THE EUROGRAPHICS CONFERENCE ON VISUALIZATION

EuroVis 2012



Program

June 4 - 8, 2012

Vienna, Austria

www.eurovis.org

EuroVA www.eurova.org
EuroVis Workshop on Visual Analytics

EuroRVV www.eurorvv.org
EuroVis Workshop on Reproducibility, Verification, and Validation in Visualization

EG IEEE vgtc TU WIEN vrvis
OESTERREICHISCHE COMPUTER GESELLSCHAFT AUSTRIAN COMPUTER SOCIETY

Program

Content

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Important Information

EuroVis webpage: http://www.eurovis.org

EuroVA webpage: http://www.eurova.org/

EuroRVVV webpage: http://www.eurorvvv.org

Public transportation: http://www.wienerlinien.at

Tourist info: http://www.wien.info

Emergency: 112

Fire department: 122

Police: 133

Ambulance: 144

Taxi: +43 (0) 1 31 300, +43 (0) 1 40 100

Airport service: +43 (0) 1 44 444

Preface

Welcome to EuroVis 2012! We have an exciting program lined up. The main conference will be preceded by EuroVA, the EuroVis Workshop on Visual Analytics, and EuroRVVV, a new workshop on Reproducibility, Verification, and Validation in Visualization. The opening session on Tuesday will feature keynote speaker Oliver Bimber. It will be followed by a fast forward of all presentations. Throughout the week, there will be paper presentations on all areas of visualization, including two topical papers published during the last year in Computer Graphics Forum. For the first time this year, EuroVis also features a short paper track which aims to foster the presentation of late-breaking results, work in progress, and follow-up extensions or evaluations of existing methods. The social program includes a welcome reception on Tuesday evening and the conference dinner on Thursday. On Wednesday, we invite you to our lab presentations which will take place directly in the conference venue. The week will conclude with the closing session on Friday where the best paper awards will by announced. As a final highlight we are looking forward to an insightful capstone talk by Torsten Möller. Welcome to Vienna, and have a great EuroVis 2012!

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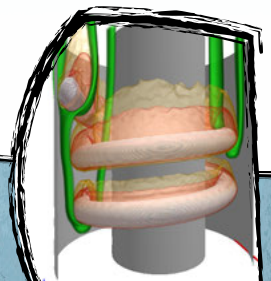
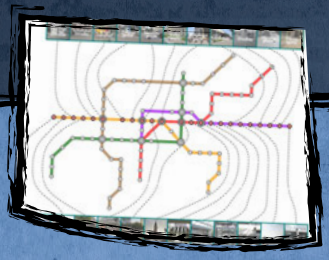
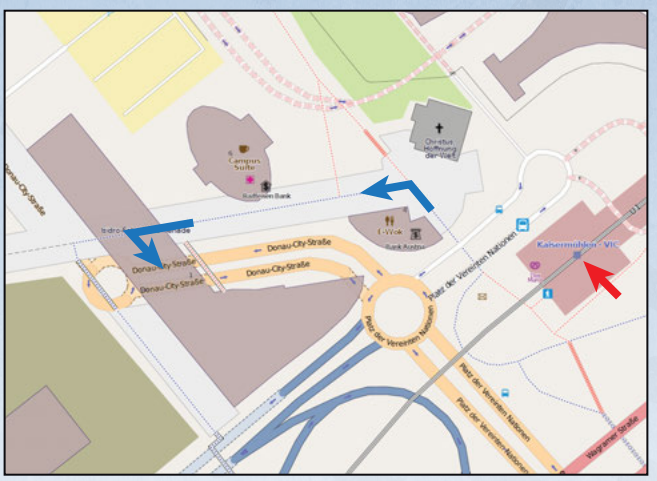
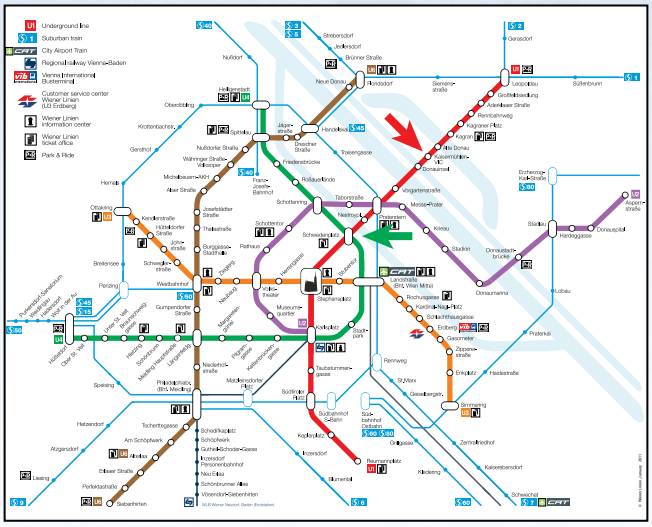




