1, TITLE: A level-set method for magnetic substance simulation
https://dl.acm.org/doi/abs/10.1145/3386569.3392445
AUTHORS: Xingyu Ni, Bo Zhu, Bin Wang, Baoquan Chen
HIGHLIGHT: We present a versatile numerical approach to simulating various magnetic phenomena using a level-set method.

2, TITLE: A massively parallel and scalable multi-CPU material point method
https://dl.acm.org/doi/abs/10.1145/3386569.3392442
AUTHORS: Xinlei Wang, Yuxing Qiu, Stuart R. Slattery, Yu Fang, Minchen Li, Song-Chun Zhu, Yixin Zhu, Min Tang, Dinesh Manocha, Chenfanfu Jiang
HIGHLIGHT: Harnessing the power of modern multi-GPU architectures, we present a massively parallel simulation system based on the Material Point Method (MPM) for simulating physical behaviors of materials undergoing complex topological changes, self-collision, and large deformations.

3, TITLE: A model for soap film dynamics with evolving thickness
https://dl.acm.org/doi/abs/10.1145/3386569.3392405
AUTHORS: Sadashige Ishida, Peter Synak, Fumiya Narita, Toshiya Hachisuka, Chris Wojtan
HIGHLIGHT: In this paper, we model these natural phenomena by introducing the film thickness as a reduced degree of freedom in the Navier-Stokes equations and deriving their equations of motion.

4, TITLE: A practical octree liquid simulator with adaptive surface resolution
https://dl.acm.org/doi/abs/10.1145/3386569.3392460
AUTHORS: Ryoichi Ando, Christopher Batty
HIGHLIGHT: We propose a new adaptive liquid simulation framework that achieves highly detailed behavior with reduced implementation complexity.

5, TITLE: A scalable approach to control diverse behaviors for physically simulated characters
https://dl.acm.org/doi/abs/10.1145/3386569.3392381
AUTHORS: Jungdam Won, Deepak Gopinath, Jessica Hodgins
HIGHLIGHT: In this paper, we develop a technique for learning controllers for a large set of heterogeneous behaviors.

6, TITLE: Accurate face rig approximation with deep differential subspace reconstruction
https://dl.acm.org/doi/abs/10.1145/3386569.3392491
AUTHORS: Steven L. Song, Weiqi Shi, Michael Reed
HIGHLIGHT: We propose a rig approximation method that addresses these issues by learning localized shape information in differential coordinates and, separately, a subspace for mesh reconstruction.

7, TITLE: Adaptive merging for rigid body simulation
https://dl.acm.org/doi/abs/10.1145/3386569.3392417
AUTHORS: Eulalie Coevoet, Otman Benchekroun, Paul G. Kry
HIGHLIGHT: We reduce computation time in rigid body simulations by merging collections of bodies when they share a common spatial velocity.

8, TITLE: An implicit compressible SPH solver for snow simulation
https://dl.acm.org/doi/abs/10.1145/3386569.3392431
AUTHORS: Christoph Gissler, Andreas Henne, Stefan Band, Andreas Peer, Matthias Teschner
HIGHLIGHT: We present a novel Lagrangian snow approach based on Smoothed Particle Hydrodynamics (SPH).

9, TITLE: AnisoMPM: animating anisotropic damage mechanics
https://dl.acm.org/doi/abs/10.1145/3386569.3392428
AUTHORS: Joshuah Wolper, Yunuo Chen, Minchen Li, Yu Fang, Ziyin Qu, Jiecong Lu, Meggie Cheng, Chenfanfu Jiang
HIGHLIGHT: Thus, we present AnisoMPM: a robust and general approach for animating the dynamic fracture of isotropic, transversely isotropic, and orthotropic materials.

10, TITLE: CARL: controllable agent with reinforcement learning for quadruped locomotion
https://dl.acm.org/doi/abs/10.1145/3386569.3392433
AUTHORS: Ying-Sheng Luo, Jonathan Hans Soeseno, Trista Pei-Chun Chen, Wei-Chao Chen
HIGHLIGHT: In this paper, we present CARL, a quadruped agent that can be controlled with high-level directives and react naturally to dynamic environments.

11, TITLE: Catch & Carry: reusable neural controllers for vision-guided whole-body tasks

https://dl.acm.org/doi/abs/10.1145/3386569.3392474
AUTHORS: Josh Merel, Saran Tunyasuvunakool, Arun Ahuja, Yuval Tassa, Leonard Hasenclever, Vu Pham, Tom Erez, Greg Wayne, Nicolas Heess
HIGHLIGHT: We address the longstanding challenge of producing flexible, realistic humanoid character controllers that can perform diverse whole-body tasks involving object interactions.

12, TITLE: Character controllers using motion VAEs
https://dl.acm.org/doi/abs/10.1145/3386569.3392422
AUTHORS: Hung Yu Ling, Fabio Zinno, George Cheng, Michiel Van De Panne
HIGHLIGHT: We learn data-driven generative models of human movement using autoregressive conditional variational autoencoders, or Motion VAEs.

13, TITLE: Chemomechanical simulation of soap film flow on spherical bubbles
https://dl.acm.org/doi/abs/10.1145/3386569.3392094
AUTHORS: Weizhen Huang, Julian Iseringhausen, Tom Kneiphof, Ziyin Qu, Chenfanfu Jiang, Matthias B. Hullin
HIGHLIGHT: We propose a novel chemomechanical simulation framework rooted in lubrication theory, which makes use of a custom semi-Lagrangian advection solver to enable the simulation of soap film dynamics on spherical bubbles both in free flow as well as under body forces such as gravity or external air flow.

14, TITLE: Codimensional surface tension flow using moving-least-squares particles
https://dl.acm.org/doi/abs/10.1145/3386569.3392487
AUTHORS: Hui Wang, Yongxu Jin, Anqi Luo, Xubo Yang, Bo Zhu
HIGHLIGHT: We propose a new Eulerian-Lagrangian approach to simulate the various surface tension phenomena characterized by volume, thin sheets, thin filaments, and points using Moving-Least-Squares (MLS) particles.

15, TITLE: Constraint bubbles and affine regions: reduced fluid models for efficient immersed bubbles and flexible spatial coarsening
https://dl.acm.org/doi/abs/10.1145/3386569.3392455
AUTHORS: Ryan Goldade, Mridul Aanjaneya, Christopher Batty
HIGHLIGHT: To support bubbles with non-zero densities, we propose a novel reduced model for an irregular fluid region with a single pointwise incompressible affine vector field.

