

## Scientific and Teaching Activities

(<http://www.cg.tuwien.ac.at/research/vis/>)

### Edited Books and Journals, Book Chapters:

- [1] Werner Purgathofer, Eduard Gröller, Graphische Datenverarbeitung, In Peter Rechenberg, Gustav Pomberger, Handbuch der Informatik. Carl Hanser Verlag, first to third edition, pp. 807-854, 2002.
- [2] Eduard Gröller, Helwig Löffelmann, William Ribarsky (eds.), Data Visualization '99, Springer 1999.
- [3] Eduard Gröller, Helwig Hauser, William Ribarsky (eds.), Guest editors of the special issue "Data Visualization" of the Journal Computers & Graphics (C&G, vol. 24, no. 3, June 2000).
- [4] Eduard Gröller, Kwan-Liu Ma, Klaus Mueller (eds.), Guest editors of the Special Section on IEEE Visualization Applications, IEEE Transactions on Visualization and Computer Graphics, 11(5), September/October 2005.
- [5] Eduard Gröller, Issei Fujishiro, Klaus Mueller, Thomas Ertl (eds.), Volume Graphics 2005, Fourth International Workshop on Volume Graphics, Eurographics / IEEE VGTC Workshop Proceedings, 2005.
- [6] Cláudio T. Silva, Eduard Gröller, Holly Rushmeier (eds.), IEEE Visualization 2005 proceedings, IEEE Computer Society, 2005.
- [7] Eduard Gröller, László Szirmay-Kalos (eds.), Guest editors of the Eurographics 2006 proceedings, Computer Graphics Forum, 25(3), 2006.
- [8] Eduard Gröller, Cláudio T. Silva, Alex Pang (eds.), Guest editors of the IEEE Visualization 2006 proceedings, IEEE Transactions on Visualization and Computer Graphics, 12(5) 2006.
- [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 (June 2014), pages A1–A2; <http://dx.doi.org/10.1016/j.cag.2014.03.001>.
- [10] Artem Amirkhanov, Stefan Bruckner, Christoph Heinzl, Eduard Gröller, The Haunted Swamps of Heuristics: Uncertainty in Problem Solving, Chapter 5 in Scientific Visualization - Uncertainty, Multifield, Biomedical, and Scalable Visualization (Mathematics and Visualization Series), Springer 2014, pp. 5160.

## Reviewed and Invited Conference Papers, Journal Publications:

- [1] Purgathofer, W., Gröller, E.: Using tetrahedrons for dithering color pictures. Proceedings of 3rd International Conference on Computer Graphics, 22.-24. June 1988, Dubrovnik, Yugoslavia.
- [2] Gröller, E.: Fractal Geometry and Computer Graphics. Proceedings of 7th Spring School on Computer Graphics, 20.-23. May 1991, Bratislava, CSFR.
- [3] Gröller, E., Purgathofer, W.: Using temporal and spatial coherence for accelerating the calculation of animation sequences. Proceedings of EUROGRAPHICS'91, Elsevier Science Publishers, September 1991, pp. 103-113.
- [4] Gröller, E.: Fractals and Solid Modeling. Computer Graphics Forum 11(3), 1992, pp. C-415-C-424.
- [5] Gröller, E., Stocker, W.: ACC - lossless data compression of animation sequences. Proceedings of ICCG 93 (International Conference on Computer Graphics), Graphics, Design and Visualization (ed: Mudur, Pattanaik), 22.2.-26.2.1993, Bombay, India. Republished in IFIP Transactions B-9, Graphics, Design and Visualization, North Holland, 1993, pp. 75-88.
- [6] Gröller, E., Purgathofer, W.: Efficiency in Computer Graphics: The coherence principle. Proceedings of the International Conference on Computer Graphics 93, 2.-4. June 1993, Budmerice, Slovakia.
- [7] Gröller, E.: Oct-tracing animation sequences. Proceedings of the International Conference on Computer Graphics 93, 2.-4. June 1993, Budmerice, Slovakia.
- [8] Gröller, E.: Chaostheorie und Computergraphik. Proceedings of the conference Chaos und Strukturbildung (3. Jahrestagung of the Chaos Gruppe), 13. November 1993, Series 'Faktum der TU München', Germany, pp. 73-85.
- [9] Gröller, E., Brunner, P.: Coherence in scan-line algorithms for CSG. Proceedings of the Winter School of Computer Graphics and CAD Systems 94, 19.-20. January 1994, Plzen, Czech Republic.
- [10] Gröller, E.: Modeling and Rendering of Nonlinear Iterated Function Systems. Computers & Graphics, Volume 18(5), 1994, pp. 739-748. Republished in C. A. Pickover (ed.) Chaos and Fractals: A Computer Graphical Journey, A 10 Year Compilation of Advanced Research, Elsevier, August 1998.
- [11] Gröller, E.: Application of Visualization Techniques to Complex and Chaotic Dynamical Systems. Proceedings of 5th EUROGRAPHICS Workshop on Visualization in Scientific Computing, 30. May - 1. June 1994, Rostock, Germany (32 out of 50 accepted). Revised Version published in M. Göbel, H. Müller, B. Urban (eds.) Visualization in Scientific Computing, Springer 1995, pp. 63-71 (19 out of 32 accepted).
- [12] Gröller, E.: Interactive Transformation of 2D Vector Data. Proceedings of the 10th Spring School on Computer Graphics '94 and its Applications, 6.-9. June 1994, Bratislava, Slovakia.
- [13] Jankovic, V., Gröller, E.: Physically Based Matching of Multimodal Medical Information. Proceedings of the 10th Spring School on Computer Graphics '94 and its Applications, 6.-9. June 1994, Bratislava, Slovakia.

- [14] Gröller, E., Löffelmann, H.: Extended Camera Specification for Image Synthesis. *Journal Machine Graphics & Vision*, Vol. 3(3), 1994, pp. 513-530.
- [15] Gröller, E.: Hyperrealistic Image Synthesis and Manipulation. *Proceedings of the Symposium "The end of reality?"*, November 1994, Bratislava, Slovakia.
- [16] Gröller, E.: Interactive Exploration of Dynamical Systems. *Proceedings of Visual Data Exploration and Analysis II*, In IS&T/SPIE Proceedings Vol. 2410, February 1995, San Jose, USA, pp. 132 - 138.
- [17] Gröller, E., Oppolzer, H.: Attract - Interactive Visualization of Dynamical Systems. *Proceedings of WSCG'95 (Winter School of Computer Graphics and Visualization)*, 14.-18. February 1995, Plzen, Czech Republic, pp. 93-102 (appr. 60% accepted).
- [18] Löffelmann, H., Gröller, E.: Parametrizing Superquadrics. *Proceedings of WSCG'95 (Winter School of Computer Graphics and Visualization)*. 14.-18. February 1995, Plzen, Czech Republic, pp. 162.-172 (appr. 60% accepted).
- [19] Gröller, E.: Nonlinear Ray Tracing - Visualizing Strange Worlds. *The Visual Computer*, Springer, Vol. 11(5), 1995, pp. 263 -274.
- [20] Fischel, G., Gröller, E.: Visualization of Local Stability of Dynamical Systems. *Proceedings of 6th EUROGRAPHICS Workshop on Visualization in Scientific Computing*, 3.-5. May 1995, Sardegna, Italy (17 out of 23 accepted). Republished in R. Scateni, J. van Wijk, P. Zanarini (eds.) *Visualization in Scientific Computing '95*, Springer 1995, pp. 106-117 (13 out of 17 accepted).
- [21] Jankovic, V., Ruzicky, E., Gröller, E.: Heterogenous Morphing of Multimodal Medical Information. In V. Hlavac, R. Sara (eds.) *Proceedings of the 6th International Conference on Computer Analysis of Images and Patterns (Lecture Notes in Computer Science 970)*, Springer 1995.
- [22] Gröller, E., Rau, R.T., Straßer, W.: Modeling and Visualization of Knitwear. *IEEE Transactions on Visualization and Computer Graphics*, 1(4), pp. 302-310, December 1995.
- [23] Gröller, E., Wegenkittl, R.: Interactive Design of Nonlinear Functions for Iterated Function Systems. In N.M. Thalmann, V. Skala (eds.), *Proceedings of WSCG'96, The Fourth International Conference in Central Europe on Computer Graphics and Visualization 96*, 12.-15. February 1996, Plzen, Czech Republic, pp. 93-102 (appr. 50% accepted).
- [24] Löffelmann, H., Szalavari, Z., Gröller, E.: Local Analysis of Dynamical Systems - Concepts and Interpretation. In N.M. Thalmann, V. Skala (eds.), *Proceedings of WSCG'96, The Fourth International Conference in Central Europe on Computer Graphics and Visualization 96*, 12.-15. February 1996, Plzen, Czech Republic, pp. 170-180 (appr. 50% accepted).
- [25] Gröller, E., Rau, R.T., Straßer, W.: Simulation und Darstellung Computergenerierter Strickware. *it+ti (Informationstechnik und Technische Informatik)* 38 (1996) 3, Oldenbourg, Germany, 1996, pp. 22-28.
- [26] Löffelmann, H., Gröller, E.: Ray Tracing with Extended Cameras. *The Journal of Visualization and Computer Animation*, Vol. 7(4), October-December, Wiley&Sons, 1996, pp. 211-227.
- [27] Feichtinger, G., Prskawetz, A., Gröller, E., Fischel, G.: Despotism and Anarchy in Ancient China: Visualizing the Dynastic Cycle. In Dieter Duwendag, Karlhans

- Sauernheimer, Eberhard Wille (eds.) Jahrbuch für Wirtschaftswissenschaften, Band 47, Heft 1, publisher Vandenhoeck & Ruprecht in Göttingen, Germany, 1996, pp. 1-13.
- [28] Gröller, E., Wegenkittl, R., Milik, A., Prskawetz, A., Feichtinger, G., Sanderson, W.C.: The Geometry of Wonderland. *Journal Chaos, Solitons & Fractals*, Vol. 7(12), Elsevier, 1996, pp. 1989-2006.
- [29] Kirchsteiger, A., Gröller, E.: Analysis and Visualization of Nonlinear Time Sequences. Proceedings of 7th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Prague, Czech Republic, April 23.-25., 1996, pp. 101-110 (12 out of 26 accepted in Springer Book).
- [30] Tonnhofer, Th., Gröller, E.: Autostereograms - Classification and Experimental Investigations. Proceedings of the 12th Spring Conference on Computer Graphics, Bratislava - Budmerice, Slovakia, June 5.-7., 1996, pp. 133-143 (23 out of 38 accepted).
- [31] Gröller, E., Rau, R.T., Straßer, W.: Modeling Textiles as Three Dimensional Textures. Proceedings of the 7th Eurographics Workshop on Rendering, Porto, Portugal, June 17.-19., 1996. Also published in X. Pueyo, P. Schröder (eds.), *Rendering Techniques'96*, Springer Vienna, 1996, pp. 205-214 (27 out of 53 accepted).
- [32] Löffelmann, H., Gröller, E., Wegenkittl, R., Purgathofer, W.: Classifying the Visualization of Analytically Specified Dynamical Systems. *Journal Machine Graphics & Vision*, Vol. 5(4), 1996, pp. 533-550.
- [33] Löffelmann, H., Gröller, E.: DynSys3D: A workbench for developing advanced visualization techniques in the field of three-dimensional dynamical systems. In N.M. Thalmann, V. Skala (eds.), Proceedings of WSCG'97, The Fifth International Conference in Central Europe on Computer Graphics and Visualization'97, 10.-14. February 1997, Plzen, Czech Republic, pp. 301-310 (appr. 60% accepted).
- [34] Wegenkittl, R., Gröller, E., Purgathofer, W.: Animating Flow Fields: Rendering of Oriented Line Integral Convolution. Proceedings of Computer Animation'97, IEEE Computer Society, 5.-6. June, 1997, Geneva, Switzerland, pp. 15-21.
- [35] Wegenkittl, R., Gröller, E., Prskawetz, A., Feichtinger, G.: Visualizing Wonderland: A case study of illustrating nonlinear behavior. Proceedings of the 4th Symposium on Advances in Control Education (ACE'97), July 14-16, 1997, Istanbul, Turkey, pp. 33-38.
- [36] Wegenkittl, R., Gröller, E.: Simulation of Differential Interferometry and Comparison with Experimental Results. Proceedings of 8th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Boulogne sur Mer, France, April 28.-30., 1997, pp. 193-202 (appr. 20 out of 34 accepted). Republished in W. Lefer, M. Grave (eds), *Visualization in Scientific Computing'97*, Springer, pp. 139-153 (15 out of appr. 20 accepted).
- [37] Löffelmann, H., Mroz, L., Gröller, E.: Hierarchical Streamarrows for the Visualization of Dynamical Systems. Proceedings of 8th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Boulogne sur Mer, France, April 28.-30., 1997, pp. 203-209 (appr. 20 out of 34 accepted). Republished in W. Lefer, M. Grave (eds), *Visualization in Scientific Computing'97*, Springer, pp. 155-163 (15 out of appr. 20 accepted).
- [38] Wegenkittl, R., Gröller, E., Purgathofer, W.: Visualizing the dynamical behavior of Wonderland. *IEEE Computer Graphics and Applications*, Vol. 17(6), Nov/Dec 1997, pp. 71-79.

- [39] Löffelmann, H., Mroz, L., Gröller, E., Purgathofer, W.: Stream Arrows: Enhancing the Use of Stream Surfaces for the Visualization of Dynamical Systems. *Visual Computer*, Springer, Vol. 13(8), 1997, pp. 359-369.
- [40] Löffelmann, H., König, A., Gröller, E.: Fast Visualization of 2D Dynamical Systems by the Use of Virtual Ink Droplets. *Proceedings of Spring Conference on Computer Graphics 1997 (SCCG'97)*, Budmerice, Slovakia, June 5.-8., 1997, pp. 111-118.
- [41] Wegenkittl, R., Löffelmann, H., Gröller, E.: Visualizing the Behavior of Higher Dimensional Dynamical Systems. *IEEE Visualization'97 Proceedings*, 1997, pp. 119-125 (appr. 50 out of 164 accepted).
- [42] Wegenkittl, R., Gröller, E.: Fast Oriented Line Integral Convolution for Vector Field Visualization via the Internet. *IEEE Visualization'97 Proceedings*, 1997, pp. 309-316 (appr. 50 out of 164 accepted).
- [43] Glaeser, G., Gröller, E.: Efficient Volume-Generation During the Simulation of NC-Milling. *Proceedings of the International Workshop on Visualization and Mathematics'97*, Berlin-Dahlem, Germany, September, 16.-19., 1997. In H.-Ch. Hege, K. Polthier (eds), *Mathematical Visualization*, Springer Heidelberg, 1998, pp. 89-106.
- [44] Löffelmann, H., Kucera, Th., Gröller, E.: Visualizing Poincaré Maps together with the Underlying Flow. *Proceedings of the International Workshop on Visualization and Mathematics'97*, Berlin-Dahlem, Germany, September, 16.-19., 1997. In H.-Ch. Hege, K. Polthier (eds), *Mathematical Visualization*, Springer Heidelberg, 1998, pp. 315-328.
- [45] Fischel, G., Doleisch, H., Mroz, L., Löffelmann, H., Gröller, E.: Case study: Visualizing Various Properties of Dynamical Systems. In *6th International Workshop on Digital Image Processing and Computer Graphics (DIP-97): Applications in Humanities and Natural Sciences*, Emanuel Wenger, Leonid I. Dimitrov, Editors, *Proceedings of SPIE vol 3346*, pp. 146-154, (1998) (appr. 24 out of 35 accepted).
- [46] Glaeser, G., Gröller, E.: A Fast Shadow Profiler and its Applications. In *6th International Workshop on Digital Image Processing and Computer Graphics (DIP-97): Applications in Humanities and Natural Sciences*, Emanuel Wenger, Leonid I. Dimitrov, Editors, *Proceedings of SPIE vol 3346*, pp. 168-176, (1998) (appr. 24 out of 35 accepted).
- [47] Milik, A., Szmolyan, P., Löffelmann, H., Gröller, E.: Geometry of Mixed-mode Oscillations in the 3-d Autocatalator. *International Journal of Bifurcation and Chaos (IJBC)*, World Scientific Publishing Company, Vol. 8(3), pp. 505-519, March 1998.
- [48] Löffelmann, H., Gröller, E.: Enhancing the Visualization of Characteristic Structures in Dynamical Systems. *Proceedings of 9th EUROGRAPHICS Workshop on Visualization in Scientific Computing*, Blaubeuren, Germany, April 20.-22., 1998, pp. 35-46 (appr. 19 out of 26 accepted). Republished in D. Bartz (ed.), *Visualization in Scientific Computing'98*, Springer, pp. 59-68 (13 out of 19 accepted).
- [49] Mroz, L., Löffelmann, H., Gröller, E.: Selected Trends in Scientific Visualization. Invited Paper in *Proceedings of Spring Conference on Computer Graphics 1998 (SCCG'98)*, Budmerice, Slovakia, April 23.-25., 1998, pp. 17-26.
- [50] Löffelmann, H., Doleisch, H., Gröller, E.: Visualizing Dynamical Systems near Critical Points. *Proceedings of Spring Conference on Computer Graphics 1998 (SCCG'98)*, Budmerice, Slovakia, April 23.-25., 1998, pp. 175-184 (appr. 25 out of 39 accepted).
- [51] Meinhart H. O., Wegenkittl, R., Gröller, E.: TunVis: Visualizing specific geologic features for tunnel planning and construction. *Proceedings of Spring Conference on*

- Computer Graphics 1998 (SCCG'98), Budmerice, Slovakia, April 23.-25., 1998, pp. 185-192 (appr. 25 out of 39 accepted).
- [52] König, H. A., Gröller, E.: Real Time Simulation and Visualization of NC Milling Processes for Inhomogeneous Materials on Low-End Graphics Hardware. In F.-E. Wolters, N. M. Patrikalakis (eds.), Proceedings of CGI'98 (Computer Graphics International), IEEE Computer Society, Hannover, Germany, June 22-26, 1998, pp. 338-349 (appr. 40 out of 90 accepted).
- [53] Fuhrmann, A., Gröller, E.: Real-Time Techniques for 3D Flow Visualization. IEEE Visualization'98 Proceedings, 1998, pp. 305-312 (appr. 50 out of 118 accepted).
- [54] Gröller, E., Löffelmann, H., Wegenkittl, R.: Visualization of Dynamical Systems. F. Post, D. Silver (eds.) Journal Future Generation Computer Systems, Elsevier, Vol. 15(1), February 1999, pp. 75-86.
- [55] Löffelmann, H., Theußl, Th., König, A., Gröller, E.: SMURF – a Smart Surface model for advanced visualization techniques. In N.M. Thalmann, V. Skala (eds.), Proceedings of WSCG'99, the 7-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'99, February 8 - 12, 1999, Plzen, Czech Republic, Vol. I, pp. 156-164.
- [56] Csébfalvi, B., König, A., Gröller, E.: Fast Maximum Intensity Projection using Binary Shear-Warp Factorization. In N.M. Thalmann, V. Skala (eds.), Proceedings of WSCG'99, the 7-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'99, February 8 - 12, 1999, Plzen, Czech Republic, Vol. I, pp. 47-54.
- [57] Mroz, L., König, A., Gröller, E.: Real-Time Maximum Intensity Projection. In E. Gröller, H. Löffelmann, B. Ribarsky (eds.), Data Visualization'99, Springer Wien, pp. 135-144 (30 out of 64 accepted). Revised version "Maximum Intensity Projection at Warp Speed" in the Journal Computers & Graphics, Volume 24(3), June 2000, pp. 343-352 (8 out of 30 accepted).
- [58] Glaeser, G., Gröller, E.: Fast Generation of Curved Perspectives for Ultra-Wideangle Lenses in VR-Applications. The Visual Computer, Springer, Vol 15(7/8), 1999, pp. 365-376 (appr. 25% accepted).
- [59] König, A., Doleisch, H., Gröller, E.: Multiple Views and Magic Mirrors - fMRI Visualization of the Human Brain. Proceedings of Spring Conference on Computer Graphics and its Applications 1999 (SCCG'99), Budmerice, Slovakia, April 28<sup>th</sup> - May 1<sup>st</sup>, 1999, pp. 130-139 (24 out of 40 accepted).
- [60] Vilanova i Bartrolí, A., König, A., Gröller, E.: VirEn: A Virtual Endoscopy System. Journal Machine Graphics & Vision, Vol 8(3), 1999, pp. 469-487.
- [61] Berger, S., Gröller, E.: Color-Table Animation of Fast Oriented Line Integral Convolution for Vector Field Visualization. In N.M. Thalmann, V. Skala (eds.), Proceedings of WSCG'2000, the 8-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'2000, February 7 - 10, 2000, Plzen, Czech Republic, Vol. I, pp. 4-11 (57 out of 134 accepted).
- [62] 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,

- Visualization and Interactive Digital Media'2000, February 7 - 10, 2000, Plzen, Czech Republic, Vol. I, pp. 132-139 (57 out of 134 accepted).
- [63] Csebfalvi, B., König, A., Gröller, E.: Fast Surface Rendering of Volumetric Data. In N.M. Thalmann, V. Skala (eds.), Proceedings of WSCG'2000, the 8-th International Conference in Central Europe on Computer Graphics, Visualization and Interactive Digital Media'2000, February 7 - 10, 2000, Plzen, Czech Republic, Short communication papers, pp. 9-16 (57 out of 134 accepted).
- [64] König, A., Doleisch, H., Kottar, A., Kriszt, B., Gröller, E.: AlVis – An Aluminium-Foam Visualization and Investigation Tool. In W. de Leeuw R. van Liere, (eds.), Data Visualization 2000, Springer Wien, pp. 229-238 (27 out of 66 accepted).
- [65] Mroz, L., Hauser, H., Gröller, E.: Interactive High-Quality Maximum Intensity Projection. Computer Graphics Forum 19(3), 2000, pp. C-341 – C-350 (52 out of 150 accepted).
- [66] Neumann, L., Csebfalvi, B., König, A., Gröller, E.: Gradient Estimation in Volume Data using 4D Linear Regression. Computer Graphics Forum 19(3), 2000, pp. C-351 – C-357 (52 out of 150 accepted).
- [67] Gröller, E., Löffelmann, H., Wegenkittl, R.: Visualization of Analytically Defined Dynamical Systems. In H. Hagen, G.M. Nielson, F. Post (eds.), Proceedings Dagstuhl '97, Scientific Visualization, IEEE Computer Society, 2000, pp. 71-82.
- [68] Hladuvka, J., König, A., Gröller, E.: Curvature-Based Transfer Functions for Direct Volume Rendering. Proceedings of Spring Conference on Computer Graphics and its Applications 2000 (SCCG 2000), Budmerice, Slovakia, May 3rd - 6th, 2000, pp. 58-65 (25 out of 38 accepted).
- [69] Theußl, Th., Hauser, H., Gröller, E.: Mastering Windows: Improving Reconstruction. Proceedings IEEE Volume Visualization and Graphics Symposium 2000, pp. 101-108 (15 out of 32 accepted).
- [70] Hauser, H., Mroz, L., Bischl, G.-I., Gröller, E.: Two-level volume rendering – fusing MIP and DVR. IEEE Visualization 2000 Proceedings, 2000, pp. 211-218 (52 out of 151 accepted).
- [71] Mroz, L., Wegenkittl, R., Gröller, E.: Mastering Interactive Surface Rendering for Java-Based Diagnostic Applications. IEEE Visualization 2000 Proceedings, 2000, pp. 437-440.
- [72] Wegenkittl, R., Vilanova, A., Hegedüs, B., Wagner, D., Freund, M.C., Gröller, E.: Mastering Interactive Virtual Bronchoscopy on a Low-End PC. IEEE Visualization 2000 Proceedings, 2000, pp. 461-464.
- [73] Vilanova, A., König, A., Gröller, E.: Cylindrical Approximation of Tubular Organs for Virtual Endoscopy. Proceedings of Computer Graphics and Imaging 2000, IASTED/ACTA Press, 2000, pp. 283-289 (33 out of appr. 61 accepted).
- [74] Hladuvka, J., König, A., Gröller, E.: Exploiting Eigenvalues of the Hessian Matrix for Volume Decimation. In N.M. Thalmann, V. Skala (eds.), Proceedings of WSCG'2001, the 9-th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, February 5 - 9, 2001, Plzen, Czech Republic, Vol. I, pp. 124-129 (35% accepted).