Useful Maps

Tech Gate Vienna





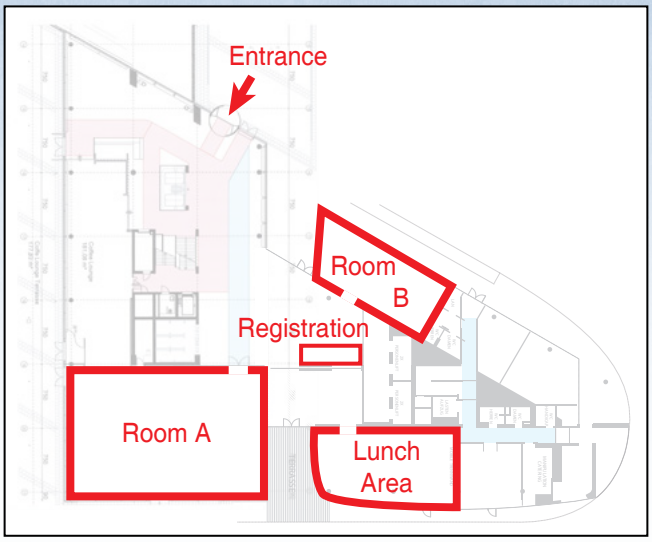
EuroVis 2012 takes place at the Tech Gate Vienna, which is a modern conference and research center. The Tech Gate Vienna can easily be reached by both public and private transport. With the U1 underground line (red line) you can reach the Tech Gate from Vienna's city center in approximately 8 minutes. Get off at U1 station “Kaisermühlen - Vienna Internation Center (VIC)” (marked with red arrows) and exit towards “Schüttaustraße”. The blue arrows indicate the way from the underground station to the conference venue. The Tech Gate Vienna can be reached by car via the Reichsbrücke and the A22 Donauufer Autobahn.

Tech Gate Vienna
Wissenschafts- und Technologiepark GmbH

Donau-City-Straße 1
1220 Vienna, Austria

www.techgate.at

Venue Plan



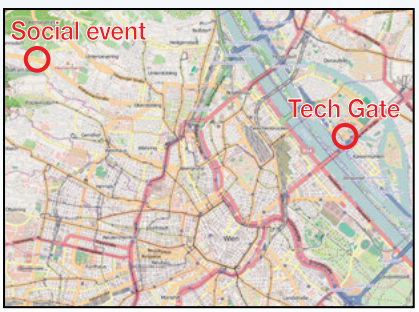
Social Event

The social event will take place at **Heuriger Wolff** in the evening of **Thursday, June 7th**. The conference fee includes the cost for conference participants. Additional tickets are available for €60 at the registration desk. A bus service will be provided to and from this event, leaving at **18:00 from Kaisermühlen VIC (Platz der Vereinten Nationen)** and returning back to Schwedenplatz (green arrow in the underground map to the left) close to the city center every 30 minutes starting at 22:30. The meeting point is at **17:50 at the front entrance of the conference venue**. In case you miss the bus, we advise to take a cab to the social event location (cost: approx. €25). The event will end at 23:30.

Weingut Wolff

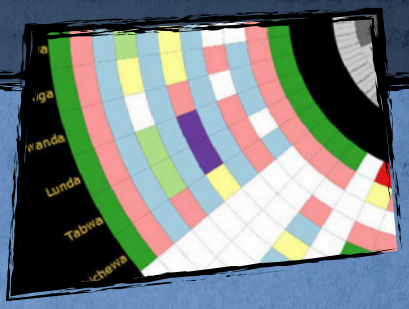
Neustift am Walde
Rathstraße 50
1190 Vienna, Austria

www.wienerheuriger.at



Program

Overview



	Monday, June 4	Tuesday, June 5	Wednesday, June 6	Thursday, June 7	Friday, June 8
08:00		Registration	Registration	Registration	Registration
09:00		**8:50** Opening / **9:00** Opening	**9:00–10:15** FP3: Geospatial Visualization / **9:00–10:15** FP4: Topology	**9:00–10:15** SP3: Visualization and Analysis for Life Sciences / **9:00–10:15** SP4: Time Series Data	**9:00–10:40** FP15: Volume Visualization / **9:00–10:40** FP16: Multi-Dimensional and Multi-Variate Data
09:15					
09:30		**9:00–10:20** Visual Analytics Applications / **9:10–10:20** Talks			
09:45					
10:00					
10:15		Coffee Break	Coffee Break	Coffee Break	
10:30					
10:45		**10:45–11:25** Visual Analytics for Graph Visualization / **10:45–12:15** Panel: "Reproducibility in Visualization" or "Do we want a Badge of Honor?"	**10:45–12:15** SP1: Scalar and Vector Data / **10:45–12:00** SP2: Groups and Graphs	**10:45–12:25** FP9: Flow Visualization / **10:45–12:25** FP10: Text and Documents	Coffee Break
11:00					
11:15					**11:10–12:40** Closing and Capstone
11:30		**11:25–12:25** Keynote			
11:45					
12:00					
12:15		**12:25–12:35** Closing			
12:30		Lunch Break	Lunch Break	Lunch Break	
12:45					
13:00	Registration				
13:15					
13:30	**13:30–13:45** Opening	**13:30–15:00** Opening and Keynote	**13:30–14:45** FP5: Large Graphs / **13:30–14:45** FP6: Time-Series Data	**13:30–14:45** FP11: Visual Analysis in Science and Engineering / **13:30–14:45** FP12: Interaction Design and Usability	
13:45					
14:00	**13:45–14:45** Keynote				
14:15					
14:30					
14:45	**14:45–15:25** Visual Analytics Frameworks and Tools				
15:00		Coffee Break	Coffee Break	Coffee Break	
15:15					
15:30	Coffee Break	**15:30–16:15** Fast Forward			
15:45					
16:00			**15:15–16:55** FP7: Uncertainty / **15:15–16:55** FP8: Medical Visualization	**15:15–16:30** FP13: Visualization for Decision Support / **15:15–16:30** FP14: Graphs and Relationships	
16:15	**15:50–17:30** Visual Analytics Theory				
16:30		**16:15–17:30** FP1: Graphs and Diagrams / **16:15–17:30** FP2: Illustrative Visualization			
16:45					
17:00					
17:15			**17:15–19:00** Lab Visit VRVis, vis-group, CVAST		
17:30	Coffee Break				
17:45					
18:00	**17:55–19:15** Visual Analytics Methodologies	**18:00–20:00** Welcome Reception		**18:00–23:00** Conference Dinner	
18:15					
18:30					
18:45					
19:00					
19:15	**19:15–19:35** Poster Fast Forward				
19:30	**19:35–21:35** Poster Exhibition and Welcome Reception				
19:45					
20:00					

