

# Technical Papers



**SIGGRAPH**  
**ASIA 2015**  
**KOBE**

**Monday, 02 November**

18:30 – 20:00

**Session**

**Portopia Hotel, South Wing, Portopia Hall, Level 1**

**Technical Papers**

**Fast Forward**

An entertaining, illuminating summary of SIGGRAPH Asia's 2015 Technical Papers in an exciting two-hour session! The author(s) of each paper are allowed a little less than a minute to wow the crowd with their results and entice attendees to hear their complete paper presentation later in the week.

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Tuesday, 03 November	Session
11:00 – 12:45	<b>Kobe Int'l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> <b>Color and Sketching</b> <ul style="list-style-type: none"><li>- Adaptive Color Display via Perceptually-Driven Factored Spectral Projection</li><li>- A Model of Local Adaptation</li><li>- Color Changing Effects with Anisotropic Halftone Prints on Metal</li><li>- Closure-Aware Sketch Simplification</li><li>- Autocomplete Hand-Drawn Animations</li></ul>
11:00 – 12:45	<b>Kobe Int'l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> <b>Geometry Processing</b> <ul style="list-style-type: none"><li>- Nested Cages</li><li>- Generalized Cylinder Decomposition</li><li>- Polyhedral Patterns</li><li>- Rolling Guidance Normal Filter for Geometric Processing</li><li>- Efficient Construction and Simplification of Delaunay Meshes</li></ul>
14:15 – 16:00	<b>Kobe Int'l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> <b>3D Scanning</b> <ul style="list-style-type: none"><li>- Data-Driven Structural Priors for Shape Completion</li><li>- Deep Points Consolidation</li><li>- Autoscanning for Coupled Scene Reconstruction and Proactive Object Analysis</li><li>- Unsynchronized Structured Light</li><li>- Activity-Centric Scene Synthesis for Functional 3D Scene Modeling</li></ul>
14:15 – 16:00	<b>Kobe Int'l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> <b>Faces and Characters</b> <ul style="list-style-type: none"><li>- Push-Recovery Stability of Biped Locomotion</li><li>- Generalizing Wave Gestures from Sparse Examples for Real-Time Character Control</li><li>- Video-Audio Driven Real-Time Facial Animation</li><li>- Real-time Expression Transfer for Facial Reenactment</li><li>- To Stylize or not to Stylize? Effect of Shape and Material Stylization on the Perception of Computer Generated Faces</li></ul>



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Tuesday, 03 November	Session
16:15 – 18:00	<b>Kobe Int'l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> <b>Illumination and Real-time</b> <ul style="list-style-type: none"><li>- Physically-Accurate Fur Reflectance: Modeling, Measurement and Rendering</li><li>- On Optimal, Minimal BRDF Sampling for Reflectance Acquisition</li><li>- Efficient and Accurate Spherical Kernel Integrals using Isotropic Decomposition</li><li>- A System for Rapid, Automatic Shader Level-of-Detail</li><li>- Masked Depth Culling for Graphics Hardware</li></ul>
16:15 – 18:00	<b>Kobe Int'l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> <b>Mappings and Parameterizations</b> <ul style="list-style-type: none"><li>- Instant Field-Aligned Meshes</li><li>- Orbifold Tutte Embeddings</li><li>- Large-Scale Bounded Distortion Mappings</li><li>- Quantized Global Parametrization</li><li>- Spherical Fibonacci Mapping</li></ul>





Wednesday, 04 November	Session
09:00 – 10:45	<b>Kobe Int’l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> <b>Video Processing</b> <ul style="list-style-type: none"><li>- Video Diff: Highlighting Differences Between Similar Actions in Videos</li><li>- JumpCut: Non-Successive Mask Transfer and Interpolation for Video Cutout</li><li>- Blind Video Temporal Consistency</li><li>- Fast Computation of Seamless Video Loops</li><li>- Real-Time Noise-Aware Tone Mapping</li></ul>
09:00 – 10:45	<b>Kobe Int’l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> <b>Particle Fluids</b> <ul style="list-style-type: none"><li>- Continuum Foam: A Material Point Method for Shear-Dependent Flows</li><li>- Data-Driven Fluid Simulations using Regression Forests</li><li>- Wetbrush: GPU-based 3D Painting Simulation at the Bristle Level</li><li>- Fast Multiple-Fluid Simulation Using Helmholtz Free Energy</li><li>- Surface Turbulence for Particle-Based Liquid Simulations</li></ul>
11:00 – 12:45	<b>Kobe Int’l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> <b>Modelling and More</b> <ul style="list-style-type: none"><li>- Garment Modeling with a Depth Camera</li><li>- High-Quality Hair Modeling from a Single Portrait Photo</li><li>- MeshHisto: Collaborative Modeling by Sharing and Retargeting Editing Histories</li><li>- Interactive Design of Probability Density Functions for Shape Grammars</li><li>- AniMesh: Interleaved Animation, Modeling, and Editing</li></ul>
11:00 – 12:45	<b>Kobe Int’l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> <b>Sampling and Light Transport</b> <ul style="list-style-type: none"><li>- Unbiased Photon Gathering for Light Transport Simulation</li><li>- Anisotropic Gaussian Mutations for Metropolis Light Transport through Hessian-Hamiltonian Dynamics</li><li>- A Matrix Sampling-and-Recovery Approach for Many-Lights Rendering</li><li>- Blue Noise Sampling using an SPH-based Method</li><li>- AA Patterns for Point Sets with Controlled Spectral Properties</li></ul>



