Scientific and Teaching Activities
(http://www.cg.tuwien.ac.at/research/vis/)

Edited Books and Journals, Book Chapters:


[9] Christoph Heinzl, Stefan Bruckner, Eduard Gröller, Guest editors of the Special Section on Uncertainty and Parameter Space Analysis in Visualization, Computers & Graphics, Volume 41 (2014); http://dx.doi.org/10.1016/j.cag.2014.03.001.

Reviewed and Invited Conference Papers, Journal Publications:


Theußl, Th., Tobler, R.F., Gröller, E.: The Multi-Dimensional Hartley Transform as a Basis for Volume Rendering. In N.M. Thalmann, V. Skala (eds.), Proceedings of WSCG’2000, the 8-th International Conference in Central Europe on Computer Graphics,


[114] Straka, M., Červeňanský, M., La Cruz, A., Köchl, A., Šrámek, M., Gröller, E., Fleischmann, D.: The VesselGlyph: Focus & Context Visualization in CT-


Other Publications, Papers, Reports, and Posters:


Research und Systemtheorie, TU Wien, January 1996 (also published as reviewed paper [27]).


visualization of peripheral arterial occlusive disease. Europ Radiol 15 (ECR 2005), Suppl 1, 574-575.


Proceedings DGZfP (German Society of NDT) - Yearly Meeting, 10-12 May 2010, Erfurt, Germany.


Patents:


Talks:


[22] Visualization Techniques for Complex and Chaotic Dynamical Systems, talk as part of the Lecture Series on "Scientific Visualization" of the Department of Computer Science, CTU FEL, Technical University Prague, Czech Republic, November 28th, 1994.


[28] Case Studies of Visualizing Analytically defined Dynamical Systems, Participant Talk at the International Summer School on Scientific and Mathematical Visualization, Ettenheim, Germany, September, 24th, 1996.

[29] Advanced Visualization Techniques for Dynamical Systems, invited lecture at the Department of Information Technology and Computer Science, University of West Bohemia, Plzen, Czech Republic, October, 21st, 1996.


[31] Visualisierung Nichtlinearer Dynamischer Systeme, Habilitationskolloquium, Vienna University of Technology, Austria, November 7th, 1996.


[34] Various Techniques for the Visualization of Dynamical Systems, Seminar 9724, Scientific Visualization, Dagstuhl, Germany, June 13th, 1997.


[38] Visualisierung am Institut für Computergraphik der TU-Wien, Fakultät für Mathematik und Informatik, Universität Passau, Germany, December 8th, 1997.


[40] Aktuelle Visualisierungsprojekte am Institut für Computergraphik der TU-Wien, Fakultät für Informatik, WSI/GRIS, University of Tübingen, Germany, December 19th, 1997.


[45] Neuere Visualisierungsprojekte am Institut für Computergraphik der TU Wien, Department of Computer Science, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, June, 22nd, 1998.

[46] Interactive Visualization Applications, Faculty of Informatics, Masaryk University Brno, Czech Republic, March, 9th, 1999.

[47] Interaktive Visualisierungsanwendungen, Colloquia on Interactive Systems, University Klagenfurt, Austria, April 9th, 1999.


[50] Color-Table Animation of Fast Oriented Line Integral Convolution for Vector Field Visualization, WSCG’2000, the 8-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media’2000, Plzen, Czech Republic, February 8th, 2000.


[60] Insight into Data Through Visualization, Invited talk at Graph Drawing 2001, Vienna, Austria, September, 26th, 2001.

[61] Anwendungsbeispiele medizinischer Visualisierung, Fachbereich Informatik, Universität Kaiserslautern, Germany, October, 10th, 2002.


[82] Focus+Context in Illustrative Visualization, Keynote talk at TPCG07, University of Wales, Bangor, UK, June 13th, 2007.


[85] Visualization with Style, Distinguished Lecture Series, Scientific Computing and Imaging Institute (SCI), University of Utah, USA, November 2nd 2007.