EuroVA
EuroRVVV
EuroVis

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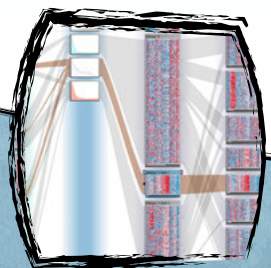


Monday

EuroVA

Program EuroVA

Opening Room A
13:30–13:45 Krešimir Matković and Giuseppe Santucci

Keynote Room A
13:45–14:45 Session chair: Krešimir Matković

Infrastructures for Visual Analytics: You are in a maze of twisty little passages, all alike!
Jean-Daniel Fekete

Papers: Visual Analytics Frameworks and Tools Room A
14:45–15:25 Session chair: Krešimir Matković

Supporting Visual Analysis in Smart Meeting Rooms
Axel Radloff, Georg Fuchs, Heidrun Schumann
14:45–15:05

PCDC – On the Highway to Data – A Tool for the Fast Generation of Large Synthetic Data Sets
Sebastian Bremm, Martin Heß, Tatiana von Landesberger, Dieter Fellner
15:05–15:25

Coffee Break
15:25–15:50

Papers: Visual Analytics Theory Room A
15:50–17:30 Session chair: Thorsten May

Visual Analytics for Dynamic Evacuation Planning
Rajesh Reddy, Markus Höferlin, Michael Dambier, Daniel Weiskopf
15:50–16:10

Scalable Cluster Analysis of Spatial Events
Iulian Peca, Georg Fuchs, Katerina Vrotsou, Natalia Andrienko, Gennady Andrienko
16:10–16:30

A System for Query Based Analysis and Visualization
Allen Sanderson, Brad Whitlock, Oliver Rübel, Hank Childs, Gunther Weber, Mr Prabhat, Kenseng Wu
16:30–16:50

Developing an Extended Task Framework for Exploratory Data Analysis Along the Structure of Time
Tim Lammarsch, Alexander Rind, Wolfgang Aigner, Silvia Miksch
16:50–17:10

Visual Exploration of Feature-Class Matrices for Classification Problems
Wolfgang Kienreich, Christin Seifer
17:10–17:30

Coffee Break
17:30–17:55

Keynote
by Jean-Daniel Fekete

Infrastructures for Visual Analytics: You are in a maze of twisty little passages, all alike!

When designing visual analytics systems, we lack support from existing software and hardware infrastructures. The wide diversity of systems components available nowadays increases the confusion by providing more possible architectures, each slightly different and none designed with visual analytics requirements in mind. This is the case for Cloud infrastructures, Grids, GPGPUs, Web services, NoSQL databases, to name a few. In this talk, I will present an organized landscape of existing architectures at the three levels of the visual analytics pipeline: data management, analysis, and visualization. I will then propose some high-level principles and requirements for visual analytics infrastructures to find our way in the maze of choices.

Program EuroVA

Papers: Visual Analytics Methodologies Room A
17:55–19:15 Session chair: Silvia Miksch

Visual Text Analytics using Semantic Networks and Interactive 3D Visualization
Philipp Drieger
17:55–18:15

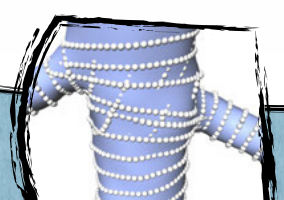
Visual Analysis of Explicit Opinion and News Bias in German Soccer Articles
Daniela Oelke, Benno Geißelmann, Daniel A. Keim
18:15–18:35

Visual Analytics of Microblog Data for Pandemic and Crisis Analysis
Iwan Pritchard, Rick Walker, Jonathan Roberts
18:35–18:55

