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LEBENSLAUF

1963:
Geboren im Dezember 1963 in Alfeld (Leine), Deutschland (Staatsangehörigkeiten: Bundesrepublik Deutschland und Vereinigte Staaten von Amerika).

1983:
Abitur (Notendurchschnitt: 0,9), Gymnasium Alfeld, Deutschland.

1985:
Vor-Diplom in Informatik, Technische Universität Braunschweig, Deutschland.

1985–1986:
Anwendungsprogrammierer, Stahlwerke Peine-Salzgitter AG, Salzgitter, Deutschland.

1986:
Vor-Diplom in Mathematik, Technische Universität Braunschweig, Deutschland.

1988:
Diplom in Informatik, Technische Universität Braunschweig, Deutschland.

1988–1991:
Wissenschaftlicher Assistent in Informatik, Arizona State University, Tempe, Arizona, U.S.A.

1991:
Ph.D. (Dr. rer. nat.) in Informatik (Betreuer: Prof. Dr. Gregory M. Nielson), Arizona State University, Tempe, Arizona, U.S.A.

1991–1994:

Assistant Professor in Informatik (Computer-Aided Geometric Design, Computer-Graphik und Visualisierung), Mississippi State University, Mississippi State, Mississippi, U.S.A.

1991–1995:

Wissenschaftler am Mississippi State University-National Science Foundation (NSF) Engineering Research Center for Computational Field Simulation, Mississippi State University, Mississippi State, Mississippi, U.S.A.

1992:

Ruf an die Vanderbilt University (abgelehnt), Assistant Professor in Mathematik (Assistenzprofessur), Nashville, Tennessee, U.S.A.

1994–1995:

Associate Professor in Informatik, Mississippi State University, Mississippi State, Mississippi, U.S.A.

1995–2000:

Associate Professor in Informatik (Computer-Aided Geometric Design, Computer-Graphik und Visualisierung), University of California, Davis, California, U.S.A. („Tenure", Unkündbarkeit seit Juli 1997).

1995–2005:

Adjunct Professor (Honorarprofessor) in Computer Science and Engineering (Informatik), High Performance Computing Collaboratory (formerly the Mississippi State University-NSF Engineering Research Center for Computational Field Simulation), Mississippi State, Mississippi, U.S.A.

1997–2004:

Co-Direktor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, California, U.S.A.

1998–2013:

Participating Guest Researcher, Data Analysis Group, Center for Applied Scientific Computing (CASC), Lawrence Livermore National Laboratory (LLNL), Livermore, California, U.S.A.

1999–2017:

Faculty Computer Scientist, Visualization Group, Computational Research Division (CRD), Lawrence Berkeley National Laboratory (LBNL), University of California, Berkeley, California, U.S.A., Oktober 1999 - September 2017.

seit 2000:

Full Professor in Informatik (Computer-Aided Geometric Design, Computer-Graphik, Visualisierung, Virtual Reality), University of California, Davis, California, U.S.A., *Fakultätsmitglied der Graduiertenprogramme in Computer Science, Applied Mathematics, Health Informatics und Neuroscience.*

2001:

Ruf an die Simon Fraser University (abgelehnt), Full Professor in Informatik – **Tier-1 Canadian Research Chair (Endowed Professorship/Stiftungsprofessur)** in Informatik, Burnaby, British Columbia, Kanada.

2003–2012:

Vizepräsident für Forschung (außerordentlich) / Associate Vice Chancellor for Research (Interdisciplinary Research and Strategic Initiatives), Office of Research, University of California, Davis, California, U.S.A.

2004:

Co-Direktor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, California, U.S.A., Mai - Juni 2004.

2004–2016:

Affiliated faculty member, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, California, U.S.A.

2004–2019:

Affiliated lead scientist and faculty member, W. M. Keck Foundation Center for Active Visualization in the Earth Sciences (KeckCAVES), University of California, Davis, California, U.S.A.

2005–2013:

Co-Direktor, International Research Training Group (IRTG), „Visualization of Large and Unstructured Data Sets", University of Kaiserslautern, Germany, and University of California, Davis (lead institutions) and Arizona State University, University of California, Irvine, and The University of Utah (partner institutions), U.S.A., Januar 2005 - Dezember 2013.

seit 2005:

Mitgründer, Vorstandsmitglied/Direktor und Unternehmensberater, Stratovan Corporation, Sacramento, California, U.S.A.

2005:

Ruf an die Wright State University (abgelehnt), Full Professor in Informatik – **LexisNexis/Ohio Eminent Scholar (Endowed Professorship/Stiftungsprofessur)** in Informatik **($1,500,000 endowment)**, Dayton, Ohio, U.S.A.

2006–2010:

University of California Presidential Chair in Undergraduate Education, „Scientific Visualization in the Geological Sciences: An Interdisciplinary Research Experience for Undergraduates", Office of the Provost, University of California, Davis, California, U.S.A., Juli 2006 - Juni 2010.

2007:

Ruf an die University of Nevada, Las Vegas (abgelehnt) – **Vice President for Research and Dean of the Graduate College (Vizepräsident für Forschung und Dekan des Graduiertenkollegs)**, Las Vegas, Nevada, U.S.A.

2010:

Kandidat für die Position des **Rektor der Universität Leipzig**, September 2010, Universität Leipzig; Kandidatur zurückgezogen.

2012–2017:

Direktor (UC Davis), Los Alamos National Laboratory - UC Davis Institute of Next-generation Visualization and Analysis (INGVA), Los Alamos National Laboratory, New Mexico, and University of California, Davis, U.S.A., Oktober 2012 - September 2017.

2012:

Ruf an die Naval Postgraduate School (abgelehnt) – **Executive Vice President and Provost (Exekutiver Vizepräsident und Provost)**, Monterey, California, U.S.A.

REDAKTIONSAKTIVITÄTEN UND VERÖFFENTLICHUNGEN

Editorial Boards (Mitgliedschaften in Redaktionsvorständen)

[1] IEEE Transactions on Visualization and Computer Graphics (TVCG), Januar 1999 – März 2003.

Bücher, Proceedings und Journal-Sonderausgaben

[16] Aurich, J. C., Ravani, B., Ebert, A., Hamann, B., Müller, R., Zohdi, T. and Kirsch, B., eds. (2017), *Physical Modeling for Virtual Manufacturing Systems and Processes*, Applied Mechanics and Materials 869, special issue, Scientific.Net, Trans Tech Publications Inc., Zürich, Switzerland.

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[7] Farin, G., Hamann, B. and Hagen, H., eds. (2003), *Hierarchical and Geometrical Methods in Scientific Visualization*, ISBN 3-540-43313-9, Mathematics and Visualization Series, Springer-Verlag, Heidelberg, Germany.

[6] Ertl, T., Hamann, B. and Varshney, A., eds. (2000), Proceedings of *IEEE Visualization 2000*, ISBN 0-7803-5897-X, IEEE Computer Society Press, Los Alamitos, California.

[5] Farin, G., Hagen, H. and Hamann, B., eds. (2000), *Hierarchical Approximation and Geometrical Methods for Scientific Visualization*, electronic workshop proceedings, Department of Computer Science, University of California, Davis, California, http://graphics.cs.ucdavis.edu/hvm00/program.html.

[4] Ebert, D. S., Gross, M. and Hamann, B., eds. (1999), Proceedings of *IEEE Visualization '99*, ISBN 0-7803-6478-3, IEEE Computer Society Press, Los Alamitos, California.

