

Technical Papers

17- 20 November 2019

Brisbane Convention & Exhibition Centre (BCEC)

<p>Session: Light Transport Date: 18 November 2019, Monday Time: 9:00am - 10:45am Venue: Plaza P1 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_380: MIS Compensation: Optimizing Sampling Techniques in Multiple Importance Sampling <input type="checkbox"/> Papers_203: Variance-Aware Multiple Importance Sampling <input type="checkbox"/> Papers_449: Selectively Metropolised Monte Carlo light transport simulation <input type="checkbox"/> Papers_348: Integral formulations of volumetric transmittance
<p>Session: Geometry Brekkie Date: 18 November 2019, Monday Time: 9:00am - 10:45am Venue: Plaza P2 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_235: ZoomOut: Spectral Upsampling for Efficient Shape Correspondence <input type="checkbox"/> Papers_214: Distortion-Minimizing Injective Maps Between Surfaces <input type="checkbox"/> Papers_424: X-CAD: Optimizing CAD Models with Extended Finite Elements <input type="checkbox"/> Papers_179: Repairing Man-Made Meshes via Visual Driven Global Optimization with Minimum Intrusion <input type="checkbox"/> Papers_321: SceneGit: A Practical System for Diffing and Merging 3D Environments
<p>Session: Accelerated Physics Date: 18 November 2019, Monday Time: 11:00am - 12:45pm Venue: Plaza P1 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_134: Accelerated Complex-Step Finite Difference for Expedient Deformable Simulation <input type="checkbox"/> Papers_382: Material-adapted Refinable Basis Functions for Elasticity Simulation <input type="checkbox"/> Papers_101: A Scalable Galerkin Multigrid Method for Real-time Simulation of Deformable Objects <input type="checkbox"/> Papers_122: Accelerating ADMM for Efficient Simulation and Optimization <input type="checkbox"/> TOG-18-0092.R2: Schur Complement-based Substructuring of Stiff Multibody Systems with Contact
<p>Session: Photography in the Field Date: 18 November 2019, Monday Time: 11:00am - 12:45pm Venue: Plaza P2 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_182: Handheld Mobile Photography in Very Low Light <input type="checkbox"/> Papers_124: Learning Efficient Illumination Multiplexing for Joint Capture of Reflectance and Shape <input type="checkbox"/> Papers_412: Blind image super resolution with spatially variant degradations <input type="checkbox"/> Papers_223: Hierarchical and View-invariant Light Field Segmentation by Maximizing Entropy Rate on 4D Ray Graphs

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	<input type="checkbox"/> Papers_361: Document Rectification and Illumination Correction using a Patch-based CNN
<p>Session: Network Date: 18 November 2019, Monday Time: 2:15pm - 4:00pm Venue: Plaza P1 Session Chair:</p>	<input type="checkbox"/> Papers_287: Curve-pleated structures <input type="checkbox"/> Papers_252: Modeling Curved Folding with Freeform Deformations <input type="checkbox"/> Papers_202: Checkerboard Patterns with Black Rectangles <input type="checkbox"/> Papers_370: Chebyshev Nets from Commuting PolyVector Fields <input type="checkbox"/> Papers_289: Discrete Geodesic Parallel Coordinates
<p>Session: Learning from Video Date: 18 November 2019, Monday Time: 2:15pm - 4:00pm Venue: Plaza P2 Session Chair:</p>	<input type="checkbox"/> Papers_265: Colorblind-Shareable Videos by Synthesizing Temporal-Coherent Polynomial Coefficients <input type="checkbox"/> Papers_230: Animating Landscape: Self-Supervised Learning of Decoupled Motion and Appearance for Single-Image Video Synthesis <input type="checkbox"/> Papers_387: DeepRemaster: Temporal Source-Reference Attention Networks for Comprehensive Video Enhancement <input type="checkbox"/> Papers_215: Write-A-Video: Computational Video Montage from Themed Text <input type="checkbox"/> Papers_156: Neural Style-Preserving Visual Dubbing
<p>Session: Composing & Decomposing Geometry Date: 18 November 2019, Monday Time: 4:15pm - 6:00pm Venue: Plaza P1 Session Chair:</p>	<input type="checkbox"/> Papers_296: Mandoline: Robust Cut-Cell Generation for Arbitrary Triangle Meshes <input type="checkbox"/> Papers_290: QuadMixer: Layout Preserving Blending of Quadrilateral Meshes <input type="checkbox"/> Papers_310: 3D Hodge Decompositions of Edge and Face-based Vector Fields <input type="checkbox"/> Papers_386: Bounded Distortion Tetrahedral Metric Interpolation