The News Auditor: Visual Exploration of Clusters of Stories
Michael Behrisch, Milos Krstajic, Tobias Schreck, Daniel Keim
18:55–19:15

Poster Fast Forward Room A
19:15–19:35 Session chair: Johannes Kehrer

Poster Exhibition and Welcome Reception Conference venue 19th floor
19:35–21:35



Tuesday

EuroVA/EuroRVVV

Program EuroVA

Opening Room A
8:50–9:00 Krešimir Matković and Giuseppe Santucci

Papers: Visual Analytics Applications Room A
9:00–10:20 Session chair: Krešimir Matković

MultiNode-Explorer: A Visual Analytics Framework for Generating Web-based Multimodal Graph Visualizations
Sohaib Ghani, Niklas Elmqvist, David Ebert
9:00–9:20

AMPLIO VQA – A Web Based Visual Query Analysis System for Micro Grid Energy Mix Planning
Andreas Stoffel, Leishi Zhang, Stefan Hagen Weber, Daniel Keim
9:20–9:40

Visual Analysis of Public Transport Vehicle Movement
Michael Wörner, Thomas Ertl
9:40–10:00

Interactive Visual Analysis of Ethological Studies: Getting Insight from Large Animals' Paths Ensembles
Krešimir Matković, Christiana Winding, Rainer Splechtna, Michael Balka
10:00–10:20

Program EuroVA

Coffee Break
10:20–10:45

Papers: Visual Analytics for Graph Visualization Room A
10:45–11:25 Session chair: Giuseppe Santucci

Ontology visualization: one size does not fit all
Isabel da Silva, Giuseppe Santucci, Carla Dal Sasso Freitas
10:45–11:05

Graph Visualization Using Hierarchical Edge Routing and Bundling
Wolfgang Kienreich, Ralph Wozelka, Vedran Sabol, Christin Seifert
11:05–11:25

Keynote Room A
11:25–12:25 Session chair: Giuseppe Santucci

The Iterative Process of Interactive Visual Analysis
Helwig Hauser

Closing Room A
12:25–12:35 Krešimir Matković and Giuseppe Santucci

Keynote
by Helwig Hauser

The Iterative Process of Interactive Visual Analysis

One central characteristic of our information age is that increasingly often we should exploit the wealth of available data for the sake of learning, decision making, as well as other tasks. A promising approach – not at the least also targeted by visual analytics – is to integrate the strengths of computers (fast computation, efficient handling of large datasets, comparably low costs, etc.) with the strengths of the users (perceptual capabilities, considering domain knowledge, detecting the unexpected, etc.). In this talk, we look at one possible solution, i.e., the concept of interactive visual analysis, and describe it as an iterative process, enabling the integration of computational and interactive means for data exploration and analysis. We consider a data scenario that opposes dependent and independent data dimensions (like in a table), general enough to match many different application cases. We focus on the case of multivariate data, but also address the case of high-dimensional data and opportunities for exploring and analyzing such data. After all, we think of interactive visual analysis as an iterative process, where each step is performed on the basis of a toolbox with computational and interactive visual solutions.

EuroVis Workshops

EuroVA: EuroVis Workshop on Visual Analytics

EuroVA 2012 is the third international EuroVis workshop on Visual Analytics held in Europe. The goal of the workshop is to promote and advance the combination and integration of visualization and analytics methods for the purpose of problem solving in a variety of application domains including engineering, business, public policy, medicine, security, etc. The EuroVA 2012 program includes short paper presentations and two keynote talks.

Workshop Chairs

Krešimir Matković (VRVis Forschungs-GmbH, Austria)

Giuseppe Santucci (Sapienza, University of Rome, Italy)

EuroRVVV: EuroVis Workshop on Reproducibility, Verification, and Validation in Visualization

This new workshop will pay special consideration to the fact that the need for reliable visualization is steadily growing. In the form of three invited talks and a panel discussion, the program will focus on the reproducibility of newly developed visualization approaches, the verification of visualization and data-processing systems, the validation of visualization paradigms, and the effective incorporation of all these aspects into visualizations.

Workshop Chairs

Britta Weber (Zuse Institute Berlin, Germany)

Paul Rosenthal (Chemnitz University of Technology, Germany)

Tuesday

EuroRVVV/EuroVis

Program EuroRVVV

Opening Room B
9:00–9:10 Paul Rosenthal

Talks Room B
9:10–10:20 Chair: Britta Weber

Managing Uncertainty in Visualization
Robert Kosara (University of North Carolina at Charlotte)
9:10–9:30

Visual Correctness or "How do we measure the quality of a visualization?"
Heike Leitte (Heidelberg University)
9:30–9:50

Cognitive Visual Interpretation – An Outside Look
Nicholas Hugo Müller (Chemnitz University of Technology)
9:50–10:20

Coffee Break
10:20–10:45

Panel: "Reproducibility in Visualization" or "Do we want a Badge of Honor?" Room B
10:45–12:15 Chair: Paul Rosenthal

Britta Weber (Zuse Institute Berlin), Helmut Doleisch (SimVis GmbH), Min Chen (Oxford University), Rosane Minghim (University of São Paulo)