[3] Hamann, B. and Sarraga, R. F., eds. (1995), *Grid Generation, Finite Elements, and Geometric Design*, Computer Aided Geometric Design 12(7), special issue, ISSN 0167-8396(199511)12:7, Elsevier Science Publishing Co. Inc., New York, New York, pp. 647–784.

[2] Hamann, B. (1991), *Visualization and Modeling Contours of Trivariate Functions*, Ph.D. dissertation, Department of Computer Science, Arizona State University, Tempe, Arizona.

[1] Hamann, B. (1988), *Smoothing Algorithms for Curves and Surfaces in CAGD*, in German (*Glättungsalgorithmen für Kurven und Flächen in CAGD*), M.S. thesis, Department of Computer Science, Technical University of Braunschweig, Braunschweig, Germany.

Veröffentlichungen in Journalen

[153] Zhang, X., Hamann, B., Wang, D., Wang, H., Wang, Y., Yin, Y. and Gao, H. (2024), FMGDN: Flexible multi-grained dilation network empowered multimedia image inpainting for electronic consumer, in IEEE Transactions on Consumer Electronics, DOI https://doi.org/10.1109/TCE.2024.3386773.

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[148] Banesh, D., Petersen, M. R., Ahrens, J. P., Turton, T. L., Samsel, F., Schoonover, J. and Hamann, B. (2021), An image-based framework for ocean feature detection and analysis, Journal of Geovisualization and Spatial Analysis 5(2), article 17, Springer-Verlag, 21 pages.

[147] Claus, F., Hagen, H. and Hamann, B. (2021), Calculating the gravity-free shape of sheet metal parts, The International Journal of Advanced Manufacturing Technology 113, Springer-Verlag, pp. 3401–3417.

[146] Claus, F., Hamann, B., Leitte, H. and Hagen, H. (2021), Decomposing deviations of scanned surfaces of sheet metal assemblies, Journal of Manufacturing Systems 61, Elsevier, pp. 125–138.

[145] Mosbach, D., Gospodnetic, P., Rauhut, M., Hamann, B. and Hagen, H. (2021), Feature driven viewpoint placement for model based surface inspection, Machine Vision and Applications 32(1), article 8, Springer-Verlag, 21 pages.

[144] Pulido, J., Dutra da Silva, R., Livescu, D. and Hamann, B. (2021), Multiresolution classification of turbulence features in image data through machine learning, Computers and Fluids 214, article 104770, Elsevier, 11 pages.

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Leitte, H., Ahrens, J. P. and Hamann, B. (2020), A query-based framework for searching, sorting and exploring data ensembles, IEEE Computing in Science and Engineering 22(2), pp. 64–76.

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[130] Gillmann, C., Wischgoll, T., Hamann, B. and Hagen, H. (2018), Accurate and reliable extraction of surfaces from image data using a multi-dimensional uncertainty model, in: Chen, F., Dokken, T., Grandine, T. and Morin, G., eds., *Geometric Modeling: Interoperability and New Challenges*, Graphical Models 99, special issue, Elsevier, pp. 13–21 (invited presentation at: "Dagstuhl Seminar

on Geometric Modelling, Interoperability and New Challenges," Dagstuhl, Germany, May/June 2017).

[129] Giménez, A., Gamblin, G. T., Jusufi, I., Bhatele, A., Schulz, M. W. J., Bremer, P.-T. and Hamann, B. (2018), MemAxes: Visualization and analytics for characterizing complex memory performance behaviors, IEEE Transactions on Visualization and Computer Graphics 24(7), pp. 2180–2193.

[128] Kronenberger, M., Schladitz, K., Hamann, B. and Hagen, H. (2018), Fiber segmentation in crack regions of steel fiber reinforced concrete using principal curvature, Image Analysis and Stereology 37(2), Slovenian Society for Stereology and Quantitative Image Analysis, pp. 127–137.

[127] Pulido, J., Livescu, D., Kanov, K., Burns, R., Canada, C. V., Ahrens, J. P. and Hamann, B. (2018), Remote visual analysis of large turbulence databases at multiple scales, Journal of Parallel and Distributed Computing 120, Elsevier, pp. 115–126.

[126] Rupprecht, F.-A., Kasakow, G., Aurich, J. C., Hamann, B. and Ebert, A. (2018), Improving collaboration efficiency via diverse networked mobile devices, in: Luo, Y., Huang, T. and Duh, H., eds., Journal of Multimodal User Interfaces 12(2), special issue (Cooperative Design, Visualization and Engineering for Multimodal Systems and Datasets), Springer-Verlag, pp. 91–108.

[125] Aldrich, G. A., Hyman, J. D., Karra, S., Gable, C. W., Makedonska, N., Viswanathan, H. S., Woodring, J. L. and Hamann, B. (2017), Analysis and visualization of discrete fracture networks using a flow topology graph, IEEE Transactions on Visualization and Computer Graphics 23(8), pp. 1896–1909.

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[122] Murugesan, S., Bouchard, K. E., Brown, J., Hamann, B., Seeley, W., Trujillo, A. and Weber, G. H. (2017), Brain modulyzer: Interactive visual analsis of functional brain connectivity, IEEE/ACM Transactions on Computational Biology and Bioinformatics 14(4), pp. 805–818.

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[119] Post, T. M., Hamann, B., Hagen, H. and Aurich, J. C. (2017), Ensemble visualization of bottlenecks in planar flow networks, in: Aurich, J. C., Ravani, B., Ebert, A., Hamann, B., Müller, R., Zohdi, T. and Kirsch, B., eds., Applied Mechanics and Materials 869, special issue (Physical Modeling for Virtual Manufacturing Systems and Processes), Scientific.Net, pp. 234–243 (presented at: "First Conference on Physical Modeling for Virtual Manufacturing Systems and Processes," Speyer, Germany, June 2017).

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depth-map fusion, presented at: "2015 SIAM Conference on Geometric and Physical Modeling" ("2015 SIAM Conference on Geometric Design and 2015 ACM Symposium on Solid and Physical Modeling (GD/SPM15)"), Salt Lake City, Utah, October 2015.

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[503] Denker, K., Hamann, B. and Umlauf, G. (2014), On-line CAD reconstruction with accumulated means of local geometric properties, presented at: "Eighth International Conference on Curves and Surfaces," Paris, France, June 2014.

[502] Giménez, A., Gamblin, G. T., Rountree, B., Bhatele, A., Jusufi, I., Bremer, P.-T. and Hamann, B. (2014), Dissecting on-node memory access performance: a semantic approach, presented at: "Supercomputing 2014 (SC14)," New Orleans, Louisiana, November 2014.

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[500] Hamann, B. (2014), Selected efforts in visualization, approximation, geometric modeling and virtual reality, presented at: International Research Training Group (IRTG) kick-off meeting ("Physical Modeling for Virtual Manufacturing Systems and Processes"), University of California, Davis, October 2014.

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Parallel Programming (PPoPP 2014)," Orlando, Florida, February 2014.

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[491] Bauer, J., Ebert, A., Kreylos, O. and Hamann, B. (2013), Generalized eyes-free interaction for use with large displays, presented at: "Workshop on Prototyping to Support the Interaction Designing in Mobile Application Development (PID-MAD 2013)," Munich, Germany, August 2013.

[490] Bauer, J., Ebert, A., Kreylos, O. and Hamann, B. (2013), Marking menus for eyes-free interaction using smart phones and tablets, presented at: "International Conference on Availability, Reliability and Security in Information Systems and HCI (ARES 2013) – International Cross-Domain Conference and Workshop (CD-ARES 2013), Regensburg, Germany, September 2013.

