

Thursday June 18, 2015 (Web3D Consortium Open Meeting)

Hall MINOS II	Time
Registration	09:00-09:30
Efficient binary encoding: SRC geometric compression + EXI information compression (Limper, Behr, Brutzman)	09:30-10:30
Break, networking	10:30 - 11:00
X3D Roadmap: How to engage (Havele, Polys) - X3D Projects Wish List	11:00 - 11:15
X3D 4.0/HTML5 (Limper, Behr, Brutzman, others welcome)	11:15 - 12:30
Lunch	12:30 - 13:30
Overview X3D v3.4 and X3D 4.1 Mixed Augmented Reality (MAR) (Brutzman)	13:30 - 14:00
Working Groups Breakout Sessions: <ul style="list-style-type: none"> • Geospatial (McCann) • Medical (Aratow) • Heritage (Ressler) • X3D 4.0 (Brutzman) 	14:00 - 15:30
Break, networking	15:30 – 16:00
Plenary Welcome Meeting (Havele, Malamos and Polys) <ul style="list-style-type: none"> - President's message, membership update - Conference quick look - New initiatives: Heritage, 3D printing, and Hackathons etc. - Short working-group session summaries - Lightning talks (2 minutes each) - SIGGRAPH and future calendar, shared strategies and partnerships 	16:00 – 17:00
Departure to BOUTARIS Winery - Cocktail Party	18:00

Friday June 19, 2015

Hall MINOS II	Hall MINOS I	Time
Paper session 1 (Invited Session) Emerging Work in Web3D: New architectures, Enabling Applications & Implementations <i>(Session Chair – Prof. Felix Hamza-Lup)</i> <ol style="list-style-type: none"> 1. FP: Integrating WebRTC and X3DOM: Bridging the Gap between Communications and Graphics [40] 2. FP: Evaluating 3D Thumbnails for Virtual Object Galleries [01] 3. FP: X3D Distributed Interactive Simulation (DIS) Implementation and Run-Time Discovery of New Entities using X3DOM [54] 4. FP: The X3D Geospatial Component: X3DOM implementation of GeoOrigin, GeoLocation, GeoViewpoint, and GeoPositionInterpolator nodes [16] 	Tutorial 1: Shape Retrieval This tutorial gives an overview of 3D object retrieval and its applications and will include description of representative samples and approaches to novel and recent techniques.	09:00 – 10:30

5. FP: Fusality: An Open Framework for Cross-platform Mirror World Installations [48]		
Coffee Break		10:30 - 11:00
Paper Session 2 - Applications in Industry and Manufacturing <i>(Session Chair – Prof. Felix Hamza-Lup)</i> <ol style="list-style-type: none"> FP: WebVis/instant3DHub - Visual Computing as a Service Infrastructure to deliver adaptive, secure and scalable user centric data visualisation [27] FP: X3D Sensor-based Thermal Maps for Residential and Commercial Buildings [28] FP: Preparing and Evaluating Geospatial Data Models using X3D encodings for 3D Geovisualization Services [41] SP: Volumetric Texture Data Compression Scheme for Transmission [30] SP: Hybrid Visualisation of Digital Production Big Data [10] 	Tutorial 2: Castle Engine (X3D) A introduction to 2D and 3D game programming using the open-source Castle Engine with X3D.	11:00 - 12:30
Lunch Break		12:30 - 13:30
Keynote Speaker: Dr. Martin Doerr, Research Director at the Information Systems Laboratory and head of the Centre for Cultural Informatics of the Institute of Computer Science, FORTH.		13:30 - 14:30
Paper session 3 - Cultural Heritage, Tourism and Public Sector <i>(Session Chair – Prof. Felix Hamza-Lup)</i> <ol style="list-style-type: none"> FP: Webized 3D Experience by HTML5 Annotation in 3D Web [29] FP: Urban Data Visualisation in a web browser [33] FP: Applicability of Watermarking for Intellectual Property Rights Protection in a 3D Printing Scenario [32] SP: Web-based data visualization of an MMO virtual regatta using a virtual globe [23] SP: An Integration of Urban Spatial Data with Energy Simulation to Produce X3D City Models: The case of [62] 	Tutorial 3: Geospatial This course will use oceanographic data to demonstrate the use of X3D Geospatial to construct visualizations of terrain and sensor data.	14:30 - 16:00
Coffee Break		16:00 - 16:30
Paper session 4 - Telemedicine, E-Health, Ecology <i>(Session Chair – Prof. Nicholas Polys)</i> <ol style="list-style-type: none"> FP: Patient Specific 3D Surface Representations for Interactive Medical Planning and Training [8] FP: Remote Visualization of Dynamic 	Tutorial 4: X3DOM: Basics & Advanced This tutorial introduces X3DOM for users and dives into advanced details in the second half.	16:30 - 18:00