[97] Comprehensive Visualization of Cardiac MRI Data, Keynote address at AMI-ARCS 2009, 5th Workshop on Augmented Environments for Medical Imaging including augmented Reality in Computer-Aided Surgery (MICCAI), Imperial College London, UK, September 24th, 2009.
[99] Integrated Views in Visualization, Institute seminar, Department of Informatics, University of Bergen, Norway, Thursday, May 20th, 2010.
[101] Illustrative Visualization, IFI colloquium, Department of Informatics, University of Zurich, Switzerland, Thursday, Dec 2nd, 2010.
[102] Visualization of Complex Data: Going from Linked to Integrated Views, Visualisierungsinstitut der Universität Stuttgart (VISUS), University of Stuttgart, Germany, February 22nd, 2011.
[105] Comprehensive Visualization of Cardiac MRI Data, Workshop Geometry for Anatomy, Banff International Research Station for Mathematical Innovation and Discovery (BIRS), Banff, Canada, August 30th, 2011.
[115] Visual Computing - Quo Vadis?, CS-Colloquium of the Faculty of Computer Science, University of Vienna, October 9th, 2013.
Comparative Visualization, Keynote talk at IEEE Pacific Visualization 2014, Yokohama, Japan, March 7th, 2014.


Comparative and Quantitative Visualization in Material Sciences. Seminar 14231, Scientific Visualization, Dagstuhl, Germany, June 2nd, 2014.


Projects:

1. Exploitation of Coherence in Various Fields of Computer Graphics (cf., e.g., reviewed papers [3], [5], [9], other publications [3]), 1990-1993.
2. Visualization of fractal and nonlinear phenomena, cf., e.g., reviewed papers [4], [10], [11], [19], [23]), 1991-1996.
3. Nonstandard Rendering Techniques in Computer Graphics (cf., e.g., reviewed papers [14], [15], [19], [26]), 1992-1995
7. Realistic Visualization of Natural Phenomena (Realistische Visualisierung natürlicher Phänomene, FWF Verlängerungsantrag P09818-PHY), (together with Michael Gervautz, Werner Purgathofer, Institut für Computergrafik, Vienna University of Technology), 1996.
11. TunVis: Visualizing specific geologic features for tunnel planning and construction (joint project with Mag. Johannes Meringer, Büro für Technische Geologie, Graz, cf. e.g., reviewed papers [51]), 1997.


[26] NeuroViewer (interactive visualization and exploration framework for neural networks of fruit fly brains) (together with VRVis and IMP – Research Institute of Molecular Pathology), company funded research project, Apr-Jul, 2008.

[27] Smart-CT: Genau Geometriebestimmung und Interfacecharakterisierung von Multi-Materialbauteilen mittels Kegelstrahl-CT (together with Johann Kastner (main applicant),
FH Wels; HDEMC Hessenberger GmbH; dTech Steyr – Dynamics and Technology Services GmbH), FFG Project 818108 (Bridge project), 2009-2011.

[28] SCALE-VS: Research on the Scalability and Confluence of Scientific Visualization and Interactive Segmentation (together with Markus Hadwiger, VRVis (main applicant)), WWTF project, no. ICT08-40, 2009-2012.


Longer Stays Abroad:

1988-1989: Postgraduate Studies of Computer Sciences at the University of Kansas, USA. Duration: two terms. Financed by a Fulbright Scholarship and by scholarships of the “Ministerium für Wissenschaft und Forschung” and the “Burgenländische Landesregierung”

spring term 1995: Konrad Zuse Guest lectureship (“Gastdozentur”) at the University of Tübingen, Germany. Giving a course on “Visualization of scientific data” (“Visualisierung wissenschaftlicher Daten”), two hours of lecturing and two hours of exercises a week. Collaboration in a research project on the realistic simulation and visualization of textile structures. The stay was financed by the DAAD (“Deutscher Akademischer Austauschdienst”).

spring term 2001: C4-Vertretungsprofessur “Computervisualistik” at the Otto-von-Guericke University Magdeburg.
External Teaching:

- Guest lectureship “Visualization of scientific data” (“Visualisierung wissenschaftlicher Daten”) at the University Tübingen, Germany. Two hours lecturing and two hours of exercises a week, summer term 1995
- “Ausgewählte Kapitel aus Computergrafik: Visualisierung” (2.0 VO, 1 KU), at the Technical University Graz, Austria, in summer term 1997, and in summer term 1998.
- “Selected Topics in Visualization (Flow Visualization)”, guest lectureship at the Department of Computer Science, Universidad National del Sur, Bahia Blanca, Argentina, September 1998.
- “Fraktale Geometrie”, (2.0 VO, 2.0 LU) lecture at the Department of Simulation and Graphics, Otto-von-Guericke University Magdeburg, spring term 2001.
- Eurographics 2005 Tutorial 3: “Illustrative Visualization” (together with B. Preim, University of Magdeburg; D. Ebert, Purdue University; K. Bühler, VRVis Vienna; M. Hadwiger, VRVis Vienna; Ivan Viola, Vienna University of Technology) Half Day tutorial: http://isg.cs.tcd.ie/eg2005/T3.html.
- IEEE Visualization 2005 Tutorial 5: “Illustrative Visualization” (together with I. Viola, Vienna University of Technology; M. Hadwiger, VRVis Vienna; B. Preim, University of Magdeburg; M. C. Sousa, University of Calgary; D. Ebert, Purdue University; D. Stredney, The Ohio State University). Full Day tutorial: http://vis.computer.org/Vis2005/session/tutorials.html.
- “Topics in Visualization: Scientific and Information Visualization” lecture at the Department of Informatics, University of Bergen, Norway, summer term 2006 (together with H. Hauser, M. Mlejnek), summer term 2007 (together with H. Hauser, I. Viola).
- “Selected Topics in Visualization” guest lectureship at the Department of Computer Science, Universidad National del Sur, Bahia Blanca, Argentina, February/March 2008.
- Various special topic lecture units at the Department of Informatics, University of Bergen, Norway, 2005-.

Teaching at the Vienna University of Technology:

explanation:
VO=lecture, UE=exercise, VU=lecture+exercise, LU=practical course
PR=practicum, SE=seminar, PS=proseminar
The numbers denote hours per week over one semester.
WS=winter semester (1 Oct. – 31 Jan.),
• “Fraktale” (“Fractals”) VO 2.0: WS90/91, WS91/92, WS92/93, WS93/94, WS94/95 (together with Christoph Traxler), WS95/96 (together with Christoph Traxler)
• “Fraktale” (“Fractals”) LU 2.0: WS91/92 (LU 1.0), WS92/93, WS93/94, WS94/95 (together with Christoph Traxler), WS95/96 (together with Christoph Traxler)
• “Visualisierung” (“Visualization”) VO 2.0 + LU 2.0: WS94/95, WS95/96, WS96/97, WS97/98, WS07/08, WS08/09, WS09/10, WS10/11.
• “Computergraphik 2” (“Computer Graphics 2”) VO 2.0: SS99 (together with W. Purgathofer), SS00 (together with W. Purgathofer), SS01, SS02, SS03, SS04, SS05, SS06, SS07, SS08, SS09, SS10.
• “Computergraphik 3” (“Computer Graphics 3”) VO 2.0: SS99 (together with W. Purgathofer), SS00 (together with W. Purgathofer)
• “Grundlagen wissenschaftlichen Arbeitens“ (“Basics of Scientific Working“) PS 2.0: WS01/02, SS02, WS02/03, WS03/04, SS04, WS04/05, WS05/06.
• „Grundlagen methodischen Arbeitens“ (“Basics of Methodical Working”) SE 2.0: WS06/07, WS07/08, WS08/09, WS09/10, WS10/11.
• “Informationsvisualisierung” (“Information Visualization”) VU 2.0: SS03; VO 2.0, LU 1.0: SS04, SS05, SS06, SS07, SS08, SS09. (together with Helwig Hauser), SS10, SS11.
• „Einführung in die Biomedizinische Technik“ (“Biomedical Engineering: An Introduction”) VO 2.0 WS09/10, WS10/11, WS11/12, WS12/13, WS13/14, WS14/15, WS15/16 (one lecture unit)
• „Einführung in die Medizinische Informatik“ (“Introduction to Informatics and Medicine”) VO 2.0 WS09/10 , WS10/11(two lecture units)
• “Visualisierung 1” (“Visualization 1”) VU 2.0 WS11/12, WS12/13, WS13/14, WS14/15, WS15/16
• “Visualisierung 2” (“Visualization 2”) VU 3.0 SS12, SS13, SS14, SS15
• “Computergraphik” (“Computer Graphics”) VO 2.0 SS12, SS13, SS14, SS15
• “Wissenschaftliches Arbeiten” (“Scientific Working”) SE 2.0 WS11/12, WS12/13, WS13/14, WS14/15, WS15/16
• “Seminar aus Computergraphik” (“Seminar in Computer Graphics”) SE 2.0 SS12, SS13, SS14, SS15
regularly since the habilitation (1996): seminars SE, proseminars PS, computer science projects PR, bachelor theses PR
• until 1997 co-supervision of about 20 Master’s theses
• supervision of Master theses:
[16] Andre Neubauer: Cell-Based First-Hit Ray Casting (September 2001)