- [75] Csébfalvi, B., Gröller E.: Interactive Volume Rendering based on a ``Bubble Model''. Proceedings of Graphics Interface 2001, June 7th - 9th, 2001, Ottawa, Ontario, Canada, pp. 209-216.
- [76] Vilanova, A., Wegenkittl, R., König, A., Gröller, E., Sorantin, E.: Virtual Colon Flattening. In D. Ebert, J.M. Favre, R. Peikert, (eds.), Data Visualization 2001, Springer Wien, pp. 127-136, 343 (33 out of 68 accepted).
- [77] Hladůvka, J., König, A., Gröller, E.: Salient Representation of Volume Data. In D. Ebert, J.M. Favre, R. Peikert, (eds.), Data Visualization 2001, Springer Wien, pp. 203-211, 351 (33 out of 68 accepted).
- [78] Csébfalvi, B., Mroz, L., Hauser, H.; König, A., Gröller, E.: Fast Visualization of Object Contours by Non-Photorealistic Volume Rendering. Computer Graphics Forum 20(3), 2001, pp. C-452-460 (54 out of 174 accepted).
- [79] Vilanova, A., Wegenkittl, R., König, A., Gröller, E.: Perspective Projection through Parallel Projected Slabs for Virtual Endoscopy. Proceedings of Spring Conference on Computer Graphics 2001 (SCCG 2001), Budmerice, Slovakia, April 25<sup>th</sup> – 28<sup>th</sup>, 2001, pp. 287-295. Republished in Proceedings of Spring Conference on Computer Graphics 2001, IEEE Computer Society 2001, pp. 241-248 (25 out of 38 accepted)
- [80] König, A., Gröller, E.: Mastering Transfer Function Specification by Using VolumePro Technology. Proceedings of Spring Conference on Computer Graphics 2001 (SCCG 2001), Budmerice, Slovakia, April 25<sup>th</sup> – 28<sup>th</sup>, 2001, pp. 279-286 (25 out of 38 accepted). Republished in the Internet-Journal "Computer Graphics & Geometry", Vol 3, No 3, Dezember 2001, (<http://www.cgg-journal.com/>)
- [81] Theußl, Th., Möller, Th., Gröller, E.: Optimal Regular Volume Sampling. IEEE Visualization 2001 Proceedings, 2001, pp. 91-98, 546 (51 out of 152 accepted).
- [82] Vilanova, A., Wegenkittl, R., König, A., Gröller, E.: Nonlinear Virtual Colon Unfolding. IEEE Visualization 2001 Proceedings, 2001, pp. 411-418, 579 (51 out of 152 accepted).
- [83] Kanitsar, A., Wegenkittl, R., Felkel, P., Fleischmann, D., Sandner, D., Gröller, E.: Computed Tomography Angiography: A Case Study of Peripheral Vessel Investigation. IEEE Visualization 2001 Proceedings, 2001, pp. 477-480, 593.
- [84] Hadwiger, M., Theußl, Th., Hauser, H., Gröller, E.: Hardware-Accelerated High-Quality Filtering on PC Hardware. In T. Ertl, B. Girod, G. Greiner, H. Niemann, H.-P. Seidel, (eds.), Vision Modeling and Visualization 2001 (VMV 2001), IOS Press, infix, pp. 105-112, 520 (40 out of 83 accepted).
- [85] Hladůvka, J., Gröller, E.: Direction-Driven Shape-Based Interpolation of Volume Data. In T. Ertl, B. Girod, G. Greiner, H. Niemann, H.-P. Seidel, (eds.), Vision, Modeling, and Visualization 2001 (VMV 2001), IOS Press, infix, pp. 113-120, 521 (40 out of 83 accepted).
- [86] Hauser, H., Mroz, L., Bischl, G.-I., Gröller, E.: Two-Level Volume Rendering. IEEE Transactions on Visualization and Computer Graphics, 7(3), pp. 242-252, July-September 2001, (extended and revised version of [70]).
- [87] Gröller, E.: Insight into Data Through Visualization. Invited paper in P. Mutzel, M. Jünger, S. Leipert, (eds.), GD 2001, LNCS 2265, Springer Berlin Heidelberg, 2002, pp. 352-366.



- [88] Wagner, D., Wegenkittl, R., Gröller, E.: EndoView: A Phantom Study of a Tracked Virtual Bronchoscopy. In Vaclav Skala (ed.), *Journal of WSCG*, Volume 10, Number 2, 2002, pp. 493-498 (42% accepted).
- [89] Hladůvka, J., Gröller, E.: Exploiting the Hessian matrix for content-based retrieval of volume-data features. *The Visual Computer*, Springer, Vol. 18(4), 2002, pp. 207-217, (extended and revised version of [74]).
- [90] Hladůvka, J., Gröller, E.: Smallest second-order derivatives for efficient volume-data representation. *Computers & Graphics*, Volume 26(2), 2002, pp. 229-238. (extended and revised version of [77]).
- [91] Vilanova, A., Wegenkittl, R., Gröller, E.: Projected Slabs: Approximation of Perspective Projection and Error Analysis. *The Journal of Visualization and Computer Animation*, Vol. 12(5), Wiley&Sons, 2001, pp. 253-262. (extended and revised version of [79]).
- [92] Neumann, L., Csébfalvi, B., Viola, I., Mlejnek, M., Gröller, E.: Feature-Preserving Volume Filtering. In D. Ebert, P. Brunet, I. Navazo, (eds.), *Data Visualization 2002*, ACM, pp. 105-114, 271 (31 out of 81 accepted).
- [93] Kanitsar, A., Fleischmann, D., Wegenkittl, R., Felkel, P., Gröller, E.: CPR - Curved Planar Reformation. *IEEE Visualization 2002 Proceedings*, 2002, pp. 37-44, doi: 10.1109/VISUAL.2002.11837 (58 out of 172 accepted).
- [94] Kanitsar, A., Theußl, Th., Mroz, L., Sramek, M., Vilanova, A., Csébfalvi, B., Hladůvka, J., Fleischmann, D., Knapp, M., Wegenkittl, R., Felkel, P., Röttger, St., Guthe, St., Purgathofer, W., Gröller, E.: Christmas Tree Case Study: Computed Tomography as a Tool for Mastering Complex Real World Objects with Applications in Computer Graphics. *IEEE Visualization 2002 Proceedings*, 2002, pp. 489-492 (Best Case Study Award) (20 out of 57 accepted).
- [95] Matkovic, K., Hauser, H., Sainitzer, R., Gröller, E.: Process Visualization with Levels of Detail. *IEEE Symposium on Information Visualization 2002 Proceedings*, 2002, pp. 67-70 (appr. 27% out of 84 accepted).
- [96] Csébfalvi, B., Neumann, L., Kanitsar, A., Gröller, E.: Smooth Shape-Based Interpolation using the Conjugate Gradient Method. In G. Greiner, H. Niemann, T. Ertl, B. Girod, H.-P. Seidel, (eds.), *Vision, Modeling, and Visualization 2002 (VMV 2002)*, pp. 123-130 (40 out of 105 accepted).
- [97] Theußl, Th., Möller, T., Hladůvka, J., Gröller, E.: Reconstruction issues in volume visualization. In F. Post, G. Nielson, G.-P. Bonneau, (eds.), *Data visualization: the state of the art*. Kluwer 2003, pp. 109-124 (Dagstuhl Seminar 00211, 2000).
- [98] Vilanova, A., Gröller, E.: Geometric Modelling for Virtual Colon Unfolding. In Brunnett, G., Hamann, B., Müller, H., Linsen, L., (eds.) *Geometric Modelling for Scientific Visualization*, Springer 2003, pp. 453-468, 488.
- [99] Mattausch, O., Theußl, Th., Hauser, H., Gröller, E.: Strategies for Interactive Exploration of 3D Flow Using Evenly-Spaced Illuminated Streamlines. *ACM Proceedings: International Conference on Computer Graphics and Interactive Techniques, Proceedings of the 19th Spring Conference on Computer Graphics (SCCG 2003)*, pp. 213 – 222 (appr. 30 out of 59 accepted).
- [100] Hauser, H., Theußl, Th., Gröller, E.: Access to surface properties up to order two for visualization algorithms. In Brunnett, G., Hamann, B., Müller, H., Linsen, L., (eds.)

- Geometric Modelling for Scientific Visualization, Springer 2003, pp. 107-122, 474 (extended and revised version of [55]).
- [101] Kanitsar, A., Wegenkittl, R., Fleischmann, D., Gröller, E.: Advanced Curved Planar Reformation: Flattening of Vascular Structures. IEEE Visualization 2003 Proceedings, 2003, pp. 43-50 (63 out of 192 accepted).
  - [102] Viola, I., Kanitsar, A., Gröller, E.: Hardware-Based Nonlinear Filtering and Segmentation using High-Level Shading Languages. IEEE Visualization 2003 Proceedings, 2003, pp. 309-316 (63 out of 192 accepted).
  - [103] Bruckner, S., Schmalstieg, D., Hauser, H., Gröller, E.: The InverseWarp: Non-Invasive Integration of Shear-Warp Volume Rendering into Polygon Rendering Pipelines. In T. Ertl, B. Girod, G. Greiner, H. Niemann, H.-P. Seidel, E. Steinbach, R. Westermann (eds.), Vision, Modeling, and Visualization 2003 (VMV 2003), pp. 529-536.
  - [104] Straka, M., LaCruz, A., Dimitrov, L., Šrámek, M., Fleischmann, D., Gröller, E.: Bone Segmentation in CT-Angiography Data Using a Probabilistic Atlas. In T. Ertl, B. Girod, G. Greiner, H. Niemann, H.-P. Seidel, E. Steinbach, R. Westermann, (eds.), Vision, Modeling, and Visualization 2003 (VMV 2003), pp. 505-512.
  - [105] Straka, M., La Cruz, A., Köchl, A., Šrámek, M., Gröller, E., Fleischmann, D.: 3D Watershed Transform Combined with a Probabilistic Atlas for Medical Image Segmentation. Journal of Medical Informatics & Technologies, 6:IT 69-IT 78, 2003.
  - [106] Grimm, S., Bruckner, S., Kanitsar, A., Gröller, E.: A Refined Data Addressing and Processing Scheme to Accelerate Volume Raycasting, Computers & Graphics, Volume 28(5), 2004, pp. 719-729.
  - [107] Knapp, M., Kanitsar, A., Gröller, E.: Semi-Automatic Topology Independent Contour-Based 2 ½ D Segmentation Using Live-Wire. In Vaclav Skala (ed.), Journal of WSCG, Volume 12, Number 2, 2004, pp. 229-236 (64 out of 209 accepted).
  - [108] Viola, I., Kanitsar, A., Gröller, E.: GPU-based Frequency Domain Volume Rendering. ACM Proceedings: International Conference on Computer Graphics and Interactive Techniques, Proceedings of the 20th Spring Conference on Computer Graphics (SCCG 2004), pp. 55 – 64 (2<sup>nd</sup> Best Paper Award).
  - [109] Grimm, S., Bruckner, S., Kanitsar, A., Gröller, E.: VOTS: Volume doTS as a Point-Based Representation of Volumetric Data. Computer Graphics Forum 23(3), 2004, pp. C-661-668 (44 out of 243 accepted).
  - [110] La Cruz, A., Straka, M., Köchl, A., Šrámek, M., Gröller E., Fleischmann, D.: Non-linear Model Fitting to Parameterize Diseased Blood Vessels. IEEE Visualization 2004 Proceedings, 2004, pp. 393-400 (24 out of 71 accepted).
  - [111] Mlejnek, M. Vilanova, A., Gröller, E.: Interactive thickness visualization of articular cartilage. IEEE Visualization 2004 Proceedings, 2004, pp. 521-527 (24 out of 71 accepted).
  - [112] Grimm, S., Bruckner, S., Kanitsar, A., Gröller, E.: Memory Efficient Acceleration Structures and Techniques for CPU-based Volume Raycasting of Large Data. Proceedings IEEE/SIGGRAPH Symposium on Volume Visualization and Graphics 2004, 2004, pp. 1-8 (14 out of 37 accepted).

- [113] Viola, I., Kanitsar, A., Gröller, E.: Importance-Driven Volume Rendering. IEEE Visualization 2004 Proceedings, 2004, pp. 139-145 (46 out of 167 accepted, Best Paper Nomination).
- [114] Straka, M., Červeňanský, M., La Cruz, A., Köchl, A., Šrámek, M., Gröller, E., Fleischmann, D.: The VesselGlyph: Focus & Context Visualization in CT-Angiography. IEEE Visualization 2004 Proceedings, 2004, pp. 385-392 (46 out of 167 accepted).
- [115] Grimm, S., Bruckner, S., Kanitsar, A., Gröller, E.: Flexible Direct Multi-Volume Rendering in Dynamic Scenes. In B. Girod, M. Magnor, H.-P. Seidel (eds.), Vision, Modeling, and Visualization 2004 (VMV 2004), pp. 505-512 (51 out of more than 70 accepted).
- [116] Bruckner, S., Grimm, S., Kanitsar, A., Gröller, E.: Illustrative Context-Preserving Volume Rendering. Data Visualization 2005 (Proceedings of EuroVis 2005), Eurographics, pp. 69-76, (37 out of 101 accepted).
- [117] Artner, M., Möller, T., Viola, I., Gröller, E.: High-Quality Volume Rendering with Resampling in the Frequency Domain. Data Visualization 2005 (Proceedings of EuroVis 2005), Eurographics, pp. 85-92, (37 out of 101 accepted).
- [118] Viola, I., Kanitsar, A., Gröller, E.: Importance-Driven Feature Enhancement in Volume Visualization. IEEE Transactions on Visualization and Computer Graphics, 11(4), pp. 408-418, July/August 2005.
- [119] Mlejnek, M., Ermes, P., Vilanova, A., van der Rijt, R., van den Bosch, H., Gerritsen, F., Gröller, E.: Profile Flags: a Novel Metaphor for Probing of T<sub>2</sub> Maps. IEEE Visualization 2005 Proceedings, 2005, pp. 599-606 (88 out of 268 accepted).
- [120] Bruckner, S., Gröller, E.: VolumeShop: An Interactive System for Direct Volume Illustration. IEEE Visualization 2005 Proceedings, 2005, pp. 671-678, doi: 10.1109/VISUAL.2005.1532856 (88 out of 268 accepted).
- [121] Zotti, G., Gröller, E.: A Sky Dome Visualisation for Identification of Astronomical Orientations. IEEE Symposium on Information Visualization, 2005, pp. 9-16 (31 out of 114 accepted).
- [122] Coto, E., Grimm, S., Bruckner, S., Gröller, E., Kanitsar, A., Rodriguez, O.: MammoExplorer: An Advanced CAD Application for Breast DCE-MRI. In G. Greiner, J. Hornegger, H. Niemann, M. Stamminger (eds.), Vision, Modeling, and Visualization 2005 (VMV 2005), pp. 91-98, 498 (63 out of more than 100 accepted).
- [123] Kanitsar, A., Fleischmann, D., Wegenkittl, R., Gröller, E.: Diagnostic Relevant Visualization of Vascular Structures. In G.-P. Bonneau, Th. Ertl, G. Nielson (eds.) Scientific Visualization: The Visual Extraction of Knowledge from Data, Mathematics and Visualization Series, Springer 2005, pp. 207-228 (invited paper).
- [124] Viola, I., Gröller, E.: Smart Visibility in Visualization. In László Neumann, Mateu Sbert, Bruce Gooch, Werner Purgathofer (eds.) Computational Aesthetics 2005. Proceedings of Eurographics Workshop on Computational Aesthetics in Graphics, Visualization and Imaging, Eurographics 2005, pp. 209-216.
- [125] Heinzl, C., Klingsberger, R., Kastner, J., Gröller, E.: Robust Surface Detection for Variance Comparison and Dimensional Measurement. Data Visualization 2006 (Proceedings of EuroVis 2006), Eurographics, pp. 75-82, (43 out of 98 accepted).

- [126] Rautek, P., Csebfalvi, B., Grimm, S., Bruckner, S., Gröller, E.: D<sup>2</sup>VR: High Quality Volume Rendering of Projection-based Volumetric Data. *Data Visualization 2006 (Proceedings of EuroVis 2006)*, Eurographics, pp. 211-218, (43 out of 98 accepted).
- [127] Mlejnek, M., Ermes, P., Vilanova, A., van der Rijt, R., van den Bosch, H., Gerritsen, F., Gröller, E.: Application-Oriented Extensions of Profile Flags. *Data Visualization 2006 (Proceedings of EuroVis 2006)*, Eurographics, pp. 339-346, (43 out of 98 accepted).
- [128] Viola, I., Feixas, M., Sbert, M., Gröller, E.: Importance-Driven Focus of Attention. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2006)*, 12(5):933-940, 2006 (63 out of 228 accepted).
- [129] Bruckner, S., Gröller, E.: Exploded Views for Volume Data. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2006)*, 12(5):1077-1084, 2006 (63 out of 228 accepted).
- [130] Rautek, P., Viola, I., Gröller, E.: Caricaturistic Visualization. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2006)*, 12(5):1085-1092, 2006 (63 out of 228 accepted).
- [131] Bruckner, S., Grimm, S., Kanitsar, A., Gröller, E.: Illustrative Context-Preserving Exploration of Volume Data. *IEEE Transactions on Visualization and Computer Graphics*, 12(6):1559-1569, November/December 2006.
- [132] Viola, I., Gröller, E.: On the Role of Topology in Focus+Context Visualization. In H. Hauser, H. Hagen, H. Theisel (eds.) *Proceedings of TopoInVis 2005, Topology-based Methods in Visualization*. Springer 2007, pp. 171-181, 219-220.
- [133] Tóth, Z., Viola, I., Ferko, A., Gröller, E.: N-dimensional Data-Dependent Reconstruction Using Topological Changes. In H. Hauser, H. Hagen, H. Theisel (eds.) *Proceedings of TopoInVis 2005, Topology-based Methods in Visualization*. Springer 2007, pp. 183-198, 221-222.
- [134] Vuçini, E., Gökmen, M., Gröller, E.: Face Recognition under Varying Illumination. In *Proceedings WSCG'2007, The 15th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision 2007, January 29 - February 1, 2007, Plzen, Czech Republic*, pp. 57-64 (61 out of 186 accepted)
- [135] Kohlmann, P., Bruckner, S., Kanitsar, A., Gröller, E.: Evaluation of a Bricked Volume Layout for a Medical Workstation based on Java. *Journal of WSCG, Volume 15, Number 1-3, 2007*, pp. 83-90 (61 out of 186 accepted)
- [136] Balabanian, J-P., Viola, I., Ona, E., Patel, R., Gröller, E.: Sonar Explorer: A New Tool for Visualization of Fish Schools from 3D Sonar Data. *Data Visualization – EUROVIS 2007, Proceedings Eurographics / IEEE-VGTC Symposium on Visualization (2007)*, pp. 155-162 (35 out of 93 accepted)
- [137] Burns, M., Haidacher, M., Wein, W., Viola, I., Gröller, E.: Feature Emphasis and Contextual Cutaways for Multimodal Medical Visualization. *Data Visualization – EUROVIS 2007, Proceedings Eurographics / IEEE-VGTC Symposium on Visualization (2007)*, pp. 275-282 (35 out of 93 accepted)
- [138] Malik, M.M., Möller, T., Gröller, E.: Feature Peeling. *Proceedings Graphics Interface 2007*, pp. 273–280 (43 out of 89 accepted).
- [139] Bruckner, S., Gröller, E.: Style Transfer Functions for Illustrative Volume Rendering. *Computer Graphics Forum 26(3)*, 2007, pp. 715-724 (3<sup>rd</sup> Best Paper Award, 50 out of 219 accepted).

- [140] Roos, J., Fleischmann, D., Koechl, A., Rakshe, T., Straka, M., Napoli, A., Kanitsar, A., Sramek, M., Gröller, E.: Multipath Curved Planar Reformation of the Peripheral Arterial Tree in CT Angiography. *Journal Radiology*, Volume 244, Number 1 - July 2007, pp. 281–290
- [141] Rautek, P., Bruckner, S., Gröller, E.: Semantic Layers for Illustrative Volume Rendering. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2007)*, 13(6):1336-1343, 2007 (56 out of 216 accepted).
- [142] Bruckner, S., Gröller, E.: Enhancing Depth-Perception with Flexible Volumetric Halos. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2007)*, 13(6):1344-1351, 2007 (56 out of 216 accepted).
- [143] Heinzl, C., Kastner, J., Gröller, E.: Surface Extraction from Multi-Material Components for Metrology using Dual Energy CT. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2007)*, 13(6):1520-1527, 2007 (56 out of 216 accepted).
- [144] Kohlmann, P., Bruckner, S., Kanitsar, A., Gröller, E.: LiveSync: Deformed Viewing Spheres for Knowledge-Based Navigation. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2007)*, 13(6):1544-1551, 2007 (56 out of 216 accepted).
- [145] Termeer, M., Bescós, J.O., Breeuwer, M., Vilanova, A., Gerritsen, F., Gröller, E.: CoViCAD: Comprehensive Visualization of Coronary Artery Disease. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2007)*, 13(6):1632-1639, 2007 (56 out of 216 accepted).
- [146] Patel, D., Giertsen, Ch., Thurmond, J., Gröller, E.: Illustrative Rendering of Seismic Data. In H.P.A. Lensch, B. Rosenhahn, H.-P. Seidel, P. Slusallek, J. Weickert (eds.), *Vision, Modeling, and Visualization 2007 (VMV 2007)*, pp. 13-22 (27 out of 48 accepted).
- [147] Suntinger, M., Obwegger, H., Schiefer, J.; Gröller, E.: The Event Tunnel: Interactive Visualization of Complex Event Streams for Business Process Pattern Analysis. *IEEE PacificVIS '08 Proceedings*, March 4-7, 2008, pp. 111–118 (30 out of 99 accepted).
- [148] Bruckner, S., Kohlmann, P., Kanitsar, A., Gröller, E.: Integrating volume visualization techniques into medical applications. *Proceedings of 5th IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI 2008)*, 14-17 May, 2008, pp. 820 – 823.
- [149] Rautek, P., Bruckner, S., Gröller, E.: Interaction-Dependent Semantics for Illustrative Volume Rendering. *Computer Graphics Forum*, 27(3):847-854, May 2008 (EUROVIS 2008, 45 out of 143 accepted).
- [150] Kohlmann, P., Bruckner, S., Kanitsar, A., Gröller, E.: LiveSync++: Enhancements of an Interaction Metaphor. *Proceedings Graphics Interface 2008*, pp. 81–88 (34 out of 85 accepted).
- [151] Balabanian, J-P., Viola, I., Möller, T., Gröller, E.: Temporal Styles for Time-Varying Volume Data. *Proceedings of 3DPVT'08 - the Fourth International Symposium on 3D Data Processing, Visualization and Transmission*, June 18-20, 2008, pp. 81–89. (48 out of 88 accepted).

