



EGVE'06
12th Eurographics Workshop on Virtual Environments



12th Eurographics Symposium on Virtual Environments

In cooperation with
ACM/SIGGRAPH

<http://immi.inesc.pt/egve>

PROGRAM



Contacts

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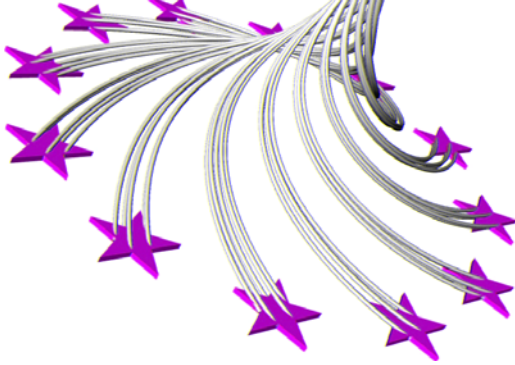
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EUROVIS

2006

MAY 8 - 10
Lisbon, Portugal



Eurographics/IEEE- VGTC Symposium on Visualization

In cooperation with
ACM/SIGGRAPH

<http://www.eurovis.org>

Convergence of Data &
Information Visualization
Interaction meets Images

PROGRAM



FUNDAÇÃO
LUSO-AMERICANA



FUNDAÇÃO CALOUSTE GULBENKIAN



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Conference Timetable

EGV - 12th Eurographics Symposium on Virtual Environments- Technical Sessions (EGVE´06)

EV - Eurographics/IEEE-VGTC Symposium on Visualization - Technical Sessions (EUROVIS)

May 8			May 9			May 10		
Auditorium 2	Room 1	Room 2	Auditorium 2	Room 1	Room 2	Auditorium 2	Room 1	Room 2
9h00-9h45 <i>Registration + Welcome</i>			9h00-10h40			9h00-11h15		
9h45-10h00 <i>Welcome Address</i>				EV5	EGV4		EV10	EGV8
10h00-11h00 keynote 1: Roberta Klatzky			10h40-10h55 Coffee Break			11h15-11h30 Coffee Break		
11h00-11h15 Coffee Break			10h55-13h00			11h30-12h30 Keynote 2: Chris Johnson		
EV1	EV2	EGV1	EV6	EV7	EGV5	12h30-13h00 <i>Closing Session</i>		
13h00-14h20 Lunch Break			13h00-14h20 Lunch Break					
	EV3	EGV2	14h20-16h00					
16h00-16h15 Coffee Break			16h00-16h15 Coffee Break					
	EV4	EGV3	16h15-17h55					
			20h00 - Social Event Estufa Real - Ajuda					

Conference Timetable

EGV - 12th Eurographics Symposium on Virtual Environments- Technical Sessions (EGVE '06)

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10h00-11h00 keynote 1: Roberta Klatzky			10h55-13h00			11h30-12h30 Keynote 2: Chris Johnson		
11h00-11h15 Coffee Break			13h00-14h20 Lunch Break			12h30-13h00 <i>Closing Session</i>		
11h15-13h00			14h20-16h00					
EV1	EV2	EGV1	16h00-16h15 Coffee Break					
13h00-14h20 Lunch Break			16h15-17h55					
14h20-16h00			20h00 -					
16h00-16h15 Coffee Break			Social Event					
16h15-17h55			Estufa Real - Ajuda					

Eurovis Technical Program – 8 May

8 May

Registration + Welcome

Monday 9h00-9h45

Welcome address

Monday 9h45-10h00

Keynote Presentation

Monday 10h00-11h00, Auditorium 2

Session Chair: Ming Lin

How Psychophysics can Inform Device Design for Virtual and Augmented Reality

Roberta L. Klatzky, Carnegie Mellon

Coffee break

11h00 – 11h15

Session EV1: GPU-based Visualization

Monday 11h15-13h00, Auditorium 2

Session Chair: Kwan-Liu Ma

GPU-Accelerated Volume Splatting With Elliptical RBFs

Neophytos Neophytou, Klaus Mueller, Kevin T. McDonnell, Wei Hong, Xin Guan¹ Hong Qin, and Arie Kaufman¹