[33] Sebastian Zambal: 3D Active Appearance Models for Segmentation of Cardiac MRI Data (August 2005)

[34] Leopold Kühschelm: Advanced Image-based Transfer Function Design (December 2005)


[37] Martin Haidacher: Importance-Driven Rendering in Interventional Imaging (August 2007)

[38] Andreas Schöllhuber: Automatic Segmentation of Contrast Enhanced Cardiac MRI for Myocardial Perfusion Analysis (March 2008)


[40] Andreas Monitzer: Fluid Simulation on the GPU with Complex Obstacles Using the Lattice Boltzmann Method (July 2008)

[41] Philipp Hartl: Visualization of Calendar Data (October 2008)


[44] Laura Fritz: Interactive Exploration and Quantification of Industrial CT Data (January 2009)

[45] Matthias Froschauer: Interactive Optimization, Distance Computation and Data Estimation in Parallel Coordinates (February 2009)


[47] Veronika Šoltészová: Visual Queries in Neuronal Data Exploration (June 2009)


[49] Clemens Brandorff: Enhancement, Registration, and Visualization of High Resolution Episcopic Microscopy Data (July 2009)

[50] Bilal Alsallakh: Interactive Visual Analysis of Relational Data and Applications in Event-Based Business Analytics (July 2009)
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Publication Date</th>
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<tbody>
<tr>
<td>Classification and Visualization of Volume Data using Clustering</td>
<td>Andreas Opitz</td>
<td>October 2009</td>
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<tr>
<td>High-performance GPU based Rendering for Real-Time, rigid 2D/3D-</td>
<td>Jakob Spörk</td>
<td>January 2010</td>
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<tr>
<td>Image Registration in Radiation Oncology</td>
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<td>Markov Random Field Based Structure Localisation of Vertebrae for 3D-Segmentation of the Spine in CT Volume Data</td>
<td>David Major</td>
<td>May 2010</td>
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<tr>
<td>Noise and Artifact Reduction in Interactive Volume Renderings of</td>
<td>Andreas Ritzberger</td>
<td>May 2010</td>
</tr>
<tr>
<td>Electron-Microscopy Data-Sets</td>
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<tr>
<td>Scattered Multi-field Volumes</td>
<td>Stefan Hehr</td>
<td>February 2011</td>
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<tr>
<td>Variational Reconstruction and GPU Ray-Casting of Non-Uniform Point Sets using B-Spline Pyramids</td>
<td>Martin Kinkelin</td>
<td>May 2011</td>
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<tr>
<td>Coronary Artery Tracking with Rule-based Gap Closing</td>
<td>Andreas Grünaeuer</td>
<td>July 2011</td>
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<tr>
<td>Spontaneous Social Networks</td>
<td>Michael Hanzl</td>
<td>July 2011</td>
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<tr>
<td>Deformation Based Manual Segmentation in Three and Four Dimensions</td>
<td>Tobias Fechter</td>
<td>September 2011</td>
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<tr>
<td>Animated Transitions Across Multiple Dimensions for Volumetric Data</td>
<td>Christian Basch</td>
<td>October 2011</td>
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<tr>
<td>Rapid Visualization Development based on Visual Programming –</td>
<td>Bendikt Stehno</td>
<td>Oktober 2011</td>
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<tr>
<td>Developing a Visualization Prototyping Language</td>
<td></td>
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<tr>
<td>Advanced Measurement and Quantification of Industrial CT Data</td>
<td>Fritz-Michael Gschwantner</td>
<td>October 2011</td>
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<tr>
<td>Interactive Variability Analysis for Initial Sample Testing of Industrial CT Data</td>
<td>Johanna Schmidt</td>
<td>November 2011</td>
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<tr>
<td>Sketch-Based Steering in Visdom</td>
<td>Roman Gurbat</td>
<td>November 2011</td>
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<tr>
<td>User-driven Manipulation of Geospatial Data</td>
<td>Florian Stabel</td>
<td>October 2012</td>
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<tr>
<td>Visualization Of Multivariate Networks</td>
<td>Stephan Pajer</td>
<td>October 2012</td>
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<tr>
<td>neuroMap - Interactive Graph-Visualization of the Fruit Fly’s Neural Circuit</td>
<td>Johannes Sorger</td>
<td>January 2013, OCG-Förderpreis 2014</td>
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<td>Application of Smart Visibility on Medical 3D Ultrasound Datasets</td>
<td>Johannes Novotny</td>
<td>May 2013</td>
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<td>Irrational Image Generator</td>
<td>Simon Parzer</td>
<td>June 2013</td>
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<td>Visual Feature Exploration for ssTEM Image Segmentation</td>
<td>Ivan Maricic</td>
<td>August 2013</td>
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<tr>
<td>Large-Scale Noise Simulation and Visualization of Moving Point Sources</td>
<td>Clemens Arbesser</td>
<td>September 2013</td>
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<tr>
<td>Visualisierung von Eishockeystatistiken auf mobilen Endgeräten</td>
<td>Benjamin Beer</td>
<td>December 2013</td>
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<tr>
<td>Interactive Data Editing of Time-Dependent Data in Visual Analysis</td>
<td>Christian Möllinger</td>
<td>Oktober 2014</td>
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<tr>
<td>Image Retrieval on Co-registered Confocal Microscopy Image Collections</td>
<td>Edith Langer</td>
<td>October 2014</td>
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</tbody>
</table>
[74] Johannes Bauer: Integration of Web-Based Information Visualizations into a Scientific Visualization Environment (December 2014)
[79] Sebastian Sippl: Ein Framework für die GPU-gestützte Erzeugung und Gestaltung induktiv rotierter Muster (August 2015)
[80] Christian Hirsch: Automatic Breast Lesion Examination of DCE-MRI Data Based on Fourier Analysis (September 2015)