- [152] Vuçini, E., Möller, T., Gröller, E.: Efficient Reconstruction from Non-uniform Point Sets. *The Visual Computer*, Springer, 24(7-9):555–563, July 2008. (CGI 2008, 39 out of 220 accepted).
- [153] Süntinger, M., Obweiger, H., Schiefer, J., Gröller, E.: Event Tunnel: Exploring Event-Driven Business Processes. *IEEE Computer Graphics and Applications*, Vol. 28(5), Sep/Oct 2008, pp. 46–55.
- [154] Preim, B., Oeltze, St., Mlejnek, M., Gröller, E., Hennemuth, A., and Behrens, S.: Survey of the Visual Exploration and Analysis of Perfusion Data. *IEEE Transactions on Visualization and Computer Graphics*, 15(2):205–220, 2009.
- [155] Haidacher, M., Bruckner, S., Kanitsar, A., Gröller, E.: Information-based Transfer Functions for Multimodal Visualization. *Proceedings of Eurographics Workshop on Visual Computing for Biomedicine (EG VCBM)*, Oct 6-7, 2008, pp. 101–108. (22 out of 45 accepted).
- [156] Fuchs, R., Peikert, R., Sadlo, F., Alsallakh, B., Gröller, E.: Delocalized Unsteady Vortex Region Detectors. In O. Deussen, D. Keim, D. Saupe (eds.), *Vision, Modeling, and Visualization 2008 (VMV 2008)*, pp. 81–90 (44 out of 82 accepted).
- [157] Heinzl, C., Kastner, J., Möller, T., Gröller, E.: Statistical Analysis of Multi-Material Components using Dual Energy CT. In O. Deussen, D. Keim, D. Saupe (eds.), *Vision, Modeling, and Visualization 2008 (VMV 2008)*, pp. 179–188 (44 out of 82 accepted).
- [158] Balabanian, J-P., Viola, I., Ystad, M., Lundervold, A., Hauser, H., Gröller, E.: Hierarchical Volume Visualization of Brain Anatomy. In O. Deussen, D. Keim, D. Saupe (eds.), *Vision, Modeling, and Visualization 2008 (VMV 2008)*, pp. 313–322 (44 out of 82 accepted).
- [159] Patel, D., Giertsen, Ch., Thurmond, J., Gjelberg, J., Gröller, E.: The Seismic Analyzer - Interpreting and Illustrating 2D Seismic Data. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2008)*, 14(6):1571–1578, 2008 (50 out of 196 accepted).
- [160] Termeer, M., Bescós, J.O., Breeuwer, M., Vilanova, A., Gerritsen, F., Gröller, E., Nagel, E.: Visualization of Myocardial Perfusion Derived from Coronary Anatomy. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2008)*, 14(6):1595–1602, 2008 (50 out of 196 accepted).
- [161] Malik, M.M., Heinzl, C., Gröller, E.: Computation and Visualization of Fabrication Artifacts. *Journal of WSCG*, Volume 17, Number 1, 2009, pp. 17-24 (41 out of 157 accepted).
- [162] Glanznig, M., Malik, M.M., Gröller, E.: Locally Adaptive Marching Cubes through Iso-value Variation. In *Proceedings WSCG'2009, The 17th International Conference on Computer Graphics, Visualization and Computer Vision '2009*, February 2-5, 2009, Plzen, Czech Republic, pp. 33-40 (41 out of 157 accepted).
- [163] Kohlmann, P., Bruckner, S., Kanitsar, A., Gröller, E.: Contextual Picking of Volumetric Structures. *IEEE PacificVis 2009 Proceedings*, April 20-23, 2009, pp. 185-192 (26 out of 66 accepted).
- [164] Patel, D., Haidacher, M., Balabanian, J-P., Gröller, E.: Moment Curves. *IEEE PacificVis 2009 Proceedings*, April 20-23, 2009, pp. 201-208 (26 out of 66 accepted).
- [165] Šoltészová, V., Termeer, M., Gröller, E.: Advanced Volume Painting with Game Controllers. *ACM Proceedings: International Conference on Computer Graphics and*

- Interactive Techniques, Proceedings of the 25th Spring Conference on Computer Graphics (SCCG 2009), pp. 125 – 132 (25 out of 34 accepted). Republished in the Internet-Journal “Computer Graphics & Geometry”, Vol 11, No 2, Autumn 2009, (<http://www.cgg-journal.com/>)
- [166] Bruckner, S., Gröller, E.: Instant Volume Visualization using Maximum Intensity Difference Accumulation. *Computer Graphics Forum*, 28(3):775-782, June 2009 (EUROVIS 2009, 41 out of 143 accepted).
- [167] Vuçini, E., Möller, T., Gröller, E.: On Visualization and Reconstruction from Non-Uniform Point Sets using B-Splines. *Computer Graphics Forum*, 28(3):1007–1014, June 2009 (EUROVIS 2009, 41 out of 143 accepted, 2<sup>nd</sup> Best Paper Award).
- [168] Piringer, H., Buchetics, M., Hauser, H., Gröller, E.: Hierarchical Difference Scatterplots - Interactive Visual Analysis of Data Cubes. Proceedings of the ACM SIGKDD Workshop on Visual Analytics and Knowledge Discovery (VAKD’09), June 28<sup>th</sup>, 2009, pp. 56–65 (10 out of 18 accepted). Also published in ACM SIGKDD Explorations Newsletter (Special Issue: Visual analytics and knowledge discovery), Vol. 11(2), December 2009, pp. 49–58.
- [169] Patel, D., Sture, Ø., Hauser, H., Giertsen, Ch., Gröller, E.: Knowledge-assisted visualization of seismic data. *Computers & Graphics*, Volume 33(5), 2009, pp. 585–596.
- [170] Fuchs, R., Waser, J., Gröller, E.: Visual Human+Machine Learning. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2009)*, 15(6):1327–1334, 2009 (54 out of 202 accepted).
- [171] Fritz, L., Hadwiger, M., Geier, G., Pittino, G., Gröller, E.: A Visual Approach to Efficient Analysis and Quantification of Ductile Iron and Reinforced Sprayed Concrete. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2009)*, 15(6):1343–1350, 2009 (54 out of 202 accepted).
- [172] Bruckner, S., Šoltészová, V., Gröller, E., Hladůvka, J., Bühler, K., Yu, J., Dickson, B.: BrainGazer - Visual Queries for Neurobiology Research. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2009)*, 15(6):1497–1504, 2009 (54 out of 202 accepted).
- [173] Haidacher, M., Patel, D., Bruckner, S., Kanitsar, A., Gröller, E.: Volume Visualization based on Statistical Transfer-Function Spaces. *IEEE PacificVis 2010 Proceedings*, March 2-5, 2010, pp. 17–24 (27 out of 84 accepted)
- [174] Patel, D., Bruckner, S., Viola, I., Gröller, E.: Seismic Volume Visualization for Horizon Extraction. *IEEE PacificVis 2010 Proceedings*, March 2-5, 2010, pp. 73–80 (27 out of 84 accepted)
- [175] Balabanian, J-P., Viola, I., Gröller, E.: Interactive Illustrative Visualization of Hierarchical Volume Data. *Proceedings of Graphics Interface 2010*, May 31st–June 2nd, 2010, Ottawa, Ontario, Canada, pp. 137–144. (Best Student Paper (Graphics), 35 out of 88 accepted).
- [176] Bruckner, S., Rautek, P., Viola, I., Roberts, M., Costa Sousa, M., Gröller, E.: Hybrid visibility compositing and masking for illustrative rendering. *Computers & Graphics*, Volume 34(4), August 2010, pp. 361–369 Vol. 18(5).

- [177] Malik, M.M., Heinzl, C.; Gröller, E.: Comparative Visualization for Parameter Studies of Dataset Series. *IEEE Transactions on Visualization and Computer Graphics*, 16(5):829–840, 2010.
- [178] Balabanian, J-P., Gröller, E.: *A*. Proceedings of Schloss Dagstuhl Scientific Visualization Workshop, 2009 (published 2011), pp. 36–47.
- [179] Gavrilescu, M., Malik, M.M., Gröller, E.: Custom Interface Elements for Improved Parameter Control in Volume Rendering. 14th International Conference on System Theory and Control (ICSTC 2010), Oct 17-19, 2010, Sinaia, Romania, pp. 219–224. Republished as “Enhanced Interfaces for Parameter Adjustment in Volume Rendering Applications”, *Bulletin of the Polytechnic Institute of Iasi, LVI (LX)*, 4, pp. 163-174, 2010.
- [180] Amirkhanov, A., Heinzl, C., Reiter, M., Gröller, E.: Visual Optimality and Stability Analysis of 3DCT Scan Positions. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2010)*, 16(6):1477–1486, 2010 (49 out of 185 accepted).
- [181] Waser, J., Fuchs, R., Ribičić, H., Schindler, B., Blöschl, G., Gröller, E.: World Lines. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2010)*, 16(6):1458–1467, 2010, doi: 10.1109/TVCG.2010.223 (Best Paper Honorable Mention Award, 49 out of 185 accepted).
- [182] van Pelt, R., Bescós, J.O., Breeuwer, M., Clough, R.E., Gröller, E., ter Haar Romeny, B., Vilanova, A.: Exploration of 4D MRI Blood-Flow using Stylistic Visualization. *IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2010)*, 16(6):1339–1347, 2010 (49 out of 185 accepted).
- [183] Sikachev, P., Rautek, P., Bruckner, S., Gröller, E.: Dynamic Focus+Context for Volume Rendering. In R. Koch, A. Kolb, Ch. Rezk-Salama (eds.), *Vision, Modeling, and Visualization 2010 (VMV 2010)*, pp. 331–338 (43 out of 83 accepted).
- [184] Bruckner, S., Gröller E., Mueller, K., Preim, B., Silver D.: Illustrative Focus+Context Approaches in Interactive Volume Visualization. *Scientific Visualization: Advanced Concepts, Dagstuhl Follow-Ups, Vol. 1*, pp. 136–162, 2010. doi: 10.4230/DFU.SciViz.2010.136.
- [185] Termeer, M., Bescós, J.O., Breeuwer, M., Vilanova, A., Gerritsen, F., Gröller, E., Nagel, E.: Patient-Specific Mappings between Myocardial and Coronary Anatomy. *Scientific Visualization: Advanced Concepts, Dagstuhl Follow-Ups, Vol. 1*, pp. 196–209, 2010. doi: 10.4230/DFU.SciViz.2010.196.
- [186] Vuçini, E., Patel, D., Gröller, E.: Enhancing Visualization with Real-Time Frequency-based Transfer Functions. In *Visualization and Data Analysis 2011*, edited by Pak Chung Wong, Jinah Park, Ming C. Hao, Chaomei Chen, Katy Börner, David L. Kao, Jonathan C. Roberts, *Proceedings of SPIE-IS&T Electronic Imaging, SPIE Vol. 7868, Article 7868 0L (2011)*. doi: 10.1117/12.872342 (24 out of 42 accepted).
- [187] Patel, D., Gröller, E., Bruckner, S.: PhD Education Through Apprenticeship. *Eurographics Conference 2011 Education Papers*, Apr 11–15, 2011, Llandudno, UK (6 out of 8 accepted).
- [188] Carata, L., Shao, D., Hadwiger, M., Gröller, E.: Improving the Visualization of Electron-Microscopy Data Through Optical Flow Interpolation. In *Proceedings of the 27th Spring Conference on Computer Graphics (SCCG 2011)*, 2011. pp. 103–110. doi: 10.1145/2461217.2461238 (20 out of 42 accepted).



- [189] Alsallakh, B., Gröller, E., Miksch, S., Suntinger, M.: Contingency Wheel: Visual Analysis of Large Contingency Tables. EuroVA 2011: International Workshop on Visual Analytics, May 31<sup>st</sup> 2011, Bergen, Norway, pp. 53–56 (14 out of 19 accepted).
- [190] Muigg, Ph., Hadwiger, M., Doleisch, H., Gröller, E.: Visual Coherence for Large-Scale Line-Plot Visualizations. Computer Graphics Forum, 30(3):643–652, 2011 (EUROVIS 2011, 54 out of 194 accepted).
- [191] Berger, W., Piringer, H., Filzmoser, P., Gröller, E.: Uncertainty-Aware Exploration of Continuous Parameter Spaces Using Multivariate Prediction. Computer Graphics Forum, 30(3):911–920, 2011 (EUROVIS 2011, 54 out of 194 accepted, Best Paper Award).
- [192] Gavrilesco, M., Manta, V., Gröller, E.: Gradient-based Classification and Representation of Features from Volume Data. In Proceedings of 15th International Conference on System Theory, Control and Computing (ICSTCC 2011), Oct 14-16, 2011, Sinaia, Romania, pp. 243–248.
- [193] Herghelegiu, P., Manta, V., Gröller, E.: Needle Stability Maps for Brain Tumor Biopsies. In Proceedings of 15th International Conference on System Theory, Control and Computing (ICSTCC 2011), Oct 14-16, 2011, Sinaia, Romania, pp. 259–263.
- [194] Waser, J., Ribičić H., Fuchs, R., Hirsch, Ch., Schindler, B., Blöschl, G., Gröller, E.: Nodes on Ropes: A comprehensive Data and Control Flow for Steering Ensemble Simulations. IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2011), 17(12):1872–1881, 2011 (49 out of 194 accepted).
- [195] Haidacher, M., Bruckner, S., Gröller, E.: Volume Analysis Using Multimodal Surface Similarity. IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2011), 17(12):1969–1978, 2011 (49 out of 194 accepted).
- [196] Muigg, Ph., Hadwiger, M., Doleisch, H., Gröller, E.: Interactive Volume Visualization of General Polyhedral Grids. IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2011), 17(12):2115–2124, 2011 (49 out of 194 accepted).
- [197] van Pelt, R., Bescós, J.O., Breeuwer, M., Clough, R.E., Gröller, E., ter Haar Romeny, B., Vilanova, A.: Interactive Virtual Probing of 4D MRI Blood-Flow. IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2011), 17(12):2153–2162, 2011 (49 out of 194 accepted).
- [198] Amirkhanov, A., Heinzl, C., Reiter, M., Kastner, J., Gröller, E.: Projection-Based Metal-Artifact Reduction for Industrial 3D X-ray Computed Tomography. IEEE Transactions on Visualization and Computer Graphics (Proc. Visualization 2011), 17(12):2193–2202, 2011 (49 out of 194 accepted).
- [199] Sörös, G., Rautek, P., Seichter, H., Gröller, E.: Augmented Visualization with Natural Feature Tracking. In Proceedings of 10<sup>th</sup> International Conference on Mobile and Ubiquitous Multimedia (MUM2011), Dec 7-9<sup>th</sup> 2011, Beijing, China, pp. 4–12 (21 out of 66 accepted).
- [200] Spörk, J., Gendrin, C., Weber, C., Figl, M., Pawiro, S.A., Furtado, H., Fabri, D., Bloch, C., Bergmann, H., Gröller, E., Birkfellner, W.: High-performance GPU-based Rendering for Real-Time, rigid 2D/3D-Image Registration and Motion Prediction in Radiation Oncology. Zeitschrift für Medizinische Physik, 22(1):13–20, 2012. doi 10.1016/j.zemedi.2011.06.002 (Best Scientific Paper Award).

- [201] Gerl, M., Rautek, P., Isenberg, T., Gröller, E.: Semantics by Analogy for Illustrative Volume Visualization. *Computers & Graphics*, Volume 36(3) May 2012, pp. 201–213. doi:10.1016/j.cag.2011.10.006
- [202] Mistelbauer, G., Varchola, A., Bouzari, H., Starinsky, J., Köchl, A., Schernthaner, R., Fleischmann, D., Gröller, E., Sramek, M.: Centerline Reformations of Complex Vascular Structures. *IEEE Pacific Visualization Symposium 2012 (PacificVis)*, pp. 233-240, Feb 28<sup>th</sup> – Mar 2<sup>nd</sup> 2012. doi: 10.1109/PacificVis.2012.6183596 (30 out of 89 accepted).
- [203] Herghelegiu, P. C., Manta, V., Perin, R., Bruckner, S., Gröller, E.: Biopsy Planner – Visual Analysis for Needle Pathway Planning in Deep Seated Brain Tumor Biopsy. *Computer Graphics Forum*, 31(3pt2):1085–1094, 2012. doi: 10.1111/j.1467-8659.2012.03101.x (EUROVIS 2012, 52 out of 202 accepted).
- [204] Reh, A., Plank, B., Kastner, J., Gröller, E., Heinzl, C.: Porosity Maps – Interactive Exploration and Visual Analysis of Porosity in Carbon Fiber Reinforced Polymers. *Computer Graphics Forum*, 31(3pt3):1185–1194, 2012. doi: 10.1111/j.1467-8659.2012.03111.x (EUROVIS 2012, 52 out of 202 accepted).
- [205] Morar, A., Moldoveanu, F., Gröller E.: Image Segmentation Based on Active Contours without Edges. In *IEEE International Conference on Intelligent Computer Communication and Processing (ICCP 2012)*, Aug 30<sup>th</sup> - Sep 1<sup>st</sup>, 2012, Cluj-Napoca, Romania, pp. 213–220. doi: 10.1109/ICCP.2012.6356188 (32 out of 83 accepted).
- [206] Ropinski, T.; Diepenbrock, S.; Bruckner, S.; Hinrichs, K.; Gröller, E.: Unified Boundary-Aware Texturing for Interactive Volume Rendering. *IEEE Transactions on Visualization and Computer Graphics*, 18(11):1942–1955, 2012. doi: 10.1109/TVCG.2011.285
- [207] Ribičić, H., Waser, J., Gurbat, R., Sadransky, B., Gröller, E.: Sketching Uncertainty into Simulations. *IEEE Transactions on Visualization and Computer Graphics*, 18(12):2255–2264, 2012. doi: 10.1109/TVCG.2012.261 (Proc. SciVis2012, 42 out of 154 accepted).
- [208] Alsallakh, B., Aigner, W., Miksch, S., Gröller, E.: Reinventing the Contingency Wheel: Scalable Visual Analytics of Large Categorical Data. *IEEE Transactions on Visualization and Computer Graphics*, 18(12):2849–2858, 2012. doi: 10.1109/TVCG.2012.254 (Proceedings VAST 2012, Best Paper Honorable Mention Award, 30 out of 104 accepted).
- [209] Mistelbauer, G., Bouzari, H., Schernthaner, R., Baclija, I., Köchl, A., Bruckner, S., Sramek, M., Gröller, E.: Smart Super Views - A Knowledge-Assisted Interface for Medical Visualization. *IEEE Conference on Visual Analytics Science and Technology, 2012 (VAST 2012)*, pp. 163–172 (30 out of 104 accepted).
- [210] Csébfalvi, B., Tóth, B., Bruckner, S., Gröller, E.: Illumination-Driven Opacity Modulation for Expressive Volume Rendering. In *Vision, Modeling, and Visualization 2012 (VMV 2012)*, Nov 12-14<sup>th</sup> 2012, Magdeburg, Germany, pp. 103-109. doi: 10.2312/PE/VMV/VMV12/103-109 (27 out of 45 accepted).
- [211] Ribičić, H., Waser, J., Fuchs, R., Blöschl, G., Gröller, E.: Visual Analysis and Steering of Flooding Simulations. *IEEE Transactions on Visualization and Computer Graphics*. 19(6):1062–1075, 2013. doi: 10.1109/TVCG.2012.175

- [212] Mindek, P., Bruckner, S., Gröller, E.: Contextual Snapshots: Enriched Visualization with Interactive Spatial Annotations. In Proceedings of the 29th Spring Conference on Computer Graphics (SCCG 2013), ACM Digital Library, pp. 49–56, 2013. doi: 10.1145/2508244.2508251 (Best Paper Award).
- [213] Amirkhanov, A., Heinzl, C., Kuhn, Ch., Kastner, J., Gröller, E.: Fuzzy CT Metrology: Dimensional Measurements on Uncertain Data. In Proceedings of the 29th Spring Conference on Computer Graphics (SCCG 2013), ACM Digital Library, pp. 81–89, 2013. doi: 10.1145/2508244.2508255
- [214] Mistelbauer, G., Morar, A., Varchola, A., Schernthaner, R., Baclija, I., Köchl, A., Kanitsar, A., Bruckner, S., Gröller, E.: Vessel Visualization using Curvicircular Feature Aggregation. *Computer Graphics Forum*, 32(3pt2):231–240, 2013. doi: 10.1111/cgf.12110 (EUROVIS 2013, 49 out of 177 accepted).
- [215] Karimov A., Mistelbauer, G., Schmidt, J., Mindek, P., Schmidt, E., Sharipov, T., Bruckner, S., Gröller, E.: ViviSection: Skeleton-based Volume Editing. *Computer Graphics Forum*, 32(3pt4):461–470, 2013. doi: 10.1111/cgf.12133 (EUROVIS 2013, 49 out of 177 accepted).
- [216] Mindek, P., Bruckner, S., Rautek, P., Gröller, E.: Visual Parameter Exploration in GPU Shader Space, *Journal of WSCG*, Volume 21, Number 3, 2013, ISSN 1213-6972, pp. 225–234.
- [217] Kehrer, J., Piringer, H., Berger, W., Gröller, E.: A Model for Structure-Based Comparison of Many Categories in Small-Multiple Displays. *IEEE Transactions on Visualization and Computer Graphics*, 19(12):2287–2296, 2013. doi: 10.1109/TVCG.2013.122 (Proceedings InfoVis 2013, 38 out of 152 accepted).
- [218] Schmidt, J., Gröller, E., Bruckner, S.: VAICo: Visual Analysis for Image Comparison. *IEEE Transactions on Visualization and Computer Graphics*, 19(12): 2090–2099, 2013. doi: 10.1109/TVCG.2013.213 (Proceedings VAST 2013, 32 out of 125 accepted).
- [219] Auzinger, T., Mistelbauer, G., Baclija, I., Schernthaner, R., Köchl, A., Wimmer, M., Gröller, E., Bruckner, S.: Vessel Visualization using Curved Surface Reformation. *IEEE Transactions on Visualization and Computer Graphics*, 19(12):2858–2867, 2013. doi: 10.1109/TVCG.2013.215 (Proceedings SciVis 2013, 34 out of 126 accepted).
- [220] Reh, A., Gusenbauer, C., Kastner, J., Gröller, E., Heinzl, C.: MObjects—A Novel Method for the Visualization and Interactive Exploration of Defects in Industrial XCT Data. *IEEE Transactions on Visualization and Computer Graphics*, 19(12): 2906–2915, 2013. doi: 10.1109/TVCG.2013.177 (Proceedings SciVis 2013, 34 out of 126 accepted).
- [221] Weissenböck, J., Amirkhanov, A., Li, W., Reh, A., Amirkhanov, A., Gröller, E., Kastner, J., Heinzl, C.: FiberScout: An Interactive Tool for Exploring and Analyzing Fiber Reinforced Polymers. *PacificVis 2014*: 153-160 (29 out of 99 accepted).
- [222] Vad, V., Csébfalvi, B., Rautek, P., Gröller, E.: Towards an Unbiased Comparison of CC, BCC, and FCC Lattices in Terms of Prealiasing. *Computer Graphics Forum* 33(3): 81-90 (2014), doi: 10.1111/cgf.12364 (EUROVIS 2014, 42 out of 161 accepted).
- [223] Amirkhanov, A., Fröhler, B., Kastner, J., Gröller, E., Heinzl, C.: InSpectr: Multi-Modal Exploration, Visualization, and Analysis of Spectral Data. *Computer Graphics Forum* 33(3): 91-100 (2014), doi: 10.1111/cgf.12365 (EUROVIS 2014, 42 out of 161 accepted).