Hardware-accelerated Extraction and Rendering of Point Set Surfaces

E. Tejada, J. P. Gois, L. G. Nonato, A. Castelo and T. Ertl

GPUFLIC: Interactive and Accurate Dense Visualization of Unsteady Flows

Guo-Shi Li, Xavier Tricoche, and Charles Hansen

GPU-Based Hyperstreamlines for Diffusion Tensor Imaging

G. Reina, K. Bidmon, F. Enders, P. Hastreiter, and T. Ertl

Session EV2: Tree Visualization and Human Factors

Monday 11h15-13h00, Room 1

Session Chair: Jos Roerdink

Natural Visualizations

Steve Haroz and Kwan-Liu Ma

Combining Extended Table Lens and Treemap Techniques for Visualizing Tabular Data

Alexandru Telea

PhylloTrees: Phyllotactic Patterns for Tree Layout

Petra Neumann, Sheelagh Carpendale, and Anand Agarawala

Evaluating the Effectiveness of Tree Visualization Systems for Knowledge Discovery

Yue Wang, Soon Tee Teoh, and Kwan-Liu Ma

Lunch break

13h00 – 14h20

Session EV3: Surfaces and Terrain Visualization

Monday 14h20-16h00, Room 1

Session chair: Ronald Peikert

Robust Surface Detection for Variance Comparison and Dimensional Measurement

C. Heinzl, R. Klingsberger, J. Kastner, and E. Gröller

Efficient Surface Reconstruction from Noisy Data using Regularized Membrane Potentials

A. C. Jalba and J. B. T. M. Roerdink

Terrain Rendering using Spherical Clipmaps

Malte Clasen and Hans-Christian Hege

Direct Isosurface Extraction from Scattered Volume Data

Paul Rosenthal and Lars Linsen

Coffee break

16h00 – 16h15

Session EV4: Volumetric Techniques

Monday 16h15-17h55, Room 1

Session Chair: Holger Theisel

Knowledge-Based Out-of-Core Algorithms for Data Management in Visualization

David Chisnall, Min Chen, and Charles Hansen

Volume Composition Using Eye Tracking Data

Aidong Lu, Ross Maciejewski, and David S. Ebert

Enhancing Slice-based Visualizations of Medical Volume Data

Christian Tietjen, Björn Meyer, Stefan Schlechtweg, Bernhard Preim, Ilka Hertel, and Gero Strauß

Integrated Visualization of Morphologic and Perfusion Data for the Analysis of Coronary Artery Disease

S. Oeltze, A. Kuß, F. Grothues, A. Hennemuth, and B. Preim

9 May

Session EV5: Flow Visualization

Tuesday 09h00-10h40, Room 1

Session Chair: Frits Post

Path Line Oriented Topology for Periodic 2D Time-Dependent Vector Fields

K. Shi, H. Theisel, T. Weinkauff, H. Hauser, H.-C. Hege, and H.-P. Seidel

Segmentation of Flow Fields using Pattern Matching

J. Ebling and G. Scheuermann

Texture Advection on Stream Surfaces: A Novel Hybrid Visualization Applied to CFD Simulation Results

Robert S. Laramee, Christoph Garth, Jürgen Schneider, and Helwig Hauser

Structure-accentuating Dense Flow Visualization

Sung W. Park, Hongfeng Yu, Ingrid Hotz, Oliver Kreylos, Lars Linsen, and Bernd Hamann

Coffee break

10h40 – 10h55

Session EV6: Information Visualization

Tuesday 10h55-13h00, Auditorium 2

Session Chair: João Cunha

Simultaneous Classification of Time-Varying Volume Data Based on the Time Histogram

Hiroshi Akiba, Nathaniel Fout, and Kwan-Liu Ma

Affiliation Dynamics with an Application to Movie-Actor Biographies

Ulrik Brandes, Martin Hoefer, and Christian Pich

CVSgrab: Mining the History of Large Software Projects

S.L. Voinea and A. Telea

A Spectral Visualization System for Analyzing Financial Time Series Data

Daniel A. Keim, Tilo Nietzschmann, Norman Schelwies, Jörn Schneidewind, Tobias Schreck, and Hartmut Ziegler

