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# Scientific and Teaching Activities

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

## Books, 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.

[11] Bongshin Lee, Silvia Miksch, Anders Ynnerman, Anastasia Bezerianos, Jian Chen, Wei Chen, Christopher Collins, Michael Gleicher, M. Eduard Gröller, Alexander Lex, Bernhard Preim, Jinwook Seo, Rüdiger Westermann, Jing Yang, Xiaoru Yuan, Han-Wei Shen, Jean-Daniel Fekete, Shixia Liu (eds.), Guest editors of the IEEE Visualization 2021

proceedings, IEEE Transactions on Visualization and Computer Graphics, 28(1) 2022; https://doi.org/10.1109/TVCG.2021.3114891.

[12] Helwig Hauser, Anders Ynnerman, Bongshin Lee, Anastasia Bezerianos, Hamish Carr, Jian Chen, Christopher Collins, Alex, Endert, Michael Gleicher, Eduard Gröller, Tobias Isenberg, T. J. Jankun-Kelly, Michael Sedlmair, Jinwook Seo, Yingcai Wu (eds.), Guest editors of the IEEE Visualization 2022 proceedings, IEEE Transactions on Visualization and Computer Graphics, 29(1) 2023; https://doi.org/10.1109/TVCG.2022.3211681.

[13] Katarína Furmanová, Barbora Kozlíková, Thomas Höllt, M. Eduard Gröller, Bernhard Preim, Renata Georgia Raidou, BioMedical Visualization Past Work, Current Trends, and Open Challenges, In book series: Synthesis Lectures on Visualization (SLV), 2024; https://link.springer.com/book/10.1007/978-3-031-66789-3.

## 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.

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[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.

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[7] Gröller, E.: Oct-tracing animation sequences. Proceedings of the International Conference on Computer Graphics 93, 2.-4. June 1993, Budmerice, Slovakia.

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[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).

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[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.

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[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).

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[19] Gröller, E.: Nonlinear Ray Tracing - Visualizing Strange Worlds. The Visual Computer, Springer, Vol. 11(5), 1995, pp. 263 -274.

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[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.

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[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.

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[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. https://www.informatics-europe.org/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 abstract, July 15, 2020

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[68] Wu, H.-Y., Amirkhanov, A., Grossmann, N., Klein, T., Kouřil, D., Miao, H., Luidolt, L., Mindek, P., Raidou, R.G., Viola, I., Waldner, M., Gröller, E.: Visualization Working

Group at TU Wien: Visible Facimus Quod Ceteri Non Possunt. Visual Informatics, Volume 5, Issue 1, 2021, pages 76-84, doi: 10.1016/j.visinf.2021.02.003.

[69] Antonini, A., Ganuza, L., Gargiulo, F., Ferracutti, G., Bjerg, E., Castro, S., Matković, K., Gröller, E.: Visualización de Datos Multimdimensionales Procedentes de las Geociencias. XXV Workshop de Investigadores en Ciencias de la Computación (Poster at WICC 2023.

[70] Luque, L., Antonini, A., Raidou, R., Gröller, E., Castro, S., Ganuza, L.: Análisis visual jerárquico para el manejo y gestión de incertidumbre aplicado a datos multidimensionales. XXVIII Workshop de Investigadores en Ciencias de la Computación (Poster at WICC 2026).

[71] Luque, L., Antonini, A., Ferracutti, G., Raidou, R., Bjerg, E., Castro, S., Gröller, E., Maria Ganuza, L.: LLUVIA: A Level-of-Detail Approach to Uncertainty-Aware Visual Analytics for Geosciences. EuroVis (Posters) 2026 (https://diglib.eg.org/items/b5600499-7155-4ef7-b864-7b6a8577a7ee).

## 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 15th, 1988.

[2] Using tetrahedrons for dithering color pictures, 3rd International Conference on Computer Graphics, Dubrovnik, Yugoslavia, June 22nd-24th, 1988.

[3] Fractal Geometry and Computer Graphics, 7th Spring School on Computer Graphics, Bratislava, CSFR, May 22nd, 1991.

[4] Using temporal and spatial coherence for accelerating the calculation of animation sequences, EUROGRAPHICS'91, Vienna, Austria, September 4th, 1991.

[5] Fraktale in der Lehre, 1st Workshop of the "Fractal-Chaos User Gruppe", Vienna, Austria, March 18th, 1992.

[6] Fractals in the classroom, Comenius Universität Bratislava, Slovakia, May 29th, 1992.

[7] Fractals and Solid Modeling, EUROGRAPHICS'92, Cambridge, UK, September 11th, 1992.

[8] Visualisierung nichtlinearer dynamischer Systeme, Kolloquium im Rahmen des SFB "Nichtlineare dynamische Systeme", Vienna University of Technology, Vienna, Austria, November 6th, 1992.