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Wednesday, 04 November	Session
14:15 – 16:00	<b>Kobe Int'l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> Fabrication <ul style="list-style-type: none"><li>- Dapper: Decompose-and-Pack for 3D Printing</li><li>- Level-Set-Based Partitioning and Packing Optimization of a Printable Model</li><li>- Perceptual Models of Preference in 3D Printing Direction</li><li>- Interactive Design of 3D Printable Robotic Creatures</li></ul>
14:15 – 16:00	<b>Kobe Int'l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> Tracking and Transients <ul style="list-style-type: none"><li>- IM6D: Magnetic Tracking System with 6-DOF Passive Markers for Dexterous 3D Interaction and Motion</li><li>- 3D Motion Sensing of any Object without Prior Knowledge</li><li>- Capturing the Human Figure Through a Wall</li><li>- Solving Trigonometric Moment Problems for Fast Transient Imaging</li><li>- Online Structure Analysis for Real-time Indoor Scene Reconstruction</li></ul>
16:15 – 18:00	<b>Kobe Int'l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> Specialized Design <ul style="list-style-type: none"><li>- WrapIt: Computer-Assisted Crafting of Wire Wrapped Jewelry</li><li>- Legolization: Optimizing LEGO Designs</li><li>- Computational Design of Metallophone Contact Sounds</li><li>- Interactive Surface Design with Interlocking Elements</li></ul>
16:15 – 18:00	<b>Kobe Int'l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> Single Images <ul style="list-style-type: none"><li>- Break Ames Room Illusion: Depth from General Single Images</li><li>- Deviation Magnification: Revealing Departures from Ideal Geometries</li><li>- Revealing and Modifying Non-Local Variations in a Single Image</li><li>- Transform Recipes for Efficient Cloud Photo Enhancement</li></ul>



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Thursday, 05 November	Session
09:00 – 10:45	<b>Kobe Int'l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> <b>Assisted Design</b> <ul style="list-style-type: none"><li>- Structure and Appearance Optimization for Controllable Shape Design</li><li>- Topology-Based Catalogue Exploration Framework for Identifying View-Enhanced Tower Designs</li><li>- AutoConnect: Computational Design of 3D-Printable Connectors</li><li>- Magic Decorator: Automatic Material Suggestion for Indoor Digital Scenes</li><li>- Sketching Folds: Developable Surfaces from Non-Planar Silhouettes</li></ul>
09:00 – 10:45	<b>Kobe Int'l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> <b>Shapes and Images</b> <ul style="list-style-type: none"><li>- CrossLink: Joint Understanding of Image and 3D Model Collections through Shape and Camera Pose Variations</li><li>- Joint Embeddings of Shapes and Images via CNN Image Purification</li><li>- SHED: Shape Edit Distance for Fine-Grained Shape Similarity</li><li>- Deformation-Driven Topology-Varying 3D Shape Correspondence</li><li>- Extraction of the Quad Layout of a Triangle Mesh Guided by its Curve-Skeleton</li></ul>
11:00 – 12:45	<b>Kobe Int'l Conference Center, Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> <b>Cinematography and Video Processing International</b> <ul style="list-style-type: none"><li>- Real-Time Pixel Luminance Optimization for Dynamic Multi-Projection Mapping</li><li>- An Interactive Tool for Designing Quadrotor Camera Shots</li><li>- Image-Space Modal Bases for Plausible Manipulation of Objects in Video</li><li>- Visual Transcript: Readable, Skimmable Layout of Blackboard-Style Lecture Videos</li></ul>



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Thursday, 05 November	Session
11:00 – 12:45	<b>Kobe Int'l Conference Center, Room 501, Level 5</b> <b>Technical Papers</b> <b>Simulation in Subspaces</b> <ul style="list-style-type: none"><li>- A Unified Approach for Subspace Simulation of Deformable Bodies in Multiple Domains</li><li>- Subspace Dynamic Simulation Using Rotation-Strain Coordinates</li><li>- Expediting Precomputation for Reduced Deformable Simulation</li><li>- Model-Reduced Variational Fluid Simulation</li></ul>
14:15 – 16:00	<b>Kobe Int'l Conference Center, International Conference Room, Room 301, Level 3</b> <b>Technical Papers</b> <b>Deformable Models (Closing Session)</b> <ul style="list-style-type: none"><li>- Smoothed Aggregation Multigrid for Cloth Simulation</li><li>- A Chebyshev Semi-Iterative Approach for Accelerating Projective and Position-Based Dynamics</li><li>- Non-Manifold Level Sets: A Multivalued Implicit Surface Representation with Applications to Self-Collision Processing</li><li>- SMPL: A Skinned Multi-Person Linear Model</li></ul>