- [224] Mindek, P., Gröller, E., Bruckner, S.: Managing Spatial Selections With Contextual Snapshots. *Computer Graphics Forum* 33(8): 132-144 (2014). doi: 10.1111/cgf.12406.
- [225] Beham, M., Herzner, W., Gröller, E., Kehrer, J.: Cupid: Cluster-Based Exploration of Geometry Generators with Parallel Coordinates and Radial Trees. *IEEE Transactions on Visualization and Computer Graphics*, 20(12): 1693–1702, 2014. doi: 10.1109/TVCG.2014.2346626 (Proceedings VAST 2014, 33 out of 146 accepted).
- [226] Konev, A., Waser, J., Sadransky, B., Cornel, D., Perdigão, R., Horváth, Z., Gröller, E.: Run Watchers: Automatic Simulation-Based Decision Support in Flood Management. *IEEE Transactions on Visualization and Computer Graphics*, 20(12): 1873–1882, 2014. doi: 10.1109/TVCG.2014.2346930 (Proceedings VAST 2014, 33 out of 146 accepted).
- [227] Ganuza, M., Ferracutti, G., Gargiulo, F., Castro, S., Bjerg, E., Gröller, E., Matkovic, K.: The Spinel Explorer - Interactive Visual Analysis of Spinel Group Minerals. *IEEE Transactions on Visualization and Computer Graphics*, 20(12): 1913–1922, 2014. doi: 10.1109/TVCG.2014.2346754 (Proceedings VAST 2014, 33 out of 146 accepted).
- [228] Rautek, P., Bruckner, S., Gröller, E., Hadwiger, M.: ViSlang: A System for Interpreted Domain-Specific Languages for Scientific Visualization. *IEEE Transactions on Visualization and Computer Graphics*, 20(12): 2388–2396, 2014. doi: 10.1109/TVCG.2014.2346318 (Proceedings SciVis 2014, 35 out of 136 accepted).
- [229] Wu, W., Zheng, Y., Qu, H., Chen, W., Gröller, E., Ni, L.: BoundarySeer: Visual Analysis of 2D Boundary Changes. *IEEE Conference on Visual Analytics Science and Technology*, 2014 (VAST 2014), pp. 143–152 (54 out of 146 accepted).
- [230] Schmidt, J., Preiner, R., Auzinger, T., Wimmer, M., Gröller, E., Bruckner, S.: YMCA – Your Mesh Comparison Application. *IEEE Conference on Visual Analytics Science and Technology*, 2014 (VAST 2014), pp. 153–162 (54 out of 146 accepted).
- [231] Mindek, P., Čmolík, L., Viola, I., Gröller, E., Bruckner, S.: Automatized Summarization of Multiplayer Games. In *Proceedings of the 31st Spring Conference on Computer Graphics (SCCG 2015)*, ACM Digital Library, pp. 73–80. April 2015, doi: 10.1145/2788539.2788549 (Best Paper Award, 18 out of 20 accepted).
- [232] Reh, A., Amirkhanov, A., Kastner, J., Gröller, E., Heinzl, C.: Fuzzy feature tracking: Visual analysis of industrial 4D-XCT data. *Computers & Graphics*. Volume 53(PB) (2015) 177–184; 71. doi: 10.1016/j.cag.2015.04.001 (2 out of 20 accepted).
- [233] Byška, J., Jurcik, A., Gröller, E., Viola, I., Kozlíková, B.: MoleCollar and Tunnel Heat Map Visualizations for Conveying Spatio-Temporo-Chemical Properties Across and Along Protein Voids. *Computer Graphics Forum* 34(3): 1-10 (2015), doi: 10.1111/cgf.12365 (EUROVIS 2015, 51 out of 160 accepted).
- [234] Cornel, D., Konev, A., Sadransky, B., Horvath, Z., Gröller, E., Waser, J.: Visualization of Object-Centered Vulnerability to Possible Flood Hazards. *Computer Graphics Forum* 34(3): 331-340 (2015), doi: 10.1111/cgf.12645 (EUROVIS 2015, 51 out of 160 accepted, 3<sup>rd</sup> Best Paper Award).
- [235] Diehl, A., Pelorosso, L., Delrieux, C., Saulo, C., Ruiz, J., Gröller, E., Bruckner, S.: Visual Analysis of Spatio-Temporal Data: Applications in Weather Forecasting. *Computer Graphics Forum* 34(3): 381-390 (2015), doi: 10.1111/cgf.12650 (EUROVIS 2015, 51 out of 160 accepted).
- [236] Schernthaner, R., Wolf, F., Mistelbauer, G., Weber, M., Schernthaner, M., Sramek, M., Gröller, E., Loewe, C.: New hybrid reformations of peripheral CT angiography: do we

- still need axial images? *Clinical Imaging* 39(4), July-August 2015, pp. 603–607, doi: 10.1016/j.clinimag.2015.03.005.
- [237] Miao, H., Mistelbauer, G., Gröller, E.: CoWRadar: Visual Quantification of the Circle of Willis in Stroke Patients. *Proceedings of Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM)*, Sep 14-15, 2015, pp. 1–10 (Best Paper Honorable Mention Award, 21 out of 31 accepted).
- [238] Sorger, J., Ortner, T., Piringer, H., Hesina, G., Gröller, E.: A Taxonomy of Integration Techniques for Spatial and Non-Spatial Visualizations. In D. Bommes, T. Ritschel, T. Schultz (eds.), *Vision, Modeling, and Visualization 2015 (VMV 2015)*, pp. 57–64.
- [239] Byška, J., Le Muzic, M., Gröller, E., Viola, I., Kozlíková, B.: AnimoAminoMiner: Exploration of Protein Tunnels and their Properties in Molecular Dynamics. *IEEE Transactions on Visualization and Computer Graphics*, 22(1): 747–756, 2016. doi: 10.1109/TVCG.2015.2467434 (Proceedings SciVis 2015, 33 out of 134 accepted).
- [240] Labschütz, M., Bruckner, S., Gröller, E., Hadwiger, M., Rautek, P.: JiTTree: A Just-in-Time Compiled Sparse GPU Volume Data Structure. *IEEE Transactions on Visualization and Computer Graphics*, 22(1): 1025–1034, 2016. doi: 10.1109/TVCG.2015.2467331 (Proceedings SciVis 2015, 33 out of 134 accepted).
- [241] Sorger, J., Ortner, T., Luksch, C., Schwärzler, M., Gröller, E., Piringer, H.: LiteVis: Integrated Visualization for Simulation-Based Decision Support in Lighting Design. *IEEE Transactions on Visualization and Computer Graphics*, 22(1): 290–299, 2016. doi: 10.1109/TVCG.2015.2468011 (Proceedings VAST 2015, 33 out of 149 accepted).
- [242] Amirkhanov, A., Amirkhanov, A., Salaberger, D., Kastner, J., Gröller, E., Heinzl, C.: Visual Analysis of Defects in Glass Fiber Reinforced Polymers for 4DCT Interrupted In situ Tests. *Computer Graphics Forum* 35(3) 201-210 (2016), doi: 10.1111/cgf.12896 (EUROVIS 2016, 50 out of 183 accepted).
- [243] Radoš, S., Splechtna, R., Matkovic, K., Duras, M., Gröller, E., Hauser, H.: Towards Quantitative Visual Analytics with Structured Brushing and Linked Statistics. *Computer Graphics Forum* 35(3) 251-260 (2016), doi: 10.1111/cgf.12901 (EUROVIS 2016, 50 out of 183 accepted).
- [244] Ljung, P., Krüger, J., Gröller, E., Hadwiger, M., Hansen, C., Ynnerman, A.: State of the Art in Transfer Functions for Direct Volume Rendering. *Computer Graphics Forum* 35(3) 669-691 (2016), doi: 10.1111/cgf.12934 (EuroVisSTAR2016, 10 out of 21 accepted).
- [245] Ortner, T., Sorger, J., Piringer, H., Hesina, G., Gröller, E.: Visual analytics and rendering for tunnel crack analysis A methodological approach for integrating geometric and attribute data. *Vis Comput* (2016) 32: 859. doi:10.1007/s00371-016-1257-5 (CGI 2016, 35 out of 155 accepted).
- [246] Waldin, N., Le Muzic, M., Waldner, M., Gröller, E., Goodsell, D., Ludovic, A., Viola, I.: Chameleon - Dynamic Color Mapping for Multi-Scale Structural Biology Models. *Proceedings of Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM)*, Sep 7-9, 2016, pp. 11–20 (Best Paper Honorable Mention Award, 16 out of 26 accepted).
- [247] Raidou, R., Marcelis, F., Breeuwer, M., Gröller, E., Vilanova, A., van de Wetering, H.: Visual Analytics for the Exploration and Assessment of Segmentation Errors.

- Proceedings of Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM), Sep 7-9, 2016, pp. 193–202 (16 out of 26 accepted).
- [248] Weissenböck, J., Amirkhanov, A., Gröller, E., Kastner, J., Heinzl, C.: PorosityAnalyzer: Visual Analysis and Evaluation of Segmentation Pipelines to Determine the Porosity in Fiber-Reinforced Polymers. *IEEE Conference on Visual Analytics Science and Technology, 2016 (VAST 2016)*, pp. 101–110 (48 out of 157 accepted).
- [249] Cedrim, D., Vad, V., Paiva, A., Gröller, E., Gustavo Nonato, L., Castelo, A.: Depth functions as a quality measure and for steering multidimensional projections. *Computers & Graphics. Volume 60 (Special Section on SIBGRAPI 2016) (November 2016)* 93–106. doi: 10.1016/j.cag.2016.08.008 (8 out of 28 accepted).
- [250] Ortner, T., Sorger, J., Steinlechner, H., Hesina, G., Piringer, H., Gröller, E.: Vis-A-Ware: Integrating Spatial and Non-Spatial Visualization for Visibility-Aware Urban Planning. *IEEE Transactions on Visualization and Computer Graphics*, 23(2): 1139–1151, 2017, doi: 10.1109/TVCG.2016.2520920.
- [251] Sorger, J., Mindek, P., Rautek, P., Gröller, E., Johnson, G., Viola, I.: Metamorphers: Storytelling Templates For Illustrative Animated Transitions in Molecular Visualization. In *Proceedings of the 33rd Spring Conference on Computer Graphics (SCCG 2017)*, ACM Digital Library, Article No. 2, 10 pages, May 2017, doi: 10.1145/3154353.3154364 (18 out of 27 accepted).
- [252] Waldner, M., Karimov, A., Gröller, E.: Exploring Visual Prominence of Multi-Channel Highlighting in Visualizations. In *Proceedings of the 33rd Spring Conference on Computer Graphics (SCCG 2017)*, ACM Digital Library, Article No. 8, 10 pages, May 2017, doi: 10.1145/3154353.3154369 (18 out of 27 accepted).
- [253] Mindek, P., Mistelbauer, G., Gröller, E., Bruckner, S.: Data-Sensitive Visual Navigation. *Computers & Graphics* 67: 77-85 (2017) doi: 10.1016/j.cag.2017.05.012. (Special Section on SCCG 2017, 4 out of 27 accepted, Best Paper Award)
- [254] Ganuza, M.L., Ferracutti, G., Gargiulo, F., Castro, S.M., Bjerg, E.A., Gröller, E., Matković, K.: Interactive Visual Categorization of Spinel-Group Minerals. In *Proceedings of the 33rd Spring Conference on Computer Graphics (SCCG 2017)*, ACM Digital Library, Article No. 18, 11 pages, May 2017, doi: 10.1145/3154353.3154359 (18 out of 27 accepted).
- [255] Miao, H., Mistelbauer, G., Karimov, A., Alansary, A., Davidson, A., Lloyd, D.F.A.; Damodaram, M., Story, L., Hutter, J., Hajnal, J.V., Rutherford, M., Preim, B., Kainz, B., Gröller, E.: Placenta Maps: In Utero Placental Health Assessment of the Human Fetus. *IEEE Transactions on Visualization and Computer Graphics*, vol. 23, no. 6, pp. 1612-1623, June 2017. doi: 10.1109/TVCG.2017.2674938 (IEEE Pacific Visualization Symposium 2017 (PacificVis), 29 out of 99 accepted, Best Paper Honorable Mention Award).
- [256] Vad, V., Byška, J., Jurčík, A., Viola, I., Gröller, E., Hauser, H., Marques, S.M., Damborský, J., Kozlíková, B.: Watergate: Visual Exploration of Water Trajectories in Protein Dynamics. *Proceedings of Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM)*, Sep 7-8, 2017, pp. 33–42. doi: 10.2312/vcbm.20171235 (14 out of 22 accepted).
- [257] Miao, H., Mistelbauer, G., Našel, C., Gröller, E.: Visual Quantification of the Circle of Willis: An Automated Identification and Standardized Representation. *Computer Graphics Forum* 36(6) 393-404 (2017), doi: 10.1111/cgf.12988.

- [258] Diehl, A., Pelorosso, L., Delrieux, C., Matković, K., Ruiz, J., Gröller, E., Bruckner, S.: *Albero: A Visual Analytics Approach for Probabilistic Weather Forecasting*. *Proceedings of Pacific Graphics 2017, Computer Graphics Forum 36(7)* 135-144 (2017), doi: 10.1111/cgf.13279 (22 out of 98 accepted).
- [259] Klein, T., Autin, L., Kozlíková, B., Goodsell, D.S., Olson, A., Gröller E., Viola, I.: *Instant Construction and Visualization of Crowded Biological Environments*. *IEEE Transactions on Visualization and Computer Graphics*, 24(1): 862–872, 2018. doi: 10.1109/TVCG.2017.2744258 (Proceedings SciVis 2017, 23 out of 120 accepted, Best Paper Honorable Mention Award).
- [260] Mindek, P., Kouřil, D., Sorger, J., Toloudis, D., Lyons, B., Johnson, G., Gröller, E., Viola, I.: *Visualization Multi-Pipeline for Communicating Biology*. *IEEE Transactions on Visualization and Computer Graphics*, 24(1): 883–892, 2018. doi: 10.1109/TVCG.2017.2744518 (Proceedings SciVis 2017, 23 out of 120 accepted).
- [261] Miao, H., DeLlano, E., Sorger, J., Ahmadi, Y., Kekic, T., Isenberg, T., Gröller, E., Barišić, I., Viola, I.: *Multiscale Visualization and Scale-Adaptive Modification of DNA Nanostructures*. *IEEE Transactions on Visualization and Computer Graphics*, 24(1): 1014–1024, 2018. doi: 10.1109/TVCG.2017.2743981 (Proceedings SciVis 2017, 23 out of 120 accepted).
- [262] Furmanová, K., Byska, J., Gröller, E., Viola, I., Palecek, J.J., Kozlíková, B.: *COZOID: contact zone identifier for visual analysis of protein-protein interactions*. *BMC Bioinformatics* 19(1): 125:1-125:17, 2018, doi 10.1186/s12859-018-2113-6
- [263] Schreiner, M.M., Platzgummer, H., Unterhumer, S., Weber, M., Mistelbauer, G., Gröller, E., Loewe, C., Scherthaner, R.E.: *Multipath Curved Planar Reformations of Peripheral CT Angiography: Diagnostic Accuracy and Time Efficiency*. *Cardiovascular and Interventional Radiology* 41(5): 718-725, 2018. doi: 10.1007/s00270-017-1846-3.
- [264] Raidou, R., Casares-Magaz, O., Amirkhanov, A., Moiseenko, V., Muren, L.P., Einck, J.P., Vilanova, A., Gröller, E.: *Bladder Runner: Visual Analytics for the Exploration of RT-Induced Bladder Toxicity in a Cohort Study*. *Computer Graphics Forum 37(3)*: 205-216 (2018), doi: 10.1111/cgf.13413 (47 out of 162 accepted).
- [265] Miao, H., De Llano, E., Isenberg, T., Gröller, E., Barisic, I., Viola, I.: *DimSUM: Dimension and Scale Unifying Map for Visual Abstraction of DNA Origami Structures*. *Computer Graphics Forum 37(3)*: 403-413 (2018), doi: 10.1111/cgf.13429 (47 out of 162 accepted).
- [266] Reiter, O., Breeuwer, M., Gröller, E., Raidou, R.: *Comparative Visual Analysis of Pelvic Organ Segmentations*. *EG/VGTC Conference on Visualization, EuroVis (Short Papers) 2018*: 37-41, doi: 10.2312/eurovisshort.20181075 (20 out of 41 accepted, Best Short Paper Honorable Mention Award).
- [267] Karall, N., Gröller, E., Raidou, R.: *ChemoExplorer: A Dashboard for the Visual Analysis of Chemotherapy Response in Breast Cancer Patients*. *EG/VGTC Conference on Visualization, EuroVis (Short Papers)*, 2018: 49-53, doi: 10.2312/eurovisshort.20181077 (20 out of 41 accepted).
- [268] Amirkhanov, A., Amirkhanov, A., Bernhard, M., Tóth, Z., Stiller, S., Geier, A., Gröller, E., Mistelbauer, M.: *WithTeeth: Denture Preview in Augmented Reality*. In F. Beck, C. Dachsbacher, F. Sadlo (eds.), *Vision, Modeling, and Visualization 2018 (VMV 2018)*, pp. 29–38. doi: 10.2312/vmv.20181250

- [269] Grossmann, N., Köppel, T., Gröller, E., Raidou, R.: VisualFlutter - Visual Analysis of Distortions in the Projection of Biomedical Structures. Proceedings of Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM), Sep 20-21, 2018, pp. 167–177, doi: 10.2312/vcbm.20181242 (14 out of 28 accepted).
- [270] Steinböck, D., Gröller, E., Waldner, M.: Casual Visual Exploration of Large Bipartite Graphs Using Hierarchical Aggregation and Filtering. 4th International Symposium on Big Data Visual and Immersive Analytics (BDVA 2018), University of Konstanz, Germany, Oct 17-19, 2018, pp. 157-166, doi: 10.1109/BDVA.2018.8533894 (18 out of 26 accepted).
- [271] Weissenböck, J., Fröhler, B., Gröller, E., Kastner, J., Heinzl, C.: Dynamic Volume Lines: Visual Comparison of 3D Volumes through Space-filling Curves. IEEE Transactions on Visualization and Computer Graphics 25(1): 1040-1049, 2019. doi: 10.1109/TVCG.2018.2864510 (Proceedings SciVis 2018, 32 out of 128 accepted).
- [272] Kouril, D., Cmolík, L., Kozlíková, B., Wu, H.-Y., Johnson, G., Goodsell, D.S., Olson, A.J., M. Gröller, E., Viola, I.: Labels on Levels: Labeling of Multi-Scale Multi-Instance and Crowded 3D Biological Environments. IEEE Transactions on Visualization and Computer Graphics 25(1): 977-986, 2019. doi: 10.1109/TVCG.2018.2864491 (Proceedings SciVis 2018, 32 out of 128 accepted, IEEE SciVis Best Paper Honorable Mention Award).
- [273] Waldin, N., Waldner, M., M. Le Muzic, M., Gröller, E., Goodsell, D.S., Autin, L., Olson, A.J., Viola, I.: Cuttlefish: Color Mapping for Dynamic Multi-Scale Visualizations. Computer Graphics Forum 38(6) 150-164 (2019), doi: 10.1111/cgf.13611
- [274] Miao, H., Klein, T., Kouřil, D., Mindek, P., Schatz, K., Gröller, E., Kozlíková, B., Isenberg, T., Viola, I.: Multiscale Molecular Visualization. Journal of Molecular Biology 431(6):1049-1070, 2019. doi: 10.1016/j.jmb.2018.09.004.
- [275] Raidou, R., Gröller, E., Eisemann, M.: Relaxing Dense Scatter Plots with Pixel-Based Mappings. IEEE Transactions on Visualization and Computer Graphics 25(6): 2205-2216, 2019. doi: 10.1109/TVCG.2019.2903956
- [276] Grossmann, N., Casares, Ó., Moiseenko, V., Muren, L.P., Gröller, E., Raidou, R.: Pelvis Runner: Visualizing Pelvic Organ Variability in a Cohort of Radiotherapy Patients. Proceedings of Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM), Sep 4-6, 2019, pp. 69–78, doi: 10.2312/vcbm.20191233.
- [277] Bernold, G., Matkovic, K., Gröller, E., Raidou, R.: preha: Establishing Precision Rehabilitation with Visual Analytics. Proceedings of Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM), Sep 4-6, 2019, pp. 79–89, doi: 10.2312/vcbm.20191234.
- [278] Sbardellati, M., Miao, H., Wu, H.Y., Gröller, E., Barisic, I., Viola, I.: Interactive Exploded Views for Molecular Structures. Proceedings of Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM), Sep 4-6, 2019, pp. 103–112, doi: 10.2312/vcbm.20191237.
- [279] Klein, T., Mindek, P., Autin, L., Goodsell, D.S., Olson, A., Gröller, E., Viola, I.: Parallel Generation and Visualization of Bacterial Genome Structures. Proceedings of Pacific Graphics 2019, Computer Graphics Forum 38(7):57-68 (2019), doi: 10.1111/cgf.13816 (74 out of 222 accepted).