[9] ACC-lossless data compression of animation sequences, ICCG 93 (International Conference on Computer Graphics) Bombay, India, February 24th, 1993.

[10] Grundlagen der Computergrafik, Seminar Grafik, organized by Pädagogisches Institut des Bundes in Wien and OCG (Österreichischen Computergesellschaft), Vienna, Austria, April 19th, 1993.

[11] Fraktale Geometrie, Seminar Grafik, organized by Pädagogisches Institut des Bundes in Wien and OCG (Österreichischen Computergesellschaft), Vienna, Austria, April 19th, 1993.

[12] Datenkompression und Dateiformate, Seminar Grafik, organized by Pädagogisches Institut des Bundes in Wien and OCG (Österreichischen Computergesellschaft), Vienna, Austria, April 20th, 1993.

[13] A distortion camera for ray tracing, Visualization and Intelligent Design in Engineering and Architecture, Southampton, UK, April 28th, 1993.

[14] Oct-tracing animation sequences, International Conference on Computer Graphics 93, Budmerice, Slovakia, June 3rd, 1993.

[15] Chaos und Computergraphik, Chaos und Strukturbildung (3. Jahrestagung der Chaos Gruppe), München, Germany, November 13th 1993.

[16] Exploitation of Coherence Properties in Computer Graphics, Czech Technical University (CTU), Prague, Czech Republic, November 19th, 1993.

[17] Techniken der Computergraphik zur Analyse dynamischer Systeme, invited talk at a "Konversatorium aus Operations Research", Vienna University of Technology, Austria, January 17th, 1994.

[18] Coherence in scan-line algorithms for CSG, Winter School on Computer Graphics 94, Plzen, Czech Republic, January 19th, 1994.

[19] Application of Visualization Techniques to Complex and Chaotic Dynamical Systems, 5th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Rostock, Germany, June 1st, 1994.

[20] Interactive Transformation of 2D Vector Data, 10. Spring School on Computer Graphics '94 and its Applications, Bratislava, Slovakia, June 8th, 1994.

[21] Hyperrealistic Image Synthesis and Manipulation, Symposium "The end of reality?", Bratislava, Slovakia, November 3rd, 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 28th, 1994.

[23] Interactive Exploration of Dynamical Systems, IS&T/SPIE´s Symposium on Electronic Imaging: Science & Technology, San Jose Convention Center, USA, February 8th, 1995.

[24] Visualisierung komplexer dynamischer Systeme, WSI/GRIS, University of Tübingen, Tübingen, Germany, March 8th, 1995.

[25] Visualisierung dynamischer Systeme unter Berücksichtigung lokaler Eigenschaften, invited talk at a "Konversatorium aus Operations Research", Vienna University of Technology, Austria, March 24th, 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 5th, 1995.

[27] Analysis and Visualization of Nonlinear Time Sequences, 7th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Prague, Czech Republic, April 24th, 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, 24th, 1996.

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

[30] Visualisierung Dynamischer Systeme, Informatik-Kolloquium "Fortschritte in der Computer Graphik", Institut für Informatik, Technische Universität Braunschweig, Germany, October 22nd, 1996.

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

[32] Ausgewählte Verfahren zur Visualisierung dynamischer Systeme, TH Informatik-Kolloquium, Technische Hochschule Darmstadt, Germany, January 30th, 1997.

[33] Animating Flow Fields: Rendering of Oriented Line Integral Convolution, Computer Animation'97, Geneva, Switzerland, June, 5th, 1997.

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

[35] Anwendungen wissenschaftlicher Visualisierung, Institut für angewandte Physik, Leopold Franzens-Universität, Innsbruck, Austria, July 2nd, 1997.

[36] Verfahren zur Visualisierung dynamischer Systeme, Fakultät für Informatik, Technische Universität Chemnitz-Zwickau, Germany, July 10th, 1997.

[37] Visualizing the Behavior of Higher Dimensional Dynamical Systems, IEEE Visualization'97, Phoenix, AZ, USA, October 22nd, 1997.

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

[39] Visualisierung am Institut für Computergraphik der TU-Wien, Fakultät für Informatik, Otto-von-Guericke Universität Magdeburg, Germany, December 18th, 1997.

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

[41] Visualisierung des Verhaltens höherdimensionaler dynamischer Systeme. Konrad-Zuse-Zentrum für Informationstechnik Berlin und TU Berlin, Germany, February 6th, 1998.

[42] Enhancing the Visualization of Characteristic Structures in Dynamical Systems, 9th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Blaubeuren, Germany, April 20th 1998.

[43] Selected Trends in Scientific Visualization. Invited talk at Spring Conference on Computer Graphics 1998 (SCCG'98), Budmerice, Slovakia, April 24th, 1998.