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[488] Capps, A. G., Zawadzki, R. J., Werner, J. S. and Hamann, B. (2013), Combined volume registration and visualization, presented at: "Third International Workshop on Visualization in Medicine and Life Sciences 2013," Leipzig, Germany, June 2013.

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[485] Gebbie, G. A., Spero, H. J., Hamann, B., Kellogg, L. H., Kreylos, O., Streletz, G. J., Lisiecki, L. E. and Peterson, C. D. (2013), The water-mass geometry of the glacial Atlantic in three dimensions,

poster presentation, presented at: "Eleventh International Conference on Paleoceanography (ICP 11)," Barcelona, Spain, September 2013.

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[483] Hamann, B. (2013), Selected efforts in geometric modeling, interactive data visualization and virtual reality at UC Davis, presented at: International Research Training Group (IRTG) Site Review ("Physical Modeling for Virtual Manufacturing Systems and Processes"), Kaiserslautern, Germany, February 2013.

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[474] Banesh, D., Oskin, M. E., Wang, X., Kreylos, O. and Hamann, B. (2012), Various visualization techniques for exploring the El Mayor-Cucapah rupture using LiDAR, poster presentation, presented at: "2012 Southern California Earthquake Center Annual Meeting," Palm Springs, California, September 2012.

[473] Beketayev, K., Weber, G. H., Morozov, D., Abzhanov, A. and Hamann, B. (2012), Geometry-preserving topological landscapes, presented at: "Workshop at SIGGRAPH ASIA (WASA) 2012, Visualization Track," held in conjunction with "ACM SIGGRAPH ASIA 2012," Singapore, November 2012.

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[465] Hamann, B. (2012), Experiences and viewpoints: Interdisciplinary research and graduate training in a time of increasing need for collaborative education and scholarship, invited presentation, Naval Postgraduate School, Monterey, California, June 2012.

[464] Hoyer, A. B., Giménez, A., Hamann, B., Rueda, F. J. and Schladow, S. G. (2012), Simulating and visualizing the expansion of the invasive Asian Clam in Lake Tahoe, presented at: "Environmental Restoration in a Changing Climate" (Tahoe Science Conference), Incline Village, Nevada, May 2012.

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[460] Mouradian, J. A. V., Hamann, B. and Rosenbaum, R. (2012), A general approach for similarity-based linear projections using a genetic algorithm, presented at: "Electronic Imaging 2012," Burlingame, California, January 2012.

[459] Narayan, A., Sreevalsan-Nair, J., Gaither, K. P. and Hamann, B. (2012), Isosurface extraction from

hybrid unstructured grids containing pentahedral elements, presented at: "International Conference on Information Visualization Theory and Applications 2012 (IVAPP 2012)," Rome, Italy, February 2012.

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[456] Rosenbaum, R. and Hamann, B. (2012), Evaluation of progressive treemaps to convey tree and node properties, presented at: "Electronic Imaging 2012," Burlingame, California, January 2012.

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[450] Westerteiger, R., Compton, T., Bernardin, T. S., Cowgill, E. S., Gwinner, K., Hamann, B., Gerndt, A. and Hagen, H. (2012), Interactive retro-deformation of terrain for reconstructing 3D fault displacements, presented at: "IEEE Visualization 2012," Seattle, Washington, October 2012.

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[437] Engel, D., Hüttenberger, L. and Hamann, B. (2011), A survey of dimension reduction methods for high-dimensional data analysis and visualization, invited presentation at: "Fifth Annual International Research Training Group (IRTG) Workshop: Visualization of Large and Unstructured Data Sets—Applications in Geospatial Planning, Modeling, and Engineering," Kaiserslautern, Germany, June 2011.

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[435] Hamann, B. (2011), Perspective from the Office of Research: Research and research training in an age of increasing interdisciplinary and collaborative team science and scholarship, presented at: "Pharmacology and Toxicology Graduate Group Faculty Retreat," University of California, Davis, June 2011.

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M. D. and Hamann, B. (2011), Visually relating gene expression and in vivo DNA binding data, presented at: "IEEE International Conference on Bioinformatics and Biomedicine 2011 (IEEE BIBM 2011)," Atlanta, Georgia, November 2011.

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[83] Hamann, B. (1999), A survey of recent developments in hierarchical visualization technology for massive scientific data sets, Center for Applied Scientific Computing (CASC), Lawrence Livermore National Laboratory, Livermore, California, May 1999.

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[81] Hamann, B. (1999), Best approximation, simulated annealing, and clustering methods for massive data visualization, invited seminar presentation, Department of Information and Computer Science, University of California, Irvine, California, February 1999.

[80] Hamann, B. (1999), Data refinement and coarsening methods supporting terascale data analysis and visualization, NASA Ames Research Center, Moffett Field, California, April 1999.

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invited presentation, "DOE Data and Visualization Corridors PI Meeting," Center for Advanced Computing Research, California Institute of Technology, Pasadena, California, March 1999.

[74] Hamann, B. (1999), How hierarchical visualization approaches can support analysis and visualization of large-scale computer-aided design data, presented at: "Workshop on Mathematical Foundations of CAD," Mathematical Sciences Research Institute, Berkeley, California, June 1999.

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[68] Jankun-Kelly, T. J., Hamann, B., Joy, K. I. and Uselton, S. P. (1999), Towards corner matching for 2D and 3D, presented at: "1999 UC Davis Student Workshop on Computing," University of California, Davis, California, October 1999.

[67] Kreylos, O. and Hamann, B. (1999), On simulated annealing and the construction of linear spline approximations for scattered data, presented at: "Joint Eurogra- phics-IEEE TCCG Symposium on Visualization (VisSym '99)," Vienna, Austria, May 1999.

[66] Küster, F., Duchaineau, M. A., Hamann, B., Joy, K. I., and Uva, A. E. (1999), 3DIVS: 3-dimensional immersive virtual sculpting, presented at: "Eigth ACM International Conference on Information and Knowledge Management (CIKM '99) – Workshop on New Paradigms in Information Visualization and Manipulation (NPIV '99)," Kansas City, Missouri, November 1999.

[65] Küster, F. and Hamann, B. (1999), The designer workbench project – Semi-immersive interactive modeling, presented at: "1999 UC Davis Student Workshop on Computing," University of California, Davis, California, October 1999.

[64] Küster, F., Uva, A. E., Hamann, B. and Monno, G. (1999), 3DIVS: 3-dimensional immersive virtual sketching, presented at: "12th International Conference on Engineering Design (ICED '99)," Munich, Germany, August 1999.

[63] LaMar, E. C., Hamann, B. and Joy, K. I. (1999), Multiresolution techniques for interactive texture-based volume visualization, presented at: "IEEE Visualization '99," San Francisco, California, October 1999.

[62] Liverani, A., Küster, F. and Hamann, B. (1999), Towards interactive finite element analysis of shell structures in virtual reality, presented at: "1999 IEEE International Conference on Information Visualization," London, United Kingdom, July 1999.

[61] Schussman, S. E., Bertram, M., Hamann, B. and Joy, K. I. (1999), Hierarchical data representations based on planar Voronoi diagrams, presented at: "1999 UC Davis Student Workshop on Computing," University of California, Davis, California, October 1999.

[60] Weber, G. H., Heckel, B., Hamann, B. and Joy, K. I. (1999), Procedural generation of triangulation-based visualizations, presented at: "IEEE Visualization '99 – Late Breaking Hot Topics," San Fran-

cisco, California, October 1999.

[59] Hamann, B. (1998), Hierarchical approaches for representing and visualizing massive scientific data sets, presented in the seminar series of the Center for Applied Scientific Computing (CASC), Lawrence Livermore National Laboratory, Livermore, California, July 1998.