- [280] Amirkhanov, A., Ilona Kosiuk, I., Szmolyan, P., Amirkhanov, A., Mistelbauer, G., Gröller, E., Raidou, R.: ManyLands: A Journey Across 4D Phase Space of Trajectories. *Proceedings of Pacific Graphics 2019, Computer Graphics Forum*, 38(7):191-202 (2019), doi: 10.1111/cgf.13828 (74 out of 222 accepted).
- [281] Halladjian, S., Miao, H., Kouřil, D., Gröller, E., Viola, I., Isenberg, T.: ScaleTrotter: Illustrative Visual Travels Across Negative Scales. *IEEE Transactions on Visualization and Computer Graphics* 26(1): 654-664, 2020, doi: 10.1109/TVCG.2019.2934334 (Proceedings SciVis 2019, 26 out of 100 accepted).
- [282] Klein, T., Viola, I., Gröller, E., Peter Mindek, P.: Multi-Scale Procedural Animations of Microtubule Dynamics Based on Measured Data. *IEEE Transactions on Visualization and Computer Graphics* 26(1): 622-632, 2020, doi: 10.1109/TVCG.2019.2934612 (Proceedings SciVis 2019, 26 out of 100 accepted).
- [283] Waldner, M., Daniel Steinböck, D., Gröller, E.: Interactive exploration of large time-dependent bipartite graphs. *J. Comput. Lang.* 57: 100959 (2020), doi: 10.1016/j.cola.2020.100959
- [284] Reina, G., Childs, H., Matkovic, K., Bühler, K., Waldner, M., Pugmire, D., Kozlíková, B., Ropinski, T., Ljung, P., Itoh, T., Gröller, E., Krone, M.: The moving target of visualization software for an increasingly complex world. *Comput. Graph.* 87: 12-29 (2020), doi 10.1016/j.cag.2020.01.005
- [285] Korpitsch, T., Takahashi, S., Gröller, E., Wu, H-Y.: Simulated Annealing to Unfold 3D Meshes and Assign Glue Tabs. *Journal of WSCG* 28(1-2):47-56, doi: 10.24132/JWSCG.2020.28.6
- [286] Raidou, R.G., Furmanová, K., Grossmann, N., Casares-Magaz, O., Moiseenko, V., Einck, J.P., Gröller, E., Muren, L.P.: Lessons Learnt from Developing Visual Analytics Applications for Adaptive Prostate Cancer Radiotherapy. *VisGap@Eurographics/EuroVis 2020*: 51-58, doi 10.2312/visgap.20201110
- [287] Furmanová, K., Grossmann, N., Muren, L.P., Oscar Casares-Magaz, O., Moiseenko, V., Einck, J.P., Gröller, E., Raidou, R.G.: VAPOR: Visual Analytics for the Exploration of Pelvic Organ Variability in Radiotherapy. *Comput. Graph.* 91: 25-38 (2020), doi: 10.1016/j.cag.2020.07.001
- [288] Raidou, R.G., Gröller, E., Wu, H-Y: Slice and Dice: A Physicalization Workflow for Anatomical Edutainment. *Comput. Graph. Forum* 39(7): 623-634 (2020), doi: 10.1111/cgf.14173
- [289] Amirkhanov, A., Bernhard, M., Karimov, A., Stiller, S., Geier, A., Gröller, E., Mistelbauer, G.: Visual Analytics in Dental Aesthetics. *Comput. Graph. Forum* 39(7): 635-646 (2020), doi: 10.1111/cgf.14174
- [290] Antonini, A.S., Ganuza, M.L., Ferracutti, G., Gargiulo, F., Matković, K., Gröller, E., Bjerg, E.A., Castro, S.M.: Spinel web: an interactive web application for visualizing the chemical composition of spinel group minerals. *Earth Sci Inform* (2020), doi: 10.1007/s12145-020-00542-w
- [291] Ortner, T., Walch, A., Nowak, R., Barnes, R., Höllt, T., Gröller, E.: InCorr: Interactive Data-Driven Correlation Panels for Digital Outcrop Analysis. *IEEE Transactions on Visualization and Computer Graphics* ??(??): ???-???, 2021, doi: ??? (Proceedings VAST 2020, 52 out of 210 accepted).

- [292] Kouřil, D., Isenberg, T., Kozlikova, B., Meyer, M., Gröller, E., Viola, I.: HyperLabels: Browsing of Dense and Hierarchical Molecular 3D Models. IEEE Transactions on Visualization and Computer Graphics ??(?): ???-???, 202?, doi: ???

## Other Publications, Papers, Reports, and Posters:

- [1] Gröller, E.: Optimale Farbauswahl bei Ausgabegeräten in der Graphischen Datenverarbeitung. Diploma thesis at the Institut für Praktische Informatik, Vienna University of Technology, September 1987, Vienna.
- [2] Gröller, E.: Duale Voronoizerlegung im  $R^3$  mit Simplexmethode. CAD&Computergraphik 11(1), April 1988.
- [3] Gröller, E.: Coherence in Computer Graphics. Dissertation at the Institute of Computer Graphics, TU Wien, September 1992. Published in the series "Dissertationen der TU Wien" of the Verband der wissenschaftlichen Gesellschaften Österreichs, 1993.
- [4] Gröller, E., Purgathofer, W.: Coherence in Computer Graphics. Proceedings of Visualization and Intelligent Design in Engineering and Architecture (eds: Connor, Hernandez, Murthy, Power), Computational Mechanics Publications, Elsevier Science Publications, 28.-30. April 1993, Southampton, UK.
- [5] Acquisto, P., Gröller, E.: A distortion camera for ray tracing. Proceedings of Visualization and Intelligent Design in Engineering and Architecture (eds: Connor, Hernandez, Murthy, Power), Computational Mechanics Publications, Elsevier Science Publications, 28.-30. April 1993, Southampton, UK.
- [6] Gröller, E.: Visualisierung für das lokale und globale Verhalten komplexer dynamischer Systeme. (Abstract). Workshop on "Ergodentheorie, Analysis und effiziente Simulation dynamischer Systeme", <http://www.mathematik.uni-freiburg.de/workvis/groeller.html>, 4.-7. Oktober 1995, Feldberg, Germany.
- [7] Gröller, E., Rau, R.T., Straßer, W.: Modeling and Visualization of Knitwear. Universität Tübingen, Technical Report WSI-95-18, ISSN 0946-3852, 1995 (also published as reviewed paper [22]).
- [8] Purgathofer, W., Gröller, E., Feda, M.: Videa: Eine Konferenz der anderen Art. ÖHZ (Österreichische Hochschulzeitung), Nr. 12, December 1995.
- [9] Feichtinger, G., Fischel, G., Gröller, E., Prskawetz, A.: Despotism and Anarchy in Ancient China: Visualizing the Dynastic Cycle. Forschungsbericht Nr. 192, Institut für Ökonometrie, Operations Research und Systemtheorie, Abteilung für Operations Research und Systemtheorie, TU Wien, January 1996 (also published as reviewed paper [27]).
- [10] Gröller, E., Rau, R.T., Straßer, W.: Modeling Textiles as Three Dimensional Textures, Universität Tübingen. Technical Report WSI-96-4, ISSN 0946-3852, 1996 (also published as reviewed paper [31]).
- [11] Gröller, E., Visualization of Nonlinear Dynamical Systems, Habilitation thesis. Vienna University of Technology, March, 1996.
- [12] Hauser, H., Gröller, E.: Thorough Insights by Enhanced Visualization of Flow Topology. CD-Proceedings of 9<sup>th</sup> International Symposium on Flow Visualization, Edinburgh, 2000 (<http://www.ode-web.demon.co.uk/9misfv/abttext.htm>).

- [13] Knoll, P., Gröller, E., Höll, K., Mirzai, S., Koriska, K., Köhn, H.: A Jini Service to Reconstruct Tomographic Data. *Correspondence in IEEE Transactions on Medical Imaging*, 19(12), 2000.
- [14] König, A., Gröller, E.: 3D Medical Visualization: Breaking the Limits of Diagnostics and Treatment. *ERCIM News No. 44*, January 2001, pp. 27-28.
- [15] Kanitsar, A., Wegenkittl, R., Felkel, P., Sandner, D., Gröller, E., Fleischmann, D.: Automated vessel detection at lower extremity multislice CTA (Abstract). *European Congress of Radiology, 2001, (ECR 2001) Supplement 1 to Vol. 11, page 236.*
- [16] Hadwiger, M., Theußl, Th., Hauser, H., Gröller, E.: Hardware-Accelerated High-Quality Filtering of Solid Textures (Abstract). *Conference Abstracts and Applications, ACM Siggraph 2001*, pp. 194.
- [17] Vilanova, A., Wegenkittl, R., Gröller, E., Sorantin, E.: Nonlinear Virtual Colon Unfolding (Abstract), *European Congress of Radiology, 2003, (ECR 2003), C-0405.*
- [18] Kanitsar, A., Fleischmann, D., Theußl, Th., Mroz, L., Sramek, M., Gröller, E.: Demonstration of different segmentation and visualization techniques by means of a complex real world object exemplified by a Christmas tree (Abstract). *European Congress of Radiology, 2003, (ECR 2003), C-0965.*
- [19] Straka, M., Sramek, M., La Cruz, A., Köchl, A., Gröller, E., Fleischmann, D.: A probabilistic atlas of the lower extremity arterial tree for peripheral CT angiography (Abstract), *European Congress of Radiology, 2003, (ECR 2003), C-1027.*
- [20] Kanitsar, A., Fleischmann, D., Wegenkittl, R., Felkel, P., Gröller, E.: CT angiography: Multi-path curved planar reformation of the peripheral arterial tree (Abstract), *European Congress of Radiology, 2003, (ECR 2003), B-0204.*
- [21] Koechl, A., Kanitsar, A., Lomoschitz, F., Groeller, E., Fleischmann, D.: Comprehensive assessment of peripheral arteries using multi-path curved planar reformation of CTA datasets (Abstract), *European Congress of Radiology, 2003, (ECR 2003), B-0635.*
- [22] Hadwiger, M., Theußl, Th., Hauser, H., Gröller, E.: MIP-Mapping With Procedural and Texture-Based Magnification (Abstract), *Sketches & Applications, ACM Siggraph 2003.*
- [23] La Cruz, A., Straka, M., Köchl, A., Šrámek, M., Gröller, E., Fleischmann, D.: Accuracy of automated centerline approximation algorithms for lower extremity vessels in a CTA phantom (Abstract), *European Congress of Radiology, 2004 (ECR 2004), C-903*
- [24] Fleischmann, D., Straka, M., Sramek, M., La Cruz, A., Koechl, A., Kanitsar, A., Rakshe, T., Napel, S., Lammer, J., Gröller E.: *AngioVis: computer graphics for clinical visualization of peripheral arterial occlusive disease. Europ Radiol 15 (ECR 2005), Suppl 1, 574-575.*
- [25] Bruckner, S., Viola, I., Gröller, E.: *VolumeShop: Interactive Direct Volume Illustration. In ACM Siggraph 2005 DVD Proceedings (Technical Sketch), 2005, one page abstract.*
- [26] Heinzl, C., Kastner, J., Gröller, E.: *Reproducible Surface Extraction for Variance Comparison in 3D Computed Tomography. In CD-Proceedings of 9<sup>th</sup> European Congress on Non-Destructive Testing (ECNDT 2006).*
- [27] Rautek, P., Reiterer, A., Gröller, E.: *Caricaturistic Visualization of Deformation Data based on High Density Point Clouds. Poster at the 8th conference on Optical 3-D Measurement Techniques, 2007.*

- [28] Termeer, M., Bescós, J.O., Breeuwer, M., Vilanova, A., Gerritsen, F., Gröller, E.: The Volumetric Bull's Eye Plot. Poster at the 11<sup>th</sup> Annual SCMR (Society for Cardiovascular Magnetic Resonance) Scientific Sessions, Los Angeles, USA, Jan 31 - Feb 3, 2008.
- [29] Heinzl, C., Kastner, J., Gröller, E.: Geometriebestimmung von Multimaterialbauteilen und reproduzierbare Oberflächenextraktion. Proceedings Industrielle Computertomografietagung, Wels, Austria, Feb 26-27, 2008, pp. 151-156.
- [30] Muigg, Ph., Doleisch, H., Hadwiger, M., Gröller, E.: Novel Volume-Visualization Methods for the Interactive Rendering of CFD Simulation Data. NAFEMS 5th Anniversary CFD Seminar („Simulation komplexer Strömungsvorgänge“), Wiesbaden, Germany, Mar 10 - 11, 2008.
- [31] Rautek, P., Bruckner, S., Gröller, E., Viola, I.: Illustrative Visualization – New Technology or Useless Tautology? ACM SIGGRAPH Computer Graphics Quarterly, Volume 42, Number 3, 2008.
- [32] Patel, D., Giertsen, Ch., Thurmond, J., Gjelberg, J., Gröller, E.: Knowledge assisted visualization of seismic data (Abstract). Workshop Knowledge-assisted Visualization, Oct 19, 2008, (KAV 08).
- [33] Termeer, M., Oliván Bescós, J., Breeuwer, M., Vilanova, A., Gerritsen, F., E. Gröller, E., Nagel, E.: Patient-Specific Coronary Artery Supply Territory AHA Diagrams. Poster at the 12<sup>th</sup> Annual SCMR (Society for Cardiovascular Magnetic Resonance) Scientific Sessions, Orlando, USA, Jan 29 - Feb 1, 2009.
- [34] Heinzl, C., Kastner, J., Gröller, E.: Application of Statistical Analysis for Uncertainty Visualization of Computed Tomography Data from Multi Material Components - Denver X-Ray Conference 2009, Denver, United States, 2009.
- [35] Heinzl, C., Kastner, J., Gröller, E.: Computertomographie von Multimaterialbauteilen und Auswertung mittels statistischer Analyse. FFH 2009, Villach, Austria, 2009.
- [36] Reiter, M., Malik, M.M., Heinzl, C., Salaberger, D., Gröller, E., Lettenbauer, H., Kastner, J.: Improvement of X-Ray image acquisition using a GPU based 3DCT simulation tool. 8th International Conference for Quality Control by Artificial Vision, Wels, Austria, 2009.
- [37] Reiterer, A., Rautek, P., Gröller, E.: A Novel Method for the Visualization of Deformation Data. XXIV FIG International Congress 2010, Facing the Challenges – Building the Capacity, Sydney, Australia, Apr 11-16, 2010.
- [38] Heinzl, C., Reiter, M., Allerstorfer, M., Kastner, J., Gröller, E.: Artefaktreduktion mittels Dual Viewing für Röntgencomputertomographie von Multimaterialbauteilen. Proceedings DGZfP (German Society of NDT) - Yearly Meeting, 10-12 May 2010, Erfurt, Germany.
- [39] Ebert, D., Gröller, E., Hagen, H., Kaufman A.: 09251 Abstracts Collection, Scientific Visualization, Dagstuhl Seminar, Dagstuhl Seminar Proceedings 2010, ISSN 1862-4405.
- [40] Allerstorfer, M., Heinzl, C., Kastner, J., Gröller, E.: Uncertainty Visualization of Computed Tomography Datasets from Complex Components Using Statistical Analysis. Proceedings 10th European Conference on Non-Destructive Testing, Moscow 2010, June 7-11.
- [41] Heinzl, C., Kastner, J., Amirkhanov, A., Gröller, E., Reiter, M.: Fast Estimation of Optimal Specimen Placements in 3D X-ray Computed Tomography. Poster at

International Symposium on Digital Industrial Radiology and Computed Tomography, 20-22 June 2011, Berlin, Germany.

- [42] van Pelt, R., Gröller, E., ter Haar Romeny, B., Vilanova, A.: Illustrative Particle Visualization of 4D MRI Blood-Flow Data. Poster at EuroVis 2011, the Eurographics / IEEE Symposium on Visualization, May 31–June 3, Bergen, Norway.
- [43] Heinzl, C., Kastner, J., Amirkhanov, A., Gröller, E., Gusenbauer, C.: Optimal Specimen Placement in Cone Beam X-ray Computed Tomography - NDT & E INTERNATIONAL, Vol. 50, September 2012, pp. 42–49.
- [44] Amirkhanov, A., Reiter, M., Kastner, J., Gröller, E., Heinzl, C.: Evaluation of Projection-Based Metal-Artifact Reduction for Multi-Material Components. Proceedings of Conference on Industrial Computed Tomography, Wels, Austria, Sep 19-21, 2012, pp. 279–287.
- [45] Diehl, A., Bruckner, S., Gröller, E., Delrieux, C., Saulo, C.: Visual Trend Analysis in Weather Forecast. IEEE Vis 2013 Poster, Oct 13-18, 2013, Atlanta, USA.
- [46] Amirkhanov, A., Fröhler, B., Reiter, M., Kastner, J., Gröller, E., Heinzl, C.: Uncertainty in CT Metrology: Visualizations for Exploration and Analysis of Geometric Tolerances. Proceedings of 5th Conference on Industrial Computed Tomography (iCT Conference 2014), Wels, Austria, Feb 25-28, 2014, pp. 189–195.
- [47] Mistelbauer, F., Mistelbauer, G., Gröller, E.: ActiveDICOM – Enhancing Static Medical Images with Interaction. Poster at Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM 2014), Vienna, Austria, Sep 3-5, 2014.
- [48] Fröhler, B., Amirkhanov, A., Kastner, J., Gröller, E., Heinzl, C.: Multimodal Visualization and Analysis of Spectral and XCT Data. Proceedings 9. Forschungsforum der Österreichischen Fachhochschulen, Hagenberg, Austria, Apr 8-9, 2015.
- [49] Ganuza, M., Ferracutti, G., Gargiulo, M., Castro, S., Matković, K., Bjerg, E., Gröller, E.: Análisis Visual en Geología. Poster at WICC 2015 - Workshop de Investigadores en Ciencias de la Computación, Salta, Argentina, Apr 16-17, 2015.
- [50] Vad, V., Csébfalvi, B., Rautek, P., Gröller, E.: Reproducibility, Verification, and Validation of Experiments on the Marschner-Lobb Test Signal. EuroRV3: EuroVis Workshop on Reproducibility, Verification, and Validation in Visualization (2015), Cagliari, Italy, May 25-26, 2015, pp. 1-3.
- [51] Ganuza, M., Gargiulo, F., Ferracutti, G., Castro, S., Bjerg, E., Gröller, E., Matkovic, K.: Interactive Semi-Automatic Categorization for Spinel Group Minerals. IEEE Vis 2015 Poster, Oct 25-30, 2015, Chicago, USA.
- [52] Diehl, A., Pelorosso, L., Matkovic, K., Delrieux, C., Ruiz, J., Gröller, E., Bruckner, S.: Albero: A Visual Analytics Tool for Probabilistic Weather Forecasting. Poster at Workshop Big Data & Environment, University of Buenos Aires, Argentina, Nov 10-13, 2015.
- [53] Klein, T., Bruckner, S., Gröller, E., Hadwiger, M., Rautek, P.: Towards Interactive Visual Exploration of Parallel Programs using a Domain-Specific Language (Abstract). International Workshop on OpenCL (IWOCCL), April 19-21, 2016: 19:1-19:2
- [54] Pelorosso, L., Diehl, A., Matkovic, K., Delrieux, C., Ruiz, J., Gröller, E., Bruckner, S.: Visualizing Uncertainty for Probabilistic Weather Forecasting based on Reforecast Analogs (Abstract). Geophysical Research Abstracts, Vol. 18, EGU2016-10693-2, 2016 European Geosciences Union (EGU) General Assembly, April 17-22, 2016.

- [55] Amirkhanov A., Kastner, J., Gröller, E., Heinzl, C.: Visual Analysis of Damage Mechanisms in Glass Fiber Reinforced Polymers (Abstract). Workshop on Visual Analysis of Dynamic Processes, Rigi Kulm, Switzerland, Jan 9-11, 2017.
- [56] Amirkhanov, A., Salaberger, D., Kastner, J., Heinzl, C., Gröller, E.: Comparison of Final Fracture Extraction Techniques for Interrupted In situ Tensile Tests of Glass Fiber Reinforced Polymers. Proceedings of 7th Conference on Industrial Computed Tomography (iCT 2017), Leuven, Belgium, Feb 7-9, 2017, pp. 1–7.
- [57] Ganuza, L., Trippel Nagel, J.M., Gazcón, N., Castro, S., Bjerg, E., Gargiulo, F., Ferracutti, G., Matković, K., Gröller, E.: Visualización y Realidad Aumentada en el Campo de las Ciencias Geológicas. XIX Workshop de Investigadores en Ciencias de la Computación (WICC 2017, ITBA, Buenos Aires), Apr 27-28, 2017, pp. 422-426.
- [58] Byška, J., Le Muzic, M., Gröller, E., Viola, I., Kozlíková, B.: AnimoAminoMiner: Exploration of Protein Tunnels and their Properties in Molecular Dynamics. BioVis@ISMB 2017 Poster, Jul 24, 2017, Praha, Czech Republic.
- [59] Weissenböck, J., Arikan, M., Salaberger, D., Kastner, J., De Beenhouwer, J., Sijbers, J., Rauchenzauner, S., Raab-Wernig, T., Gröller, E., Heinzl, C.: Comparative Visualization of Orientation Tensors in Fiber-Reinforced Polymers. Proceedings of the 8th International Conference on Industrial Computed Tomography (iCT 2018), Wels, Austria, 2018.
- [60] De Llano, E., Miao, H., Isenberg, T., Gröller, E., Viola, I., Barisic, I.: A Preview to Adenita: Visualization and Modeling of DNA Nanostructures. Poster at 3rd Functional DNA Nanotechnology Workshop, Rome, Italy, Jun 6-8, 2018.
- [61] Weissenböck, J., Fröhler, B., Gröller, E., Sanctorum, J., De Beenhouwer, J., Sijbers, J., Karunakaran, S., Hoeller, H., Kastner, J., Heinzl, C.: An Interactive Visual Comparison Tool for 3D Volume Datasets represented by Nonlinearly Scaled 1D Line Plots through Space-filling Curves. Proceedings of the 9th International Conference on Industrial Computed Tomography (iCT 2019), Padova, Italy, 2019, 9 pages (extended abstract reviewed).
- [62] Fröhler, B., da Cunha Melo, L., Weissenböck, J., Kastner, J., Möller, T., Hege, H.-C., Gröller, E., Sanctorum, J., Sijbers, J., Heinzl, C.: Tools for the Analysis of Datasets from X-Ray Computed Tomography based on Talbot-Lau Grating Interferometry. Proceedings of the 9th International Conference on Industrial Computed Tomography (iCT 2019), Padova, Italy, 2019, 8 pages. (extended abstract reviewed, Best Poster Award iCT 2019).
- [63] Steinlechner, H., Haaser, G., Oberdorfer, B., Habe, D., Maierhofer, S., Schwärzler, M., Gröller, E.: A Novel Approach for Immediate, Interactive CT Data Visualization and Evaluation using GPU-based Segmentation and Visual Analysis. Proceedings of the 9th International Conference on Industrial Computed Tomography (iCT 2019), Padova, Italy, 2019, 6 pages (extended abstract reviewed). Comparative and Quantitative Visualization. INFORMATIK
- [64] Grossmann, N., Casares-Magaz, O., Muren, L.P., Moiseenko, V., Einck, J.P., Gröller, E., Raidou, R.G.: Pelvis Runner: A Visual Analytics Tool for Pelvic Organ Variability Exploration in Prostate Cancer Cohorts. VAST Poster at IEEE Visualization 2019 Conference, Vancouver, Canada, Oct 20-25, 2019.
- [65] Di Nitto, E., Eisenbach, S., García Fernández, I., Gröller, E.: The Wide Role of Informatics at Universities. Published by Informatics Europe, Binzmühlestrasse 14/54, 8050 Zurich, Switzerland, [www.informatics-europe.org](http://www.informatics-europe.org). <https://www.informatics-europe.org>

europa.eu/working-groups/wide-role-informatics-universities.html, 29 pages; October 2019.