[44] TunVis: Visualizing specific geologic features for tunnel planning and construction, Spring Conference on Computer Graphics 1998 (SCCG'98), Budmerice, Slovakia, April 25th, 1998.

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

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

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

[48] Anwendungsbeispiele der Computergraphik in der Visualisierung, Kolloquium Informatik, University Bonn, Germany, May 5th, 1999.

[49] Einsatz von graphischer Datenverarbeitung in der Visualisierung, IMMD, University Erlangen-Nuernberg, Germany, November 5th, 1999 .

[50] Computergraphikanwendungen, Fakultät für Informatik, University of Ulm, Germany, December 17th, 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 8th, 2000.

[52] Anwendungen der wissenschaftlichen Visualisierung, Johannes Kepler Universität Linz, Austria, March 17th, 2000.

[53] Interactive 3D Graphics in Medicine, Seminar 00251, Image Synthesis and Interactive 3D Graphics, Dagstuhl, Germany, June 22nd, 2000.

[54] Anwendungsbeispiele der Computergraphik, Informatikkolloquium, Universität Gesamthochschule Siegen, Germany, September 20th, 2000.

[55] Beispiele aus der medizinischen Visualisierung, Otto-von-Guericke Universität Magdeburg, Germany, October 19th, 2000.

[56] Visualisierungsprojekte am ICGA der TU-Wien, MeVis, Universität Bremen, Germany, January 29th, 2001.

[57] Ausgewählte Kapitel der medizinischen Visualisierung, MeVis, Universität Bremen, Germany, January 30th, 2001.

[58] Anwendungsbeispiele in der wissenschaftlichen Visualisierung, Institut für Informatik, TU München, Germany, March 9th, 2001.

[59] Issues in Building a Medical Workstation, University of Gävle, Sweden, March, 21st, 2001.

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

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

[62] Wissenschaftliche Visualisierung in der Medizin, Arbeitsgruppe „Computergraphik“, Universität Bonn, Germany, November, 25th, 2002.

[63] Medical Visualization: CT Angiography and other Examples, Philips Medical Systems (PMS), Eindhoven, The Netherlands, November, 27th, 2002.

[64] Medical Visualization: CT Angiography and other Examples, TU/e, Technical University Eindhoven, The Netherlands, November, 28th, 2002.

[65] Medizinische Visualisierung: CT Angiographie und weitere Beispiele, WSI/GRIS, Universität Tübingen, Germany, January, 31st, 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, 24th, 2003.

[67] Feature Extraction in Medical Visualization, Seminar 03231, Scientific Visualization: Extracting Information and Knowledge from Scientific Data Sets, Dagstuhl, Germany, June, 2nd, 2003.

[68] Volumetric Feature Extraction in Medical Visualization, Stanford University School of Medicine, Radiological Sciences Laboratory, Stanford, USA, October, 27th, 2003.

[69] Efficient Volume Visualization of Large Medical Datasets, VRVis Center for Virtual Reality and Visualization, VRVis Forum #16, Vienna, Austria, September 23rd, 2004.

[70] Scientific Visualization Techniques and Applications, University of Arkansas Little Rock (UALR), Cyber College/CSAM Colloquium Series, Little Rock, USA, October 15th, 2004.

[71] Importance-Driven Image Generation in Scientific Visualization, Faculty of Informatics, Masaryk University Brno, Informatics Colloquium, Brno, Czech Republic, November 9th, 2004.

[72] Importance-Driven Image Generation in Scientific Visualization, Department of Informatics, University of Bergen, Norway, August 18th, 2005.

[73] Importance-Driven Image Generation in Medical Visualization, Faculty of Electrical Engineering, Mathematics and Computer Science, TU Delft, The Netherlands, September, 12th, 2005.

[74] Focus+Context Visualization of Features and Topological Structures, TopoInVis 2005: Topology-Based Methods in Visualization, Budmerice, Slovakia, September, 30th 2005.

[75] Smart Visibility in Illustrative Visualization, Image Colloquium, Department of Biomedical Engineering, Technische Universiteit Eindhoven, The Netherlands, October, 12th, 2005.

[76] Smart Visibility in Illustrative Visualization, Center for Scientific Computing, Simon Fraser University, Vancouver, Canada, October 21st, 2005.

[77] Abstraction Techniques for Illustrative Visualization, Invited Talk at VMV 2005: Vision, Modeling, and Visualization 2005, Erlangen, Germany, November 17th, 2005.

[78] Computer-supported Illustrative Visualization, Informatik Kolloquium, Institut für Informatik, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany, October 11th, 2006.

[79] Illustrative Visualization Techniques, Kolloquium, Institut für Informatik, Universität Rostock, Germany, November 22nd, 2006.

[80] Medical Visualization: Articular Cartilage Visualization and other Examples, BBG seminar, Department of Mathematics, University of Bergen, Norway, February, 23rd, 2007.