[58] Hamann, B. (1998), Hierarchical visualization: Challenges and approaches, invited seminar presentation, Interaction Environments Thrust, San Diego Supercomputer Center (SDSC), University of California, San Diego, California, July 1998.

[57] Hamann, B. (1998), Massive scientific data sets in science and engineering applications and how to represent them hierarchically, invited presentation, Silicon Graphics, Inc., Mountain View, California, December 1998.

[56] Hamann, B. (1998), Multiresolution methods in scientific visualization – Current approaches and research issues, presented at: "ONR Workshop on Research Issues in Visualization," Washington, D.C., June 1998.

[55] Hamann, B. (1998), The challenges in terascale data representation and visualization, invited presentation, Mitsubishi Electric Research Laboratories, Inc., Cambridge Research Center, Cambridge, Massachusetts, November 1998.

[54] Hamann, B. (1998), Various approaches to hierarchical data modelling, invited presentation at: "First Dagstuhl Seminar on Hierarchical Methods in Computer Graphics," Dagstuhl, Germany, May 1998.

[53] Heckel, B. and Hamann, B. (1998), ObVis: A generic framework for information visualization, presented at: "Seventh ACM International Conference on Information and Knowledge Management (CIKM '98) – Workshop on New Paradigms in Information Visualization and Manipulation (NPIV '98)," Bethesda, Maryland, November, 1998.

[52] Heckel, B. and Hamann, B. (1998), Visualization of cluster hierarchies, presented at: "Photonics West – Electronic Imaging '98," San Jose, California, January 1998.

[51] Heckel, B., Uva, A. E. and Hamann, B. (1998), Clustering-based generation of hierarchical surface models, presented at: "IEEE Visualization '98 – Late Breaking Hot Topics," Research Triangle Park, North Carolina, October 1998.

[50] Trotts, I. J. and Hamann, B. (1998), Texture planes: Real-time volume rendering using hardware texture mapping and alpha blending, presented at: "1998 UC Davis Student Workshop on Computing," University of California, Davis, California, October 1998.

[49] Trotts, I. J., Hamann, B., Joy, K. I. and Wiley, D. F. (1998), Simplification of tetrahedral meshes, presented at: "IEEE Visualization '98," Research Triangle Park, North Carolina, October 1998.

[48] Uva, A. E., Monno, G. and Hamann, B. (1998), A new method for the repair of CAD data with discontinuities, presented at: "II Seminario Italo-Espanol – Progettazione e Fattibilitá dei Prodotti Industriali" (Design and Feasibility of Industrial Products), Naples, Italy, June 1998.

[47] Barnes, J. C., Hamann, B. and Joy, K. I. (1997), An edge-preserving, data-dependent triangulation scheme for hierarchical rendering, invited presentation at: "Third Dagstuhl Seminar on Scientific Visualization," Dagstuhl, Germany, June 1997.

[46] Cox, M. B., Crawfis, R. A., Hamann, B., Hanson, C. and Miller, M. C. (1997), Terascale visualization: Approaches, pitfalls and issues, panel presentation (receiving "Best Panel" award), Hunter, C. L. and Crawfis, R. A., chairs, in: Yagel, R. and Hagen, H., eds., *IEEE Visualization '97*, IEEE Computer Society Press, Los Alamitos, California, pp. 507–509.

[45] Gieng, T. S., Hamann, B., Joy, K. I., Schussman, G. L. and Trotts, I. J. (1997), Smooth hierarchical surface triangulations, presented at: "IEEE Visualization '97," Phoenix, Arizona, October 1997.

[44] Hamann, B. (1997), Data decimation and hierarchical data representation schemes for very large data sets, invited presentation at: "Workshop on Approaches to the Analysis and Visualization of Massive

Data Sets," UC San Diego and San Diego Supercomputer Center (SDSC), San Diego, California, March 1997.

[43] Hamann, B. (1997), Hierarchical and multiresolution methods for curves, surfaces, and volumetric data, invited presentation at: "The Fourth International Conference on Mathematical Methods for Curves and Surfaces," Lillehammer, Norway, July 1997.

[42] Hamann, B. (1997), Hierarchical representations of very large data sets for analysis and visualization, presented in the MURI Seminar Series of the Computer Sciences Division, Electrical Engineering and Computer Sciences Department, University of California, Berkeley, California, April 1997.

[41] Hamann, B. (1997), Hierarchical representations of very large data sets for analysis and visualization, presented in the Graphics Lunch series of the Computer Graphics Laboratory, Computer Science Department, Stanford University, Stanford, California, December 1997.

[40] Hamann, B. (1997), Solution approaches to the large-scale visualization problems of the near future, presented in the Numerical Methods Seminar, Mathematics Group, Lawrence Berkeley National Laboratory, University of California, Berkeley, California, August 1997.

[39] Hamann, B. (1997), Research challenges in terascale data visualization, invited presentation at "DOE Workshop on Terascale Visualization," organized by C. Hunter and R. Springmeyer, Lawrence Livermore National Laboratory, September 9–12.

[38] Hamann, B. and Jordan, B. W. (1997), Research Issues regarding hierarchical data representations, invited presentation at: "NSF Workshop on Voronoi Diagrams, Triangulations, and Splines," Tempe, Arizona, February, 1997.

[37] Heckel, B. and Hamann, B. (1997), EmVis – A visual e-mail analysis tool, presented at: "Sixth ACM International Conference on Information and Knowledge Management (CIKM '97) – Workshop on New Paradigms in Information Visualization and Manipulation (NPIV '97)," Las Vegas, Nevada, November 1997.

[36] Joy, K. I., Hamann, B., Gieng, T. S., Schussman, G. L. and Trotts, I. J. (1997), Smooth blending of multiresolution surface triangulations, presented at: "Fifth SIAM Conference on Geometric Design," Nashville, Tennessee, November 1997.

[35] Wynn, C. W., Barnes, J. C., Hamann, B. and Miller, M. C. (1997), Multiresolution and adaptive rendering techniques for structured, curvilinear data, invited presentation at: "Third Dagstuhl Seminar on Scientific Visualization," Dagstuhl, Germany, June 1997.

[34] Banks, D. C., Hamann, B., Tsai, P.-Y., Moorhead, R. J. and Barlow, J. H. (1996), Data reduction and interpolation for visualizing 3D soil-quality data, presented at: "IEEE Visualization '96," San Francisco, California, October/November 1996.

[33] Hamann, B. (1996), Correction of discontinuous CAD data using geometric modeling (in German: Approximation diskontinuierlicher CAD-Daten unter Verwendung des Geometrischen Modellierens), invited presentation, Department of Computer Science Seminar, Technical University of Braunschweig, Germany, November 1996.

[32] Forgang, A. B., Hamann, B. and Cerco, C. F. (1996), Visualization of water quality data for the Chesapeake Bay, presented at: "IEEE Visualization '96," San Francisco, California, October/November 1996.

[31] Hamann, B. (1996), Using Voronoi diagrams and scan line algorithms for the rendering and discretization of trimmed surfaces, invited presentation at: "Third Dagstuhl Seminar on Geometric Modelling," Dagstuhl, Germany, May 1996.

[30] Hamann, B. and Jordan, B. W. (1996), Research Issues in Scientific Visualization – Representing Large Scientific Data Sets Using Multiresolution Triangulations, invited presentation at: "ONR Volume Visualization Workshop," Tempe, Arizona, February, 1996.