- supervision of PhD theses:
  [3] Lukas Mroz: Real-Time Volume Visualization on Low-End Hardware (Feb 2001)
  [6] Anna Vilanova: Visualization Techniques for Virtual Endoscopy (Sep 2001)
  [12] Ivan Viola: Importance-Driven Expressive Visualization (May 2005)
[17] Christoph Heinzl: Analysis and Visualization of Industrial CT Data (December 2008)
[18] Maurice Termeer: Comprehensive Visualization of Cardiac MRI Data (December 2008)
[19] Peter Kohlmann: LiveSync: Smart Linking of 2D and 3D Views in Medical Applications (December 2008)
[22] Daniel Patel: Expressive Visualization and Rapid Interpretation of Seismic Volumes (October 2009, University of Bergen, Norway)
[26] Jean-Paul Balabanian: Multi-Aspect Visualization: Going from Linked Views to Integrated Views (October 2009, University of Bergen, Norway)
[29] Harald Piringer: Large Data Scalability in Interactive Visual Analysis (September 2011)
[31] Philipp Muigg: Scalability for Volume Rendering and Information Visualization Approaches in the Context of Scientific Data (June 2012)
[33] Artem Amirkhanov: Visualization of Industrial 3DXCT Data (September 2012)
[34] Florian Schulze: Computational Methods enabling Interactivity in Analysis and Exploration of Volumetric Images (January 2013)
[35] Gabriel Mistelbauer: Smart Interactive Vessel Visualization in Radiology (October 2013)

- Member of the habilitation commission or reviewer of the habilitation theses in 14 cases at the Vienna University of Technology

**Other Scientific Activities:**

[1] Adjunct Professor at the Department of Informatics, University of Bergen, Norway (since 2005).