16, TITLE: Directional sources and listeners in interactive sound propagation using reciprocal wave field coding
https://dl.acm.org/doi/abs/10.1145/3386569.3392459
AUTHORS: Chakravarty R. Alla Chaitanya, Nikunj Raghuvanshi, Keith W. Godin, Zechen Zhang, Derek Nowrouzezahrai, John M. Snyder
HIGHLIGHT: We present the first wave-based interactive auralization system that encodes and renders a complete reciprocal description of acoustic wave fields in general scenes.

17, TITLE: Example-driven virtual cinematography by learning camera behaviors
https://dl.acm.org/doi/abs/10.1145/3386569.3392427
AUTHORS: Hongda Jiang, Bin Wang, Xi Wang, Marc Christie, Baoquan Chen
HIGHLIGHT: In this paper, we propose an example-driven camera controller which can extract camera behaviors from an example film clip and re-apply the extracted behaviors to a 3D animation, through learning from a collection of camera motions.

18, TITLE: Fast and flexible multilegged locomotion using learned centroidal dynamics
https://dl.acm.org/doi/abs/10.1145/3386569.3392432
AUTHORS: Taesoo Kwon, Yoonsang Lee, Michiel Van De Panne
HIGHLIGHT: We present a flexible and efficient approach for generating multilegged locomotion.

19, TITLE: Fast and scalable turbulent flow simulation with two-way coupling
https://dl.acm.org/doi/abs/10.1145/3386569.3392400
AUTHORS: Wei Li, Yixin Chen, Mathieu Desbrun, Changxi Zheng, Xiaopei Liu
HIGHLIGHT: In this paper, we introduce a novel low-dissipation and low-dispersion fluid solver that can simulate two-way coupling in an efficient and scalable manner, even for turbulent flows.

20, TITLE: Homogenized yarn-level cloth
https://dl.acm.org/doi/abs/10.1145/3386569.3392412
AUTHORS: Georg Sperl, Rahul Narain, Chris Wojtan
HIGHLIGHT: We present a method for animating yarn-level cloth effects using a thin-shell solver.

21, TITLE: Incremental potential contact: intersection-and inversion-free, large-deformation dynamics
https://dl.acm.org/doi/abs/10.1145/3386569.3392425
AUTHORS: Minchen Li, Z Ac Hary Ferguson, Teseo Schneider, Timothy Langlois, Denis Zorin, Daniele Panozzo, Chenfanfu Jiang, Danny M. Kaufman
HIGHLIGHT: To model the complex interaction of deforming solids in contact we propose Incremental Potential Contact (IPC) - a new model and algorithm for variationally solving implicitly time-stepped nonlinear elastodynamics.

22, TITLE: Informative scene decomposition for crowd analysis, comparison and simulation guidance
https://dl.acm.org/doi/abs/10.1145/3386569.3392407
AUTHORS: Feixiang He, Yuanhang Xiang, Xi Zhao, He Wang
HIGHLIGHT: In this paper, we propose a new framework which comprehensively tackles this problem.

23, TITLE: IQ-MPM: an interface quadrature material point method for non-sticky strongly two-way coupled nonlinear solids and fluids
https://dl.acm.org/doi/abs/10.1145/3386569.3392438
AUTHORS: Yu Fang, Ziyin Qu, Minchen Li, Xinxin Zhang, Yixin Zhu, Mridul Aanjaneya, Chenfanfu Jiang
HIGHLIGHT: We propose a novel scheme for simulating two-way coupled interactions between nonlinear elastic solids and incompressible fluids.

24, TITLE: Lagrangian neural style transfer for fluids
https://dl.acm.org/doi/abs/10.1145/3386569.3392473
AUTHORS: Byungsoo Kim, Vinicius C. Azevedo, Markus Gross, Barbara Solenthaler
HIGHLIGHT: In this paper, we present a neural style transfer approach from images to 3D fluids formulated in a Lagrangian viewpoint.

25, TITLE: Learned motion matching
https://dl.acm.org/doi/abs/10.1145/3386569.3392440
AUTHORS: Daniel Holden, Oussama Kanoun, Maksym Perepichka, Tiberiu Popa
HIGHLIGHT: In this paper we present a learned alternative to the Motion Matching algorithm which retains the positive properties of Motion Matching but additionally achieves the scalability of neural-network-based generative models.

26, TITLE: Local motion phases for learning multi-contact character movements
https://dl.acm.org/doi/abs/10.1145/3386569.3392450
AUTHORS: Sebastian Starke, Yiwei Zhao, Taku Komura, Kazi Zaman
HIGHLIGHT: In this paper, we propose a novel framework to learn fast and dynamic character interactions that involve multiple contacts between the body and an object, another character and the environment, from a rich, unstructured motion capture database.

27, TITLE: N-dimensional rigid body dynamics
https://dl.acm.org/doi/abs/10.1145/3386569.3392483
AUTHORS: Marc Ten Bosch
HIGHLIGHT: I present a formulation for Rigid Body Dynamics that is independent of the dimension of the space.

28, TITLE: Phong deformation: a better C
https://dl.acm.org/doi/abs/10.1145/3386569.3392371
AUTHORS: Doug L. James
HIGHLIGHT: In this paper, we propose Phong Deformation, a simple, robust and practical vertex-based quadratic interpolation scheme that, while still only C⁰ continuous like linear interpolation, greatly reduces visual artifacts for embedded geometry.

29, TITLE: Projective dynamics with dry frictional contact
https://dl.acm.org/doi/abs/10.1145/3386569.3392396
AUTHORS: Mickaël Ly, Jean Jouve, Laurence Boissieux, Florence Bertails-Descoubes
HIGHLIGHT: In this paper we propose a simple yet effective method to integrate in a unified and semi-implicit way contact as well as dry frictional forces into the nested architecture of Projective dynamics.

30, TITLE: RigNet: neural rigging for articulated characters
https://dl.acm.org/doi/abs/10.1145/3386569.3392379
AUTHORS: Zhan Xu, Yang Zhou, Evangelos Kalogerakis, Chris Landreth, Karan Singh
HIGHLIGHT: We present RigNet, an end-to-end automated method for producing animation rigs from input character models.

31, TITLE: Robust eulerian-on-lagrangian rods
https://dl.acm.org/doi/abs/10.1145/3386569.3392489
AUTHORS: Rosa M. Sánchez-Banderas, Alejandro Rodríguez, Héctor Barreiro, Miguel A. Otaduy
HIGHLIGHT: This paper introduces a method to simulate complex rod assemblies and stacked layers with implicit contact handling, through Eulerian-on-Lagrangian (EoL) discretizations.