[81] Visualization – I see it my way, Invited Talk at NorVis 2007, University of Bergen, Norway, May 22nd, 2007.

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

[83] Visualization – I see it my way II, Seminar 07291, Scientific Visualization, Dagstuhl, Germany, July 16th, 2007.

[84] Computational Science – Überblick und eigene Forschungsleistungen, Invited Talk, Fakultät für Informatik, Universität Wien, Vienna, Austria, October 10th, 2007.

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

[86] Illustrative Rendering with Style, Invited Talk, Technisch-Naturwissenschaftliche Fakultät, Johannes Kepler Universität Linz, Austria, January 25th, 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 15th, 2008.

[88] LiveSync: An Interactive Metaphor for Knowledge-Based Navigation in Medical Visualization. MedViz seminar, University of Bergen, Norway, May 16th, 2008.

[89] Visualisierung – aktuelle Themen und Trends. Donau-Universiät Krems, Austria, June 17th, 2008.

[90] Knowledge-Assisted Visualization. Keynote Talk at 18th Congreso Español de Informática Gráfica (CEIG 2008), Barcelona, Spain,Thursday, Sep 4th, 2008.

[91] Knowledge-Assisted Visualization. Invited Talk, Department of Computer Science and Engineering, Arizona State University, USA, Monday, Oct 20th, 2008.

[92] Knowledge-Assisted Visualization. Department seminar, Department of Informatics, University of Bergen, Norway, Thursday, Nov 6th, 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 27th, 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 4th, 2009.

[95] (Scientific) Visualization: Overview and own Research Contributions. Invited Talk, Fakultät für Informatik, Universität Wien, Vienna, Austria, May 18th, 2009.

[96] A. Seminar 09251, Scientific Visualization, Dagstuhl, Germany, July 15th, 2009.

[97] Comprehensive Visualization of Cardiac MRI Data, Keynote Address at AMI-ARCS 2009, 5th Workshop on Augmented Environments for Medical Imaging including augmented Reality in Computer-Aided Surgery (MICCAI), Imperial College London, UK, September 24th, 2009.

[98] Integrated Views in Visualization, GMSV seminar, KAUST, Thuwal, Saudi Arabia, February 13th, 2010.

[99] Integrated Views in Visualization, Institute seminar, Department of Informatics, University of Bergen, Norway, Thursday, May 20th, 2010.

[100] Comprehensive Visualization of Cardiac MRI Data, MedViz seminar, University of Bergen, Norway, Friday, May 21st, 2010.

[101] Illustrative Visualization, IFI colloquium, Department of Informatics, University of Zurich, Switzerland, Thursday, Dec 2nd, 2010.

[102] Visualization of Complex Data: Going from Linked to Integrated Views, Visualisierungsinstitut der Universität Stuttgart (VISUS), University of Stuttgart, Germany, February 22nd, 2011.

[103] The Haunted Swamps of Heuristics, Capstone talk at EuroVis 2011, Eurographics / IEEE Symposium on Visualization, Bergen, Norway, June 3rd, 2011.

[104] The Haunted Swamps of Uniformity, Seminar 11231, Scientific Visualization, Dagstuhl, Germany, June 7th, 2011.

[105] Comprehensive Visualization of Cardiac MRI Data, Workshop Geometry for Anatomy, Banff International Research Station for Mathematical Innovation and Discovery (BIRS), Banff, Canada, August 30th, 2011.

[106] Visual Steering to Support Decision Making in Visdom, Visual Computing Forum, University of Bergen, Norway, December 2nd, 2011.

[107] Variability in Visualization, Computer Graphics and HCI Group, Technische Universität Kaiserslautern, Germany, January 18th, 2012.

[108] Variability in Visualization, Computer Graphics and Visualization Group, Technische Universität München, Germany, January 20th, 2012

[109] Visualization in Biopsy Planning, Medical Visualization Minisymposium, Eindhoven University of Technology, The Netherlands, June 13th, 2012

[110] Knowledge-Assisted Visualization and Biopsy Planning, Mini-Symposium on Medical Visualization, University of Bergen, Norway, October 4th, 2012.

[111] Variability in Visualization, ICG Lab Talks, Johannes Kepler Universität Linz, Austria, December 11th, 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, 12th, 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 2nd, 2014.

[120] Comparative and Quantitative Visualization. Keynote Talk at INFORMATIK 2014 Workshop Big Data Visual Computing - Quantitative Perspectives for Visual Computing, Stuttgart, Germany, September 22nd, 2014.

[121] The Certainly Uncertain Uncertainty Talk. Workshop on Parameter space/Uncertainty, Technische Universität München, Informatik 15 (Computer Graphik & Visualisierung), Munich, January 27th, 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 5th, 2015.

[123] Simplifying Medical Visualization through Sparse Interaction and Reformation. Human Computer Interaction Laboratory, Faculty of Informatics, Masaryk University, Brno, Czech Republic, November 5th, 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 24th, 2016.