Program EuroVis

Opening and Keynote Room A
13:30–15:00

Coffee Break
15:00–15:30

Fast Forward Room A
15:30–16:15

Paper Sessions
16:15–17:30

Graphs and Diagrams Room A
Chair: Nathalie Henry Riche

Computing Voronoi Treemaps: Faster, Simpler, and Resolution-independent
Arlind Nocaj, Ulrik Brandes

Graph Bundling by Kernel Density Estimation
Christophe Hurter, Ozan Ersoy, Alex Telea

Kelp Diagrams: Point Set Membership Visualization
Kasper Dinkla, Marc van Kreveld, Bettina Speckmann, Michel Westenberg

Illustrative Visualization Room B
Chair: Bernhard Preim

Interactive Visualization of Generalized Virtual 3D City Models using Level-of-Abstraction Transitions
Amir Semmo, Matthias Trapp, Jan Eric Kyprianidis, Jürgen Döllner

Multi-layer Illustrative Dense Flow Visualization
Robert Carnecky, Benjamin Schindler, Raphael Fuchs, Ronald Peikert

Illustrative Membrane Clipping
Åsmund Birkeland, Stefan Bruckner, Andrea Brambilla, Ivan Viola

Welcome Reception Conference venue - lunch area
18:00–20:00

Keynote
by Oliver Bimber

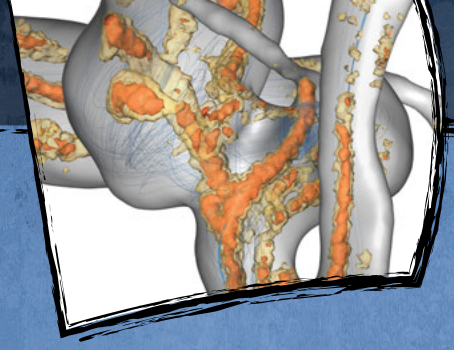
Shedding Light on Light Fields

Images play an essential role in our life. Photography and television are technologies that influenced generations like not many other technologies did. Both would be unimaginable without images. Advanced imaging systems and image processing methods are today fundamental to many professions. Medical imaging is certainly a good example. And if nothing else, images are also the final outcome of every visualization algorithm.

Digital images are two-dimensional matrixes of pixels. Cameras are based on this notion: Even though 3D scene points emit varying light rays in different directions, the lens and the sensor of cameras integrate them to a single pixel. By doing this for all imaged scene points, we end up with nothing more than a 2D image -- having lost most of the scene information. Displays are based on this notion: Pixels of raster-displayed images emit (more or less) the same amount of light in all directions -- giving us nothing more than a 2D image. Visualization algorithms are based on this notion: They map complex (possibly multidimensional) data to 2D images that are finally presented on regular displays, whereby the initial data itself is often the outcome of regular imaging systems.

What if the notion of images would change once and forever? What if instead of capturing, storing, processing and displaying only a single color per pixel, each pixel would consist of individual colors for each emitting direction? Images would no longer be two-dimensional matrices but four-dimensional ones (storing spatial information in two dimensions, and directional information in the other two dimensions). This is called a light field.

Light fields have the potential to radically change everything that we relate to images -- from photography, over displays to image processing and analysis, and possibly even visualization. While first light-fields display prototypes have already been introduced in scientific communities and first light-field cameras are already commercially available, many unsolved challenges remain in the processing of light fields. While common digital images store mega-bytes of data, corresponding light fields might require gigabytes. While spatial consistency is a requirement for regular image processing, directional consistency has to be ensured in addition for light-field processing. In this talk, I will shed some light on light fields and light-field processing basics with applications to imaging and visualization. I invite the audience to think about what the impact for visualization could be if images evolve to light fields, raster displays evolve to light-field displays, and digital cameras evolve to light-field cameras.



Program EuroVis

Paper Sessions
9:00–10:15

Geospatial Visualization Room A
Chair: Jörn Kohlhammer

Scalable Detection of Spatiotemporal Encounters in Historical Movement Data
Peter Bak, Mattias Marder, Sivan Harary, Harold J. Ship, Avi Yaeli

Travel-Route-Centered Metro Map Layout and Annotation
Hsiang-Yun Wu, Shigeo Takahashi, Chun-Cheng Lin, Hsu-Chun Yen

The World's Languages Explorer: Visual Analysis of Language Features in Genealogical and Areal Contexts
Christian Rohrdantz, Michael Hund, Thomas Mayer, Bernhard Wälchli, Daniel A. Keim

Topology Room B
Chair: Hamish Carr

A Quantized Boundary Representation of 2D Flow
Joshua Levine, Shreeraj Jadhav, Harsh Bhatia, Valerio Pascucci, Peer-Timo Bremer

Magnetic Flux Topology of 2D Point Dipoles
Sven Bachthaler, Filip Sadlo, Rudolf Weeber, Sofia Kantorovich, Christian Holm, Daniel Weiskopf

Parallel Computation of 3d Morse-Smale Complexes
Nithin Shivashankar, Vijay Natarajan

