

Theory and Practice of Computer Graphics

Cardiff University, UK

17-19 June 2009

West Extension, Queens Buildings, 5 The Parade, Roath, Cardiff, CF24 3AA

Wednesday 17th June

09.30 – 12.00 Tutorial (3rd Floor)

From Theory to Practice: Advanced Shadow Mapping Techniques – Fan Zhang

12.00 Lunch and Registration (3rd Floor)

12.45 Welcome (2nd Floor)

KEYNOTE TALK (2nd Floor)

13.00 Video-based 3D Content Production – Adrian Hilton

14.00 Tea/Coffee (3rd Floor)

Session 1: Haptics Visualisation & Multimodal Interactions (2nd Floor)

14.30 [An Improved Precise Multi-contact Haptic Visualization](#)

Jan Flasar, Vit Kovalcik, Jiri Sochor

15.00 [A Haptic System for Drilling into Volume Data with Polygonal Tools.](#)

Yu Liu, Stephen Laycock

15.30 [Multimodal Visualization with Interactive Closeups](#)

Timo Ropinski, Ivan Viola, Martin Biermann, Helwig Hauser, Klaus Hinrichs

16.00 AGM (3rd Floor)

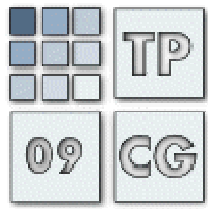
19.30 Dinner at Aberdare Hall

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Thursday 18th June

Session 2: Image Segmentation for Medical Applications (2nd Floor)

09.00 [Simulation of X-ray Attenuation on the GPU](#)

Franck Vidal, Manuel Garnier, Nicolas Freud, Jean Michel Létang, Nigel John

09.30 [Accelerating Raycasting Utilizing Volume Segmentation of Industrial CT Data](#)

Steffen Frey, Thomas Ertl

10.00 [Texture Classification using Fractal Geometry for the Diagnosis of Skin Cancers](#)

J M Blackledge and D Dubovitskiy

10.30 Tea/Coffee (3rd Floor)

Session 3: Work in Progress I (2nd Floor)

11.00 [Interactive Relighting for Stage Use](#)

Ian Stephenson

11.20 [Distance based feature detection on 3D point sets](#)

Ahmad Ramli and Ioannis Ivrissimtzis

11.40 [Object Interaction Using Tabulated Spheres Subsets](#)

Andres A Navarro Newball, Geoff Wyvill, Brendan McCane

12.00 [Automatically Generating Virtual Humans using Evolutionary Algorithms](#)

Adrian Albin-Clark, Toby Howard

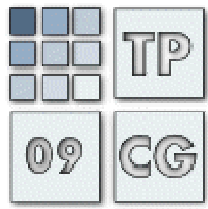
12.20 [Visual Representation of Multiple Associations in Data using Constrained Graph Layout](#)

Weijia Xu, Jaya Sreevalsan-Nair

12.40 Lunch (3rd Floor)

KEYNOTE TALK (2nd Floor)

13.30 Geometric Computing – Ralph Martin



Thursday 18th June

Session 4: Animation I (2nd Floor)

14.30 [An Adaptive Sampling Approach to Incompressible Particle-Based Fluid](#)

Woosuck Hong, Donald H. House, John Keyser

15.00 [An Edge-based Approach to Adaptively Refining a Mesh for Cloth Deformation](#)

Timothy Simnett, Stephen Laycock, Andy Day

15.30 [A Framework for Physically Based Forest Fire Animation](#)

Odd Erik Gundersen and Jo Skjermo

16.00 Tea/Coffee (3rd Floor)

Session 5: Hardware Rendering & Shaders (3rd Floor)

16.30 [An Aliasing Theory of Shadow Mapping](#)

Fan Zhang, Chong Zhao, Hanqiu Sun

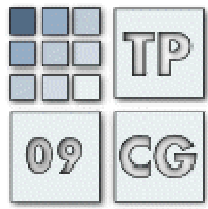
17.00 [Design and Evaluation of a Hardware Accelerated Ray Tracing Data Structure](#)

Michael Steffen, Joseph Zambreno

17.30 [Hardware Accelerated Shaders Using FPGAs](#)

Luke Goddard and Ian Stephenson

18.30 Cardiff Castle - Tour and Banquet - sponsored by HoloVis International Ltd



Friday 19th June

Please note that Sessions 6 and 10 run in parallel as do Sessions 7 and 8

Session 6: Animation II & Motion Tracking (2nd Floor)

09.00 [Facial Expression Transferring with a Deformable Model](#)

Guofu Xiang, Xiangyang Ju, Patrik O'B. Holt, Lin Shang

09.30 [Accurate and Fast Finite Element Method for Deformation Animations](#)

Wen Tang, Cedric Niquin, Alexandre Schildknecht, Tao Ruan Wanl

10.00 [Markerless visual human movement tracking for HCI: what frequency?](#)

Ferenc Kahlesz, Reinhard Klein

Session 10: Data Visualisation and Image Processing (3rd Floor)

09.00 [Uncertain Flow Visualization using LIC](#)

Rodolfo S. Allendes Osorio, Ken Brodlie

09.30 [Coastal Shelf Visualization using VTK and OpenDX of Hydro-Informatic Numerical Models](#)

Richard L S F George, Jonathan C Roberts

10.00 [Diffusion and Fractional Diffusion Based Image Processing](#)

Jonathan Michael Blackledge

10.30 Tea/Coffee (3rd Floor)

Session 7: Work in Progress II (2nd Floor)

11.00 [Enhancing chemical perception via molecular haptics](#)

Andrew Davies, James Maskery, Nigel John

11.20 [Interactive Three-dimensional Visualisation of Bone Fractures](#)

Arline F. Wilson, Peter B. Musgrove, Kevan A. Buckley, Gill Pearce, and John Geoghegan

11.40 [Higher Dimensional Vector Field Visualization: A Survey](#)

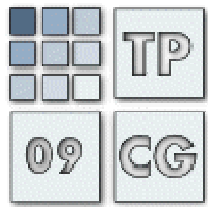
Zhenmin Peng, Robert S. Laramée

12.00 [Towards Object Recognition using HDR Video, Stereoscopic Depth Information and SIFT](#)

Michael May, Tim Morris, Keith Markham, William J. Crowther and Martin J. Turner

12.20 [Near-correct ocular accommodation responses to a 3d display. using multiple image planes and depth filtering.](#)

MacKenzie, Kevin J., Watt, Simon, J.



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Session 8: Rendering with Perceptions (3rd Floor)

11.00 [Influencing User Attention Using Real-Time Stylised Rendering](#)

Niall Redmond, John Dingliana

11.30 [Aesthetic-Interaction: Exploring the Importance of the Visual Aesthetic in the Creation of Engaging Photorealistic VR Environments](#)

Fiona Carroll

12.00 [Real-time rendering of deformable translucent objects](#)

Nadir Benmounah, Vincent Jolivet, Djamchid Ghazanfarpour

12.40 Lunch (3rd Floor)

Session 9: Modelling and Display Technology (3rd Floor)

13.40 [Calibrating a COTS Monitor to DICOM Standard](#)

Ian J. Grimstead, Nick J. Avis

14.10 Discrete Element Modelling Using a Parallelised Physics Engine

Stephen Longshaw, Martin Turner, Emma Finch, Robert Gawthorpe

KEYNOTE TALK (3rd Floor)

14.40 Visualization in Flatland – Min Chen

15.40 Closing remarks, Awarding Prizes + Depart

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