[127] Visual Data Exploration. Keynote Talk at the 21st International Symposium on Vision, Modeling, and Visualization (VMV 2016), Bayreuth, Germany, Oct 11th, 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 7th, 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 9th, 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 10th, 2017.

[132] Data-Sensitive Visual Navigation. 33rd Spring Conference on Computer Graphics (SCCG 2017), Mikulov, Czech Republic, May 16th, 2017.

[133] Adaptive Visual Computing. Invited Talk, Universität Konstanz, Department of Computer and InformationScience, Data Analysis and Visualization, Germany, Aug 31st, 2017.

[134] A Matter of Scale. Molecular Animation Summit, Scientific Computing and Imaging Institute (SCI), University of Utah, Sep 28th, 2017.

[135] A Random Talk on Random Walks. 10 Years Bergen VisGroup Celebration, Department of Informatics, University of Bergen, Oct 20th, 2017.

[136] Output-Sensitive Interaction. Visual Computing Center, King Abdullah University of Science and Technology, Dec 14th, 2017.

[137] Adjust, Just Adjust. Dagstuhl Seminar 18041, Foundations of Data Visualization, Germany, January 25th, 2018.

[138] A Matter of Scale. Invited Talk, Czech Technical University, Faculty of Electrical Engineering, Department of Computer Graphics and Interaction, Czech Republic, June 22nd, 2018.

[139] A Matter of Scale, Visual Computing Forum, University of Bergen, Norway, September 14th, 2018.

[140] Visual Modelitics – Quo Vadis?, Computational DNA Engineering Workshop 2018, Plitvice, Croatia, September 18th, 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, 11th, 2019

[142] Reformation and Sparse Interaction in Visualization. Dagstuhl Seminar 19151, Visual Computing in Materials Sciences, Germany, April 8th, 2019

[143] Simplifying (Bio-)Medical Visualization through Sparse Interaction and Reformation. Bina Nusantara University Guest Lecturing, Jakarta, Indonesia, (ACM Distinguished Speakers Program), July 1st, 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 4th, 2019

[145] Smart Interaction. KAUST Cell Visualization Summit 2019, King Abdullah University of Science and Technology (KAUST), November 5th, 2019

[146] Interactive Visual Analysis in the Computational Sciences. Invited Talk, High Visual Computing (HiVisComp) 2020, Hotel Praha, Ore Mountains, Czech Republic, January 29th, 2020

[147] Visual Analytics in Radiation Therapy Planning. Mohn Medical Imaging and Visualization Centre (MMIV) Virtual Seminar, Bergen, Norway, May 15th, 2020

[148] Interactive Visual Data Analysis. Keynote Talk (virtual), Conference on Image and Graphics Technology and Application (IGTA) 2021, Bejing Society and Graphics, China, September, 19th, 2020

[149] Medicinae Notitia Visibilis Fac – Quo Vadis? IEEE Vis 2020 Application Spotlight (virtual): Recent Challenges in Medical Visualization, Salt Lake City, USA, October 29th, 2020

[150] Interactive Visual Data Analysis. KAUST CEMSE Graduate Seminar (virtual), Saudi Arabia, November 9th, 2020.

[151] How to do a Successful PhD (in Visual Computing). Bio+Med+Vis Spring School (https://biomedvis.github.io/, virtual), May 20th, 2021.

[152] Interactive Visual Data Analysis. Plenary Talk, ICSTCC 2021 - 25th International Conference on System Theory, Control and Computing, October 21st, 2021, Iași, Romania.

[153] Visual Analysis through Spatial and Abstract Data Integration (virtual). CSIG-VIS International Lecture Series (http://chinavis.org/lectures/english/index_en.html), November, 4th, 2021.

[154] Ask Me Anything. Visual Computing Forum, University of Bergen, Norway, December 3rd, 2021.

[155] Interactive Visual Data Analysis, Mini Symposium, Eindhoven University of Technology, The Netherlands, April 8th, 2022.

[156] Interactive Visual Analytics and Modelitics, Summer School of Zheijiang University (virtual), Hangzhou, China, June 30th 2022.

[157] Interactive Visual Analytics and Modelitics, Bio+Med+Vis Summer School, Masaryk University, Brno, Czech Republic, September 19th, 2022.

[158] Visual Data Analysis and Modelitics, Peking University (virtual), 2022 International Conference on the Cooperation and Integration of Industry, Education, Research and Applications, China, December 16th, 2022.

[159] Scalable Interactive Visual Analysis – JGE, VRVis, Visual Computing Trends 2023, Vienna, Austria, January 26th 2023.

[160] Interactive Visual Data Analysis, 14th PKU Visualization Summer School, Peking University, China, July 18th, 2023.