[3] Editorial Board member:
- Journal of WSCG (2006-)

- Member of the Steering Committee of the Eurographics Working Group on Data Visualization, (2002-), chairing the Steering Committee (2011-)
- Member of Executive Committee of IEEE Technical Committee on Visualization and Graphics (VGTC) (2004-)
- Member of Executive Committee of the Eurographics association (2007-2012)
- Member of the Steering Committee of the Workshops Knowledge-assisted Visualization 2007, 2008, 2010
- Member of the Advisory Board of the Workshop Revise09 - Refactoring Visualization from Experience 2009

[5] Conference-, Program-, Paper-Chair:
- VisSym’99, the Joint EUROGRAPHICS – IEEE TCVG Symposium on Visualization, symposium and program co-chair (together with W. Ribarsky, USA), (http://www.cg.tuwien.ac.at/conferences/VisSym99/).
- IEEE Visualization 2004 application papers co-chair (together with K. Müller, USA; K.-L. Ma, USA)
- Volume Graphics 2005 program co-chair (together with I. Fujishiro, Japan)
- Scientific Visualization: Challenges for the Future, Dagstuhl Seminar 05231, 2005, co-organizer (together with Th. Ertl, Germany; K. Joy, USA; G. Nielson, USA)
- IEEE Visualization 2005 paper co-chair (together with H. Rushmeier, USA; C. Silva, USA)
- Eurographics 2006 paper co-chair (together with L. Szirmay-Kalos, Hungary)
- IEEE Visualization 2006 paper co-chair (together with C. Silva, USA; A. Pang, USA)
- Scientific Visualization, Dagstuhl Seminar 09251, 2009, co-organizer (together with D. Ebert, USA; H. Hagen, Germany; Arie Kaufman, USA)
- Eurographics 2011 co-chair (together with J.C. Roberts, UK)
- Eurographics Conference on Visualization 2012 (EuroVis 2012) conference chair (http://www.cg.tuwien.ac.at/eurovis2012/).
- IEEE Vis 2015 Workshop on Visualization for Decision Making under Uncertainty (VDMU) co-organizer (http://vda.univie.ac.at/uncertainty2015/).
- OCG Workshop on Visual Computing as part of the OCG-Jahrestagung 2015 (http://www.ocg.at/de/jv15), co-organizer.

[6] Scientific Proponent, member of the Scientific Advisory Committee (2000-2007), member of the Scientific Review Committee (2008-2010), key researcher (since 2010) of
the Kplus center of excellence VRVis Zentrum für Virtual Reality und Visualisierung Forschungs-GmbH (http://www.vrvis.at/).

[7] Member of the Program Committee of the following conferences and events:

- EUROGRAPHICS Workshop on Visualization in Scientific Computing: 1996 (Prague, Czech Republic), 1997 (Boulogne sur Mer, France), 1998 (Blaubeuren, Germany).
- EUROGRAPHICS 2002 Short/Poster Presentation
- IEEE/SIGGRAPH Symposium on Volume Visualization and Graphics (VolVis) 2004
- Simulation and Visualisation, Magdeburg: 2005
- SIBGRAPI, XVII Brazilian Symposium on Computer Graphics and Image Processing: 2004
- International Symposium on Volume Graphics (VG07)
- 3rd International Symposium on Visual Computing (ISVC07)
- Simulation and Visualization 2008 (SimVis2008)
- Computational Aesthetics: 2008
- IEEE Pacific Visualization Symposium 2009
- Industrielle Computertomografie - Zerstörungsfreie Bauteilprüfung, 3D-Materialcharakterisierung und Geometriebestimmung. Fachtagung 27.–29. September 2010, FH OÖ Campus Wels / Österreich
- Working with Uncertainty Workshop (IEEE Visualization 2011 Workshop)
- SouthCHI - International Conference on Human Factors in Computing & Informatics: 2013
- 2014 IEEE VIS International Workshop on 3DVis: Does 3D really make sense for Data Visualization?
- Eurographics Workshop on Visual Computing for Biology and Medicine (VCBM): 2015
- Workshop on Assistive, Rehabilitation, Diagnosis & Therapeutic Engineering (at 20th International Conference on Control Systems and Computer Science): 2015

[8] Reviewer for the following conferences:
- Dagstuhl-Seminar 2000211 “Scientific Visualization” (2000)
- ACM Siggraph Asia 2011.
- Winter Simulation Conference 2003 (WSC ’03), Luisiana, USA.
- SPIE Conference on Visualization and Data Analysis (VDA): 2004-2007
- Simulation and Visualisation, Magdeburg: 2004
- Symposium on Geometry Processing (SGP): 2005

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- VLMS2006: International Workshop on Visualization in Medicine and Life Sciences, Rügen, Germany:
- IEEE Symposium on Visual Analytics Science and Technology (VAST) 2007
- CACIC 2010, XVI Congresso Argentino de Ciencias de la Computación.
- IEEE Information Visualization Conference 2012