32, TITLE: Robust motion in-betweening
https://dl.acm.org/doi/abs/10.1145/3386569.3392480
AUTHORS: Félix G. Harvey, Mike Yurick, Derek Nowrouzezahrai, Christopher Pal
HIGHLIGHT: In this work we present a novel, robust transition generation technique that can serve as a new tool for 3D animators, based on adversarial recurrent neural networks.

33, TITLE: Simple and scalable frictional contacts for thin nodal objects
https://dl.acm.org/doi/abs/10.1145/3386569.3392439
AUTHORS: Gilles Daviet
HIGHLIGHT: In this work we propose a unified approach, able to handle a large class of dynamical objects, that can solve for millions of contacts with unbiased Coulomb friction while keeping computation time and memory usage reasonable.

34, TITLE: Skeleton-aware networks for deep motion retargeting
https://dl.acm.org/doi/abs/10.1145/3386569.3392462
AUTHORS: Kfir Aberman, Peizh Uo Li, Dani Lischinski, Olga Sorkine-Hornung, Daniel Cohen-Or, Baoquan Chen
HIGHLIGHT: We introduce a novel deep learning framework for data-driven motion retargeting between skeletons, which may have different structure, yet corresponding to homeomorphic graphs.

35, TITLE: The leopard never changes its spots: realistic pigmentation pattern formation by coupling tissue growth with reaction-diffusion
https://dl.acm.org/doi/abs/10.1145/3386569.3392478
AUTHORS: Marcelo De Gomensoro Malheiros, Henrique Fensterseifer, Marcelo Walter
HIGHLIGHT: In this work, we have explored the expressiveness of combining simple mechanisms as a possible explanation for pigmentation pattern formation, where tissue growth plays a crucial role.

36, TITLE: Unpaired motion style transfer from video to animation
https://dl.acm.org/doi/abs/10.1145/3386569.3392469
AUTHORS: Kfir Aberman, Yijia Weng, Dani Lischinski, Daniel Cohen-Or, Baoquan Chen
HIGHLIGHT: In this paper, we present a novel data-driven framework for motion style transfer, which learns from an unpaired collection of motions with style labels, and enables transferring motion styles not observed during training.

37, TITLE: Wave curves: simulating lagrangian water waves on dynamically deforming surfaces
https://dl.acm.org/doi/abs/10.1145/3386569.3392466
AUTHORS: Tomas Skrivan, Andreas Soderstrom, John Johansson, Christoph Sprenger, Ken Museth, Chris Wojtan
HIGHLIGHT: We propose a method to enhance the visual detail of a water surface simulation.

38, TITLE: High resolution étendue expansion for holographic displays
https://dl.acm.org/doi/abs/10.1145/3386569.3392414
AUTHORS: Grace Kuo, Laura Waller, Ren Ng, Andrew Maimone
HIGHLIGHT: In this work, we introduce new algorithms to scattering-based étendue expansion that support dense, photorealistic imagery at the native resolution of the spatial light modulator, offering up to a 20 dB improvement in peak signal to noise ratio over baseline methods.

39, TITLE: Holographie optics for thin and lightweight virtual reality
https://dl.acm.org/doi/abs/10.1145/3386569.3392416
AUTHORS: Andrew Maimone, Junren Wang
HIGHLIGHT: We present a class of display designs combining holographic optics, directional backlighting, laser illumination, and polarization-based optical folding to achieve thin, lightweight, and high performance near-eye displays for virtual reality.

40, TITLE: Towards occlusion-aware multifocal displays
https://dl.acm.org/doi/abs/10.1145/3386569.3392424
AUTHORS: Jen-Hao Rick Chang, Anat Levin, B. V. K. Vijaya Kumar, Aswin C. Sankaranarayanan

HIGHLIGHT: This paper enables occlusion-aware multifocal displays using a novel ConeTilt operator that provides an additional degree of freedom --- tilting the light cone emitted at each pixel of the display panel.

41, TITLE: Attribute2Font: creating fonts you want from attributes
https://dl.acm.org/doi/abs/10.1145/3386569.3392456
AUTHORS: Yizhi Wang, Yue Gao, Zhouhui Lian
HIGHLIGHT: Inspired by this fact, we propose a novel model, Attribute2Font, to automatically create fonts by synthesizing visually pleasing glyph images according to user-specified attributes and their corresponding values.

42, TITLE: Computational image marking on metals via laser induced heating
https://dl.acm.org/doi/abs/10.1145/3386569.3392423
AUTHORS: Sebastian Cucerca, Piotr Didyk, Hans-Peter Seidel, Vahid Babaei
HIGHLIGHT: Here, we propose a measurement-based, data-driven performance space exploration of the color laser marking process.

43, TITLE: Consistent video depth estimation
https://dl.acm.org/doi/abs/10.1145/3386569.3392377
AUTHORS: Xuan Luo, Jia-Bin Huang, Richard Szeliski, Kevin Matzen, Johannes Kopf
HIGHLIGHT: We present an algorithm for reconstructing dense, geometrically consistent depth for all pixels in a monocular video.

44, TITLE: DeepFaceDrawing: deep generation of face images from sketches
https://dl.acm.org/doi/abs/10.1145/3386569.3392386
AUTHORS: Shu-Yu Chen, Wanchao Su, Lin Gao, Shihong Xia, Hongbo Fu
HIGHLIGHT: To address this issue, our key idea is to implicitly model the shape space of plausible face images and synthesize a face image in this space to approximate an input sketch.

45, TITLE: Interactive video stylization using few-shot patch-based training
https://dl.acm.org/doi/abs/10.1145/3386569.3392453
AUTHORS: Ond?ej Texler, David Futschik, Michal ku?era, Ond?ej jamriška, Šárka Sochorová, Menclei Chai, Sergey Tulyakov, Daniel SÝkora
HIGHLIGHT: In this paper, we present a learning-based method to the keyframe-based video stylization that allows an artist to propagate the style from a few selected keyframes to the rest of the sequence.

46, TITLE: Interferometric transmission probing with coded mutual intensity
https://dl.acm.org/doi/abs/10.1145/3386569.3392384
AUTHORS: Alankar Kotwal, Anat Levin, Ioannis Gkioulekas
HIGHLIGHT: We introduce a new interferometric imaging methodology that we term interferometry with coded mutual intensity, which allows selectively imaging photon paths based on attributes such as their length and endpoints.