Coffee Break
10:15–10:45

Short Paper Sessions
10:45–12:15

Scalar and Vector Data Room A
Chair: Filip Sadlo

Vortex Merge Graphs in Two-dimensional Unsteady Flow Fields
Jens Kasten, Ingrid Hotz, Bernd Noack, Hans-Christian Hege

Force Brushes: Progressive Data-Driven Haptic Selection and Filtering for Multi-Variate Flow Visualizations
Bret Jackson, Dane Coffey, Daniel F. Keefe

Continuous Navigation of Nested Abstraction Levels
Matthew van der Zwan, Alex Telea, Tobias Isenberg

Calibration of the Marschner-Lobb Signal on CC, BCC, and FCC Lattices
Viktor Vad, Balázs Csébfalvi, Moncef Gabbouj

Particle-Based Transparent Rendering of Implicit Surfaces and its Application to Fused Visualization
Satoshi Tanaka, Kyoto Hasegawa, Yoshiyuki Shimokubo, Tomonori Kaneko, Takuma Kawamura, Susumu Nakata, Saori Ojima, Naohisa Sakamoto, Hiromi Tanaka, Koji Koyamada

CrystalExplorer: An Interactive Knowledge-Assisted System for Visual Design of Solar Cell Crystal Structures
Amal Aboulhassan, Ruipeng Li, Christopher Knox, Aram Amassian, Markus Hadwiger

Groups and Graphs Room B
Chair: Heike Leitte

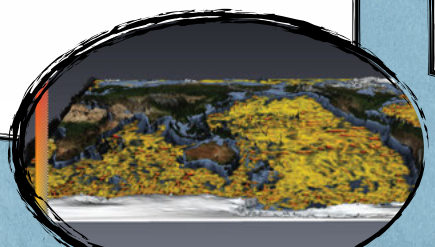
The Parallel Coordinates Matrix
Julian Heinrich, John Stasko, Daniel Weiskopf

Visualization of Large, Time-Dependent, Abstract Data with Integrated Spherical and Parallel Coordinates
James Walker, Zhao Geng, Mark Jones, Robert S. Laramee

MCS Filters to Express Partial Satisfaction of Criteria
Benoit Otjacques, Maël Cornil, Mickaël Stefas, Fernand Feltz

Sankey Arcs - Visualizing Edge Weights in Path Graphs
Till Nagel, Erik Duval, Andrew Vande Moere, Kristian Kloeckl, Carlo Ratti

Projection-based Visualization of Dynamical Processes on Networks
Farshad Ghassemi Toosi, Fernando V. Paulovich, Marc-Thorsten Hütt, Lars Linsen



Program EuroVis

Lunch Break
12:15–13:30

Paper Sessions
13:30–14:45

Large Graphs Room A
Chair: Peter Bak

Visual Analysis of Large Graphs: State-of-the-Art and Future Research Challenges (Computer Graphics Forum Paper)
Tatiana von Landesberger, Arjan Kuijper, Tobias Schreck, Jörn Kohlhammer, Jarke J. van Wijk, Jean-Daniel Fekete, Dieter W. Fellner

Drawing Large Graphs by Low-Rank Stress Majorization
Marc Khoury, Yifan Hu, Shankar Krishnan, Carlos Scheidegger

Using Signposts for Navigation in Large Graphs
Thorsten May, Martin Dummer, James Davey, Jörn Kohlhammer

Time-Series Data Room B
Chair: Robert Kosara

Bertin was Right: An Empirical Evaluation of Indexing to Compare Multivariate Time-Series Data Using Line Plots (Computer Graphics Forum Paper)
Wolfgang Aigner, Christian Kainz, Rui Ma, Silvia Miksch

Comparative Evaluation of an Interactive Time-Series Visualization that Combines Quantitative Data with Qualitative Abstractions
Wolfgang Aigner, Alexander Rind, Stephan Hoffmann

A Qualitative Study on the Exploration of Temporal Changes in Flow Maps with Animation and Small-Multiples
Ilya Boyandin, Enrico Bertini, Denis Lalanne

Coffee Break
14:45–15:15

Paper Sessions
15:15–16:55

Uncertainty Room A
Chair: Vijay Natarajan

Conceptualizing Visual Uncertainty in Parallel Coordinates
Aritra Dasgupta, Min Chen, Robert Kosara

Visualization of Global Correlation Structures in Uncertain 2D Scalar Fields
Tobias Pfaffelmoser, Rüdiger Westermann

Vortex Analysis in Uncertain Vector Fields
Mathias Otto, Holger Theisel

Probabilistic Local Features in Uncertain Vector Fields with Spatial Correlation
Christoph Petz, Kai Pöthkow, Hans-Christian Hege

Medical Visualization Room B
Chair: Charl Botha

Reliable Adaptive Modelling of Vascular Structures with Non-Circular Cross-Sections
Jan Kretschmer, Thomas Beck, Christian Tietjen, Marc Stamminger, Bernhard Preim

Visualization of 4D Blood-Flow Fields by Spatiotemporal Hierarchical Clustering
Roy van Pelt, Sander Jacobs, Bart ter Haar Romeny, Anna Vilanova

Employing 2D Projections for Fast Visual Exploration of Large Fiber Tracking Data
Jorge Poco, Danilo Eler, Fernando Paulovich, Rosane Minghim