[161] How to do a Successful PhD (in Visual Computing), 14th PKU Visualization Summer School, Peking University, China, July 18th, 2023.

[162] Scalable Interactive Visual Analysis, Keynote Talk at ChinaVis 2023 - The 10th China Visualization and Visual Analytics Conference, Chongqing, China, July 18th, 2023.

[163] Scalable Interactive Visual Analysis – TED, Keynote Talk at Stuttgarter Visualisierungstag, Universität Stuttgart, Germany, September 22nd, 2023.

[164] Scalable Interactive Visual Analysis Through Storytelling, Keynote Talk at IConCMT – The 5th International Conference on Creative\Media/Technologies, St. Pölten University of Applied Sciences (UAS), Austria, November 29th, 2023.

[165] Certain Uncertainties in Visual Data Science, Faculty Colloquium, Faculty of Computer Science and Mathematics, University of Passau, Germany, December 10th, 2024.

[166] Certain Uncertainties in Visual Data Science, Keynote Talk at DSSV 2025 – Data Science, Statistics & Visualization, Kruger National Park, South Africa, July 8th, 2025.

## 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.

[43] IVILPC - Instant Visualization and Interaction for Large Point Clouds (principal investigator, together with Bernhard Kerbl, Markus Schütz, Michael Wimmer) WWTF project, no. ICT22-055, 2023-2026.

[44] ClimaSens - Climate-sensitive Adaptive Planning for Shaping Resilient Cities (Key Researcher, PhD supervisor), FFG COMET MODUL 904918 at VRVis Zentrum für Virtual Reality und Visualisierung Forschungs-GmbH, 2024-2027.

[45] VAVis – Visual Analytics und Visualisierung, contract research project with VRVis Zentrum für Virtual Reality und Visualisierung Forschungs-GmbH, 2025

## 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 National 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, WS21/22, WS22/23, WS23/24, WS24/25, WS25/26, WS26/27 (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, WS21/22, WS22/23, WS23/24.
- “Visualisierung 2” (“Visualization 2”) VU 3.0 SS12, SS13, SS14, SS15, SS16, SS17, SS18, SS19, SS20, SS21, SS22[contributed], SS23[contributed], WS23/24[contributed], WS24/25[contributed].
- “Computergraphik” (“Computer Graphics”) VO 2.0 SS12, SS13, SS14, SS15, SS16, SS17, SS18, SS19, SS20, SS21.
- “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, WS21/22, WS22/23[contributed], WS23/24[contributed], WS24/25[contributed], WS25/26[contributed], WS26/27[contributed]
- “Seminar aus Computergraphik” (“Seminar in Computer Graphics”) SE 2.0 SS12, SS13, SS14, SS15, SS16, SS17, SS18, SS19, SS20, SS21, SS22[contributed], SS23[contributed], SS24[contributed], SS25[contributed], SS26[contributed].
- „Einführung in Visual Computing“ („Introduction to Visual Computing”) [Computer Graphics part] VU 5.0 SS22, SS23, SS24, SS25, SS26.
- “Grundlagen der Visualisierung” (“Fundamentals of Visualization”) VU 4.0 SS24[contributed], SS25[contributed], SS26[contributed]
- “Visualisierung” (“Visualization”) VU 4.0 WS25[contributed], WS26[contributed]
- 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] Wolfang 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 Endocsopy Applications (May 2005)

[31] Peter Rautek: $D^2VR$: 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 (October 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 (October 2012)

[66] Stephan Pajer: Visualization of Multivariate Networks (October 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, ILW Förderpreis 2020, OCG-Förderpreis 2021)

[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, OCG-Förderpreis 2022)

[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, TÜV Austria Science Award)

[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, Best Poster Award Epilog 2021-06-16)

[117] Sandra Schmidlehner: Standards-based Clinical Data Repository (April 2021)

[118] Dominik Scholz: A Modular Domain-Specific Language for Interactive 3D Visualization (June 2021)

[119] Jakob Troidl: Spatial Neighborhood Analysis and Comparison for Nanoscale Brain Structures (July 2021, ILW Förderpreis 2022)

[120] Rebecca Nowak: Interactive Correlation Panels for the Geological Mapping of the Martian Surface (October 2021)

[121] Victoria Caic: Modelling the Effect of emotional Feedback as Stimulus in fMRI Neurofeedback (January 2022)

[122] Elitza Vasileva: Immersive Visual Analysis of Time-Dependent Multivariate Data Using Virtual Reality (March 2022)

[123] Stefan Zaufel: Agent Based Pedestrian Simulation in Visdom (March 2022)

[124] Tanja Eichner: Interactive Co-Registration for Multi-Modal Cancer Imaging Data based on Segmentation Masks (May 2022)

[125] Monika Wißmann: Anatomy-Driven Layouting for Brain Network Visualization (January 2023)

