

Symposium MEIS2013:

Mathematical Progress in Expressive Image Synthesis

21-23 October 2013

Centennial Hall Kyushu University School of Medicine, Fukuoka, Japan

<http://mcg.imi.kyushu-u.ac.jp/meis2013/>

Monday 21 October 2013

10:30-11:15 **Registration**

11:15-11:30 **Opening**

11:30-12:30 **Invited Talk**

The Power of Orthogonal Duals
Mathieu DESBRUN (Caltech)

14:00-14:45 **ABMS Talk: Medical Imaging**

Blood Flow Analysis using Medical Imaging Data
Hiroshi SUIITO (Okayama University)

15:00-15:40 **Flow**

Truncation Error Analysis of SPH Method and its Applications to Numerical Simulations of Flow Problem
Yusuke IMOTO (Kyushu University)

Generating Variations of Flow Fields by Modulating Amplitude and Resizing Simulation Space
Syuhei SATO (Hokkaido University)

15:40-16:40 **Character Animation Basics**

Phase Dynamics on the Modified Oscillators in Bipedal Locomotion
Wulin WENG (Kyushu University)

Microscopic Deformation Effects in Up-Sampled Cloth Simulation
Shunsuke SAITO (Waseda University)

Mesh Deformation with Penalty-Based Collision Response
Vladimír CHALUPECKÝ (FUJITSU LIMITED)

17:00-18:00 **Statistical Model and Learning**

Single-View 3D Reconstruction by Learning 3D Game Scenes
Makoto OKABE (The University of Electro-Communications)

Probable and Improbable Faces
J. P. LEWIS (Victoria University)

Tuesday 22 October 2013

9:00-9:30 **Registration**

9:30-10:30 **Invited Talk**

Progress in Digital Sound Synthesis for Physically Based Animation
Doug L. JAMES (Cornell University)

10:50-11:50 **Spherical Rendering**

Efficient Image-Based Rendering Method using Spherical Gaussian
Kei IWASAKI (Wakayama University)

A Lie Theoretic Proposal on Algorithms for Spherical Harmonic Lighting
Masato WAKAYAMA (IMI, Kyushu University)

13:30-14:30 **Text, Texture and Picture**

Detection of Inserted Text in Images
Hiromi HIRANO (The University of Electro-Communications and Rakuten Inc.)

Aging Simulation by Patch-Based Texture Synthesis with Statistical Wrinkle
Aging Pattern Model
Akinobu MAEJIMA (Waseda University)

Animating Pictures of Cooking using Video Example of Bubble and Image
Deformation
Syohei SAKIYAMA (The University of Electro-Communications)

14:30-15:00 **Modeling and Rendering Clouds**

Inverse Approach for Visual Simulation of Clouds
Yoshinori DOBASHI (Hokkaido University)

15:20-16:05 **ABMS Talk: Visual Perception**

Mathematical Models of Visual Information Processing in the Human Brain
and Applications to Image Processing
Hitoshi ARAI (The University of Tokyo)

16:30-17:30 **Invited Talk**

A Flexible Image Processing Approach to the Surfacing of Particle-Based
Fluid Animation
Ken MUSETH (DreamWorks Animation)

18:00- **Banquet**

Wednesday 23 October 2013

9:00-9:30 **Registration**

9:30-10:30 **Motion and Deformation**

Discrete mKdV Flow on Discrete Curves
Kenji KAJIWARA (IMI, Kyushu University)

Mathematical Formulation of Motion/Deformation and its Applications
Hiroyuki OCHIAI (IMI, Kyushu University)

11:00-11:45 **ABMS Talk: Visualizing Dynamical Systems**

Decomposition and Clustering for the Visualization of Dynamical Systems
Zin ARAI (Hokkaido University)

13:30-14:30 **Rendering**

Ray Tracing of Quadratic Parametric Surface
Shinji OGAKI (OLM Digital, Inc.)

Feature-Based Interpolation of Intensities for Interactive Editing of
Environmental Light Effects
Munehiro TADA (Hokkaido University)

A Feature-Based Approach for Designing Appearance of Volumetric Objects
Yuhei SHIBUKAWA (Hokkaido University)

14:50-15:50 **Parameterization**

Anti-Commutative Dual Complex Numbers and 2D Rigid Transformation
Genki MATSUDA (Kyushu University)

A Lie Theoretic Parameterization of Affine Transformation
Sampei HIROSE (OLM Digital, Inc.)

Stress Tensors in Surface Parameterizations
Masaaki MIKI (The University of Tokyo and JST ERATO)

16:10-17:10 **Invited Talk**

Direct Methods for Skeletal Shape Deformation
Ladislav KAVAN (University of Pennsylvania)

17:10-17:20 **Closing**