- [66] Klein, T., Viola, I., Gröller, E., Mindek, P.: Multi-Scale Procedural Animations of Microtubule Dynamics Based on Measured Data. ISMB 2020 Abstracts; BioVis COSI: Biological Data Visualization. Short talk and poster, July 15, 2020

## Patents:

- [1] Mlejnek, M., Gröller, E., Vilanova, A.: Method and a System for Interactive Probing and Annotating Medical Images Using Profile Flags. European Patent EP1941452 A2, filed 2006-10-18. US Patent No.: US 8,643,675 B2, Date of Patent: Feb. 4, 2014. Applicant: Philips Electronics N.V.
- [2] Kanitsar, A., Mroz, L., Wegenkittl, R., Kohlmann, P., Bruckner, S., Gröller, E.: Method and apparatus for volume rendering of medical data sets. European Patent EP 2 048 621, granted 26.5.2010; United States Patent Application US12/134615 filed 2008-06-06, International Patent Application PCT/EP2008/063526 filed 2008-10-09. Applicant Agfa HealthCare.
- [3] Kanitsar, A., Haidacher, M., Bruckner, S., Gröller, E.: Method and apparatus for multimodal visualization of volume data sets. European Patent EP 2 144 199 B1, granted 26.12.2018, International Patent Application PCT/EP2009/057664 filed 2009-06-19, US Patent No.: US 8,705,821 B2; Date of Patent: Apr. 22, 2014. Applicant Agfa HealthCare.
- [4] Kanitsar, A., Mroz, L., Wegenkittl, R., Kohlmann, P., Bruckner, S., Gröller, E.: Method and apparatus for determining a position in an image, in particular a medical image. European Patent EP 2 192 553, granted 19.10.2011; US Patent No.: US 8,471,846 B2, Date of Patent: Jun. 25, 2013. Applicant Agfa HealthCare.
- [5] Buckton, D., Schroecker, G., Varchola, A., Bruckner, S., Gröller, E., Novotny, J.: Methods and systems for removing occlusions in 3d ultrasound images. US Patent No.: US 9,390,546 B2; Date of Patent: Jul. 12, 2016. Applicant General Electric Company.
- [6] Schroecker, G., Gröller, E., Karimov, A., Bruckner, S., Buckton, D.: Method and apparatus for rendering an ultrasound image. US Patent No.: US 9,655,592 B2; Date of Patent: May 23, 2017. Applicant General Electric Company.
- [7] Schroecker, G., Gröller, E., Karimov, A., Bruckner, S.: Method and apparatus for animate visualization of static 3-D data. US Patent No.: US 9,747,709 B2 Date of Patent: Aug 29, 2017. Applicant General Electric Company.

## Talks:

- [1] Dithern mit Tetraedern im RGB-Raum, invited talk of OCG and ACGA, Vienna University of Technology, Austria, June 15<sup>th</sup>, 1988.
- [2] Using tetrahedrons for dithering color pictures, 3rd International Conference on Computer Graphics, Dubrovnik, Yugoslavia, June 22<sup>nd</sup>-24<sup>th</sup>, 1988.
- [3] Fractal Geometry and Computer Graphics, 7th Spring School on Computer Graphics, Bratislava, CSFR, May 22<sup>nd</sup>, 1991.

- [4] Using temporal and spatial coherence for accelerating the calculation of animation sequences, EUROGRAPHICS'91, Vienna, Austria, September 4<sup>th</sup>, 1991.
- [5] Fraktale in der Lehre, 1st Workshop of the "Fractal-Chaos User Gruppe", Vienna, Austria, March 18<sup>th</sup>, 1992.
- [6] Fractals in the classroom, Comenius Universität Bratislava, Slovakia, May 29<sup>th</sup>, 1992.
- [7] Fractals and Solid Modeling, EUROGRAPHICS'92, Cambridge, UK, September 11<sup>th</sup>, 1992.
- [8] Visualisierung nichtlinearer dynamischer Systeme, Kolloquium im Rahmen des SFB "Nichtlineare dynamische Systeme", Vienna University of Technology, Vienna, Austria, November 6<sup>th</sup>, 1992.
- [9] ACC-lossless data compression of animation sequences, ICCG 93 (International Conference on Computer Graphics) Bombay, India, February 24<sup>th</sup>, 1993.
- [10] Grundlagen der Computergrafik, Seminar Grafik, organized by Pädagogisches Institut des Bundes in Wien and OCG (Österreichischen Computergesellschaft), Vienna, Austria, April 19<sup>th</sup>, 1993.
- [11] Fraktale Geometrie, Seminar Grafik, organized by Pädagogisches Institut des Bundes in Wien and OCG (Österreichischen Computergesellschaft), Vienna, Austria, April 19<sup>th</sup>, 1993.
- [12] Datenkompression und Dateiformate, Seminar Grafik, organized by Pädagogisches Institut des Bundes in Wien and OCG (Österreichischen Computergesellschaft), Vienna, Austria, April 20<sup>th</sup>, 1993.
- [13] A distortion camera for ray tracing, Visualization and Intelligent Design in Engineering and Architecture, Southampton, UK, April 28<sup>th</sup>, 1993.
- [14] Oct-tracing animation sequences, International Conference on Computer Graphics 93, Budmerice, Slovakia, June 3<sup>rd</sup>, 1993.
- [15] Chaos und Computergraphik, Chaos und Strukturbildung (3. Jahrestagung der Chaos Gruppe), München, Germany, November 13<sup>th</sup> 1993.
- [16] Exploitation of Coherence Properties in Computer Graphics, Czech Technical University (CTU), Prague, Czech Republic, November 19<sup>th</sup>, 1993.
- [17] Techniken der Computergraphik zur Analyse dynamischer Systeme, invited talk at a "Konversatorium aus Operations Research", Vienna University of Technology, Austria, January 17<sup>th</sup>, 1994.
- [18] Coherence in scan-line algorithms for CSG, Winter School on Computer Graphics 94, Plzen, Czech Republic, January 19<sup>th</sup>, 1994.
- [19] Application of Visualization Techniques to Complex and Chaotic Dynamical Systems, 5th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Rostock, Germany, June 1<sup>st</sup>, 1994.
- [20] Interactive Transformation of 2D Vector Data, 10. Spring School on Computer Graphics '94 and its Applications, Bratislava, Slovakia, June 8<sup>th</sup>, 1994.
- [21] Hyperrealistic Image Synthesis and Manipulation, Symposium "The end of reality?", Bratislava, Slovakia, November 3<sup>rd</sup>, 1994.



- [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 28<sup>th</sup>, 1994.
- [23] Interactive Exploration of Dynamical Systems, IS&T/SPIE's Symposium on Electronic Imaging: Science & Technology, San Jose Convention Center, USA, February 8<sup>th</sup>, 1995.
- [24] Visualisierung komplexer dynamischer Systeme, WSI/GRIS, University of Tübingen, Tübingen, Germany, March 8<sup>th</sup>, 1995.
- [25] Visualisierung dynamischer Systeme unter Berücksichtigung lokaler Eigenschaften, invited talk at a "Konversatorium aus Operations Research", Vienna University of Technology, Austria, March 24<sup>th</sup>, 1995.
- [26] Visualisierung für das lokale und globale Verhalten komplexer dynamischer Systeme, Workshop on Visualisierung on "Ergodentheorie, Analysis und effiziente Simulation dynamischer Systeme", Feldberg, Germany, October 5<sup>th</sup>, 1995.
- [27] Analysis and Visualization of Nonlinear Time Sequences, 7th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Prague, Czech Republic, April 24<sup>th</sup>, 1996.
- [28] Case Studies of Visualizing Analytically defined Dynamical Systems, Participant Talk at the International Summer School on Scientific and Mathematical Visualization, Ettenheim, Germany, September, 24<sup>th</sup>, 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, 21<sup>st</sup>, 1996.
- [30] Visualisierung Dynamischer Systeme, Informatik-Kolloquium "Fortschritte in der Computer Graphik", Institut für Informatik, Technische Universität Braunschweig, Germany, October 22<sup>nd</sup>, 1996.
- [31] Visualisierung Nichtlinearer Dynamischer Systeme, Habilitationskolloquium, Vienna University of Technology, Austria, November 7<sup>th</sup>, 1996.
- [32] Ausgewählte Verfahren zur Visualisierung dynamischer Systeme, TH Informatik-Kolloquium, Technische Hochschule Darmstadt, Germany, January 30<sup>th</sup>, 1997.
- [33] Animating Flow Fields: Rendering of Oriented Line Integral Convolution, Computer Animation'97, Geneva, Switzerland, June, 5<sup>th</sup>, 1997.
- [34] Various Techniques for the Visualization of Dynamical Systems, Seminar 9724, Scientific Visualization, Dagstuhl, Germany, June 13<sup>th</sup>, 1997.
- [35] Anwendungen wissenschaftlicher Visualisierung, Institut für angewandte Physik, Leopold Franzens-Universität, Innsbruck, Austria, July 2<sup>nd</sup>, 1997.
- [36] Verfahren zur Visualisierung dynamischer Systeme, Fakultät für Informatik, Technische Universität Chemnitz-Zwickau, Germany, July 10<sup>th</sup>, 1997.
- [37] Visualizing the Behavior of Higher Dimensional Dynamical Systems, IEEE Visualization'97, Phoenix, AZ, USA, October 22<sup>nd</sup>, 1997.
- [38] Visualisierung am Institut für Computergraphik der TU-Wien, Fakultät für Mathematik und Informatik, Universität Passau, Germany, December 8<sup>th</sup>, 1997.
- [39] Visualisierung am Institut für Computergraphik der TU-Wien, Fakultät für Informatik, Otto-von-Guericke Universität Magdeburg, Germany, December 18<sup>th</sup>, 1997.

- [40] Aktuelle Visualisierungsprojekte am Institut für Computergraphik der TU-Wien, Fakultät für Informatik, WSI/GRIS, University of Tübingen, Germany, December 19<sup>th</sup>, 1997.
- [41] Visualisierung des Verhaltens höherdimensionaler dynamischer Systeme. Konrad-Zuse-Zentrum für Informationstechnik Berlin und TU Berlin, Germany, February 6<sup>th</sup>, 1998.
- [42] Enhancing the Visualization of Characteristic Structures in Dynamical Systems, 9th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Blaubeuren, Germany, April 20<sup>th</sup> 1998.
- [43] Selected Trends in Scientific Visualization. Invited talk at Spring Conference on Computer Graphics 1998 (SCCG'98), Budmerice, Slovakia, April 24<sup>th</sup>, 1998.
- [44] TunVis: Visualizing specific geologic features for tunnel planning and construction, Spring Conference on Computer Graphics 1998 (SCCG'98), Budmerice, Slovakia, April 25<sup>th</sup>, 1998.
- [45] Neuere Visualisierungsprojekte am Institut für Computergraphik der TU Wien, Department of Computer Science, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, June, 22<sup>nd</sup>, 1998.
- [46] Interactive Visualization Applications, Faculty of Informatics, Masaryk University Brno, Czech Republic, March, 9<sup>th</sup>, 1999.
- [47] Interaktive Visualisierungsanwendungen, Colloquia on Interactive Systems, University Klagenfurt, Austria, April 9<sup>th</sup>, 1999.
- [48] Anwendungsbeispiele der Computergraphik in der Visualisierung, Kolloquium Informatik, University Bonn, Germany, May 5<sup>th</sup>, 1999.
- [49] Einsatz von graphischer Datenverarbeitung in der Visualisierung, IMMD, University Erlangen-Nuernberg, Germany, November 5<sup>th</sup>, 1999 .
- [50] Computergraphikanwendungen, Fakultät für Informatik, University of Ulm, Germany, December 17<sup>th</sup>, 1999.
- [51] 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, Februar 8<sup>th</sup>, 2000.
- [52] Anwendungen der wissenschaftlichen Visualisierung, Johannes Kepler Universität Linz, Austria, March 17<sup>th</sup>, 2000.
- [53] Interactive 3D Graphics in Medicine, Seminar 00251, Image Synthesis and Interactive 3D Graphics, Dagstuhl, Germany, June 22<sup>nd</sup>, 2000.
- [54] Anwendungsbeispiele der Computergraphik, Informatikkolloquium, Universität Gesamthochschule Siegen, Germany, September 20<sup>th</sup>, 2000.
- [55] Beispiele aus der medizinischen Visualisierung, Otto-von-Guericke Universität Magdeburg, Germany, October 19<sup>th</sup>, 2000.
- [56] Visualisierungsprojekte am ICGA der TU-Wien, MeVis, Universität Bremen, Germany, January 29<sup>th</sup>, 2001.
- [57] Ausgewählte Kapitel der medizinischen Visualisierung, MeVis, Universität Bremen, Germany, January 30<sup>th</sup>, 2001.

- [58] Anwendungsbeispiele in der wissenschaftlichen Visualisierung, Institut für Informatik, TU München, Germany, March 9<sup>th</sup>, 2001.
- [59] Issues in Building a Medical Workstation, University of Gävle, Sweden, March, 21<sup>st</sup>, 2001.
- [60] Insight into Data Through Visualization, Invited talk at Graph Drawing 2001, Vienna, Austria, September, 26<sup>th</sup>, 2001.
- [61] Anwendungsbeispiele medizinischer Visualisierung, Fachbereich Informatik, Universität Kaiserslautern, Germany, October, 10<sup>th</sup>, 2002.
- [62] Wissenschaftliche Visualisierung in der Medizin, Arbeitsgruppe „Computergraphik“, Universität Bonn, Germany, November, 25<sup>th</sup>, 2002.
- [63] Medical Visualization: CT Angiography and other Examples, Philips Medical Systems (PMS), Eindhoven, The Netherlands, November, 27<sup>th</sup>, 2002.
- [64] Medical Visualization: CT Angiography and other Examples, TU/e, Technical University Eindhoven, The Netherlands, November, 28<sup>th</sup>, 2002.
- [65] Medizinische Visualisierung: CT Angiographie und weitere Beispiele, WSI/GRIS, Universität Tübingen, Germany, January, 31<sup>st</sup>, 2003.
- [66] Scientific Visualization in Medicine (or a Christmas-Tree in Heaven), Invited Talk at Central European Seminar on Computer Graphics (CESCG 2003), Budmerice, Slovakia, April, 24<sup>th</sup>, 2003.
- [67] Feature Extraction in Medical Visualization, Seminar 03231, Scientific Visualization: Extracting Information and Knowledge from Scientific Data Sets, Dagstuhl, Germany, June, 2<sup>nd</sup>, 2003.
- [68] Volumetric Feature Extraction in Medical Visualization, Stanford University School of Medicine, Radiological Sciences Laboratory, Stanford, USA, October, 27<sup>th</sup>, 2003.
- [69] Efficient Volume Visualization of Large Medical Datasets, VRVis Center for Virtual Reality and Visualization, VRVis Forum #16, Vienna, Austria, September 23<sup>rd</sup>, 2004.
- [70] Scientific Visualization Techniques and Applications, University of Arkansas Little Rock (UALR), Cyber College/CSAM Colloquium Series, Little Rock, USA, October 15<sup>th</sup>, 2004.
- [71] Importance-Driven Image Generation in Scientific Visualization, Faculty of Informatics, Masaryk University Brno, Informatics Colloquium, Brno, Czech Republic, November 9<sup>th</sup>, 2004.
- [72] Importance-Driven Image Generation in Scientific Visualization, Department of Informatics, University of Bergen, Norway, August 18<sup>th</sup>, 2005.
- [73] Importance-Driven Image Generation in Medical Visualization, Faculty of Electrical Engineering, Mathematics and Computer Science, TU Delft, The Netherlands, September, 12<sup>th</sup>, 2005.
- [74] Focus+Context Visualization of Features and Topological Structures, TopoInVis 2005: Topology-Based Methods in Visualization, Budmerice, Slovakia, September, 30<sup>th</sup> 2005.
- [75] Smart Visibility in Illustrative Visualization, Image Colloquium, Department of Biomedical Engineering, Technische Universiteit Eindhoven, The Netherlands, October, 12<sup>th</sup>, 2005.

- [76] Smart Visibility in Illustrative Visualization, Center for Scientific Computing, Simon Fraser University, Vancouver, Canada, October 21<sup>st</sup>, 2005.
- [77] Abstraction Techniques for Illustrative Visualization, Invited Talk at VMV 2005: Vision, Modeling, and Visualization 2005, Erlangen, Germany, November 17<sup>th</sup>, 2005.
- [78] Computer-supported Illustrative Visualization, Informatik Kolloquium, Institut für Informatik, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany, October 11<sup>th</sup>, 2006.
- [79] Illustrative Visualization Techniques, Kolloquium, Institut für Informatik, Universität Rostock, Germany, November 22<sup>nd</sup>, 2006.
- [80] Medical Visualization: Articular Cartilage Visualization and other Examples, BBG seminar, Department of Mathematics, University of Bergen, Norway, February, 23<sup>rd</sup>, 2007.
- [81] Visualization – I see it my way, Invited Talk at NorVis 2007, University of Bergen, Norway, May 22<sup>nd</sup>, 2007.
- [82] Focus+Context in Illustrative Visualization, Keynote Talk at TPCG07, University of Wales, Bangor, UK, June 13<sup>th</sup>, 2007.
- [83] Visualization – I see it my way II, Seminar 07291, Scientific Visualization, Dagstuhl, Germany, July 16<sup>th</sup>, 2007.
- [84] Computational Science – Überblick und eigene Forschungsleistungen, Invited Talk, Fakultät für Informatik, Universität Wien, Vienna, Austria, October 10<sup>th</sup>, 2007.
- [85] Visualization with Style, Distinguished Lecture Series, Scientific Computing and Imaging Institute (SCI), University of Utah, USA, November 2<sup>nd</sup> 2007.
- [86] Illustrative Rendering with Style, Invited Talk, Technisch-Naturwissenschaftliche Fakultät, Johannes Kepler Universität Linz, Austria, January 25<sup>th</sup>, 2008.
- [87] How to do a Successful PhD (in Visualization), Seminar of the Research School in Information and Communication Technology, University of Bergen, Norway, May 15<sup>th</sup>, 2008.
- [88] LiveSync: An Interactive Metaphor for Knowledge-Based Navigation in Medical Visualization. MedViz seminar, University of Bergen, Norway, May 16<sup>th</sup>, 2008.
- [89] Visualisierung – aktuelle Themen und Trends. Donau-Universität Krems, Austria, June 17<sup>th</sup>, 2008.
- [90] Knowledge-Assisted Visualization. Keynote Talk at 18<sup>th</sup> Congreso Español de Informática Gráfica (CEIG 2008), Barcelona, Spain, Thursday, Sep 4<sup>th</sup>, 2008.
- [91] Knowledge-Assisted Visualization. Invited Talk, Department of Computer Science and Engineering, Arizona State University, USA, Monday, Oct 20<sup>th</sup>, 2008.
- [92] Knowledge-Assisted Visualization. Department seminar, Department of Informatics, University of Bergen, Norway, Thursday, Nov 6<sup>th</sup>, 2008.
- [93] Current Visualization Topics and Trends. Bilateral Scientific Seminar: Analysis, Processing and Representation of Multi-Dimensional Spatially Distributed Data. VRVis Center for Virtual Reality and Visualization, Vienna, Austria, Thursday, Nov 27<sup>th</sup>, 2008.

- [94] Visualization with Knowledge and Style. Keynote Talk at International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision 2009, WSCG'2009, Plzen, Czech Republic, February 4<sup>th</sup>, 2009.
- [95] (Scientific) Visualization: Overview and own Research Contributions. Invited Talk, Fakultät für Informatik, Universität Wien, Vienna, Austria, May 18<sup>th</sup>, 2009.
- [96] A. Seminar 09251, Scientific Visualization, Dagstuhl, Germany, July 15<sup>th</sup>, 2009.
- [97] Comprehensive Visualization of Cardiac MRI Data, Keynote Address at AMI-ARCS 2009, 5<sup>th</sup> Workshop on Augmented Environments for Medical Imaging including augmented Reality in Computer-Aided Surgery (MICCAI), Imperial College London, UK, September 24<sup>th</sup>, 2009.
- [98] Integrated Views in Visualization, GMSV seminar, KAUST, Thuwal, Saudi Arabia, February 13<sup>th</sup>, 2010.
- [99] Integrated Views in Visualization, Institute seminar, Department of Informatics, University of Bergen, Norway, Thursday, May 20<sup>th</sup>, 2010.
- [100] Comprehensive Visualization of Cardiac MRI Data, MedViz seminar, University of Bergen, Norway, Friday, May 21<sup>st</sup>, 2010.
- [101] Illustrative Visualization, IFI colloquium, Department of Informatics, University of Zurich, Switzerland, Thursday, Dec 2<sup>nd</sup>, 2010.
- [102] Visualization of Complex Data: Going from Linked to Integrated Views, Visualisierungsinstitut der Universität Stuttgart (VISUS), University of Stuttgart, Germany, February 22<sup>nd</sup>, 2011.
- [103] The Haunted Swamps of Heuristics, Capstone talk at EuroVis 2011, Eurographics / IEEE Symposium on Visualization, Bergen, Norway, June 3<sup>rd</sup>, 2011.
- [104] The Haunted Swamps of Uniformity, Seminar 11231, Scientific Visualization, Dagstuhl, Germany, June 7<sup>th</sup>, 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 30<sup>th</sup>, 2011.
- [106] Visual Steering to Support Decision Making in Visdom, Visual Computing Forum, University of Bergen, Norway, December 2<sup>nd</sup>, 2011.
- [107] Variability in Visualization, Computer Graphics and HCI Group, Technische Universität Kaiserslautern, Germany, January 18<sup>th</sup>, 2012.
- [108] Variability in Visualization, Computer Graphics and Visualization Group, Technische Universität München, Germany, January 20<sup>th</sup>, 2012
- [109] Visualization in Biopsy Planning, Medical Visualization Minisymposium, Eindhoven University of Technology, The Netherlands, June 13<sup>th</sup>, 2012
- [110] Knowledge-Assisted Visualization and Biopsy Planning, Mini-Symposium on Medical Visualization, University of Bergen, Norway, October 4<sup>th</sup>, 2012.
- [111] Variability in Visualization, ICG Lab Talks, Johannes Kepler Universität Linz, Austria, December 11<sup>th</sup>, 2012.