[29] Tsai, P.-Y. and Hamann, B. (1996), Decomposing trimmed surfaces using the Voronoi tessellation, presented at: "Fifth International Conference on Numerical Grid Generation in Computational Fluid Dynamics and Related Fields," Mississippi State University, Mississippi State, Mississippi, April 1996.

[28] Hamann, B. (1995), A survey of recent developments in surface modeling and geometry processing for computer-aided design, invited seminar presentation, Department of Computer Science, University of California, Davis, California, April 1995.

[27] Hamann, B., Jean, B. A. and Tsai, P.-Y. (1995), Interactive construction of B-spline approximations of surfaces and a tessellation algorithm for the representation of trimmed surfaces for use in numerical grid generation, presented at: "The Third International Congress on Industrial and Applied Mathematics (ICIAM/SIAM) '95," Hamburg, Germany, July 1995.

[26] Hamann, B. and Tsai, P.-Y. (1995), Decomposing trimmed surfaces using the Voronoi diagram and a scan line algorithm, presented at: "Second Mississippi State Conference on Differential Equations and Computational Simulations," Mississippi State University, Mississippi State, Mississippi, April 1995.

[25] Lever, J. A., Moorhead, R. J. and Hamann, B. (1995), Oceanographic visualization interactive research tool (OVIRT), presented at: "Third Thematic Conference on Remote Sensing for Marine and Coastal Environments," Seattle, Washington, September 1995.

[24] Hamann, B. (1994), Triangulations in the context of static mesh problems, presented at: "NSF/SEMATECH Workshop on Gridding in VLSI TCAD," Mississippi State University-NSF Engineering Research Center for Computational Field Simulation, Mississippi State University, Mississippi State, Mississippi, March 1994.

[23] Hamann, B., Chen, J.-L. and Hong, G. (1994), Automatic generation of unstructured grids for volumes outside or inside closed surfaces, presented at: "Fourth International Conference on Numerical Grid Generation in Computational Fluid Dynamics and Related Fields," Swansea, United Kingdom, April 1994.

[22] Hamann, B. and Tsai, P.-Y. (1994), Tessellation algorithms for the representation of trimmed surfaces, presented at: "Third Workshop on Proximity Graphs," Mississippi State University, Mississippi State, Mississippi, December 1994.

[21] Hamann, B., Wu, D. and Moorhead, R. J. (1994), On particle path generation based on quadrilinear interpolation and Bernstein-Bézier polynomials, invited presentation at: "Second Dagstuhl Seminar on Scientific Visualization," Dagstuhl, Germany, May 1994.

[20] Jean, B. A. and Hamann, B. (1994), Interactive techniques for correcting CAD/CAM data, presented at: "Fourth International Conference on Numerical Grid Generation in Computational Fluid Dynamics and Related Fields," Swansea, United Kingdom, April 1994.

[19] Moorhead, R. J., Hamann, B., Everitt, C., Jones, S. C., McAllister, J. and Barlow, J. H. (1994), Oceanographic visualization interactive research tool (OVIRT), presented at: "Visual Data Exploration and Analysis," San Jose, California, February 1994.

[18] Remotigue, M. G., Gaither, A., Hamann, B., Jean, B. A., Mastin, C. W., Parmley, K. P., Soni, B. K., Thompson, J. F. and Vaughan, P. (1994), The National Grid Project: Making dreams into reality, presented at: "Fourth International Conference on Numerical Grid Generation in Computational Fluid Dynamics and Related Fields," Swansea, United Kingdom, April 1994.

[17] Barnhill, R. E., Farin, G. and Hamann, B. (1993), NURBS and grid generation, presented at: "IMA Summer Program on Modeling, Mesh Generation, and Adaptive Numerical Methods for Partial Differential Equations," Minneapolis, Minnesota, July 1993.

[16] Hamann, B. (1993), Construction of B-spline approximations for use in numerical grid generation, presented at: "Differential Equations & Computational Simulations," Mississippi State University,

Mississippi State, Mississippi, March 1993.

[15] Hamann, B. (1993), Interactive construction of B-spline approximations of surfaces for use in numerical grid generation, invited presentation at: "Second Dagstuhl Seminar on Geometric Modelling," Dagstuhl, Germany, June/July 1993.

[14] Hamann, B. (1993), Triangle reduction for use in computer graphics and grid generation, presented at: "Second Workshop on Proximity Graphs," Mississippi State University, Mississippi State, Mississippi, February 1993.

[13] Hamann, B. and Jean, B. A. (1993), Interactive surface correction based on a local approximation scheme, presented at: "Third SIAM Conference on Geometric Design," Tempe, Arizona, November 1993.

[12] Hamann, B., Lever, J. and Moorhead, R. J. (1993), Oceanographic visualization interactive research tool (OVIRT), presented at: "Navy Scientific Visualization and Virtual Reality Seminar," Bethesda, Maryland, June 1993.

[11] Soni, B. K. and Hamann, B. (1993), Computational geometry tools in grid generation, invited presentation at: "First International Conference on Hydro-science & -engineering," Washington, D.C., June 1993.

[10] Hamann, B. (1993), A program concept for teaching and research in computer graphics and geometric modeling (in German: Ein Lehr- und Forschungskonzept für Computergraphik und Geometrisches Modellieren), invited presentation, Department of Computer Science Seminar, University of Rostock, Germany, March 1993.

[9] Hamann, B. (1992), Geometric modeling and scientific visualization at the Mississippi State University-NSF Engineering Research Center for Computational Field Simulation (in German: Geometrisches Modellieren und wissenschaftliche Visualisierung am Mississippi State University-NSF Engineering Research Center for Computational Field Simulation), invited presentation, Department of Computer Science Seminar, University of Kaiserslautern, Germany, July 1992.

[8] Hamann, B., Moorhead, R. J. and Meyer, D. B. (1992), Oceanographic volumetric interactive research tool (OVIRT), Version 1, presented at: Naval Oceanographic Office (NAVO), Stennis Space Center, Mississippi, May 1992.

[7] Hamann, B. (1992), Spline and geometric modeling techniques applied to scientific visualization problems, invited presentation, Department of Mathematics Seminar, Vanderbilt University, Nashville, Tennessee, March 1992.

[6] Hamann, B. (1991), Curvature approximation for triangulated surfaces, invited presentation at: "First Dagstuhl Seminar on Geometric Modelling," Dagstuhl, Germany, July 1991.

[5] Hamann, B. and Foley, T. A. (1991), A quartic spline based on a variational approach, presented at: "Second SIAM Conference on Geometric Design," Tempe, Arizona, November 1991.

[4] Nielson, G. M. and Hamann, B. (1991), The asymptotic decider: Resolving the ambiguity in marching cubes, presented at: "IEEE Visualization '91," San Diego, California, October 1991.

[3] Hamann, B. (1990), Modeling contours of trivariate data, presented at: "Topics in CAGD '90," Erice, Italy, May 1990.

[2] Nielson, G. M. and Hamann, B. (1990), Techniques for the interactive visualization of volumetric data, presented at: "IEEE Visualization '90," San Francisco, California, October 1990.

[1] Hamann, B., Farin, G. and Nielson, G. M. (1989), A parametric triangular patch based on generalized conics, presented at: "First SIAM Conference on Geometric Design," Tempe, Arizona, November 1989.

Co-PI (UC Davis component), ,,Physical modelling for virtual manufacturing systems and processes", International Research Training Group (IRTG) effort, second phase, University of Kaiserslautern, Germany (overall lead institution), UC Davis (U.S. lead institution), and UC Berkeley, **Deutsche Forschungsgemeinschaft (DFG), German Research Foundation**, with Jan C. Aurich (PI and Co-Director), Bahram Ravani (Co-PI and Co-Director) and Tarek I. Zohdi (Co-PI and Co-Director), **5,301,780 euro**, 1/1/2019 – 30/6/2023.