47, TITLE: Learning temporal coherence via self-supervision for GAN-based video generation
https://dl.acm.org/doi/abs/10.1145/3386569.3392457
AUTHORS: Mengyu Chu, You Xie, Jonas Mayer, Laura Leal-Taixé, Nils Thuerey
HIGHLIGHT: In contrast, we focus on improving learning objectives and propose a temporally self-supervised algorithm.

48, TITLE: One shot 3D photography
https://dl.acm.org/doi/abs/10.1145/3386569.3392420
AUTHORS: Johannes Kopf, Kevin Matzen, Suhib Alsisan, Ocean Quigley, Francis Ge, Yangming Chong, Josh Patterson, Jan-Michael Frahm, Shu Wu, Matthew Yu, Peizhao Zhang, Zijian He, Peter Vajda, Ayush Saraf, Michael Cohen
HIGHLIGHT: We present an end-to-end system for creating and viewing 3D photos, and the algorithmic and design choices therein.

49, TITLE: PolyFit: perception-aligned vectorization of raster clip-art via intermediate polygonal fitting
https://dl.acm.org/doi/abs/10.1145/3386569.3392401
AUTHORS: Edoardo Alberto Dominici, Nico Schertler, Jonathan Griffin, Shayan Hoshyari, Leonid Sigal, Alla Sheffer
HIGHLIGHT: We present PolyFit, a new clip-art vectorization method that produces vectorizations well aligned with human preferences.

50, TITLE: Portrait shadow manipulation
https://dl.acm.org/doi/abs/10.1145/3386569.3392390

AUTHORS: Xuaner (Cecilia) Zhang, Jonathan T. Barron, Yun-Ta Tsai, Rohit Pandey, Xiuming Zhang, Ren Ng, David E. Jacobs
HIGHLIGHT: In this paper, we present a computational approach that gives casual photographers some of this control, thereby allowing poorly-lit portraits to be relit post-capture in a realistic and easily-controllable way.

51, TITLE: Quanta burst photography
https://dl.acm.org/doi/abs/10.1145/3386569.3392470
AUTHORS: Sizhuo Ma, Shantanu Gupta, Arin C. Ulku, Claudio Bruschini, Edoardo Charbon, Mohit Gupta
HIGHLIGHT: We present quanta burst photography, a computational photography technique that leverages SPCs as passive imaging devices for photography in challenging conditions, including ultra low-light and fast motion.

52, TITLE: Single image HDR reconstruction using a CNN with masked features and perceptual loss
https://dl.acm.org/doi/abs/10.1145/3386569.3392403
AUTHORS: Marcel Santana Santos, Tsang Ing Ren, Nima Khademi Kalantari
HIGHLIGHT: In this paper, we present a novel learning-based approach to reconstruct an HDR image by recovering the saturated pixels of an input LDR image in a visually pleasing way.

53, TITLE: Single-shot high-quality facial geometry and skin appearance capture
https://dl.acm.org/doi/abs/10.1145/3386569.3392464
AUTHORS: Jérémy Riviere, Paulo Gotardo, Derek Bradley, Abhijeet Ghosh, Thabo Beeler
HIGHLIGHT: This paper proposes a solution to overcome this limitation, by adding appearance capture to photogrammetry systems.

54, TITLE: XNect: real-time multi-person 3D motion capture with a single RGB camera
https://dl.acm.org/doi/abs/10.1145/3386569.3392410
AUTHORS: Dushyant Mehta, Oleksandr Sotnychenko, Franziska Mueller, Weipeng Xu, Mohamed Elgharib, Pascal Fua, Hans-Peter Seidel, Helge Rhodin, Gerard Pons-Moll, Christian Theobalt
HIGHLIGHT: We present a real-time approach for multi-person 3D motion capture at over 30 fps using a single RGB camera.

55, TITLE: ARAnimator: in-situ character animation in mobile AR with user-defined motion gestures
https://dl.acm.org/doi/abs/10.1145/3386569.3392404
AUTHORS: Hui Ye, Kin Chung Kwan, Wanchao Su, Hongbo Fu
HIGHLIGHT: In this work we use an AR-enabled mobile device to directly control the position and motion of a virtual character situated in a real environment.

56, TITLE: HeadBlaster: a wearable approach to simulating motion perception using head-mounted air propulsion jets
https://dl.acm.org/doi/abs/10.1145/3386569.3392482
AUTHORS: Shi-Hong Liu, Pai-Chien Yen, Yi-Hsuan Mao, Yu-Hsin Lin, Erick Chandra, Mike Y. Chen
HIGHLIGHT: We present HeadBlaster, a novel wearable technology that creates motion perception by applying ungrounded force to the head to stimulate the vestibular and proprioception sensory systems.

57, TITLE: Human-in-the-loop differential subspace search in high-dimensional latent space
https://dl.acm.org/doi/abs/10.1145/3386569.3392409
AUTHORS: Chia-Hsing Chiu, Yuki Koyama, Yu-Chi Lai, Takeo Igarashi, Yonghao Yue
HIGHLIGHT: We propose differential subspace search to allow efficient iterative user exploration in such a space, without relying on domain- or data-specific assumptions.

58, TITLE: Immersive light field video with a layered mesh representation
https://dl.acm.org/doi/abs/10.1145/3386569.3392485
AUTHORS: Michael Broxton, John Flynn, Ryan Overbeck, Daniel Erickson, Peter Hedman, Matthew Duvall, Jason Dourgarian, Jay Busch, Matt Whalen, Paul Debevec
HIGHLIGHT: We present a system for capturing, reconstructing, compressing, and rendering high quality immersive light field video.

59, TITLE: MEgATrack: monochrome egocentric articulated hand-tracking for virtual reality
https://dl.acm.org/doi/abs/10.1145/3386569.3392452
AUTHORS: Shangchen Han, Beibei Liu, Randi Cabezas, Christopher D. Twigg, Peizhao Zhang, Jeff Petkau, Tsz-Ho Yu, Chun-Jung Tai, Muzaffer Akbay, Zheng Wang, Asaf Nitzan, Gang Dong, Yuting Ye, Lingling Tao, Chengde Wan, Robert Wang
HIGHLIGHT: We present a system for real-time hand-tracking to drive virtual and augmented reality (VR/AR) experiences.

60, TITLE: Sequential gallery for interactive visual design optimization
https://dl.acm.org/doi/abs/10.1145/3386569.3392444
AUTHORS: Yuki Koyama, Issei Sato, Masataka Goto
HIGHLIGHT: We propose a novel user-in-the-loop optimization method that allows users to efficiently find an appropriate parameter set by exploring such a high-dimensional design space through much easier two-dimensional search subtasks.