PointCloudXplore: Visual Analysis of 3D Gene Expression Data Using Physical Views and Parallel Coordinates

O. Rübel, G.H. Weber, S.V.E. Keränen, C.C. Fowlkes, C.L. Luengo Hendriks, L. Simirenko, N.Y. Shah, M.B. Eisen, M.D. Biggin, H. Hagen, D. Sudar, J. Malik, D.W. Knowles, and B. Hamann

Session EV7: Volume Visualization

Tuesday 10h55-13h00, Room 1

Session Chair: Min Chen

D2VR: High-Quality Volume Rendering of Projection-based Volumetric Data

Peter Rautek, Balázs Csébfalvi, Sören Grimm, Stefan Bruckner, and Meister Eduard Gröller

Integrating Dynamic Deformations into Interactive Volume Visualization

Tom Brunet, K. Evan Nowak, and Michael Gleicher

The a-histogram: Using Spatial Coherence to Enhance Histograms and Transfer Function Design

Claes Lundström, Anders Ynnerman, Patric Ljung, Anders Persson, and Hans Knutsson

Fast Ray Traversal of Tetrahedral and Hexahedral Meshes for Direct Volume Rendering

Gerd Marmitt and Philipp Slusallek

Automating Transfer Function Design for Volume Rendering Using Hierarchical Clustering of Material Boundaries

Petr Sereda, Anna Vilanova, and Frans A. Gerritsen

Lunch break
13h00– 14h20

Session EV8: Multiresolution Techniques and Compression

Tuesday 14h20-16h00, Room 1

Session Chair: Charles Hansen

Improving the Quality of Multi-resolution Volume Rendering

H. Younesy, T. Möller, and H. Carr

Multiresolution Interblock Interpolation in Direct Volume Rendering

Patric Ljung, Claes Lundström, and Anders Ynnerman

A Granular Three Dimensional Multiresolution Transform

Alireza Entezari, Tai Meng, Steven Bergner, and Torsten Möller

Lossless Geometry Compression for Steady-State and Time-Varying Irregular Grids

Dan Chen, Yi-Jen Chiang, Nasir Memon, and Xiaolin Wu

Coffee break
16h00– 16h15

Session EV9: Applications

Tuesday 16h15-17h55, Room 1

Session Chair: Anders Ynnerman

An Interactive Visualization System for Quantifying Coral Structures

K. J. Kruszynski, R. van Liere, J. A. Kaandorp

Visualizing the Phonon Map

E. Deines, F. Michel, M. Bertram, H. Hagen, and G. M. Nielson

A Case Study: Visualizing Material Point Method Data

James Bigler, James Guilkey, Christiaan Gribble, Charles Hansen, and Steven G. Parker

Enhanced Visualizations of Thermographic Data in Process Industry

S. Seipel, A-K. Forsberg, and D. Wesslén

Social Event
20h00 – Dinner at Estufa Real

Please Note:

Shuttle pickup for the social event will be at 7.15pm (19H15) sharp in front of **Holiday Inn Continental**, Rua Laura Alves, nº 9 .

10 May

Session EV10: Medical Visualization

Wednesday 09h00-11h15, Room 1

Session Chair: Bernhard Preim

Perspective Isosurface and Direct Volume Rendering for Virtual Endoscopy Applications

Henning Scharsach, Markus Hadwiger, André Neubauer, Stefan Wolfsberger, and Katja Bühler

Data Reconstruction and Visualization Techniques for Forensic Pathology

Alexander Ehlert, Zein Salah, and Dirk Bartz

3D Soft Segmentation and Visualization of Medical Data Based on Nonlinear Diffusion and Distance Functions

B. Petersch, O. Serrano-Serrano, and D. Hönigmann

Application-Oriented Extensions of Profile Flags

Matej Mlejnek, Pierre Ermes, Anna Vilanova, Rob van der Rijt, Harrie van den Bosch, Frans Gerritsen, M. Eduard Gröller