- [112] Visualisation using Knowledge Assisted Sparse Interaction, VIGOR++ Workshop 2013 – Advances in VPH Technologies and the VIGOR++ Tools, Academic Medical Center, Amsterdam, The Netherlands, February, 12<sup>th</sup>, 2013.
- [113] Trends in Visual Computing, CD-adapco Customer Advisory Council Meeting, Vienna, Austria, April, 10th 2013.
- [114] Trends in Visual Computing, Keynote Talk at Sibgrapi 2013 - Conference on Graphics, Patterns and Images, Arequipa, Peru, August 7th, 2013.
- [115] Visual Computing - Quo Vadis?, CS-Colloquium of the Faculty of Computer Science, University of Vienna, October 9th, 2013.
- [116] Selected Topics in Comparative Visualization, Seminar at the Visual Computing Center, KAUST, Thuwal, Saudi Arabia, February 11th, 2014.
- [117] Comparative Visualization, Keynote Talk at IEEE Pacific Visualization 2014, Yokohama, Japan, March 7th, 2014.
- [118] Visualization for Non-Destructive Testing, NII Shonan Meeting Seminar 046 (Computer Visualization – Concepts and Challenges), Hayama Miura-gun, Kanagawa, Japan, March 11th, 2014.
- [119] Comparative and Quantitative Visualization in Material Sciences. Seminar 14231, Scientific Visualization, Dagstuhl, Germany, June 2<sup>nd</sup>, 2014.
- [120] Comparative and Quantitative Visualization. Keynote Talk at INFORMATIK 2014 Workshop Big Data Visual Computing - Quantitative Perspectives for Visual Computing, Stuttgart, Germany, September 22<sup>nd</sup>, 2014.
- [121] The Certainly Uncertain Uncertainty Talk. Workshop on Parameter space/Uncertainty, Technische Universität München, Informatik 15 (Computer Graphik & Visualisierung), Munich, January 27<sup>th</sup>, 2015.
- [122] Simplifying Medical Visualization through Sparse Interaction and Reformation. MICCAI (Medical Image Computing and Computer Assisted Intervention) 2015 Tutorial on Advanced Medical Visualization, München, Germany, October 5<sup>th</sup>, 2015.
- [123] Simplifying Medical Visualization through Sparse Interaction and Reformation. Human Computer Interaction Laboratory, Faculty of Informatics, Masaryk University, Brno, Czech Republic, November 5<sup>th</sup>, 2015.
- [124] The Certainly Uncertain Uncertainty Talk II. Workshop on Uncertainty, Technische Universität München, Informatik 15 (Computer Graphik 6 Visualisierung), Germany, April 9th, 2016.
- [125] Visual Computing and Comparative Visualization. Invited Talk, Czech Technical University, Faculty of Electrical Engineering, Department of Computer Graphics and Interaction, Czech Republic, April 15th, 2016.
- [126] Understanding Data through Visual Exploration. Keynote Talk at Visionday 2016, Danmarks Tekniske Universitet (DTU Compute), Denmark, May 24<sup>th</sup>, 2016.
- [127] Visual Data Exploration. Keynote Talk at the 21<sup>st</sup> International Symposium on Vision, Modeling, and Visualization (VMV 2016), Bayreuth, Germany, Oct 11<sup>th</sup>, 2016.
- [128] Visual Computing for the Analysis of Complex Systems. Invited Talk at the Department of Computer Science and Engineering (CSE) at the Hong Kong University of Science and Technology (HKUST), Hong Kong, Dec 5th, 2016.

- [129] Visual Computing and Analysis of Complex Systems. Invited Talk, SIGGRAPH Asia 2016 Symposium on Visualization, Macao, China, Dec 7<sup>th</sup>, 2016.
- [130] Visual Computing and Analysis of Complex Systems. Invited Talk, ZJU Forum for Visual Computing, State Key Lab of CAD&CG, Zhejiang University, Hangzhou, China, Dec 9<sup>th</sup>, 2016.
- [131] Interactive Visual Analysis in the Material and Computational Sciences. Invited Talk at the Workshop on Visual analysis of dynamic processes, Rigi Kulm, Switzerland, Jan 10<sup>th</sup>, 2017.
- [132] Data-Sensitive Visual Navigation. 33rd Spring Conference on Computer Graphics (SCCG 2017), Mikulov, Czech Republic, May 16<sup>th</sup>, 2017.
- [133] Adaptive Visual Computing. Invited Talk, Universität Konstanz, Department of Computer and Information Science, Data Analysis and Visualization, Germany, Aug 31<sup>st</sup>, 2017.
- [134] A Matter of Scale. Molecular Animation Summit, Scientific Computing and Imaging Institute (SCI), University of Utah, Sep 28<sup>th</sup>, 2017.
- [135] A Random Talk on Random Walks. 10 Years Bergen VisGroup Celebration, Department of Informatics, University of Bergen, Oct 20<sup>th</sup>, 2017.
- [136] Output-Sensitive Interaction. Visual Computing Center, King Abdullah University of Science and Technology, Dec 14<sup>th</sup>, 2017.
- [137] Adjust, Just Adjust. Dagstuhl Seminar 18041, Foundations of Data Visualization, Germany, January 25<sup>th</sup>, 2018.
- [138] A Matter of Scale. Invited Talk, Czech Technical University, Faculty of Electrical Engineering, Department of Computer Graphics and Interaction, Czech Republic, June 22<sup>nd</sup>, 2018.
- [139] A Matter of Scale, Visual Computing Forum, University of Bergen, Norway, September 14<sup>th</sup>, 2018.
- [140] Visual Modelitics – Quo Vadis?, Computational DNA Engineering Workshop 2018, Plitvice, Croatia, September 18<sup>th</sup>, 2018.
- [141] The Moving Target of Visualization Software for an Ever More Complex World, NII Shonan Meeting Seminar 145 (The Moving Target of Visualization Software for an Ever More Complex World), Shonan Village Center, Japan, February, 11<sup>th</sup>, 2019
- [142] Reformation and Sparse Interaction in Visualization. Dagstuhl Seminar 19151, Visual Computing in Materials Sciences, Germany, April 8<sup>th</sup>, 2019
- [143] Simplifying (Bio-)Medical Visualization through Sparse Interaction and Reformation. Bina Nusantara University Guest Lecturing, Jakarta, Indonesia, (ACM Distinguished Speakers Program), July 1<sup>st</sup>, 2019
- [144] Interactive Visual Analysis in the Material and Computational Sciences. Keynote Talk at International Conference on Intermedia and Creative Technology (CREATIVEARTS), Yogyakarta, Indonesia, (ACM Distinguished Speakers Program), July 4<sup>th</sup>, 2019
- [145] Smart Interaction. KAUST Cell Visualization Summit 2019, King Abdullah University of Science and Technology (KAUST), November 5<sup>th</sup>, 2019

- [146] Interactive Visual Analysis in the Computational Sciences. Invited Talk, High Visual Computing (HiVisComp) 2020, Hotel Praha, Ore Mountains, Czech Republic, January 29<sup>th</sup>, 2020
- [147] Visual Analytics in Radiation Therapy Planning. Mohn Medical Imaging and Visualization Centre (MMIV) Virtual Seminar, Bergen, Norway, May 15<sup>th</sup>, 2020
- [148] Interactive Visual Data Analysis. Keynote Talk (virtual), Conference on Image and Graphics Technology and Application (IGTA) 2021, Beijing Society and Graphics, China, September, 19<sup>th</sup>, 2020
- [149] Medicinae Notitia Visibilis Fac – Quo Vadis? IEEE Vis 2020 Application Spotlight (virtual): Recent Challenges in Medical Visualization, Salt Lake City, USA, October 29<sup>th</sup>, 2020
- [150] Interactive Visual Data Analysis. KAUST CEMSE Graduate Seminar (virtual), Saudi Arabia, November 9<sup>th</sup>, 2020.

## 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
- [4] Visualization of Nonlinear Time Sequences (together with Bernhard Lipp, Atominstitut, Vienna, cf. reviewed paper [29]), 1993-1996.
- [5] Transformation of Cross Sections of Insect Bodies (together with H. Krenn, Zoologisches Institut der Universität Wien, cf. reviewed paper [12]), 1994.
- [6] Phase-Space Representations of Dynamical Systems in the Field of Econometrics (together with Gustav Feichtinger, Institut für Ökonometrie, Operations Research und Systemtheorie, TU Wien, cf., e.g., reviewed papers [27], [28], [38]), 1994-1997.
- [7] Realistic Visualization of Natural Phenomena (Realistische Visualisierung natürlicher Phänomene, FWF Verlängerungsantrag P09818-PHY), (together with Michael Gervautz, Werner Purgathofer, Institut für Computergrahik, Vienna University of Technology), 1996.
- [8] “Studierstube” - A Multi-User Augmented Reality Environment for Scientific Visualization (together with Michael Gervautz, Vienna University of Technology, Axel Pinz, Technical University Graz), FWF project P12074-MAT, 1997-1998.
- [9] Visualization of NC-Milling (together with Georg Glaeser, University of Applied Arts, Vienna, cf. e.g., reviewed papers [43], [52]), 1997-1998.
- [10] Virtual Reality Applications in Spacecraft Operations, (joint project Institute of Computer Graphics and Logica, Belgium), European Space Agency funded project, 1997-1998.
- [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.



- [12] Zeitliche Vorausberechnung von Kopfbewegungen in der Virtuellen Realität (together with Zsolt Szalavari, Anton Fuhrmann), H-19/97, Hochschuljubiläumsstiftung der Stadt Wien, 1997-98.
- [13] Advanced Volume Visualization Techniques (<http://www.cg.tuwien.ac.at/research/vis/vismed/>, together with Tiani Medgraph, Fischerstiege 7, A-1010 Wien), FFF-Project, 1998-2001.
- [14] Volumenvisualisierung von multi-modalen Daten im Bereich der Medizin (together with Ewald Moser, University of Vienna, scholarship (Foerderungsstipendium) Helmut Doleisch, cf. e.g., reviewed papers [59]), 1998-1999.
- [15] Visualisierung wissenschaftlicher Daten über das Internet, FWF Project no. P12811-INF, 1998-2001.
- [16] Connection Tracing, FWF Project no. P13600-Inf, 1999-2002.
- [17] Aluminium foam visualization (together with Brigitte Kriszt, Institut für Werkstoffkunde und Materialprüfung, Vienna University of Technology, cf. e.g., reviewed paper [64]), 1999-2000.
- [18] Visualization Tools for Peripheral CT-Angiography (together with Dominik Fleischmann, General Hospital Vienna; Milos Sramek, Austrian Academy of Sciences), FWF Project no. P15217, 2002-2004.
- [19] ADAPT – Advanced Diagnosis, Analysis and Planning Tools (in Medicine) (<http://www.cg.tuwien.ac.at/research/vis/adapt/>, together with Tiani Medgraph), FFF-Project, 2002-2005.
- [20] COMRADE – Colonoscopic and Orthopaedic Magnetic Resonance Analysis, Diagnosis and Evaluation (<http://www.cg.tuwien.ac.at/research/vis/comrade/>, together with Philips Medical Systems), company funded research project, 2003-2009.
- [21] ExVisation – Expressive Visualization of Volumetric Data (<http://www.cg.tuwien.ac.at/research/vis/exvisation/>). FWF Project no. P18322-N04, 2005-2009.
- [22] PVG – Point-based Volume Graphics. FWF Project no. P18547-N04, 2006-2010
- [23] AngioVis II – Clinical Visualization Tools for Peripheral CT-Angiography (together with Milos Sramek (main applicant), Austrian Academy of Sciences; Johannes Lammer, Medical University Vienna; Dominik Fleischmann, Stanford University). FWF Project no. L291 (Translational-Research-Programm), 2006-2009.
- [24] SimCT – Simulation of an industrial 3D computer tomograph (together with Johann Kastner (main applicant), FH Wels; Michael Mantler, Vienna University of Technology; Company partners: Carl Zeiss – Industrielle Messtechnik GmbH, 3D-Messtechnik GmbH), FFG Project 812136-SCK/KUG (Bridge project), 2006-2009.
- [25] DiagVis – Diagnostic Visualization for Medical Applications (together with GWI Research, an AGFA company), company funded research project, 2006-2008.
- [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: Genaue 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.
  - [29] AutARG - Automatic Algorithms for Result Generation in Visualization, FIT-IT project no. 819352, 2009-2012.
  - [30] Natural Fetascopic Rendering (together with Kretztechnik, GE Healthcare), a company funded research project, 2009-2015.
  - [31] ViMal – The Visualization Mapping Language. FWF Project no. P 21695-N23, 2010-2014.
  - [32] Semantic Steering. FWF Project no. P 22542-N23, 2010-2013.
  - [33] KASI – Knowledge Assisted Sparse Interaction for Peripheral CT. (together with Milos Sramek (main applicant), Austrian Academy of Sciences; Johannes Lammer, Medical University Vienna; in collaboration with Dominik Fleischmann, Stanford University). FWF project TRP 67-N23, 2010-2015.
  - [34] 3D Visualization of Geographic Information: An Integrated and Interactive Approach for Geographic Data, Wissenschaftlich-Technische Zusammenarbeit (WTZ) Österreich-Argentinien, OEAD project AR 11/2011, 2011-2013
  - [35] VISAR - VISual Analytics And Rendering. FWF Project no. P 24597-N23, 2012-2015.
  - [36] Scenario Pool: Visual Analytics for Action Planning in the Presence of Uncertainty (together with Jürgen Waser, VRVis (principal investigator)), WWTF project, no. ICT12-009, 2012-2015.
  - [37] ManyViews: Integrating Narrations, Observations, and Insights (principal investigator). Scientific & Technological Agreement with Slovakia 2016-17, project number SK 14/2016. Collaboration with Comenius University in Bratislava, 2016-2017.
  - [38] Non-photorealistic semi-transparency in visualization. Scientific & Technological Cooperation with Czech Republic 2017-18, project number CZ 11/2017. Collaboration with Czech Technical University in Prague, 2017-2018.
  - [39] Smile Analytics - Visual Analytics for Realistic and Aesthetic Smile Design (together with coolIT and Gabriel Mistelbauer, Universität Magdeburg) FFG Project 861168 (Basisprogramm Einzelprojekt), 2017-2020
  - [40] ProKeyAnim: Procedural Keyframe Animation for 3D Mesoscale Models. KAUST Center Partnership Fund (OSR-2019-CPF-4108.1), 2019-2020
  - [41] xCTing - Enabling X-ray CT based industry 4.0 process chains by training next generation research experts. MSCA-ITN-2020-ETN-956172, 2021-2024
  - [42] Visual Analytics to Bridge Biological and Medical Visualization (scientific participant). Scientific & Technological Cooperation with Czech Republic 2021-22, project number CZ 14/2021. Collaboration with Masaryk University in Brno, 2021-2022.

## 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.
- “Advances in Computer Graphics”, guest lectureship at the Department of Computer Science and Engineering, Czech Technical University of Prague, Czech Republic, in summer term 1998.
- “Selected Topics in Visualization (Flow Visualization)”, guest lectureship at the Department of Computer Science, Universidad Nacional del Sur, Bahia Blanca, Argentina, September 1998.
- “Wissenschaftliche Visualisierung”, (2.0 VO, 2.0 LU) lecture at the Department of Simulation and Graphics, Otto-von-Guericke University Magdeburg, spring term 2001.
- “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.
- IEEE VisWeek 2012 Tutorial: “Uncertainty and Parameter Space Analysis in Visualization” (co-organizer together with C. Heinzl, S. Bruckner ). Full Day tutorial: <http://visweek.org/visweek/2012/tutorial-session/all/all>
- “Selected Topics in Visualization – Short Course” guest lectureship at the Department of Electrical and Computer Engineering, Universidad National del Sur, Bahia Blanca, Argentina, February 2017.
- 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.),*

*SS=summer semester (1 Mar. - 30 June)*

- “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” (“Computer Graphics”) VO 2.0: WS96/97, WS97/98, WS98/99, WS99/00.
- “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, WS16/17, WS17/18, WS18/19, WS19/20 (one lecture unit per semester)

- „Einführung in die Medizinische Informatik“ („Introduction to Informatics and Medicine“) VO 2.0 WS09/10, WS10/11 (two lecture units per semester)
- “Visualisierung 1” (“Visualization 1”) VU 2.0 WS11/12, WS12/13, WS13/14, WS14/15, WS15/16, WS16/17, WS17/18, WS18/19, WS19/20.
- “Visualisierung 2” (“Visualization 2”) VU 3.0 SS12, SS13, SS14, SS15, SS16, SS17, SS18, SS19, SS20.
- “Computergraphik” (“Computer Graphics”) VO 2.0 SS12, SS13, SS14, SS15, SS16, SS17, SS18, SS19, SS20.
- “Visualisierung medizinischer Daten 1” (“Visualization of Medical Data 1“) VU 2.0 WS20/21
- “Wissenschaftliches Arbeiten” (“Scientific Working”) SE 2.0 WS11/12, WS12/13, WS13/14, WS14/15, WS15/16, WS16/17, WS17/18, WS18/19, WS19/20, WS20/21
- “Seminar aus Computergraphik” (“Seminar in Computer Graphics”) SE 2.0 SS12, SS13, SS14, SS15, SS16, SS17, SS18, SS19, SS20.
- 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:

- [1] Herbert Oppolzer: Interactive Analysis of Dynamical Systems (1996)
- [2] Andreas Goldsteiner: Simulation von differentieller Interferometrie und Vergleich mit experimentellen Ergebnissen (1997)
- [3] Harald Brun: Visualisierung in Österreich (1997)
- [4] Thomas Kucera: Dynamical Systems Visualization on the Basis of Poincare Sections (1997, OCG-Förderpreis 1998).
- [5] Lukas Mroz: Streamarrows - A Visualization Technique for Complex Dynamical Systems (1997)
- [6] Markus Götzinger: Visualisierung dynamischer Systeme mittels Strängen von Strömungslinien (1997)
- [7] Uschi Dorau: Computergestützte 3D-Visualisierung in der Landschaftsplanung (1997)
- [8] Andreas König: Real Time Simulation and Visualization of NC Milling Processes for Inhomogeneous Materials on Low-End Graphics Hardware (1997)
- [9] Horst Otto Meinhart: TunVis - Photorealistisches Visualisierungssystem für die Tunnelplanung (1997)
- [10] Roman Rajkowitsch: Asap-B Visualizing company relevant attributes to improve productivity (1998)
- [11] Siegrun Berger: Telemedicine (1999)
- [12] Helmut Doleisch: Multimodal Visualization of Anatomical and Functional Volume Data of the Human Brain (1999)
- [13] Wolfgang Greimel: A Display System for Surgical Navigation in ORL-Surgery (2000)
- [14] Armin Kanitsar: Advanced Visualization Techniques for Vessel Investigation (2001)

- [15] Daniel Wagner: EndoView: a System for Fast Virtual Endoscopic Rendering and Registration (June 2001)
- [16] Andre Neubauer: Cell-Based First-Hit Ray Casting (September 2001)
- [17] Wolfgang Rieger: Neue Strategien für interaktive Prozeßvisualisierung (January 2002)
- [18] Mario Bruckschwaiger: Evaluation of Binary Segmentation Techniques Regarding their Usability in Medical Volume Visualization (January 2002)
- [19] Ivan Viola: Applications of Hardware-Accelerated Filtering in Computer Graphics (May 2002)
- [20] Gerald Nikolaus Sahling: Interactive 3D Scatterplots – From High-Dimensional Data to Insight (September 2002)
- [21] Alois Dornhofer: A Discrete Fourier Transform Pair for Arbitrary Sampling Geometries with Applications to Frequency Domain Volume Rendering on the Body-Centered Cubic Lattice (March 2003)
- [22] Matej Mlejnek: Modelling the Visualization Mapping for Volumetric Flow Visualization (May 2003)
- [23] Oliver Mattausch: Practical Reconstruction Schemes and Hardware-Accelerated Direct Volume Rendering on Body-Centered Cubic Grids (January 2004)
- [24] Rudolf Seemann: Exploring the Biomechanical Model of the Lower Limb (March 2004)
- [25] Stefan Bruckner: Efficient Volume Visualization of Large Medical Datasets (June 2004)
- [26] Caroline Langer: Interactive Diffusion-Based Volume Segmentation on Graphics Hardware (November 2004)
- [27] Martin Artner: High-Quality Volume Rendering with Resampling in the Frequency Domain (January 2005)
- [28] Michael Knapp: Memory Allocation Strategies for Large Volumetric Data-Sets (January 2005)
- [29] Henning Scharsach: Advanced Raycasting for Virtual Endoscopy on Consumer Graphics Hardware (April 2005)
- [30] Christopher Dräger: A ChainMail Algorithm for Direct Volume Deformation in Virtual Endoscopy Applications (May 2005)
- [31] Peter Rauterk: D<sup>2</sup>VR: High-Quality Volume Rendering of Projection-based Volumetric Data (May 2005)
- [32] Alexander Hartmann: An Advanced Data Structure for Large Medical Datasets (May 2005)
- [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)
- [35] Moritz Gerl: Volume Hatching for Illustrative Visualization (external thesis Universität Koblenz, November 2006)
- [36] Alexander Brandstätter: Visualization of Online Sales Databases (February 2007).