Biopsy Planner - Visual Analysis for Needle Pathway Planning in Deep Seated Brain Tumor Biopsy
Paul-Corneliu Herghelegiu, Radu Perin, Vasile-Ion Manta, Stefan Bruckner, Eduard Gröller

Lab Visit
17:15–19:00 VRVis, vis-group, CVAST

Meeting point: registration

Thursday

EuroVis

Program EuroVis

Short Paper Sessions
9:00–10:15

Visualization and Analysis for Life Sciences Room A
Chair: Jos Roerdink

Fast Visualization of Gaussian Density Surfaces for Molecular Dynamics and Particle System Trajectories
Michael Krone, John Stone, Thomas Ertl, Klaus Schulten

Visualization Software for 3D Video Microscopy: A Design Study
Heike Leitte, Jens Fangerau, Xinghua Lou, Burkhard Höckendorf, Steffen Lemke, Alexis Maizel, Jochen Wittbrodt

Pattern Visualization of Human Connectome Data
Yishi Guo, Yang Wang, Shiaofen Fang, Hongyang Chao, Andrew Saykin, Li Shen

A Unified Representation for the Model-based Visualization of Heterogeneous Anatomy Data
N.N. Smit, A.C. Kraima, D. Jansma, M.C. de Ruiter, C.P. Botha

The Effects of Visualization Feedback on Promoting Health Goal Progress in Older Adults
Tuan Pham, Shannon Mejía, Ronald Metoyer, Karen Hooker

Time Series Data Room B
Chair: Michael Sedlmair

ClockMap: Enhancing Circular Treemaps with Temporal Glyphs for Time-Series Data
Fabian Fischer, Johannes Fuchs, Florian Mansmann

DiffMatrix: Matrix-based Interactive Visualization for Comparing Temporal Trends
Hyunjoo Song, Bongshin Lee, Bohyoung Kim, Jinwook Seo

arcs.fm - A Backdrop Visualization for Music Talk
Dominikus Baur, Andreas Butz, Sheelagh Carpendale

Visualization of Geospatial Time Series from Environmental Modeling Output
Patrick Köthur, Mike Sips, Julian Kuhlmann, Doris Dransch

MorphingProjections: Interactive Visualization of Electric Power Demand Time Series
Ignacio Diaz-Blanco, Manuel Dominguez-Gonzalez, Abel Cuadrado-Vega, Alberto Diez-Gonzalez, Juan Fuertes-Martinez

Coffee Break
10:15–10:45

Paper Sessions
10:45–12:25

Flow Visualization Room A
Chair: Holger Theisel

Automatic Stream Surface Seeding: A Feature Centered Approach
Matt Edmunds, Robert Laramee, Guoning Chen, Eugene Zhang, Rami Malki, Ian Masters, Nick Croft

Visualization of Advection-Diffusion in Unsteady Fluid Flow
Grzegorz Karch, Filip Sadlo, Daniel Weiskopf, Claus-Dieter Munz, Thomas Ertl

Nearly Recurrent Components in 3D Piecewise Constant Vector Fields
Andrzej Szymczak, Nicholas Brunhart-Lupo

Interface Exchange as an Indicator for Eddy Heat Transport
Sean Williams, Mark Petersen, Matthew Hecht, Mathew Maltrud, John Patchett, James Ahrens, Bernd Hamann

Text and Documents Room B
Chair: William Ribarsky

Rolled-out Wordle: A Heuristic Method for Overlap Removal of 2D Data Representatives
Hendrik Strobelt, Marc Spicker, Andreas Stoffel, Daniel Keim, Oliver Deussen

Semantic Wordification of Document Collection
Fernando V. Paulovich, Franklina Toledo, Guilherme P. Telles, Rosane Minghim, Luis G. Nonato

iVisClustering: An Interactive Visual Document Clustering via Topic Modeling
Hanseung Lee, Jaeyeon Kihm, Jaegul Choo, John Stasko, Haesun Park

Document Thumbnails with Variable Text Scaling
Andreas Stoffel, Hendrik Strobelt, Oliver Deussen, Daniel Keim

Program EuroVis

Lunch Break
12:25–13:30

Paper Sessions
13:30–14:45

Visual Analysis in Science and Engineering Room A
Chair: Daniel Keim

StratomeX: Visual Analysis of Large-Scale Heterogeneous Genomics Data for Cancer Subtype Characterization
Alexander Lex, Marc Streit, Hans-Joerg Schulz, Christian Partl, Dieter Schmalstieg, Peter J. Park, Nils Gehlenborg

Porosity Maps - Interactive Exploration and Visual Analysis of Porosity in Carbon Fiber Reinforced Polymers
Andreas Reh, Bernhard Plank, Johann Kastner, M. Eduard Gröller, Christoph Heinzl

Comparative Visual Analysis of 2D Function Ensembles
Harald Piringer, Stephan Pajer, Wolfgang Berger, Heike Teichmann

Interaction Design and Usability Room B
Chair: Christian Tominski

Perception of Animated Node-Link Diagrams for Dynamic Graphs
Sohaib Ghani, Niklas Elmqvist, Ji Soo Yi