[126] Michaela Tuscher: Quantitative Evaluation of Reading Times and Error Rates When Interpreting Visual Content (April 2023)

[127] Stefanie Mistelbauer: A Holistic Approach for Metabolic Pathway Visualization (April 2023)

[128] Lukas Herzberger: Scalable Web-Based Multi-Volume Rendering (September 2023, TUW Informatics Award – Best Master Thesis Award Runner-Up)

[129] Thorsten Korpitsch: Semantic-Aware Animation of Hand-Drawn Characters (September 2023)

[130] Sanjin Radoš: Reprojecting Visualizations for Advanced Interaction (September 2023)

[131] Martin Riegelnegg: Automated Extraction of Complexity Measures from Engineering Drawings (May 2024)

[132] Leon Thierry Meka: Line Perception in Parallel Coordinates under different Aspect Ratios (September 2024)

[133] Markus Töpfer: SPX Ein vielseitiges erweiterbares räumliches Indexierungsframework (September 2024)

[134] Marie-Sopie Pichler: Visual Analytics für Deep Learning mit Graphen: Fallstudie zum Bündeln von Neuronen (September 2024)

[135] Lukas Machegger: Visual Evaluating the Impact of Parameter Tuning on Glioblastoma Segmentation using Deep Learning (May 2025)

[136] Volodymyr Tretyak: Tactical Medicine in Virtual Reality - Using VR to Improve Emergency Medical Preparedness (June 2025)

[137] Mark-Christian Bront: Cell Viability Assessment Via Deep Learning Solutions (September 2026, co-supervision)

[138] Christoforos Eseroglou: Investigating Immune Checkpoint Inhibitor–Associated Atherosclerosis Using Automated PET/CT Analysis (September 2026, co-supervision)

- 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 Iaşi, 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 (EuroVis Best PhD Award 2021) (January 2020)

[46] David Kouřil: Interactive Visualization of Dense and Multi-Scale Data for Science Outreach (EuroVis Best PhD Award 2022) (February 2021, co-supervisor)

[47] Thomas Ortner: Tight Integration of Visual Analysis and 3D Real-Time Rendering (April 2021)

[48] Aleksandr Amirkhanov: Visual Analysis of Defects (October 2021)

[49] Matthias Wilfried Schlachter: Visual Computing Methods for Radiotherapy Planning (February 2023)

[50] Maria Wimmer: Addressing Data Heterogeneity in Image-Based Computer-Aided Detection and Diagnosis Methods (Mai 2024)

[51] Vaishali Dhanoa: From Analysis to Communication: Supporting Users in Understanding Complex Spreadsheets and Dashboards (September 2024, JKU Linz, co-supervisor)

- Member of the habilitation commission or reviewer of the habilitation theses in 17 cases at TU Wien

## Other Scientific Activities:

[1] Adjunct Professor at the Department of Informatics, University of Bergen, Norway (2005-2026).

[2] Co - Chief Editor of the Journal Computer Graphics Forum (https://www.eg.org/wp/eurographics-publications/cgf/), (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/).
- VCBM 2022, Eurographics Workshop on Visual Computing for Biology and Medicine, September 22-23, 2022, Austria, General Co-Chair (https://conferences.eg.org/vcbm2022/).
- IEEE Visualization 2025 General Co-Chair (together with Johanna Schmidt, Barbora Kozlíková, Krešimir Matković; https://ieeevis.org/year/2025/welcome).

[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 VRVis GmbH (funded by COMET of FFG, 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), 2021 (posters PC), 2022 (posters PC), 2023 (full paper PC, posters PC), 2024 (full paper PC, education papers PC), 2025 (full paper PC), 2026 (short paper PC).
- EuroVis MolVA – Workshop on Molecular Graphics and Visual Analysis of Molecular Data (2020, 2021)
- 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), 2021(Area 5 Paper Co-Chair), 2022(Area 5 Paper Co-Chair), 2023 (full papers), 2026 (full papers).
- 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, 2023
- Working with Uncertainty Workshop (IEEE Visualization 2011 Workshop)
- International Conference on Industrial Computed Tomography (iCT), 2012, 2014, 2016-2020, 2022-2027.
- 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, 2017-2023
- 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
- Eurasiagraphics 2021
- Design X Bioninformatics – Hybrid Workshop 9.9.2022, London – Paris – Fukuoka
- Workshop on Visual Analytics in Healthcare (VAHC) 2023, 2025
- Conference Data Science, Statistics & Visualization (DSSV) 2026
- EuroVis Workshop on Visualization Play, Games, and Activities 2026
- Applications and Systems for Healthcare (ASH) Track; Symposium on Applied Computing (SAC) 2027

[8] Reviewer for the following conferences, symposia, workshops:

- EUROGRAPHICS conferences: 1992, 1995-1998, 2002-2003, 2011, 2012, 2023.
- EUROGRAPHICS Symposium on Rendering (title until 2002: EUROGRAPHICS Workshop on Rendering): 1994, 1995, 2000, 2001, 2003.
- IEEE Visualization: 1997 – 2000, 2004, 2008-2009, 2025 (short paper).
- 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, 2022, 2024.
- ACM Siggraph Asia 2011, 2024.
- 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 Congresso Argentino de Ciencias de la Computación.
- IEEE Information Visualization Conference 2012
- EuroVis2016 STAR
- Eurographics 2021 Doctoral Consortium
- IConCMT – The 5th International Conference on Creative\Media/Technologies, St. Pölten University of Applied Sciences, 2023
- Workshop on Visual Analytics in Healthcare (VAHC 2024)
- Pacific Visualization 2024
- Eurographics Workshop on Visual Computing for Biology and Medicine (EG VCBM) 2026

[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)
- ISPRS International Journal of Geo-Information
- International Journal of Digital Earth, Taylor & Francis
- Graphical Models (Elsevier)
- Journal of Nondestructive Evaluation (Springer)
- Engineering Applications of Artificial Intelligence (Elsevier)
- Medical Physics - The International Journal of Medical Physiscs Research and Practice (Wiley)
- Journal of Imaging Informatics in Medicine
- Visualization in Industrial X-ray Computed Tomography (Springer)

[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: 2010, 2025
- Technical University of Iaşi, 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; (ERC Consolidator Grand (2026)
- Romanian National Authority for Scientific Research and Innovation
- University of Groningen, The Netherlands: 2015, 2025
- 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
- Universiät Rostock, Germany
- University of Cologne, Germany
- University of Leeds, UK
- The Ohio State University, USA
- University of Utah, USA
- Heidelberg University, Germany
- Brno University of Technology, Czech Republic
- Association for Computing Machinery (ACM)
- Knut and Alice Wallenberg Foundation, Sweden: 2023
- HTW Dresden, Germany
- Universidad Nacional del Sur, Argentina
- Executive Unit for the Financing of Higher Education, Research, Development and Innovation (UEFISCDI), Romania
- Technical University Munich, Germany: 2025
- Austrian Academy of Sciences: 2025
- Alexander-von-Humboldt-Stiftung: 2026

- The Pennsylvania State University: 2026
- Karl Landsteiner – Privatuniversität für Gesundheitswissenschaften, 2026
- University of Ljubljana, 2026

[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 Iaşi, Romania 2011
- Linköping University, Sweden, 2014
- King Abdullah University of Science and Technology, Saudi Arabia, 2017
- Universität Wien, Austria 2018, 2021, 2026
- Universität Bayreuth, Germany 2019
- TU Wien, Austria 2022
- Hamad Bin Khalifa University, Qatar 2022
- TU Darmstadt, Germany 2024
- Universität Jena 2024
- Brno University of Technology 2024

[12] Miscellaneous:

- Panelist: Visualization in the 21st Century, New Frontiers, New Topics, New Challenges, Participants. 9th EUROGRAPHICS Workshop on Visualization in Scientific Computing, Blaubeuren, Germany, April 20th, 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, 2026.
- 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 22nd, 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 4th, 2009.

- Member of VIGOR++ (Virtual Gastrointestinal Tract) Advisory Committee, EU FP7-ICT-2009-6 project, 2011-2014.
- Panelist: Quality of Visualization: The Bake Off. IEEE VisWeek 2012, Seattle, USA, October 18th, 2012 (Best Panel award).
- Panelist: Quantitative Perspectives for Visual Computing. INFORMATIK 2014 Workshop Big Data Visual Computing - Quantitative Perspectives for Visual Computing, Stuttgart, Germany, September 22 nd, 2014
- Panel co-organizer: A Matter of Scale - Scale Matters. IEEE Vis 2017, Phoenix, Arizona, October 6th, 2017
- Member of the Eurographics Award Committee, 2016-2020
- Head of the EuroVis Young Researcher Award Committee (2017-2021)
- Included in the ACM Distinguished Speaker Program (2018-2021)
- IEEE Visualization: SciVis Test of Time Paper Award Committee (2018)
- Eurographics 2021: Best Paper Award Chair
- Member of VGTC Technical and Lifetime Achievement Award Committee 2021-2023, 2026
- Member of the IEEE VIS 2024 Organizing Committee
- Internal advisor for Frauenhofer ICON project “SimVision – Simulation-Based Visual Inspection”, Frauenhofer ITWM, 2024-2027
- IEEE Vis 2024 Test of Time Award Co-Chair
- IEEE Vis 2025 Test of Time Award Co-Chair
- Journal of Data Science, Statistics, and Visualiztion (JDSSV) Best Paper Award Committee Member, 2026
- Karl-Heinz-Höhne Award (MedVis Award) Jury Member, 2026