- [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)
- [39] Wolfgang Altendorfer: Void Tracking in SiC Particle Reinforced Al (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)
- [42] Gerlinde Emsenhuber: Visibility Histograms in Direct Volume Rendering (October 2008)
- [43] Andreas Ammer: Linking Science Together: How Networking Can Support Research – a Peer-to-Peer Approach (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)
- [46] Stefan Müller: Interaktive Visualisierung Semantischer Graphen (March 2009)
- [47] Veronika Šoltészová: Visual Queries in Neuronal Data Exploration (June 2009)
- [48] Nicolas Pühringer: Sketch-based Modelling for Volume Visualization (July 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)
- [51] Andreas Opitz: Classification and Visualization of Volume Data using Clustering (October 2009)
- [52] Jakob Spörk: High-performance GPU based Rendering for Real-Time, rigid 2D/3D-Image Registration in Radiation Oncology (January 2010)
- [53] David Major: Markov Random Field Based Structure Localisation of Vertebrae for 3D-Segmentation of the Spine in CT Volume Data (May 2010)
- [54] Andreas Ritzberger: Noise and Artifact Reduction in Interactive Volume Renderings of Electron-Microscopy Data-Sets (May 2010)
- [55] Stefan Hehr: Scattered Multi-field Volumes (February 2011)
- [56] Martin Kinkelin: Variational Reconstruction and GPU Ray-Casting of Non-Uniform Point Sets using B-Spline Pyramids (May 2011)
- [57] Andreas Grünauer: Coronary Artery Tracking with Rule-based Gap Closing (July 2011)
- [58] Michael Hanzl: Spontaneous Social Networks (July 2011)
- [59] Tobias Fechter: Deformation Based Manual Segmentation in Three and Four Dimensions (September 2011)
- [60] Christian Basch: Animated Transitions Across Multiple Dimensions for Volumetric Data (October 2011)

- [61] Benedikt Stehno: Rapid Visualization Development based on Visual Programming – Developing a Visualization Prototyping Language (Oktober 2011)
- [62] Fritz-Michael Gschwantner: Advanced Measurement and Quantification of Industrial CT Data (Oktober 2011)
- [63] Johanna Schmidt: Interactive Variability Analysis for Initial Sample Testing of Industrial CT Data (November 2011)
- [64] Roman Gurbat: Sketch-Based Steering in Visdom (November 2011)
- [65] Florian Stabel: User-driven Manipulation of Geospatial Data (Oktober 2012)
- [66] Stephan Pajer: Visualization of Multivariate Networks (Oktober 2012)
- [67] Johannes Sorger: neuroMap - Interactive Graph-Visualization of the Fruit Fly's Neural Circuit (January 2013, OCG-Förderpreis 2014)
- [68] Johannes Novotny: Application of Smart Visibility on Medical 3D Ultrasound Datasets (May 2013)
- [69] Simon Parzer: Irrational Image Generator (June 2013)
- [70] Ivan Maricic: Visual Feature Exploration for ssTEM Image Segmentation (August 2013)
- [71] Clemens Arbesser: Large-Scale Noise Simulation and Visualization of Moving Point Sources (September 2013)
- [72] Benjamin Beer: Visualisierung von Eishockeystatistiken auf mobilen Endgeräten (December 2013)
- [73] Christian Möllinger: Interactive Data Editing of Time-Dependent Data in Visual Analysis (October 2014)
- [74] Edith Langer: Image Retrieval on Co-registered Confocal Microscopy Image Collections (October 2014)
- [75] Johannes Bauer: Integration of Web-Based Information Visualizations into a Scientific Visualization Environment (December 2014)
- [76] Maria Wimmer: Semi-Automatic Spine Labeling on T1- and T2-weighted MRI Volume Data (January 2015)
- [77] Michael Beham: Parameter Spaces of Cups - Cluster-based Exploration of a Geometry Generator's Parameter Space (January 2015)
- [78] Haichao Miao: Visual Quantification of the Circle of Willis in Stroke Patients (April 2015)
- [79] Manuel Hochmayr: Parameter Settings Exploration in Visualisation by Using a Semi-automatic Process (May 2015)
- [80] Sebastian Sippl: Ein Framework für die GPU-gestützte Erzeugung und Gestaltung induktiv rotierter Muster (August 2015)
- [81] Christian Hirsch: Automatic Breast Lesion Examination of DCE-MRI Data Based on Fourier Analysis (September 2015)
- [82] Anna Frühstück: Decoupling Object Manipulation from Rendering in a Thin Client Visualization System (September 2015)
- [83] Tobias Klein: Towards Interactive Visual Exploration of Parallel Programs using a Domain-specific Language (November 2015)



- [84] Matthias Labschütz: An Adaptive, Hybrid Data Structure for Sparse Volume Data on the GPU (January 2016)
- [85] Florian Spechtenhauser: Visual Analytics for Rule-Based Quality Management of Multivariate Data (August 2016)
- [86] Florian Mistelbauer: ActiveDICOM – Enhancing Static Medical Images with Interaction (February 2017)
- [87] Lukas Pezenka: BrainXPlore - Decision finding in Brain Biopsy Planning (November 2017)
- [88] Oliver Reiter: Comparative Visualization of Pelvic Organ Segmentations (March 2018)
- [89] Nikolaus Karall: Vergleichende visuelle Analyse in einer Kohorte von Brustkrebspatienten (May 2018)
- [90] Matthias Gusenbauer: Bitstream - A Bottom-Up/Top-Down Approach to Data Loading for Interactive Bitcoin Visualizations (May 2018)
- [91] Stefan Ovidiu Oancea: Four Texture Algorithms for Recognizing Early Signs of Osteoarthritis. Data from the Multicenter Osteoarthritis Study. (October 2018)
- [92] Klaus Eckelt: Data-Driven User Guidance in Multi-Attribute Data Exploration (October 2018)
- [93] Daniel Steinböck: Interactive Visual Exploration Interface for Large Bipartite Networks (November 2018)
- [94] Thomas Trautner: Importance-Driven Exploration of Molecular Dynamics Simulations (November 2018)
- [95] Wolfgang Ludwig: Radial Diagrams for the Visual Analysis of Wind Energy Production Data (November 2018)
- [96] Johanna Donabauer: VR-Client for Scenario-based Response Training in Disaster Management (January 2019)
- [97] Florence Gutekunst: Guided Data Cleansing of Large Connectivity Matrices (January 2019)
- [98] Georg Bernold: Establishing Precision Rehabilitation - Visual Analytics for predicting the outcome of personalized rehabilitation processes (April 2019)
- [99] Nicolas Grossmann: Pelvis Runner - Comparative Visualization of Anatomical Changes (August 2019)
- [100] David Pfahler: Visualizing High-Dimensional Data with Hierarchically Aggregated Subsets (October 2019)
- [101] Michael Mazurek: Visual Active Learning for News Stream Classification (October 2019)
- [102] Manuel Schrempf: Fantastic Voyage: An Augmented Reality Approach to Anatomical Education for the General Public (March 2020)
- [103] Katharina Unger: Interactive Visual Exploration of Large Bipartite Graphs using Firework Plots (April 2020)
- [104] Stefan Spelitz: BrainGait Gait Event Detection and Visualization for Robotic Rehabilitation (April 2020)

- [105] Martin Mautner: Interactive 3D Storytelling for Planetary Exploration (May 2020)
  - [106] Blagoy Panayotov: A Visual Exploration Tool for Temporal Analysis of Customer Reviews (May 2020)
  - [107] Theresa Neubauer: Volumetric Image Segmentation on Multimodal Medical Images using Deep Learning (August 2020)
  - [108] Nicolas Swoboda: Visualisation and Interaction Techniques for the Exploration of the Fruit Fly's Neural Structure (September 2020)
  - [109] Christoph Presch: Semi-Automatic Creation of Concept Maps (September 2020)
  - [110] Silvana Zechmeister: Interactive Visualization of VectorData on Heightfields (October 2020)
  - [111] Thomas Köppel: Context-Responsive Labeling in Augmented Reality (November 2020)
  - [112] Alexander Gall: Immersive Analytics of Multidimensional Volumetric Data (November 2020)
  - [113] Anja Heim: Visual Comparison of Multivariate Data Ensembles (November 2020)
  - [114] Daniel Pahr: Vologram - Educational Craftworks for Volume Physicalization (November 2020)
  - [115] Andreas Gogel: Visualization-Guided Classification of Carbonized Seeds from Early Human Civilizations (November 2020)
  - [116] Klara Brandstätter: Building a Sandbox Towards Investigating the Behavior of Control Algorithms and Training of Real-World Robots (November 2020)
- supervision of PhD theses:
    - [1] Rainer Wegenkittl: Visualization of Complex Dynamical Systems (1997)
    - [2] Helwig Löffelmann: Visualizing Local Properties and Characteristic Structures of Dynamical Systems (1998)
    - [3] Lukas Mroz: Real-Time Volume Visualization on Low-End Hardware (Feb 2001)
    - [4] Andreas König: Usability Issues in 3D Medical Visualization (Apr 2001)
    - [5] Balazs Csebfalvi: Interactive Volume-Rendering Techniques for Medical Data Visualization (May 2001)
    - [6] Anna Vilanova: Visualization Techniques for Virtual Endoscopy (Sep 2001)
    - [7] Jiri Hladůvka: Derivatives and Eigensystems for Volume-Data Analysis and Visualization (Jan 2002)
    - [8] Armin Kanitsar: Curved Planar Reformation for Vessel Visualization (March 2004). Recipient of the Resselpreis 2004 of the TU Vienna.
    - [9] Markus Hadwiger: High-Quality Visualization and Filtering of Textures and Segmented Volume Data on Consumer Graphics Hardware (June 2004)
    - [10] Helmut Doleisch: Visual Analysis of Complex Simulation Data using Multiple Heterogenous Views (November 2004)

- [11] Sören Grimm: Real-Time Mono- and Multi-Volume Rendering of Large Medical Datasets on Standard PC Hardware (April 2005)
- [12] Ivan Viola: Importance-Driven Expressive Visualization (May 2005)
- [13] André Neubauer: Virtual Endoscopy for Preoperative Planning and Training of Endonasal Transsphenoidal Pituitary Surgery (May 2005)
- [14] Alexandra La Cruz: 3D Modelling and Reconstruction of Peripheral Arteries (January 2006)
- [15] Matej Mlejnek: Medical Visualization for Orthopedic Applications (May 2006)
- [16] Stefan Bruckner: Interactive Illustrative Volume Visualization (April 2008)
- [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)
- [20] Peter Rautek: Semantic Visualization Mapping for Volume Illustration (December 2008)
- [21] Sebastian Zambal: Anatomical Modeling for Image Analysis in Cardiology (March 2009)
- [22] Daniel Patel: Expressive Visualization and Rapid Interpretation of Seismic Volumes (October 2009, University of Bergen, Norway)
- [23] Johanna Beyer: GPU-based Multi-Volume Rendering of Complex Data in Neuroscience and Neurosurgery (October 2009)
- [24] Erald Vuçini: On Visualization and Reconstruction from Non-uniform Point Sets (October 2009)
- [25] Muhammad Muddassir Malik: Feature Centric Volume Visualization (October 2009)
- [26] Jean-Paul Balabanian: Multi-Aspect Visualization: Going from Linked Views to Integrated Views (October 2009, University of Bergen, Norway)
- [27] Jürgen Waser: Visual Steering to Support Decision Making in Visdom (June 2011)
- [28] Martin Haidacher: Information-based Feature Enhancement in Scientific Visualization (June 2011)
- [29] Harald Piringer: Large Data Scalability in Interactive Visual Analysis (September 2011)
- [30] Marius Gavrilescu: Visualization and Graphical Processing of Volume Data (October 2011, Technical University Iași, Romania, co-supervisor)
- [31] Philipp Muigg: Scalability for Volume Rendering and Information Visualization Approaches in the Context of Scientific Data (June 2012)
- [32] Andrej Varchola: Live Fetoscopic Visualization of 4D Ultrasound Data (September 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)
- [36] Andreas Reh: Visualization of Porosity in Carbon Fiber Reinforced Polymers (April 2015)

- [37] Johanna Schmidt: Scalable Comparative Visualization - Visual Analysis of Local Features in Different Dataset Ensembles (June 2016)
- [38] Alexey Karimov: Guided Interactive Volume Editing in Medicine (June 2016)
- [39] Johannes Sorger: Integration Strategies in the Visualization of Multifaceted Spatial Data (September 2017, co-supervisor)
- [40] Thomas Mühlbacher: Human-Oriented Statistical Modeling: Making Algorithms Accessible through Interactive Visualization (EuroVis Best PhD Award 2019) (November 2018)
- [41] Haichao Miao: Geometric Abstraction for Effective Visualization and Modeling (August 2019, co-supervisor)
- [42] Florian Ganglberger: From Neurons to Behavior: Visual Analytic Methods for Heterogeneous Spatial Big Brain Data (September 2019)
- [43] Tobias Klein: Instant Construction of Atomistic Models for Visualization in Integrative Cell Biology (November 2019, co-supervisor)
- [44] Johannes Weissenböck: Visual Analysis of Methods for Processing 3D X-ray Computed Tomography Data of Advanced Composites (December 2019)
- [45] Daniel Cornel: Interactive Visualization of Simulation Data for Geospatial Decision Support (January 2020)
- Member of the habilitation commission or reviewer of the habilitation theses in 15 cases at the Vienna University of Technology

### **Other Scientific Activities:**

- [1] Adjunct Professor at the Department of Informatics, University of Bergen, Norway (since 2005).
- [2] Co - Chief Editor of the Journal Computer Graphics Forum (<https://www.cg-forum.org/>), (2008-2012).
- [3] Editorial Board member:
  - Journal Computers & Graphics, Pergamon Press (1999 - 2007)
  - IEEE Transactions on Visualization and Computer Graphics, Associate Editor (2003 - 2007)
  - Journal of WSCG (2006-)
- [4] Membership in steering boards of scientific associations
  - Member of the Steering Committee of the Eurographics Working Group on Data Visualization, (2002-2016), chairing the Steering Committee (2011-2016)
  - Member of Executive Committee of IEEE Technical Committee on Visualization and Graphics (VGTC) (2004-2016)
  - 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), (<https://www.cg.tuwien.ac.at/events/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, co-organizer (<http://www.ocg.at/de/jv15>).
- VieVisDays 2016 – Vienna Symposium on Visualization, co-organizer, (<https://www.cg.tuwien.ac.at/vievisday/>).
- BDVA 2018 - 4th International Symposium on Big Data Visual and Immersive Analytics, University of Konstanz, October 17-19, 2018, Germany, program co-chair (<http://bdva.net/2018/>).

[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 Programm Committee of the following conferences and events:

- WSCG: International Conference in Central Europe on Computer Graphics and Visualization, Plzen, Czech Republic: 1995 – 2004, 2007-2009.
- SCCG: Spring Conference on Computer Graphics and its Applications, Bratislava, Slovakia: 1996 – 2004, 2009.
- EUROGRAPHICS Workshop on Visualization in Scientific Computing: 1996 (Prague, Czech Republic), 1997 (Boulogne sur Mer, France), 1998 (Blaubeuren, Germany).

- “SOFSEM’97, XXIV-th Seminar on Current Trends in Theory and Practice of Informatics”, Milovy, Czech Republic, 22.-29. November 1997.
- 6th International Workshop on Digital Image Processing and Computer Graphics, Applications in Humanities and Natural Sciences, Vienna, Austria, 20.-22. October, 1997.
- EuroVis – Eurographics Conference on Visualization (VisSym until 2004; the Joint EUROGRAPHICS – IEEE VGTC Symposium on Visualization until 2011): 1999 - 2005, 2007 – 2009, 2013 (full paper PC, short paper PC), 2014 (full paper PC, short paper PC), 2015 (full paper PC), 2017 (short paper PC), 2018 (full paper PC, short paper PC), 2019 (full paper PC, short paper PC) 2020 (full paper PC, short paper PC, posters PC).
- EuroVis MolVA 2020 – 3rd Workshop on Molecular Graphics and Visual Analysis of Molecular Data
- EuroVis VisGap - The Gap between Visualization Research and Visualization Software, 2020
- VMV: Vision, Modeling, and Visualization: 2002 – 2007, 2009
- IEEE Visualization: 2001, 2002, 2003, 2007, 2014(SciVis), 2015(SciVis), 2016(SciVis), 2017(VAST), 2018(VAST), 2019(VAST), 2020(SciVis).
- EUROGRAPHICS 2002 Short/Poster Presentation
- EUROGRAPHICS 2004 (senior reviewer), 2005, 2007, 2008
- IEEE/SIGGRAPH Symposium on Volume Visualization and Graphics (VolVis) 2004
- Simulation and Visualisation, Magdeburg: 2005
- SIBGRAPI: Brazilian Symposium on Computer Graphics and Image Processing: 2004, 2019, 2020
- TopoInVis: Topology-based Methods in Visualization: 2005, 2007, 2009, 2017
- GRAPP - International Conference on Computer Graphics Theory and Applications: 2006, 2007
- International Symposium on Volume Graphics (VG07)
- Pacific Graphics (PG): 2007-2009
- 3rd International Symposium on Visual Computing (ISVC07)
- Yearly Usability Symposium (USAB) of the Workgroup HCI&UE of the Austrian Computer Society, 2007, 2008.
- Shape Modeling International (SMI): 2008, 2009
- Simulation and Visualization 2008 (SimVis2008)
- International Workshop on Ontology Alignment and Visualization – OnAV: 2008, 2009
- Computational Aesthetics: 2008
- IEEE Pacific Visualization Symposium 2009
- VolumeGraphics 2010 (IEEE/EG International Symposium on Volume Graphics 2–3 May, 2010 Norrköping, Sweden)
- Industrielle Computertomografie - Zerstörungsfreie Bauteilprüfung, 3D-Materialcharakterisierung und Geometriebestimmung. Fachtagung 27.–29. September 2010, FH OÖ Campus Wels / Österreich
- Workshop de Computación Gráfica, Imágenes y Visualización (WCGIV), Argentina: 2010, 2011, 2013-2016
- International Conference on System Theory, Control and Computing (ICSTCC), Sinaia, Romania: 2011-2018, 2021

- Working with Uncertainty Workshop (IEEE Visualization 2011 Workshop)
- International Conference on Industrial Computed Tomography (iCT), 2012, 2014, 2016-2021.
- SIGRAD (conference of Swedish chapter of Eurographics), Sweden: 2012, 2013, 2015, 2017
- SouthCHI - International Conference on Human Factors in Computing & Informatics: 2013
- CGI - Computer Graphics International: 2013, 2015
- CLEI - Latin American Symposium of Computer Graphics, Virtual Reality, and Image Processing: 2013, 2014
- 2014 IEEE VIS International Workshop on 3DVis: Does 3D really make sense for Data Visualization?
- Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM): 2008, 2015, 2017-2020
- Workshop on Assistive, Rehabilitation, Diagnosis & Therapeutic Engineering (at 20th International Conference on Control Systems and Computer Science): 2015
- IEEE International Symposium on Big Data Visual Analytics: 2015
- IEEE Workshop Multimedia for Decision-Making: 2016
- Expressive - The Symposium on Computational Aesthetics, Sketch-Based Interfaces and Modeling, Non-Photorealistic Animation and Rendering: 2017-2019
- 7th Workshop on Visual Analytics, Information Visualization and Scientific Visualization (Workshop at Sibgrapi 2017)
- VisGuides Workshop (at the IEEE Visualization Conference) 2018, 2020

[8] Reviewer for the following conferences:

- EUROGRAPHICS conferences: 1992, 1995-1998, 2002-2003, 2011, 2012.
- EUROGRAPHICS Symposium on Rendering (title until 2002: EUROGRAPHICS Workshop on Rendering): 1994, 1995, 2000, 2001, 2003.
- IEEE Visualization: 1997 – 2000, 2004, 2008-2009.
- Computer Graphics International (CGI): 1998 (Hannover, Germany).
- ICVC99: The International Conference on Visual Computing: 1999 (Goa, India).
- GKPO, International Conference on Computer Graphics and Image Processing: 2000 (Podlesice, Poland)
- Graphics Interface (Canada): 2000, 2004.
- Dagstuhl-Seminar 2000211 “Scientific Visualization” (2000)
- CGIM, Computer Graphics and Imaging 2001.
- ACM Siggraph 2002, 2003, 2006, 2007, 2010.
- ACM Siggraph Asia 2011.
- ICCS - International Conference on Computational Science: TSCG - Technical Session on Computer Graphics: 2003, 2006
- Winter Simulation Conference 2003 (WSC '03), Luisiana, USA.
- High Performance Computing Symposium 2003 (HPC 2003), Orlando, FL, USA.
- SPIE Conference on Visualization and Data Analysis (VDA): 2004-2007
- Simulation and Visualisation, Magdeburg: 2004
- Graphite 2004, International Conference on Computer Graphics and Interactive Techniques in Australasia and Southeast Asia: 2004
- Symposium on Geometry Processing (SGP): 2005

- WSCG: International Conference in Central Europe on Computer Graphics and Visualization, Plzen, Czech Republic: 2006
- VLMS2006: International Workshop on Visualization in Medicine and Life Sciences, Rügen, Germany:
- IEEE Symposium on Visual Analytics Science and Technology (VAST) 2007
- VizNET Showcase review 2007, 2008.
- CACIC 2010, XVI Congreso Argentino de Ciencias de la Computación.
- IEEE Information Visualization Conference 2012
- EuroVis2016 STAR

[9] Reviewer for the following scientific journals and books:

- Computer Graphics Forum, NCC Blackwell.
- The Visual Computer, Springer.
- IEEE Computer Graphics and Applications, IEEE Computer Society.
- Computers & Graphics, Pergamon Press.
- IEEE Transactions on Visualization and Computer Graphics, IEEE Computer Society.
- IBM Journal of Research and Development, IBM.
- Future Generations Computer Systems (FGCS), Elsevier Science.
- ACM Transactions on Graphics.
- Machine Graphics & Vision.
- Computing, Archives for Informatics and Numerical Computation, Springer.
- Computing and Visualization in Science, Springer.
- Artificial Intelligence in Medicine, Elsevier.
- ASME Journal of Dynamic Systems, Measurement, and Control
- Brunnett, G., Hamann, B., Müller, H., Linsen, L., (eds.) Geometric Modelling for Scientific Visualization, Springer 2003
- IEEE Transactions on Medical Imaging (TMI)
- it – Information Technology, Oldenburg
- Journal of Zhejiang University SCIENCE (JZUS)
- Springer Book Series “Mathematics and Visualization”
- IEE Proceedings - Vision, Image, and Signal Processing
- 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 Medical & Biological Engineering & Computing (<http://link.springer.com/journal/11517>)
- Journal ACM Transactions on Applied Perception
- Communications of the ACM
- International Journal of Computer Assisted Radiology and Surgery (CARS)
- Computerized Medical Imaging and Graphics
- Journal of Computer Science and Technology (JCS&T)



- BMC Bioinformatics (Springer Nature)
- Computer Aided Geometric Design (Elsevier)
- Histochemistry and Cell Biology (HACB, Springer)
- Medical Image Analysis (Elsevier)

[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, 2002, 2020
- 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: 2014(SRA - Strategic Research Area), 2016(SRICT)
- European Research Council (ERC Starting Grant): 2014, 2017
- Romanian National Authority for Scientific Research and Innovation
- University of Groningen, The Netherlands
- Johannes Kepler University Linz
- OeAD – Österreichischer Austauschdienst
- Universität Bayreuth, Germany
- Deutsche Forschungsgemeinschaft (DFG), Germany

- Bayerische Forschungsstiftung, Germany
- Masaryk University Brno, Czech Republic
- University of Agriculture Faisalabad, Pakistan
- Universität Rostock, Germany
- University of Cologne, Germany
- University of Leeds, UK

[11] External member of PhD committee, PhD reviews:

- Czech Technical University of Prague, Czech Republic: 1998, 2001, 2011
- University of Kaiserslautern, Germany, 2002
- Universitat Politècnica de Catalunya, Spain, 2002, 2008, 2013, 2017
- Otto-von-Guericke-Universität Magdeburg, Germany, 2003, 2009, 2014, 2020
- 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
- Technical University Eindhoven, The Netherlands, 2007, 2012, 2012
- Comenius University Bratislava, Slovakia, 2008, 2009, 2011
- Universität für angewandte Kunst Wien, 2009
- Technische Universität Graz, 2009
- Masaryk University Brno, Czech Republic, 2011
- University of Groningen, The Netherlands, 2011, 2013
- Technical University Iași, Romania 2011
- Linköping University, Sweden, 2014
- King Abdullah University of Science and Technology, Saudi Arabia, 2017
- Universität Wien, Austria 2018
- Universität Bayreuth, Germany 2019

[12] Miscellaneous:

- Panelist: Visualization in the 21<sup>st</sup> Century, New Frontiers, New Topics, New Challenges, Participants. 9<sup>th</sup> EUROGRAPHICS Workshop on Visualization in Scientific Computing, Blaubeuren, Germany, April 20<sup>th</sup>, 1998.
- IEEE Visualization conference member of best paper award committee: 2002, 2005, 2006 (chair).
- Jury member of the medvis-award (Karl-Heinz-Höhne-Preis) 2004.
- Third place of the Eurographics EG 2005 Medical Prize for “The AngioVis ToolBox”.
- NorVis07 Panel participant: “Future Trends in Visualization”, University of Bergen, Norway, May 22<sup>nd</sup>, 2007.
- 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 4<sup>th</sup>, 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 18<sup>th</sup>, 2012 (Best Panel award).
- Panelist: Quantitative Perspectives for Visual Computing. INFORMATIK 2014 Workshop Big Data Visual Computing - Quantitative Perspectives for Visual Computing, Stuttgart, Germany, September 22<sup>nd</sup>, 2014
- Panel co-organizer: A Matter of Scale - Scale Matters. IEEE Vis 2017, Phoenix, Arizona, October 6<sup>th</sup>, 2017
- Member of the Eurographics Award Committee, 2016-2020
- Head of the EuroVis Young Researcher Award Committee (2017-)
- Included in the ACM Distinguished Speaker Program (2018-2021)
- IEEE Visualization: SciVis Test of Time Paper Award Committee (2018)