Real-Time Super Resolution Contextual Close-up of Clinical Volumetric Data

T. Taerum, M. C. Sousa, F. Samavati, S. Chan, and J. R. Mitchell

Coffee break

11h15– 11h30

Keynote 2 Presentation

Wednesday 11h30-12h30, Auditorium 2

Session Chair: Thomas Ertl

Visual Computing: Case Studies and Research Challenges

Chris Johnson, University of Utah

Closing Session

12h30-13h

8 May

Registration + Welcome

Monday 9h00-9h45

Welcome address

Monday 9h45-10h00

Keynote Presentation

Monday 10h00-11h00, Auditorium 2

Session Chair: Ming Lin

How Psychophysics can Inform Device Design for Virtual and Augmented Reality

Roberta L. Klatzky, Carnegie Mellon

Coffee break

11h00 – 11h15

Session EGV1: Collision Detection & Interaction

Monday 11h15-13h00, Room 2

Session Chair: Sabine Coquillart

A Model for the Expected Running Time of Collision Detection using AABB Trees

Rene Weller, Gabriel Zachmann, *TU Clausthal*

Jan Klein, *MeVis Center for Medical Diagnostic Systems and Visualization*

Fast Continuous Collision Detection among Deformable Models using Graphics Processors

Naga K Govindaraju, Ilknur Kabul, Ming C, Lin, Dinesh Manocha, *University of North Carolina, Chapel Hill*

Managing Missed Interactions in Distributed Virtual Environments

Graham Morgan, Simon E. Parkin, *Newcastle University*

Lunch break

13h00 – 14h20

Session EGV2: Augmented & Mixed Reality

Monday 14h20-16h00, Room 2

Session Chair: Gabriel Zachmann

Wearable Mixed Reality System In Less Than 1 Pound

Achille Peternier, *Virtual Reality Laboratory, Ecole Polytechnique Federale de Lausanne*

Frederic Vexo, Daniel Thalmann, *VRLab – EPFL*

A Multi-modal Table-Top 3D Modeling Tool in Augmented Environments

Tom Novotny, *Media Cologne*

Irma Lindt, Wolfgang Broll, *Fraunhofer FIT*

Measuring the Discernability of Virtual Objects in Conventional and Stylized Augmented Reality

Jan Fischer, *University of Tuebingen*

Douglas Cunningham, *Max-Planck-Institute Biological Cybernetics*

Dirk Bartz, Wolfgang Strasser, *University of Tuebingen*

Christian Wallraven, Heinrich Buelthoff, *Max-Planck-Institute Biological Cybernetics,*

Coffee break

16h00 – 16h15

EGV3: Invited Session by Epoch NoE

Monday 16h15-17h55, Room 2

Session Chair: Roger Hubbard

Epoch Network of Excellence

David Arnold, *University of Brighton*

9 May

Session EGV4: Tracking

Tuesday 9h00-10h40, Room 2

Session Chair: Carlos Andujar

GraphTracker: A Topology Projection Invariant Optical Tracker

Ferdi Smit, Robert van Liere, Arjen van Rhijn, *Center for Mathematics and Computer Science*

Model-based Hybrid Tracking for Medical Augmented Reality

Jan Fischer, Michael Eichler, Dirk Bartz, Wolfgang Strasser, *University of Tuebingen*

Camera Setup Optimization for Optical Tracking in Virtual Environments

Philippe A. Cerfontaine, Marc Schirski, Daniel Buendgens, Torsten Kuhlen, *RWTH Aachen University*

Coffee break
10h40 – 10h55

EGV5: Invited Session by the Eg Consortium INTUITION

Tuesday 10h55-13:00h, Room 2

Session Chair: Miguel S. Dias

Networking research for future VR/VE concepts and applications: The INTUITION approach

Angelo de Amitis, *ICCS*

Challenges and opportunities for future research initiatives

Teresa de Martino, *EC-IST, INTUITION project officer*

From the Stringed Haptic Workbench to the Simulation of Putty Application for the Automotive Industry