PI, ,,Los Alamos National Laboratory - UC Davis Institute of Next-generation Visualization and Analysis (INGVA)", **Los Alamos National Laboratory**, with Kwan-Liu Ma (Co-PI), **$165,000**, 1/10/2016 – 30/9/2017.

PI, ,,Los Alamos National Laboratory - UC Davis Institute of Next-generation Visualization and Analysis (INGVA)", **Los Alamos National Laboratory**, with Kwan-Liu Ma (Co-PI), **$165,000**, 1/10/2015 – 30/9/2016.

PI, ,,Los Alamos National Laboratory - UC Davis Institute of Next-generation Visualization and Analysis (INGVA)", **Los Alamos National Laboratory**, with Kenneth I. Joy, Kwan-Liu Ma and John D. Owens (Co-PIs), **$213,571**, 1/10/2014 – 30/9/2015.

Co-PI (UC Davis component), ,,Physical modelling for virtual manufacturing systems and processes", International Research Training Group (IRTG) effort, first phase, University of Kaiserslautern, Germany (overall lead institution), UC Davis (U.S. lead institution), and UC Berkeley, **Deutsche Forschungsgemeinschaft (DFG), German Research Foundation**, with Jan C. Aurich (PI and Co-Director), Bahram Ravani (Co-PI and Co-Director) and David A. Dornfeld (Co-PI and Co-Director), **5,700,000 euro**, 1/7/2014 – 31/12/2018.

PI, ,,Los Alamos National Laboratory - UC Davis Institute of Next-generation Visualization and Analysis (INGVA)", **Los Alamos National Laboratory**, with Kenneth I. Joy, Kwan-Liu Ma and John D. Owens (Co-PIs), **$200,000**, 1/10/2013 – 30/9/2014.

Co-PI, ,,Third International Workshop on Visualization in Medicine and Life Sciences 2013", workshop and program co-chairs: Lars Linsen, Bernd Hamann and Hans-Christian Hege, **Deutsche Forschungsgemeinschaft (DFG), German Research Foundation**, with Lars Linsen (PI) and Hans-Christian Hege (Co-PI), **7,200 euro**, Leipzig, Germany, 16.–18. Juni 2013.

PI, ,,Los Alamos National Laboratory - UC Davis Institute of Next-generation Visualization and Analysis (INGVA)", **Los Alamos National Laboratory**, with Kenneth I. Joy, Kwan-Liu Ma and John D. Owens (Co-PIs), **$124,998**, 1/10/2012 – 30/9/2013.

Co-Investigator, ,,Los Alamos National Laboratory - UC Davis Education Collaboration: Materials Design Institute (MDI)", **Los Alamos National Laboratory**, with Enrique J. Lavernia (UC Davis PI), Daniel J. Thoma (Los Alamos National Laboratory PI), and Ricardo H. R. Castro, Jean-Pierre Delplanque, David A. Horsley, Niels G. Jensen, Billy R. Sanders and Julie M. Schoenung (co-investigators), **$479,707** (Computer Science component: $120,883), 1/10/2012 – 30/9/2013.

PI, ,,Performance Visualization at Exascale", **University of California**, UC Laboratory Fees Research Grant Program, with Peer-Timo Bremer (Lawrence Livermore National Laboratory PI) and George Todd Gamblin (Lawrence Livermore National Laboratory Co-PI), **$1,001,500** (UC Davis Computer Science component: $697,243), 1/7/2012 – 30/6/2017 (first no-cost extension for 1/10/2015 – 30/9/2016, second no-cost extension for 1/10/2016 – 30/6/2017).

Co-PI, ,,CI-TEAM Implementation Project: Dynamic interdisciplinary research environment to engage and develop cyber-ready workforce", **National Science Foundation**, Office of Cyberinfrastructure, with Louise H. Kellogg (PI), Eric S. Cowgill, Joseph Dumit, Dawn Y. Sumner (Co-PIs), Anamaria B. Amenta, Magali I. Billen, James P. Crutchfield, Hagen, H., Oliver Kreylos, Colin N. Milburn, Michael E. Oskin, S. Geoffrey Schladow and Timothy D. Weaver (Other Senior Personnel), **$949,992**, 1/12/2011 – 30/11/2016 (no-cost extension for 1/12/2015 – 30/11/2016).

Co-Investigator, ,,Los Alamos National Laboratory - UC Davis Education Collaboration: Materials Design Institute (MDI)", **Los Alamos National Laboratory**, with Enrique J. Lavernia (UC Davis PI), Daniel J. Thoma (Los Alamos National Laboratory PI), and Ricardo H. R. Castro, Jean-Pierre Delplanque, David A. Horsley, Niels G. Jensen, Billy R. Sanders and Julie M. Schoenung (co-investigators), **$638,578** (Computer Science component: $135,992), 1/10/2011 – 30/9/2012.

Co-PI, ,,CDI-Type II: Collaborative Research—Four-dimensional visualization of past ocean circulation from paleoceanographic data", **National Science Foundation**, Cyber-enabled Discovery and Innovation (CDI) program, with Howard J. Spero (PI), Louise H. Kellogg, Oliver Kreylos (UC Davis Co-PIs), Geoffrey A. Gebbie (Woods Hole Oceanographic Institution PI) and Lorraine E. Lisiecki (UC Santa Barbara PI), **$1,806,003** (UC Davis component: $771,126), 1/9/2011 – 31/8/2017 (no-cost extension for 1/9/2015 – 31/8/2017).

Co-Investigator, ,,Los Alamos National Laboratory - UC Davis Education Collaboration: Materials Design Institute (MDI)", **Los Alamos National Laboratory**, with Enrique J. Lavernia (UC Davis PI), Daniel J. Thoma (Los Alamos National Laboratory PI), and Nigel Browning, Jean-Pierre Delplanque, Joanna R. Groza, David A. Horsley, Niels G. Jensen and Billy R. Sanders (co-investigators), **$751,643** (Computer Science component: $52,135), 1/10/2010 – 30/9/2011.

Co-Investigator, ,,Los Alamos National Laboratory - UC Davis Education Collaboration: Materials Design Institute (MDI)", **Los Alamos National Laboratory**, with Enrique J. Lavernia (Davis PI) and Daniel J. Thoma (Los Alamos National Laboratory PI), and Nigel Browning, Jean-Pierre Delplanque, Joanna R. Groza, David A. Horsley, Niels G. Jensen and Billy R. Sanders (co-investigators), **$455,000** (Computer Science component: $69,731), 1/10/2009 – 30/9/2010.

Co-Investigator, ,,Digitally merged environments", planning grant to develop a Canada-California multi-institutional effort, **Canada-California Strategic Innovation Partnership (CCSIP) Program**, with Jeremy Cooperstock (PI, Canada), Sheldon Brown (Co-PI, University of California), Ruzena Bajcsy, Chris Barnes, Pierre Boulanger, Chris Chafe, Luc Courchesne, Keith Devlin, Herbert Enns, Gordon Fitzell, JoAnn Kuchera-Morin, Martha Ladly, George Legrady, Michael McGuffin, Peter Otto, Benoit Pirenne, John Roston, Wieslaw Woszczyk and Shahrokh Yadegari (Co-Investigators), **$48,400** (original request), 1/9/2009 – 31/7/2010.