61, TITLE: Tactile line drawings for improved shape understanding in blind and visually impaired users
https://dl.acm.org/doi/abs/10.1145/3386569.3392388
AUTHORS: Athina Panotopoulou, Xiaoting Zhang, Tammy Qiu, Xing-Dong Yang, Emily Whiting
HIGHLIGHT: This paper describes a new technique to design tactile illustrations considering the needs of blind individuals.

62, TITLE: Tactile rendering based on skin stress optimization
https://dl.acm.org/doi/abs/10.1145/3386569.3392398
AUTHORS: Mickeal Verschoor, Dan Casas, Miguel A. Otaduy
HIGHLIGHT: We present a method to render virtual touch, such that the stimulus produced by a tactile device on a user's skin matches the stimulus computed in a virtual environment simulation.

63, TITLE: The eyes have it: an integrated eye and face model for photorealistic facial animation
https://dl.acm.org/doi/abs/10.1145/3386569.3392493
AUTHORS: Gabriel Schwartz, Shih-En Wei, Te-Li Wang, Stephen Lombardi, Tomas Simon, Jason Saragih, Yaser Sheikh
HIGHLIGHT: Our primary contributions in this work are a jointly-learnable 3D face and eyeball model that better represents gaze direction and upper facial expressions, a method for disentangling the gaze of the left and right eyes from each other and the rest of the face allowing the model to represent entirely unseen combinations of gaze and expression, and a gaze-aware model for precise animation from headset-mounted cameras.

64, TITLE: CNNs on surfaces using rotation-equivariant features
https://dl.acm.org/doi/abs/10.1145/3386569.3392437
AUTHORS: Ruben Wiersma, Elmar Eisemann, Klaus Hildebrandt
HIGHLIGHT: We propose a network architecture for surfaces that consists of vector-valued, rotation-equivariant features.

65, TITLE: Code replicability in computer graphics
https://dl.acm.org/doi/abs/10.1145/3386569.3392413
AUTHORS: Nicolas Bonneel, David Coeurjolly, Julie Digne, Nicolas Mellado
HIGHLIGHT: In this work, we assess replicability in Computer Graphics, by evaluating whether the code is available and whether it works properly.

66, TITLE: Fast and deep facial deformations
https://dl.acm.org/doi/abs/10.1145/3386569.3392397
AUTHORS: Stephen W. Bailey, Dalton Omens, Paul Dilorenzo, James F. O'Brien
HIGHLIGHT: In this paper, we present a method using convolutional neural networks for approximating the mesh deformations of characters' faces.

67, TITLE: MichiGAN: multi-input-conditioned hair image generation for portrait editing
https://dl.acm.org/doi/abs/10.1145/3386569.3392488
AUTHORS: Zhentao Tan, Menglei Chai, Dongdong Chen, Jing Liao, Qi Chu, Lu Yuan, Sergey Tulyakov, Nenghai Yu
HIGHLIGHT: In this paper, we present MichiGAN (Multi-Input-Conditioned Hair Image GAN), a novel conditional image generation method for interactive portrait hair manipulation.

68, TITLE: NASOQ: numerically accurate sparsity-oriented QP solver
https://dl.acm.org/doi/abs/10.1145/3386569.3392486
AUTHORS: Kazem Cheshmi, Danny M. Kaufman, Shoaib Kamil, Maryam Mehri Dehnavi
HIGHLIGHT: Towards addressing the need for accurate and efficient QP solvers at scale, we develop NASOQ, a new, full-space QP algorithm that provides accurate, efficient, and scalable solutions for QP problems.

69, TITLE: Nonlinear color triads for approximation, learning and direct manipulation of color distributions
https://dl.acm.org/doi/abs/10.1145/3386569.3392461
AUTHORS: Maria Shugrina, Amlan Kar, Sanja Fidler, Karan Singh
HIGHLIGHT: We present nonlinear color triads, an extension of color gradients able to approximate a variety of natural color distributions that have no standard interactive representation.

70, TITLE: RoboCut: hot-wire cutting with robot-controlled flexible rods
https://dl.acm.org/doi/abs/10.1145/3386569.3392465
AUTHORS: Simon Duenser, Roi Poranne, Bernhard Thomaszewski, Stelian Coros
HIGHLIGHT: In this work, we propose a method that exploits a dual-arm robot setup to actively control the shape of a flexible, heated rod as it cuts through the material.

71, TITLE: Sliced optimal transport sampling
https://dl.acm.org/doi/abs/10.1145/3386569.3392395
AUTHORS: Lois Paulin, Nicolas Bonneel, David Coeurjolly, Jean-Claude Iehl, Antoine Webanck, Mathieu Desbrun, Victor Ostromoukhov
HIGHLIGHT: In this paper, we introduce a numerical technique to generate sample distributions in arbitrary dimension for improved accuracy of Monte Carlo integration.

72, TITLE: Unsupervised K-modal styled content generation
https://dl.acm.org/doi/abs/10.1145/3386569.3392454
AUTHORS: Omry Sendik, Dani Lischinski, Daniel Cohen-Or
HIGHLIGHT: In this paper, we introduce uMM-GAN, a novel architecture designed to better model multi-modal distributions, in an unsupervised fashion.

73, TITLE: A low-parametric rhombic microstructure family for irregular lattices
https://dl.acm.org/doi/abs/10.1145/3386569.3392451
AUTHORS: Davi Colli Tozoni, Jérémie Dumas, Zhongshi Jiang, Julian Panetta, Daniele Panozzo, Denis Zorin
HIGHLIGHT: We propose a new approach to solving this problem for extruded, planar microstructures.

74, TITLE: Automatic structure synthesis for 3D woven relief
https://dl.acm.org/doi/abs/10.1145/3386569.3392449
AUTHORS: Rundong Wu, Claire Harvey, Joy Xiaoji Zhang, Sean Kroszner, Brooks Hagan, Steve Marschner
HIGHLIGHT: The goal of this research is to make 3D weaving as readily usable as CNC machining or 3D printing, by providing an algorithm to convert an arbitrary 3D solid model into machine instructions to weave the corresponding shape.

75, TITLE: Bézier guarding: precise higher-order meshing of curved 2D domains
https://dl.acm.org/doi/abs/10.1145/3386569.3392372
AUTHORS: Manish Mandad, Marcel Campen
HIGHLIGHT: We present a mesh generation algorithm for the curvilinear triangulation of planar domains with piecewise polynomial boundary.

