learning-based appearance capture, relighting and novel view synthesis (previously known as image-based rendering), culminating in the development of 3D Gaussian Splatting.

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# Keynotes

## Title: Learning to See the 3D World

*Lourdes De Agapito Vicente*

*University College London / Synthesia*

**Abstract**

Building algorithms that can emulate human 3D perception, using as input single images or video sequences taken with a consumer camera, proved to be a challenging task for years but has recently seen astounding progress. For decades, machine learning solutions faced the challenge of scarcity of 3D annotations, encouraging important advances in weak and self-supervision. However, recent efforts in large-scale paired image-3D dataset collection have led to a paradigm shift and fully supervised feed-forward large 3D reconstruction models have become a reality. In this talk I will describe progress in both static and dynamic 3D reconstruction, from early optimization-based solutions that captured sequence-specific 3D models, towards more powerful 3D-aware neural representations that can be trained from 2D image supervision only, to today's large transformer-based, multi-view feed-forward models for metric-scale dense 3D reconstruction. I will also describe the successful commercial uptake of this technology and will show its application to AI-driven video synthesis.

**Bio:**

Lourdes holds the position of Professor of 3D Vision at the Department of Computer Science, University College London (UCL) where she heads the Vision and Imaging Science Group. She received her BSc, MSc and PhD degrees from Universidad Complutense de Madrid (Spain). In 1997 she joined the Robotics Research Group at the University of Oxford as an EU Marie Curie Fellow. In 2001 she was appointed Lecturer at Queen Mary University of London, where she held an ERC Grant. Lourdes joined UCL in 2013 and was promoted to full professor in 2015. Her research in computer vision has consistently focused on the inference of 3D information from images or videos acquired with a single camera. Lourdes has served as Program Chair for CVPR 2016 and ICCV 2023, serves regularly as Area Chair for the top Computer Vision conferences (CVPR, ICCV, ECCV) and was Keynote speaker at ICRA 2017, ICLR 2021 and ECCV'24. Lourdes is co-founder of London-based startup Synthesia, the world's largest AI video generation platform for business, currently valued at $4B. Synthesia's text-to-video technology allows users to create professional videos directly on the browser, removing the physical constraints of conventional production.

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# Keynotes

## Title: Graphics' Final Frontier

*Jaakko Lehtinen*

*Aalto University / NVIDIA Research*

**Abstract**

Computer graphics has undergone an incredible journey from its (visually) humble beginnings into our current ability to simulate the appearance and motion of complex scenes to a degree often difficult to distinguish from reality. Yet closing the final gap to the look and feel of live action footage remains elusive. At the same time, modern purely data-driven methods routinely surpass the realism of traditional first-principles graphics approaches, but come with only coarse controls.

In this talk, I'll draw on my experience of working with both classic and data-driven image generation techniques and attempt to outline a vision for the "endgame" of computer graphics that synthesizes the classic first-principles approaches with the power of data.

**Bio:**

Jaakko is an associate professor at Aalto University and a distinguished research scientist at NVIDIA Research in Helsinki, Finland. He works on computer graphics and machine learning, with particular interests in generative modelling, realistic image synthesis, and appearance acquisition and reproduction. Overall, he's fascinated by the combination of machine learning techniques with physical simulators in the search for robust, interpretable AI.

Prior to his current positions, Jaakko spent 2007–10 as a postdoc with Frédo Durand at MIT. Before his research career, he worked for the game developer Remedy Entertainment in 1996–2005 as a graphics programmer, and contributed significantly to the graphics technology behind the worldwide blockbuster hit games Max Payne (2001), Max Payne 2 (2003), and Alan Wake (2009).

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# Keynotes

## Title: Design in the Age of AI and Spatial Computing

*Bernd Bickel*

*ETH Zurich / Google*

**Abstract**

As the boundaries between the digital and physical worlds blur, we face a profound opportunity to reimagine how we design the world around us. While advanced manufacturing, artificial intelligence, and spatial computing offer unprecedented potential for architecture, engineering, and art, their impact is often limited by a lack of design tools that can seamlessly bridge human creativity with physical realizability.

In this talk, I will explore the transformation of design workflows from traditional CAD tools toward intelligent design systems. I will discuss how optimization-based design and tailored data-driven models enable novel approaches for interactive shape exploration and beyond, demonstrating their applicability to challenges ranging from intricate microstructures to high-performance building facades. A central theme is the control problem: the inherent tension between the probabilistic nature of modern generative AI and the high precision and editability required for professional engineering.

I will conclude by reflecting on the evolving role of algorithms as creative partners. I will share a vision for a future where technology provides the "digital superpowers" that complement rather than replace human intuition, enabling us to build a more sustainable, functional, and resilient world.

**Bio:**

Bernd Bickel is a Full Professor of Computational Design at ETH Zurich and a Research Scientist at Google. He previously served as a Professor and Vice President at ISTA and worked as a Research Scientist at Disney Research. He received his PhD in Computer Science from ETH Zurich in 2010.