Sabine Coquillart, *INRIA*

Realizing Mixed Reality User Interfaces

Wolfgang Broll, *FhG/FIT*

Augmented reality and interaction with mobile phone

Petri Honkamaa, *VTT*

Haptic feedback in mechanisms simulation

Csaba Antonya, *University Transilvania*

Multi platform for 3D rendering: from CAVE to Handheld devices

Achile Peternier, *EPFL*

Lunch break
13h00 – 14h20

Session EGV6: Interaction

Tuesday 14h20-16h00, Room 2

Session Chair: Bernd Froehlich

A Survey and Taxonomy of 3D Menu Techniques

Raimund Dachsel, Anett Huebner, *TU Dresden, Department of Computer Science, Chair for Multimedia Technology*

Friction surfaces: scaled ray-casting manipulation for interacting with 2D GUIs

Carlos Andujar, Ferran Argelaguet, *Universitat Politecnica de Catalunya*

Hybrid Interfaces in VEs: Intent and Interaction

Gerwin de Haan, Eric J. Griffith, Michal Koutek, Frits H. Post, *Delft University of Technology*

Coffee break

16h00 – 16h15

Session EGV7: View Management & Data Annotation

Tuesday 16h15-17h55, Room 2

Session Chair: Thomas Ertl

Interactive Data Annotation in Virtual Environments

Ingo Assenmacher, Bernd Hentschel, Cheng Ni, *VR Group RWTH Aachen University*

Christian Bischof, *CCC RWTH Aachen University*

Torsten Kuhlen, *VR Group RWTH Aachen University*

A New View Management Method for Wearable Augmented Reality Systems – Emphasizing the User-viewed Object and the Corresponding Annotation

Ryuhei Tenmoku, Masayuki Kanbara, Naokazu Yokoya, *Nara Institute of Science and Technology*

GA based Adaptive Sampling for Image-based Walkthrough

Soon Ki Jung, *Dept. of Computer Engineering, Kyungpook National University*

Dong Hoon Lee, Jong Ryul Kim, *Div. of Digital Contents, Dongseo University*

Social Event

20h00 – Dinner at Estufa Real

Please Note:

Shuttle pickup for the social event will be at 7.15pm (19H15) sharp in front of **Holiday Inn Continental**, Rua Laura Alves, nº 9.

10 May

Session EGV8: Short Papers

Wednesday 9h00-11h15, Room 2

(15 min each)

Session Chair: Hamish Carr

1 - *An Optimized Marker Tracking System*

Miguel Salles Dias, Rafael Afonso Bastos, ADETTI

2 - *A Mixed Reality based Human-Robot Interface for Object Detection*

Hua Chen, Oliver Wulf, Bernardo Wagner, *Institute for Systems Engineering, University of Hanover*

3 - *Interactive Virtual Humanoids for Virtual Environments*

Jakob T. Valvoda, Torsten Kuhlen, *Virtual Reality Group, RWTH Aachen University*

Christian Bischof, *Institute for Scientific Computing, RWTH Aachen University*

4 - *Realism and Communication Evaluation of Effect Management in Distributed Virtual Environments*

Souad Elmerhebi, Jean Pierre Jessel, Patrice Torquet, *Institut de Recherche en Informatique de Toulouse*

5 - *vjVTK: a toolkit for interactive visualization in Virtual Reality*

Kristopher J. Blom, *Interactive Media/Virtual Environments, University of Hamburg, Germany*

6 - *IBVR: Component-based VR Software Development System Supporting Two Hands' Manipulations*

Yoshihiro Okada, *Kyushu University*

7 - *Simultaneous Realistic Visualization of Density and Velocity of Smoke for Disaster Prevention*

Yoshihiro Yasumuro, Yoshitsugu Manabe, Kunihiro Chihara, *Nara Institute of Science and Technology*

Coffee break

11h15 – 11h30

Keynote 2 Presentation

Wednesday 11h30-12h30, Auditorium 2

Session Chair: Thomas Ertl

Visual Computing: Case Studies and Research Challenges

Chris Johnson, *University of Utah*

Closing Session

12h30-13h