76, TITLE: C-Space tunnel discovery for puzzle path planning
https://dl.acm.org/doi/abs/10.1145/3386569.3392468
AUTHORS: Xinya Zhang, Robert Belfer, Paul G. Kry, Etienne Vouga
HIGHLIGHT: We propose a tunnel-discovery and planning strategy for solving these puzzles.

77, TITLE: Computational design of skintight clothing
https://dl.acm.org/doi/abs/10.1145/3386569.3392477
AUTHORS: Juan Montes, Bernhard Thomaszewski, Sudhir Mudur, Tiberiu Popa
HIGHLIGHT: We propose an optimization-driven approach for automated, physics-based pattern design for tight-fitting clothing.

78, TITLE: Cut-enhanced PolyCube-maps for feature-aware all-hex meshing
https://dl.acm.org/doi/abs/10.1145/3386569.3392378
AUTHORS: Hao-Xiang Guo, Xiaohan Liu, Dong-Ming Yan, Yang Liu
HIGHLIGHT: In the presented work, we propose cut-enhanced PolyCube-Maps, to introduce essential interior singularities and preserve most input features.

79, TITLE: Data-driven extraction and composition of secondary dynamics in facial performance capture
https://dl.acm.org/doi/abs/10.1145/3386569.3392463
AUTHORS: Gaspard Zoss, Eftychios Sifakis, Markus Gross, Thabo Beeler, Derek Bradley
HIGHLIGHT: We propose a data-driven technique that comprises complementary removal and synthesis networks for secondary dynamics in facial performance capture.

80, TITLE: Deep geometric texture synthesis
https://dl.acm.org/doi/abs/10.1145/3386569.3392471
AUTHORS: Amir Hertz, Rana Hanocka, Raja Giryes, Daniel Cohen-Or
HIGHLIGHT: In this work, we propose a novel framework for synthesizing geometric textures.

81, TITLE: Developability of heightfields via rank minimization
https://dl.acm.org/doi/abs/10.1145/3386569.3392419
AUTHORS: Silvia Sellán, Noam Aigerman, Alec Jacobson
HIGHLIGHT: This work concerns the computation and approximation of developable surfaces --- surfaces that are locally isometric to the two-dimensional plane.

82, TITLE: Discrete differential operators on polygonal meshes
https://dl.acm.org/doi/abs/10.1145/3386569.3392389
AUTHORS: Fernando De Goes, Andrew Butts, Mathieu Desbrun
HIGHLIGHT: This paper introduces a principled construction of discrete differential operators on surface meshes formed by (possibly non-flat and non-convex) polygonal faces.

83, TITLE: Efficient bijective parameterizations
https://dl.acm.org/doi/abs/10.1145/3386569.3392435
AUTHORS: Jian-Ping Su, Chunyang Ye, Ligang Liu, Xiao-Ming Fu
HIGHLIGHT: We propose a novel method to efficiently compute bijective parameterizations with low distortion on disk topology meshes.

84, TITLE: ENIGMA: evolutionary non-isometric geometry MAtching
https://dl.acm.org/doi/abs/10.1145/3386569.3392447
AUTHORS: Michal Edelstein, Danielle Ezuz, Mirela Ben-Chen
HIGHLIGHT: In this paper we propose a fully automatic method for shape correspondence that is widely applicable, and especially effective for non isometric shapes and shapes of different topology.

85, TITLE: Error-bounded compatible remeshing
https://dl.acm.org/doi/abs/10.1145/3386569.3392434
AUTHORS: Yang Yang, Wen-Xiang Zhang, Yuan Liu, Ligang Liu, Xiao-Ming Fu
HIGHLIGHT: We present a novel method to construct compatible surface meshes with bounded approximation errors.

86, TITLE: Exact and efficient polyhedral envelope containment check
https://dl.acm.org/doi/abs/10.1145/3386569.3392426
AUTHORS: Bolun Wang, Teseo Schneider, Yixin Hu, Marco Attene, Daniele Panozzo
HIGHLIGHT: We introduce a new technique to check containment of a triangle within an envelope built around a given triangle mesh.

87, TITLE: Exertion-aware path generation
https://dl.acm.org/doi/abs/10.1145/3386569.3392393
AUTHORS: Wanwan Li, Biao Xie, Yongqi Zhang, Walter Meiss, Haikun Huang, Lap-Fai Yu
HIGHLIGHT: We propose a novel approach for generating paths with desired exertion properties, which can be used for delivering highly realistic and immersive virtual reality applications that help users achieve exertion goals.

88, TITLE: Fabrication-in-the-loop co-optimization of surfaces and styli for drawing haptics
https://dl.acm.org/doi/abs/10.1145/3386569.3392467
AUTHORS: Michal Piovar?i, Danny M. Kaufman, David I. W. Levin, Piotr Didyk
HIGHLIGHT: In this work, we address the problem of fabricating digital drawing tools that closely match the haptic feedback of their traditional counterparts.

89, TITLE: Fast tetrahedral meshing in the wild
https://dl.acm.org/doi/abs/10.1145/3386569.3392385
AUTHORS: Yixin Hu, Teseo Schneider, Bolun Wang, Denis Zorin, Daniele Panozzo
HIGHLIGHT: We propose a new tetrahedral meshing method, fTetWild, to convert triangle soups into high-quality tetrahedral meshes.

90, TITLE: Graph2Plan: learning floorplan generation from layout graphs
https://dl.acm.org/doi/abs/10.1145/3386569.3392391

AUTHORS: Ruizhen Hu, Zeyu Huang, Yuhan Tang, Oliver Van Kaick, Hao Zhang, Hui Huang
HIGHLIGHT: We introduce a learning framework for automated floorplan generation which combines generative modeling using deep neural networks and user-in-the-loop designs to enable human users to provide sparse design constraints.

91, TITLE: Inter-surface maps via constant-curvature metrics
https://dl.acm.org/doi/abs/10.1145/3386569.3392399
AUTHORS: Patrick Schmidt, Marcel Campen, Janis Born, Leif Kobbelt
HIGHLIGHT: We propose a novel approach to represent maps between two discrete surfaces of the same genus and to minimize intrinsic mapping distortion.

92, TITLE: Lifting simplices to find injectivity
https://dl.acm.org/doi/abs/10.1145/3386569.3392484
AUTHORS: Xingyi Du, Noam Aigerman, Qingnan Zhou, Shahar Z. Kovalsky, Yajie Yan, Danny M. Kaufman, Tao Ju
HIGHLIGHT: We propose a novel energy form, called Total Lifted Content (TLC), that is equipped with theoretical properties desirable for injectivity optimization.