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<p>Session: Synthesis in the Arvo Date: 18 November 2019, Monday Time: 4:15pm - 6:00pm Venue: Plaza P2 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_383: Deep Face Normalization <input type="checkbox"/> Papers_243: 3D Ken Burns Effect from a Single Image <input type="checkbox"/> Papers_405: Artistic Glyph Image Synthesis via One-Stage Few-Shot Learning <input type="checkbox"/> Papers_206: A Novel Framework For Inverse Procedural Texture Modeling <input type="checkbox"/> Papers_107: Comic-Guided Speech Synthesis
<p>Session: Fluids Aflow Date: 19 November 2019, Tuesday Time: 9:00am - 10:45am Venue: Plaza P1 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_354: Transport-Based Neural Style Transfer for Smoke Simulations <input type="checkbox"/> Papers_164: Consistent Shepard Interpolation for SPH-Based Fluid Animation <input type="checkbox"/> Papers_257: A Multi-Scale Model for Coupling Strands with Shear-Dependent Liquid <input type="checkbox"/> Papers_146: The Reduced Immersed Method for Real-Time Fluid-Elastic Solid Interaction and Contact Simulation <input type="checkbox"/> Papers_273: A Thermomechanical Material Point Method for Baking and Cooking
<p>Session: Building Knowledge Date: 19 November 2019, Tuesday Time: 9:00am - 10:45am Venue: Plaza P2 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_116: Design and Structural Optimization of Topological Interlocking Assemblies <input type="checkbox"/> Papers_187: Extrusion-Based Ceramics Printing with Strictly-Continuous Deposition <input type="checkbox"/> Papers_209: Carpentry Compiler <input type="checkbox"/> Papers_167: Computational LEGO Technic Design <input type="checkbox"/> TOG-17-0076.R2: Redefining A in RGBA: Towards a Standard for Graphical 3D Printing
<p>Session: Geometry with Style Date: 19 November 2019, Tuesday Time: 11:00am - 12:45pm Venue: Plaza P2 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_143: Cubic Stylization <input type="checkbox"/> Papers_141: LOGAN: Unpaired Shape Transform in Latent Overcomplete Space <input type="checkbox"/> Papers_266: Orometry-based terrain analysis and synthesis <input type="checkbox"/> Papers_334: Multi-Theme Generative Adversarial Terrain Amplification <input type="checkbox"/> TOG-18-0120.R1: Terrain Amplification with Implicit 3D Features
<p>Session: Watch Your Language Date: 19 November 2019, Tuesday Time: 11:00am - 12:45pm</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_171: Taichi: A Language for High-Performance Computation on Spatially Sparse Data Structures

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<p>Venue: Plaza P2 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_342: Staged Metaprogramming for Shader System Development <input type="checkbox"/> Papers_149: Mitsuba 2: A Retargetable Forward and Inverse Renderer <input type="checkbox"/> Papers_318: Automatically Translating Image Processing Libraries to Halide
<p>Session: Learning to Move Date: 19 November 2019, Tuesday Time: 2:15pm - 4:00pm Venue: Plaza P1 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_157: Learning predict-and-simulate policies from unorganized human motion data <input type="checkbox"/> Papers_272: DReCon: Data-Driven Responsive Control of Physics-Based Characters <input type="checkbox"/> Papers_155: Learning Body Shape Variation in Physics-based Characters <input type="checkbox"/> Papers_147: SoftCon: Simulation and Control of Soft-Bodied Animals with Biomimetic Actuators <input type="checkbox"/> Papers_168: Neural State Machine for Character-Scene Interactions
<p>Session: Thoughts on Display Date: 19 November 2019, Tuesday Time: 2:15pm - 4:00pm Venue: Plaza P2 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_120: Reducing Simulator Sickness with Perceptual Camera Control <input type="checkbox"/> Papers_330: DiCE: Dichoptic Contrast Enhancement for VR and Stereo Displays <input type="checkbox"/> Papers_346: DeepFovea: Neural Reconstruction for Foveated Rendering and Video Compression using Learned Statistics of Natural Videos <input type="checkbox"/> Papers_283: Wirtinger Holography for Near-eye Displays <input type="checkbox"/> Papers_207: Holographic Near-Eye Displays Based on Overlap-Add Stereograms
<p>Session: Light Hardware Date: 19 November 2019, Tuesday Time: 4:15pm - 6:00pm Venue: Plaza P2 Session Chair:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_426: Tomographic Projector: Large Scale Volumetric Display with Uniform Viewing Experiences <input type="checkbox"/> Papers_343: An Integrated 6DoF Video Camera and System Design <input type="checkbox"/> Papers_388: The Relightables: Volumetric Performance Capture of Humans with Realistic Relighting <input type="checkbox"/> Papers_299: Modeling Endpoint Distribution of Pointing Selection Tasks in Virtual Reality Environments <input type="checkbox"/> Papers_237: Learned Large Field-of-View Imaging With Thin-Plate Optics