Co-PI, ,,Second International Workshop on Visualization in Medicine and Life Sciences 2009", workshop and program co-chairs: Lars Linsen, Hans Hagen, Bernd Hamann and Hans-Christian Hege, **Deutsche Forschungsgemeinschaft (DFG), German Research Foundation**, with Lars Linsen (PI), Hans Hagen and Hans-Christian Hege (Co-PIs), **5,440 euro**, Bremerhaven, Germany, 22.–24. Juli 2009.

Co-PI and Co-Director, ,,Visualization of large and unstructured data sets—Applications in geospatial planning, modeling, and engineering", International Research Training Group (IRTG) effort, second phase, University of Kaiserslautern, Germany (overall lead institution), UC Davis (U.S. lead institution), Arizona State University, and The University of Utah, **Deutsche Forschungsgemeinschaft (DFG), German Research Foundation**, with Hans Hagen (PI and Co-Director), **2,741,259 euro**, 1/7/2009 – 31/12/2013 (additional funding of approx. **280,000 euro** for period 1/7/2009–31/12/2013 provided by Ministry for Science, Education, Research and Culture, Mainz, Rhineland-Palatinate,

Germany, and funding of approx. **200,000 euro** for period 1/9/2009 – 30/8/2012 provided by Deutsches Zentrum für Luft- und Raumfahrt (DLR), German Aerospace Center).

Co-Investigator, ,,UC Management Contingency Award (UCOP): Materials Design Institute (MDI)", **University of California Office of the President**, with Enrique J. Lavernia (UC Davis PI), Daniel J. Thoma (Los Alamos National Laboratory PI), and Nigel Browning, Jean-Pierre Delplanque, Joanna R. Groza, David A. Horsley, Niels G. Jensen and Billy R. Sanders (co-investigators), **$345,168** (Computer Science component: $44,915), 1/1/2009 – 31/12/2009.

Co-Investigator, ,,Los Alamos National Laboratory - UC Davis Education Collaboration: Materials Design Institute (MDI)", **Los Alamos National Laboratory**, with Enrique J. Lavernia (UC Davis PI) and Daniel J. Thoma (Los Alamos National Laboratory PI), and Mark D. Asta, Nigel Browning, Jean-Pierre Delplanque, Joanna R. Groza, David A. Horsley, Niels G. Jensen and Billy R. Sanders (co-investigators), approx. **$955,000** (Computer Science component: approx. $113,400), 1/10/2008 – 30/9/2009.

Co-PI, ,,Planning grant to support the development of the project: ,Visualization as a tool in informal science education at Lake Tahoe", **National Science Foundation**, Division of Research on Learning in Formal and Informal Settings (DRL), **$73,697**, with S. Geoffrey Schladow (PI) and Oliver Kreylos (Co-PI), 15/7/2008 – 14/7/2010.

Co-PI, ,,CI-TEAM Implementation Project: Enabling interactive visual exploration and remote collaboration for the geosciences and physical sciences", **National Science Foundation**, Office of Cyberinfrastructure, **$920,672**, with Louise H. Kellogg (PI), Magali I. Billen, James P. Crutchfield, Dawn Y. Sumner (Co-PIs), Eric S. Cowgill, Oliver Kreylos and Oliver G. Staadt (Other Senior Personnel), 1/3/2008 – 31/3/2012.

Co-PI (of local UC Davis sub-award), ,,Tele-immersive environments for geographically distributed collaborations amongst medical professionals", Center for Information Technology Research in the Interest of Society (CITRIS), **State of California**, **$75,000** (total UC Davis sub-award: $30,999), with Ruzena Bajcsy (UC Berkeley, overall PI), Louise H. Kellogg and Oliver Kreylos (local UC Davis Co-PIs), 1/1/2008 – 31/5/2010.

PI, ,,Topology-based methods for analysis and visualization of noisy data", **National Science Foundation**, Computing and Communication Foundations (CCF) Division, Foundations of Computing Processes and Artifacts Cluster, **$300,000**, with Valerio Pascucci and Gunther H. Weber (Co-PIs), 1/9/2007 – 31/8/2011.

PI, ,,The transcription network controlling Drosophila development", **Lawrence Berkeley National Laboratory**, **$29,335**, with Gunther H. Weber (Senior Personnel), 1/8/2007 – 31/12/2008.

Co-Investigator, ,,Los Alamos National Laboratory - UC Davis Education Collaboration: Materials Design Institute (MDI)", **Los Alamos National Laboratory**, with Enrique J. Lavernia (UC Davis PI) and Daniel J. Thoma (Los Alamos National Laboratory PI), and Mark D. Asta, Nigel Browning, Jean-Pierre Delplanque, Joanna R. Groza, David A. Horsley, Niels G. Jensen and Billy R. Sanders (co-investigators), approx. **$988,000** (IDAV component: approx. $88,000), 1/10/2007 – 30/9/2008.

Investigator, ,,BioSafaris: A Software Prototype Introducing Four Human Body Systems", **Alternatives Research and Development Foundation (ARDF)**, Jenkintown, Pennsylvania, **$11,000**, with Lynette A. Hart (PI), 4/8/2007.

PI, ,,Analysis and visualization of scientific data using topology-based methods", **Lawrence Livermore National Laboratory**, **$17,231**, with Vijay Natarajan and Gunther H. Weber (Co-PIs), 20/8/2006 – 30/9/2006.

PI, ,,The transcription network controlling Drosophila development", **Lawrence Berkeley National Laboratory**, **$112,978**, with Gunther H. Weber (Co-PI), 1/8/2006 – 31/7/2007.

Co-Investigator, ,,Los Alamos National Laboratory - UC Davis Education Collaboration: Materials Design Institute (MDI)", **Los Alamos National Laboratory**, with Enrique J. Lavernia (UC Davis PI) and Daniel J. Thoma (Los Alamos National Laboratory PI), and Mark D. Asta, Nigel Browning, Jean-Pierre Delplanque, Joanna R. Groza, David A. Horsley, Niels G. Jensen and Billy R. Sanders (co-investigators), approx. **$800,000** (IDAV component: approx. $87,500), 1/10/2006 – 30/9/2007.

Co-PI of UC Davis sub-contract, ,,Seeing the unsee-able—Visualization and analytics center for enabling technologies (VACET)", **Department of Energy**, Office of Science, Scientific Discovery through Advanced Computing (SciDAC) II Program, approx. **$11,000,000** (UC Davis sub-award: $1,494,955), with E. Wes Bethel (PI), Christopher Johnson, Charles D. Hansen, Steven Parker, Claudio T. Silva, Kenneth I. Joy (PI of UC Davis sub-contract), Sean Ahern, George Ostrouchov, Jeremy Meredith, Valerio Pascucci, Peter Lindstrom, Mark A. Duchaineau, Jonathan Cohen, Daniel E. Laney, Hank R. Childs, Kathleen S. Bonnell, Ming Jiang and Ajith Arthur Mascarenhas (Co-PIs), 15/9/2006 – 14/9/2011.

Co-PI, ,,Biology safaris: Software prototype on the respiratory system for Seventh Grade Life Science", **Association of Veterinarians for Animal Rights (AVAR)**, Davis, California, **$10,000**, with Lynette A. Hart (PI), Marco Molinaro and David F. Wiley (Co-PIs), 31/8/2006.

Co-PI, ,,Biology safaris: Software prototype on the digestive system for Seventh Grade Life Science", **The William and Charlotte Parks Foundation for Animal Welfare**, Gaithersburg, Maryland, **$7,000**, with Lynette A. Hart (PI), Marco Molinaro and David F. Wiley (Co-PIs), 31/7/2006 – 5/31/2008.