Visualizing Motion Data in Virtual Reality: Understanding the Roles of Animation, Interaction, and Static Presentation
Dane Coffey, Fedor Korsakov, Marcus Ewert, Heleh Hagh-Shenas, Lauren Thorson, Arin Ellingson, David Nuckley, Daniel Keefe

A Design Study of Direct-Touch Interaction for Exploratory 3D Scientific Visualization
Tijmen Klein, Florimond Guéniat, Luc Pastur, Frédéric Vernier, Tobias Isenberg

Coffee Break
14:45–15:15

Paper Sessions
15:15–16:30

Visualization for Decision Support Room A
Chair: Helwig Hauser

Vismon: Facilitating Trade-Offs, Uncertainty, and Sensitivity Analysis In Fisheries Management Decision Making
Maryam Booshehrian, Torsten Möller, Randall Peterman, Tamara Munzner

MarketAnalyzer: An Interactive Visual Analytics System for Analyzing Competitive Advantage Using Point of Sale Data
Sungahn Ko, Ross Maciejewski, Yun Jang, David Ebert

MatchPad: Interactive Glyph-Based Visualization for Real-Time Sports Performance Analysis
Philip Legg, David Chung, Matthew Parry, Mark Jones, Rhys Long, Iwan Griffiths, Min Chen

Graphs and Relationships Room B
Chair: Andreas Kerren

PORGY: A Visual Graph Rewriting Environment for Complex Systems
Bruno Pinaud, Guy Melançon, Jonathan Dubois

I-SI: Scalable Architecture of Analyzing Latent Topical-Level Information From Social Media Data
Xiaoyu Wang, Wenwen Dou, Zhiqiang Ma, Jeremy Villalobos, Yang Chen, Thomas Kraft, William Ribarsky

ConnectedCharts: Explicit Visualization of Relationships between Data Graphics
Christophe Viau, Michael McGuffin

Conference Dinner / Social Event
18:00–23:30

For more information see page 3.

Program EuroVis

Paper Sessions
9:00–10:40

Volume visualization Room A
Chair: Shigeo Takahashi

Automating Transfer Function Design with Valley Cell Based Clustering of 2D Density Plots
Yunhai Wang, Jian Zhang, Dirk J. Lehmann, Holger Theisel, Xuebin Chi

Importance Driven Automatic Color Design for Direct Volume Rendering
Lei Wang, Arie Kaufman

COVRA: A Compression-domain Output-sensitive Volume Rendering Architecture Based on a Sparse Representation of Voxel Blocks
Enrico Gobbetti, Jose Antonio Iglesias Guitian, Fabio Marton

Interactive Rendering of Material and Biological Structures on Atomic and Nanoscopic Scale
Norbert Lindow, Daniel Baum, Hans-Christian Hege

Multi-Dimensional and Multi-Variate Data Room B
Chair: Guy Melançon

A Taxonomy of Visual Cluster Separation Factors
Michael Sedlmair, Andrada Tatu, Tamara Munzner, Melanie Tory

Semi-Supervised Dimensionality Reduction based on Partial Least Squares for Visual Analysis of High Dimensional Data
Jose Gustavo S. Paiva, William Schwartz, Helio Pedrini, Rosane Minghim

Procedural Texture Synthesis for Zoom-independent Visualization of Multivariate Data
Rostislav Khlebnikov, Bernhard Kainz, Markus Steinberger, Marc Streit, Dieter Schmalstieg

Tracing Tuples Across Dimensions: A Comparison of Scatterplots and Parallel Coordinate Plots
Xiaole Kuang, Haimo Zhang, Shengdong Zhao, Michael J. McGuffin

Capstone
by Torsten Möller

What is Visualization?

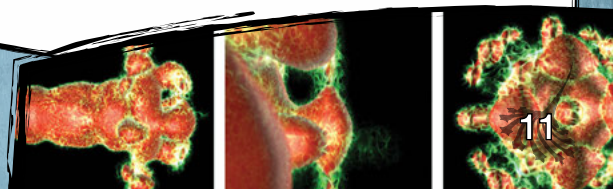
Our community stands divided into separate regions with walls between them. I believe this division is only cause for confusion inside and outside of our community and is actually damaging to our reputation. In this talk, I will examine how this division occurred and analyze how it has been characterized thus far. I will argue that the current diversity within the visualization community is grounded in different methodological approaches to science, such as mathematical modelling and empirical research. In order to solve visualization problems in science, commerce, or daily life, we need not just one set of skills but many. Hence, let us embrace and celebrate the diversity in our community and build a strong Federal Republic of Visualization.

Program EuroVis

Coffee Break
10:40–11:10

Closing and Capstone Room A
11:10–12:40

EuroVis 2013



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Organizers

EuroVis is the Eurographics Conference on Visualization. EuroVis 2012 is organized by the Eurographics Working Group on Data Visualization and supported by the IEEE Visualization and Graphics Technical Committee. The local organizers are the Institute of Computer Graphics and Algorithms of the Vienna University of Technology, the VRVis Research Center, and the Austrian Computer Society.