His research intersects visual computing, digital fabrication, and machine learning, focusing on computational tools that bridge digital design and physical manufacturing. His work includes high-fidelity performance capture, data-driven material modeling, functional metamaterials, and creative AI & generative design, integrating physics-based simulation with machine learning to create high-performance structures and systems.

Bernd's contributions have been recognized with a Technical Achievement Award from the Academy of Motion Picture Arts and Sciences (2019), the ACM SIGGRAPH Significant New Researcher Award (2017), an ERC Starting Grant (2016), and the ETH Medal (2011) for his doctoral dissertation.

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# Keynotes

## Title: Shaping the future of our 3D immersion in digital worlds

*Anatole Lécuyer*

*Inria Rennes / IRISA*

**Abstract** Virtual reality (VR) naturally evokes a set of advanced technologies designed to immerse users in synthetic 3D worlds simulated in real time by a computer. Through dedicated interfaces such as head-mounted displays, VR applications enable powerful experiences, transporting users to imaginary places or allowing them to interact with virtual characters and remote people. The first VR systems date back to the 1960s, but today we are living through a pivotal moment for the field, as it steadily moves toward widespread, mass-market adoption.
In this talk, we will explore the next steps for VR technologies. We will first argue that VR is progressively introducing greater physical engagement into 3D human-computer interaction, for example through haptic technologies (tactile or force feedback) or through virtual embodiment via self-avatars (anthropomorphic representations of the user within a virtual environment). We will also examine the ongoing convergence of VR with physiological and neural interfaces, pointing toward future interactive systems that directly leverage users' cognitive states and open the door to even more compelling and holistic experiences. The talk will be illustrated with some of our latest scientific results, offering a glimpse of what could become the future of our 3D immersion in digital worlds.

**Bio:**
Anatole Lécuyer is Director of Research at Inria, the French National Institute for Research in Digital Science and Technology, based in Rennes. For more than 20 years, he has been conducting research in the field of virtual reality, exploring new ways of interacting with virtual worlds, such as haptic or neural interfaces. He is the co-author of over 250 scientific publications and 15 patents. He serves as an expert for numerous organizations, including the French National Research Agency and the European Commission.
He served as Associate Editor of IEEE Transactions on Visualization and Computer Graphics, and Presence journal. He was General Chair of the IEEE Virtual Reality Conference (2025), Program Chair of IEEE Virtual Reality Conference (2015–2016) and General Chair of IEEE Symposium on Mixed and Augmented Reality (2017). Anatole Lécuyer received the Inria–Académie des Sciences Young Researcher in Digital Science Award in 2013, the IEEE VGTC Technical Achievement Award in Virtual/Augmented Reality in 2019, and was inducted into the IEEE Virtual Reality Academy in 2022.

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# Keynotes

## Title: Towards Efficient World Models for Visual Intelligence

*Björn Ommer*

*Ludwig Maximilian University of Munich*

**Abstract**

Visual intelligence requires more than perception or the generation of plausible images or videos. It requires world models that represent the state of the world and how it changes. While recent progress in learning scene appearance from images and video has been remarkable, explicit models of kinematics are still vastly lacking: Current video models are largely computationally costly, focus on synthesizing only a single likely future, and paint future pixels rather than explicitly representing all possible motions that could lead there.

In this talk, I will present recent progress toward efficient world models that make dynamics directly accessible, represent a multitude of possible futures, and allocate computation adaptively to the dynamic content of a scene rather than uniformly to individual pixels. Consequently, efficiency is not merely a matter of speed. It becomes a modeling principle that shapes what world models represent, how they reason, and what applications they make possible.

The talk will then broaden the perspective and ask what happens when generative AI turns intelligence into a scalable, widely accessible commodity, propelling us from an information society toward a knowledge society with democratized access to actionable knowledge.

Efficient world models, in this sense, are not simply compressed versions of larger systems, but a step toward visual intelligence grounded in dynamics, uncertainty, and efficient reasoning.

**Bio:**

Björn Ommer is a full professor for Computer Science at LMU Munich where he leads the Computer Vision & Learning Group. Previously he was a full professor at Heidelberg University. After studying computer science and physics at the University of Bonn, he earned a Ph.D. from ETH Zurich, and held a postdoc position at UC Berkeley.

He is LMU's Chief AI Officer, a director of the Bavarian AI Council, an ELLIS Fellow, and has served as an editor for IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI) and on the boards of numerous CVPR, ICCV, ECCV, and NeurIPS conferences.

Björn's research interests are in generative AI, visual understanding, and explainable neural networks. His group developed several influential approaches in generative modeling, such as Stable Diffusion, which have seen broad adoption across academia, industry, and beyond and reflect his broader goal of advancing the democratization of generative AI.