<p>Molecular Data using WebGL [45]</p> <p>3. FP: Semantic Query-based Generation of Customized 3D Scenes [59]</p> <p>4. FP: Procedural generation and interactive web visualization of natural environments [44]</p> <p>5. FP: WebGL virtual globe for efficient forest production planning in mountainous area [49]</p>		
<p>Session 5 – Poster Fast Forward (2 Min. each) <i>Instruction to poster authors. Prepare 2 Min fast forward slides.</i> (Session Chair – Prof. Tobias Schreck)</p> <ol style="list-style-type: none"> 1. Poster: 3d.graz.at [06] 2. Poster: Castle Game Engine - Game Engine Using X3D as a Scene Graph [11] 3. Poster: A 3D collaborative editor using WebGL and WebRTC [22] 4. Poster: Crowd Simulation Rendering for Web [43] 5. Poster: Exploring the Jenolan Caves: Bringing the Physical World to 3D Online Education [56] 6. Poster: Towards Web-Based Semantic Enrichment of 3D Insects [58] 7. Poster: Web 3D for Smart TV systems: Is it ready for prime time? [61] 8. Poster: Web-based Head Pose Data Visualization [63] 9. Poster: Matlab and Simulink Creation and Animation of X3D in Web-Based Simulation [64] 	<p>Tutorial 5: Shade JS This tutorial gives a practical introduction to authoring adaptive materials with shade.js, a JavaScript-based language that compiles to GLSL.</p>	<p>18:00 - 19:30</p>
<p>20th Anniversary Dinner Celebrations</p>		<p>20:00 - 24:00</p>

Saturday June 20, 2015

Hall MINOS II	Hall MINOS I	Time
<p>Paper session 6 - Frameworks and Surveys. (Session Chair – Prof. Jinyuan Jia)</p> <ol style="list-style-type: none"> 1. FP: Indoor3D: A WebGL Based Open Source Framework for 3D Indoor Maps Visualization [51] 2. FP: A case study on 3D geospatial applications in the Web - Using state-of-the-art WebGL frameworks [39] 3. FP: Fast decompression for web-based view-dependent 3D rendering [46] 4. FP: A CSS Integration Model for Declarative 3D [12] 	<p>Workshop 1: Industrial Use Cases Join leaders from industries as they share their perspective and experiences in developing and adopting open standards.</p>	<p>09:00 - 10:30</p>
<p>Coffee Break</p>		<p>10:30 - 11:00</p>

Paper session 7 - 3D Modeling and Mobile Apps <i>(Session Chair – Spiros Panagiotakis)</i> <ol style="list-style-type: none"> FP: Dynamic 3D Visualizations of Complex Function Surfaces Using X3DOM and WebGL [50] FP: 3drepo.io: Building the Next Generation Web3D Repository with AngularJS and X3DOM [2] SP: Textured Splat-Based Point Clouds for Rendering in Handheld Devices [15] SP: SPLASH: A Hybrid 3D Modeling/Rendering Approach Mixing Splats and Meshes [14] SP: Synchronized Delivery of 3D Scenes with Audio and Video [35] 	Workshop 2: Compression Techniques Discussions on (EXI) data compression and Fast Infoset (FI) and SRC External mesh data containers	11:00 - 12:30
Lunch Break		12:30 - 13:30
Keynote Speaker: Prof. Dr. techn. Dieter W. Fellner Director Fraunhofer-Institut für Graphische Datenverarbeitung IGD		13:30 - 14:30
Paper session 8 - Animation and Interactivity <i>(Session Chair – John Pachoulakis)</i> <ol style="list-style-type: none"> FP: Animation On The Web: A Survey [24] FP: Model-based Design of Multimodal Interaction for Augmented Reality Web Applications [07] FP: Dynamic Adaptive Mesh Streaming for Real-time 3D Teleimmersion [18] FP: Autonomous Agents and Avatars in REVERIE's Virtual Environment [42] FP: Online Interactive 4D Character Animation [19] 	Workshop 3: WebVR Discussions on virtual reality and related technologies to build out the future of immersive technology.	14:30 - 16:00
Coffee Break		16:00 - 16:30
Workshop 4: Cultural Heritage Discussions on best practices and techniques in the domains of Cultural and Natural Heritage to capture, archive and distribute 3D representations.	Workshop 5: Master-class on Horizon 2020 How Digital SMEs can win funds for their innovative research projects. (Praxi Network, National Contact Point for H2020)	16:30 - 17:30
Web3D Showcase		17:30 - 19:00

Sunday June 21, 2015

Hall MINOS II	Time
Panel Session - Trends and Future of 3D on the Web	10:00 - 11:00
Web3D Contest demo and award	11:00 - 11:30
Best papers awards & Sponsor Acknowledgments	11:30 - 12:30
Closing Statements	12:30 - 13:00

Keynote Speaker:

Dr. Martin Doerr, Research Director at the Information Systems Laboratory and head of the Centre for Cultural Informatics of the Institute of Computer Science, FORTH.