93, TITLE: LoopyCuts: practical feature-preserving block decomposition for strongly hex-dominant meshing
https://dl.acm.org/doi/abs/10.1145/3386569.3392472
AUTHORS: Marco Livesu, Nico Pietroni, Enrico Puppo, Alla Sheffer, Paolo Cignoni
HIGHLIGHT: We present a new fully automatic block-decomposition algorithm for feature-preserving, strongly hex-dominant meshing, that yields results with a drastically larger percentage of hex elements than prior art.

94, TITLE: MGCN: descriptor learning using multiscale GCNs
https://dl.acm.org/doi/abs/10.1145/3386569.3392443
AUTHORS: Yiqun Wang, Jing Ren, Dong-Ming Yan, Jianwei Guo, Xiaopeng Zhang, Peter Wonka
HIGHLIGHT: We propose a novel framework for computing descriptors for characterizing points on three-dimensional surfaces.

95, TITLE: Monte Carlo geometry processing: a grid-free approach to PDE-based methods on volumetric domains
https://dl.acm.org/doi/abs/10.1145/3386569.3392374
AUTHORS: Rohan Sawhney, Keenan Crane
HIGHLIGHT: This paper explores how core problems in PDE-based geometry processing can be efficiently and reliably solved via grid-free Monte Carlo methods.

96, TITLE: Neural subdivision
https://dl.acm.org/doi/abs/10.1145/3386569.3392418
AUTHORS: Hsueh-Ti Derek Liu, Vladimir G. Kim, Siddhartha Chaudhuri, Noam Aigerman, Alec Jacobson
HIGHLIGHT: This paper introduces Neural Subdivision, a novel framework for data-driven coarse-to-fine geometry modeling.

97, TITLE: On elastic geodesic grids and their planar to spatial deployment
https://dl.acm.org/doi/abs/10.1145/3386569.3392490
AUTHORS: Stefan Pillwein, Kurt Leimer, Michael Birsak, Przemyslaw Musialski
HIGHLIGHT: We propose a solution based on networks of geodesic curves on target surfaces and we introduce a set of conditions and assumptions which can be closely met in practice.

98, TITLE: Point2Mesh: a self-prior for deformable meshes
https://dl.acm.org/doi/abs/10.1145/3386569.3392415
AUTHORS: Rana Hanocka, Gal Metzer, Raja Giryes, Daniel Cohen-Or
HIGHLIGHT: In this paper, we introduce Point2Mesh, a technique for reconstructing a surface mesh from an input point cloud.

99, TITLE: Principal symmetric meshes
https://dl.acm.org/doi/abs/10.1145/3386569.3392446
AUTHORS: Davide Pellis, Hui Wang, Martin Kilian, Florian Rist, Helmut Pottmann, Christian Müller
HIGHLIGHT: We describe two discrete versions of these special nets/quad meshes which are dual to each other and show their usefulness for various applications in the context of fabrication and architectural design.

100, TITLE: Quad-mesh based isometric mappings and developable surfaces
https://dl.acm.org/doi/abs/10.1145/3386569.3392430

AUTHORS: Caigui Jiang, Cheng Wang, Florian Rist, Johannes Wallner, Helmut Pottmann
HIGHLIGHT: In this paper, we employ optimization to efficiently compute isometric mappings, conformal mappings and isometric bending of surfaces.

101, TITLE: TilinGNN: learning to tile with self-supervised graph neural network
https://dl.acm.org/doi/abs/10.1145/3386569.3392380
AUTHORS: Hao Xu, Ka-Hei Hui, Chi-Wing Fu, Hao Zhang
HIGHLIGHT: We introduce the first neural optimization framework to solve a classical instance of the tiling problem.

102, TITLE: Uncertainty quantification for multi-scan registration
https://dl.acm.org/doi/abs/10.1145/3386569.3392402
AUTHORS: Xiangru Huang, Zhenxiao Liang, Qixing Huang
HIGHLIGHT: In this paper, we introduce a local uncertainty framework for geometric alignment algorithms.

103, TITLE: Variable-width contouring for additive manufacturing
https://dl.acm.org/doi/abs/10.1145/3386569.3392448
AUTHORS: Samuel Hornus, Tim Kuipers, Olivier Devillers, Monique Teillaud, Jonàs Martínez, Marc Glisse, Sylvain Lazard, Sylvain Lefebvre
HIGHLIGHT: We present a novel technique that, given a deposition width range, constructs a set of closed beads whose width varies within the prescribed range and fill the input shape.

104, TITLE: Vid2Curve: simultaneous camera motion estimation and thin structure reconstruction from an RGB video
https://dl.acm.org/doi/abs/10.1145/3386569.3392476
AUTHORS: Peng Wang, Lingjie Liu, Nenglun Chen, Hung-Kuo Chu, Christian Theobalt, Wenping Wang
HIGHLIGHT: Specifically, we present a new curve-based approach to estimate accurate camera poses by establishing correspondences between featureless thin objects in the foreground in consecutive video frames, without requiring visual texture in the background scene to lock on.

105, TITLE: A perceptual model of motion quality for rendering with adaptive refresh-rate and resolution
https://dl.acm.org/doi/abs/10.1145/3386569.3392411
AUTHORS: Gyorgy Denes, Akshay Jindal, Aliaksei Mikhailiuk, Rafa? K. Mantiuk
HIGHLIGHT: To find the best trade-off between the spatial resolution and refresh rate, we propose a perceptual visual model that predicts the quality of motion given an object velocity and predictability of motion.

106, TITLE: Analytic spherical harmonic gradients for real-time rendering with many polygonal area lights
https://dl.acm.org/doi/abs/10.1145/3386569.3392373
AUTHORS: Lifan Wu, Guangyan Cai, Shuang Zhao, Ravi Ramamoorthi
HIGHLIGHT: In this paper, we develop a novel analytic formula for the spatial gradients of the spherical harmonic coefficients for uniform polygonal area lights.

107, TITLE: Compositional neural scene representations for shading inference
https://dl.acm.org/doi/abs/10.1145/3386569.3392475
AUTHORS: Jonathan Granskog, Fabrice Rousselle, Marios Papas, Jan Novák
HIGHLIGHT: We present a technique for adaptively partitioning neural scene representations.