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<p>Session: Looking & Sounding Great Date: 20 November 2019, Wednesday Time: 9:00am - 10:45am Venue: Plaza P1</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_196: Learning an Intrinsic Garment Space for Interactive Authoring of Garment Animation <input type="checkbox"/> Papers_347: Biomimetic Eye Modeling & Deep Neuromuscular Oculomotor Control <input type="checkbox"/> Papers_381: Acoustic texture rendering for extended sources in complex scenes <input type="checkbox"/> TOG-18-0052.R4: Redirected Smooth Mappings for Multi-user Real Walking in VR <input type="checkbox"/> TOG-19-0029.R1: Deep Iterative Frame Interpolation for Full-frame Video Stabilization
<p>Session: Samples & Speckles Date: 20 November 2019, Wednesday Time: 9:00am - 10:45am Venue: Plaza P2</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_281: GradNet: Unsupervised Deep Screened Poisson Reconstruction for Gradient-Domain Rendering <input type="checkbox"/> Papers_314: Adversarial Monte Carlo Denoising with Conditioned Auxiliary Feature Modulation <input type="checkbox"/> Papers_236: Learning Generative Models for Rendering Specular Microgeometry <input type="checkbox"/> Papers_357: Deep Point Correlation Design
<p>Session: Differentiable Rendering Date: 20 November 2019, Wednesday Time: 11:00am - 12:45pm Venue: Plaza P1</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_227: A Differential Theory of Radiative Transfer <input type="checkbox"/> Papers_190: Reparameterizing Discontinuous Integrands for Differentiable Rendering <input type="checkbox"/> Papers_158: Non-linear sphere tracing for rendering deformed signed distance fields <input type="checkbox"/> Papers_201: Differentiable Surface Splatting for Point-based Geometry Processing <input type="checkbox"/> Papers_247: The Camera Offset Space: Real-time Potentially Visible Set Computations for Streaming Rendering
<p>Session: Hairy & Sketchy Geometry Date: 20 November 2019, Wednesday Time: 11:00am - 12:45pm Venue: Plaza P2</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Papers_263: OpenSketch: A Richly-Annotated Dataset of Product Design Sketches <input type="checkbox"/> Papers_355: Language-based Colorization of Scene Sketches <input type="checkbox"/> Papers_345: Data-driven Interior Plan Generation for Residential Buildings <input type="checkbox"/> Papers_191: Dynamic Hair Modeling from Monocular Videos using Deep Neural Networks

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<p>Session: Data - Driver Dynamics Date: 20 November 2019, Wednesday Time: 2:15pm - 4:00pm Venue: Plaza P1</p>	<ul style="list-style-type: none"><input type="checkbox"/> Papers_317: Real2Sim: Visco-elastic parameter estimation from dynamic motion<input type="checkbox"/> Papers_325: Video-Guided Real-to-Virtual Parameter Transfer for Viscous Fluids<input type="checkbox"/> Papers_390: Fluid Carving: Intelligent Resizing for Fluid Simulation Data<input type="checkbox"/> Papers_300: ScalarFlow: A Large-Scale Volumetric Data Set of Real-world Scalar Transport Flows for Computer Animation and Machine Learning
<p>Session: Geometry Off the Deep End Date: 20 November 2019, Wednesday Time: 2:15pm - 4:00pm Venue: Plaza P2</p>	<ul style="list-style-type: none"><input type="checkbox"/> Papers_393: RPM-Net: Recurrent Prediction of Motion and Parts from Point Cloud<input type="checkbox"/> Papers_244: Learning Adaptive Hierarchical Cuboid Abstractions of 3D Shape Collections<input type="checkbox"/> Papers_240: StructureNet: Hierarchical Graph Networks for 3D Shape Generation<input type="checkbox"/> Papers_108: SDM-NET: Deep Generative Network for Structured Deformable Mesh

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