Curriculum Vitae:

Martin Doerr has studied mathematics and physics and holds a PhD in experimental physics. Since 1990 he is Research Director at FORTH. He has been leading or participating in a series of national and international projects for knowledge management, cultural information systems, information integration and research infrastructures. He is leading the working group of ICOM/CIDOC (International Committee for Documentation of the International Council of Museums) which has developed ISO21127:2006, together with the respective ISO committees, a standard core ontology for the semantic interoperability of cultural heritage information and beyond. He is member of the editorial board of the journal "Applied Ontology" and the ACM Journal on Computing and Cultural Heritage. His research interests are ontology engineering, information integration and scientific argumentation.

Title:

3D Modelling for Cultural Heritage Research

Abstract:

In a wider sense, cultural heritage (CH) comprises the identifiable remains of the material and immaterial culture of past or current societies and individuals that have come upon us as "heritage". Besides having symbolic and aesthetic value for the current society, cultural heritage is a topic of serious research which aims at safeguarding the knowledge about these remains and revealing the past human activities, motivations and convictions and environmental factors that become directly or indirectly evident through these remains. This research is basically an empirical one, using an extremely wide range of arguments from "hard" analytical facts up to qualitative assumptions about human behavior in complex inference chains, which are widely underestimated by IT engineers and even the domain experts themselves.

3D Models can represent surfaces of cultural heritage objects and their optical properties. When they are results of mechanical measurement, they can play an important role as primary knowledge source in the reasoning process. When they represent reconstructions of past states of things, they can be used to test hypotheses, discuss and evaluate alternatives about possible pasts. The talk will illustrate some characteristic patterns of scholarly reasoning, and conclude with general requirements for the adequate management of 3D models and related scholarly knowledge in order to support cultural heritage research.

Keynote Speaker:

**Prof. Dr. techn. Dieter W. Fellner Director Fraunhofer-Institut für Graphische Datenverarbeitung
IGD**

Curriculum Vitae:

Since Oct 2006 Dieter Fellner is Professor of Computer Science at TU Darmstadt, Germany, and Director of the Fraunhofer Institute for Computer Graphics Research IGD at the same location. Previously he has held academic positions at the Graz University of Technology, Austria, the University of Technology in Braunschweig, Germany, the University of Bonn, Germany, the Memorial University of Newfoundland, Canada, and the University of Denver, Colorado, USA. He is still affiliated with the Graz University of Technology where he chairs the Institute of Computer Graphics and Knowledge Visualization he founded in 2005. Fellner is also CEO of the Fraunhofer Austria Research GmbH since November 2008 and Board Member of the recently established Fraunhofer Project Centre for Interactive Digital Media at Nanyang Technological University in Singapore since June 2010.

After his studies of Technical Mathematics in Graz (Diploma 1981, Doctorate 1984, Habilitation 1988) his career started in the MUPID development team (1982), where he was responsible for the decoder-based videotex graphics editing system. Dieter Fellner's research activities over the last years covered algorithms and software architectures to integrate modeling and rendering, efficient rendering and visualization algorithms, generative and reconstructive modeling, virtual and augmented reality, graphical aspects of internet-based multimedia information systems and cultural heritage as well as digital libraries. In the latter field he has coordinated a strategic initiative funded by the German Research Foundation (Deutsche Forschungsgemeinschaft) from 1997 till 2005. Among several other R&D activities he is currently coordinating a strategic initiative (DFG-Leistungszentrum) addressing the challenges general documents pose on libraries and information repositories. These challenges fit well with his current main focus on Visual Computing, in the academic research context as well as within the applied R&D of Fraunhofer IGD.

Dieter Fellner is a member of the editorial boards of leading journals and a member of the program committees of many international conferences and workshops.

He is a member of EUROGRAPHICS, ACM, IEEE Computer Society and the Gesellschaft für Informatik (GI) where he serves as a member of the Board of Directors (erweiterter Vorstand) as well as the chairman of the Graphics Chapter (Fachbereich Graphische Datenverarbeitung). Furthermore, D. Fellner is an advisor for the German Research Foundation (as a member of DFG's AWBI) and the European Commission (as a member of ISTAG).