108, TITLE: Continuous multiple importance sampling
https://dl.acm.org/doi/abs/10.1145/3386569.3392436
AUTHORS: Rex West, Iliyan Georgiev, Adrien Gruson, Toshiya Hachisuka
HIGHLIGHT: To handle such cases we establish a continuous MIS (CMIS) formulation as a generalization of MIS to uncountably infinite sets of techniques.

109, TITLE: Converting stroked primitives to filled primitives
https://dl.acm.org/doi/abs/10.1145/3386569.3392392
AUTHORS: Diego Nehab
HIGHLIGHT: In this paper, we present a solution to the stroke-to-fill conversion problem that addresses these issues.

110, TITLE: GS-PAT: high-speed multi-point sound-fields for phased arrays of transducers
https://dl.acm.org/doi/abs/10.1145/3386569.3392492
AUTHORS: Diego Martinez Plasencia, Ryuji Hirayama, Roberto Montano-Murillo, Sriram Subramanian

HIGHLIGHT: We present GS-PAT, a GPU multi-point phase retrieval algorithm, capable of computing 17K solutions per second for up to 32 simultaneous points in a mid-end consumer grade GPU (NVidia GTX 1660).

111, TITLE: Image-based acquisition and modeling of polarimetric reflectance
https://dl.acm.org/doi/abs/10.1145/3386569.3392387
AUTHORS: Seung-Hwan Baek, Tizian Zeltner, Hyun Jin Ku, Inseung Hwang, Xin Tong, Wenzel Jakob, Min H. Kim
HIGHLIGHT: Acquisition of such reflectance data is challenging due to the extremely large space of angular, spectral, and polarimetric configurations that must be observed, and we propose a scheme combining image-based acquisition with spectroscopic ellipsometry to perform measurements in a realistic amount of time.

112, TITLE: Langevin monte carlo rendering with gradient-based adaptation
https://dl.acm.org/doi/abs/10.1145/3386569.3392382
AUTHORS: Fujun Luan, Shuang Zhao, Kavita Bala, Ioannis Gkioulekas
HIGHLIGHT: We introduce a suite of Langevin Monte Carlo algorithms for efficient photorealistic rendering of scenes with complex light transport effects, such as caustics, interreflections, and occlusions.

113, TITLE: Massively parallel rendering of complex closed-form implicit surfaces
https://dl.acm.org/doi/abs/10.1145/3386569.3392429
AUTHORS: Matthew J. Keeter
HIGHLIGHT: We present a new method for directly rendering complex closed-form implicit surfaces on modern GPUs, taking advantage of their massive parallelism.

114, TITLE: Neural supersampling for real-time rendering
https://dl.acm.org/doi/abs/10.1145/3386569.3392376
AUTHORS: Lei Xiao, Salah Nouri, Matt Chapman, Alexander Fix, Douglas Lanman, Anton Kaplanyan
HIGHLIGHT: The main insight of our work is that in rendered content, the image pixels are point-sampled, but precise temporal dynamics are available.

115, TITLE: Path-space differentiable rendering
https://dl.acm.org/doi/abs/10.1145/3386569.3392383
AUTHORS: Cheng Zhang, Bailey Miller, Kai Yan, Ioannis Gkioulekas, Shuang Zhao
HIGHLIGHT: In this paper, we show how path integrals can be differentiated with respect to arbitrary differentiable changes of a scene.

116, TITLE: Penrose: from mathematical notation to beautiful diagrams
https://dl.acm.org/doi/abs/10.1145/3386569.3392375
AUTHORS: Katherine Ye, Wode Ni, Max Krieger, Dor Ma'ayan, Jenna Wise, Jonathan Aldrich, Joshua Sunshine, Keenan Crane
HIGHLIGHT: We introduce a system called Penrose for creating mathematical diagrams.

117, TITLE: Polar stroking: new theory and methods for stroking paths
https://dl.acm.org/doi/abs/10.1145/3386569.3392458
AUTHORS: Mark J. Kilgard
HIGHLIGHT: Guided by our theory, we develop a novel polar stroking method to render stroked paths robustly with an intuitive way to bound the tessellation error without needing recursion.

118, TITLE: Radiative backpropagation: an adjoint method for lightning-fast differentiable rendering
https://dl.acm.org/doi/abs/10.1145/3386569.3392406
AUTHORS: Merlin Nimier-David, Sébastien Speierer, Benoît Ruiz, Wenzel Jakob
HIGHLIGHT: We introduce radiative backpropagation, a fundamentally different approach to differentiable rendering that does not require a transcript, greatly improving its scalability and efficiency.

119, TITLE: Robust fitting of parallax-aware mixtures for path guiding
https://dl.acm.org/doi/abs/10.1145/3386569.3392421
AUTHORS: Lukas Ruppert, Sebastian Herholz, Hendrik P. A. Lensch
HIGHLIGHT: We introduce a parallax-aware distribution model based on parametric mixtures.

120, TITLE: Spatiotemporal reservoir resampling for real-time ray tracing with dynamic direct lighting
https://dl.acm.org/doi/abs/10.1145/3386569.3392481
AUTHORS: Benedikt Bitterli, Chris Wyman, Matt Pharr, Peter Shirley, Aaron Lefohn, Wojciech Jarosz

HIGHLIGHT: We introduce a new algorithm---ReSTIR---that renders such lighting interactively, at high quality, and without needing to maintain complex data structures.

121, TITLE: Specular manifold sampling for rendering high-frequency caustics and glints
https://dl.acm.org/doi/abs/10.1145/3386569.3392408
AUTHORS: Tizian Zeltner, Iliyan Georgiev, Wenzel Jakob
HIGHLIGHT: In this article, we propose a surprisingly simple and general sampling strategy for specular light paths including the above examples, unifying the previously disjoint areas of caustic and glint rendering into a single framework.

122, TITLE: The design and evolution of the UberBake light baking system
https://dl.acm.org/doi/abs/10.1145/3386569.3392394
AUTHORS: Dario Seyb, Peter-Pike Sloan, Ari Silvennoinen, Micha? Iwanicki, Wojciech Jarosz
HIGHLIGHT: We describe the design and evolution of UberBake, a global illumination system developed by Activision, which supports limited lighting changes in response to certain player interactions.

123, TITLE: Variance-aware path guiding
https://dl.acm.org/doi/abs/10.1145/3386569.3392441
AUTHORS: Alexander Rath, Pascal Grittmann, Sebastian Herholz, Petr Vévoda, Philipp Slusallek, Jaroslav K?ivánek
HIGHLIGHT: We present a generic procedure to derive theoretically optimal target densities for local path guiding.