[9] Reviewer for the following scientific journals and books:
- The Visual Computer, Springer.
- IBM Journal of Research and Development, IBM.
- ACM Transactions on Graphics.
- Computing and Visualization in Science, Springer.
- Artificial Intelligence in Medicine, Elsevier.
- ASME Journal of Dynamic Systems, Measurement, and Control
- IEEE Transactions on Medical Imaging (TMI)
- it – Information Technology, Oldenburg
- Journal of Zhejiang University SCIENCE (JZUS)
- Springer Book Series “Mathematics and Visualization”
- Computer-Aided Design, Elsevier
- Journal of Virtual Reality and Broadcasting (JVRB)
- The Journal of Imaging Science & Technology (JIST)
- Nondestructive Testing and Evaluation, Taylor & Francis
- International Journal of Human-Computer Studies
- Entropy – Open Access Journal (http://www.mdpi.com/journal/entropy/)
- Eurographics Annual Award for Best PhD Thesis
- Springer LNCS 8700 - State-of-the-Art pHealth
- Journal ACM Transactions on Applied Perception

[10] Expertises for the following organizations:
- Netherlands Organization for Scientific Research (NWO)
- Grant Agency of the Czech Republic (GACR)
- Ministry of Education, Youth and Sports of the Czech Republic
• Natural Sciences and Engineering Research Council of Canada (NSERC)
• National Science Foundation (NSF USA)
• TU Dresden, Germany (for appointment commission)
• Friedrich Schiller Universität Jena, Germany (for appointment commission)
• Simon Fraser University, Canada.
• State University of New York, Stony Brook, USA.
• University of Stuttgart, Germany.
• University of Tübingen, Germany.
• Grant Agency, Academy of Sciences of the Czech Republic.
• University of Bergen, Norway
• University of Magdeburg, Germany
• Worcester Polytechnic Institute (WPI), USA
• ETH Zürich, Switzerland
• Österreichische Forschungsförderungsgesellschaft (FFG)
• University of Siegen, Germany
• Dutch Technology Foundations STW
• Westfälische Wilhelms-Universität Münster, Germany
• Swiss National Science Foundation (SNF), Switzerland
• Purdue University, USA
• TU Chemnitz, Germany
• Technical University of Iași, Romania
• Swansea University, UK
• UNC Charlotte, USA
• KTH Royal Institute of Technology, Sweden
• University of Florida, USA
• Rheinische Friedrich-Wilhelms-Universität Bonn, Germany
• INRIA, France
• Science Foundation Ireland (SFI), Ireland
• Texas A&M University, USA
• Vetenskapsrådet/Swedish Research Council, (SRA - Strategic Research Area)
• European Research Council (ERC Starting Grant)
• Romanian National Authority for Scientific Research and Innovation

[11] External member of PhD committee, PhD reviews:
  • University of Kaiserslautern, Germany, 2002
  • University of Tübingen, Germany, 2004
  • University of Stuttgart, Germany, 2005, 2014
  • Delft University of Technology, The Netherlands, 2005
  • Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, 2006
  • Comenius University Bratislava, Slovakia, 2008, 2009, 2011
  • Universität für angewandte Kunst Wien, 2009
  • Technische Universität Graz, 2009

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- Masaryk University Brno, Czech Republic, 2011
- University of Groningen, The Netherlands, 2011, 2013
- Technical University Iași, Romania 2011
- Linköping University 2014

[12] Miscellaneous:

- Jury member of the medvis-award (Karl-Heinz-Höhne-Preis) 2004.
- Third place of the Eurographics EG 2005 Medical Prize for “The AngioVis ToolBox”.
- TPCG07 awards panel member, University of Wales, Bangor, UK, June, 2007.
- Panel organizer and panelist: Application of Illustrative Visualization in Medicine, Earth Science, and Oil&Gas Exploration and Production. IllustraVis09 – interdisciplinary gathering on illustrative visualization, Bergen, Norway, June 4th, 2009.
- Member of VIGOR++ (Virtual Gastrointestinal Tract) Advisory Committee, EU FP7-ICT-2009-6 project, 2011-2014.
- Panelist: Quality of Visualization: The Bake Off. IEEE VisWeek 2012, Seattle, USA, October 18th, 2012 (Best Panel award).