Co-PI, ,,International Workshop on Visualization in Medicine and Life Sciences", workshop and program co-chairs: Lars Linsen, Hans Hagen and Bernd Hamann, **Deutsche Forschungsgemeinschaft (DFG), German Research Foundation**, with Lars Linsen (PI) and Hans Hagen (Co-PI), **4,160 euro**, Binz, Rügen, Germany, 19.–21. Juli 2006.

Co-PI, ,,Scientific visualization in the geological sciences: An interdisciplinary research experience for undergraduates", **University of California Presidential Chair in Undergraduate Education** program, Office of the Provost, **University of California, Davis**, **$90,000** (original request), with Louise H. Kellogg (PI), 1/7/2006 – 30/6/2010.

Co-PI, ,,Production of alternatives for laboratory dissection", donation to the UC Davis Center for Animal Alternatives, School of Veterinary Medicine, **Animal Welfare Institute**, Washington, D.C., **$15,000**, with Lynette A. Hart (PI) and David F. Wiley (Co-PI), 19/6/2006.

Co-PI, ,,The UC Davis Energy Efficiency Center", **California Clean Energy Fund (CalCEF)** and **Pacific Gas and Electric (PG&E)**, Energy Efficiency Challenge Grant competition, **$1,500,000** (CalCEF: $1,000,000, PG&E: $500,000), (matched by **$1,300,000** provided by UC Davis), with Daniel Sperling (PI), Andrew S. Hargadon, Bryan M. Jenkins and Michael J. Siminovitch (Co-PIs), 1/4/2006 – 31/3/2011.

PI, ,,The transcription network controlling Drosophila development", **Lawrence Berkeley National Laboratory**, **$116,896**, with Gunther H. Weber (Co-PI), 1/8/2005 – 31/7/2006.

PI, ,,Proposal for an international activities planning workshop", **University of California, Davis**, University Outreach and International Programs, **$12,000**, with Louise H. Kellogg, Hans Hagen, Kenneth I. Joy, Bruce L. Kutter and John B. Rundle, 1/4/2005 – 31/12/2007.

PI, ,,Topological analysis for scientific visualization", **Lawrence Livermore National Laboratory**, **$74,613**, with Vijay Natarajan and Gunther H. Weber (Co-PIs), 1/4/2005 – 30/9/2005.

Co-PI, ,,SEI(SBE): Collaborative research on visualization of evolutionary transformation using 3D morphometrics: African monkeys as a test case", **National Science Foundation**, Science and Engineering Informatics (SEI) Program, **$477,419**, with Anamaria B. Amenta (PI) and Ryosuke Motani

(Co-PI), 1/7/2005 – 30/6/2008.

Co-PI and Co-Director, ,,Visualization of large and unstructured data sets—Applications in geospatial planning, modeling, and engineering", International Research Training Group (IRTG) effort, first phase, University of Kaiserslautern, Germany (overall lead institution), UC Davis (U.S. lead institution), Arizona State University, UC Irvine, and The University of Utah, **Deutsche Forschungsgemeinschaft (DFG), German Research Foundation**, with Hans Hagen (PI and Co-Director), **2,540,940 euro**, 1/1/2005 – 30/6/2009 (additional funding of approx. **300,000 euro** for period 1/1/2005 – 30/6/2009 provided by Ministry for Science, Education, Research and Culture, Mainz, Rhineland-Palatinate, Germany).

PI, ,,Analysis and visualization of scientific data sets using generalized segmentation methods", **Lawrence Livermore National Laboratory**, **$23,456**, 11/8/2004 – 30/9/2004.

PI, ,,Mathematical foundations of scientific visualization, computer graphics, and massive data exploration", workshop and program co-chairs: Bernd Hamann, Torsten Möller and Robert D. Russell, **Natural Science and Engineering Research Council of Canada (NSERC), National Science Foundation (NSF) and Alberta Science Research Authority (ASRA)**, with Torsten Möller and Robert D. Russell (Co-PIs), **$1,000** (travel grant), Banff International Research Station (BIRS), Banff Centre, Banff, Alberta, Canada, 22.–27. Mai 2004.

PI, ,,Clustering of adaptive mesh refinement data and exploration of comparative genomics data", **Lawrence Berkeley National Laboratory**, **$90,000**, with Kenneth I. Joy (Co-PI), 1/1/2004 – 30/9/2004.

Co-PI, ,,Collaborative teaching and learning over ConferenceXP", **Microsoft Research**, with S. J. Ben Yoo (PI), Chen-Nee Chuah and Oliver G. Staadt (Co-PIs), **$35,000**, 1/10/2004 – 31/3/2005.

Co-PI, ,,Efficient and reliable data exploration via multi-scale Morse analysis and combinatorial information visualization", **Lawrence Livermore National Laboratory**, Institute for Scientific Computing Research (ISCR), University Relations Program (URP) and Center for Applied Scientific Computing (CASC), Laboratory Directed Research and Development (LDRD) program, project no. 05-ERI-002, with Valerio Pascucci (PI), Daniel E. Laney, Herbert Edelsbrunner, Randall J. Frank, Bernd Hamann, John Harer and Jack S. Snoeyink (Co-PIs), approx. **$1,247,000** (request for three years), 1/10/2004 – 30/9/2007.

Co-PI, ,,Scalable multiresolution methods for the representation and exploration of terascale data", **Lawrence Livermore National Laboratory**, **$175,000**, with Kenneth I. Joy (PI), 1/10/2004 – 30/9/2005.

Investigator, ,,Whole-genome-based approach for investigation of key genes and pathways in MTBE-degrading strain PM1", **University of California Office of the President**, Laboratory Programs, with Kate M. Scow (UC Davis PI), Daniel Barsky (Lawrence Livermore National Laboratory PI) and Krassimira R. Hristova (investigator), **$376,829** (original request), 1/10/2004 – 30/9/2007.

Co-PI, ,,High-performance networking and collaborative real-time visualization for the next-generation CalREN", **Corporation for Education Network Initiatives in California (CENIC)**, with S. J. Ben Yoo (PI), Chen-Nee Chuah and Oliver G. Staadt (Co-PIs), **$38,000**, 1/7/2004 – 31/12/2004.

Senior Personnel and PI of UC Davis component, ,,Planning a multiscale sensor network to observe, forecast and manage a CLEANER California water cycle", **National Science Foundation**, Collaborative Large-scale Engineering Analysis Network for Environmental Research (CLEANER): an Engineering Cyberinfrastructure "Test Bed" Program, with Thomas C. Harmon (PI), Deborah Estrin, William J. Kaiser, Samuel J. Traina and Roger C. Bales (Co-PIs), **$86,000**, 1/7/2004 – 30/6/2005.

Co-PI, ,,W. M. Keck Foundation Center for Active Visualization in the Earth Sciences (KeckCAVES)", **W. M. Keck Foundation**, Los Angeles, California, with Louise H. Kellogg (PI), Magali I. Billen,

Eric S. Cowgill, John B. Rundle, James R. Rustad, Dawn Y. Sumner and Donald L. Turcotte (Co-PIs), **$3,298,000** ($1,000,000 from W. M. Keck Foundation), 1/1/2004 – 31/12/2006.

PI, ,,Rapid volume rendering", part of UC Davis' contribution to UC San Diego's National Partnership for Advanced Computational Infrastructure (NPACI) supercomputing proposal, Scalable Visualization Alpha Project, **National Science Foundation**, **$75,000**, with Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/10/2003 – 31/1/2005.

PI, ,,Development of computer visualization tools for displaying interagency ecological program compliance monitoring data", project extension, **U.S. Bureau of Reclamation**, **$124,641**, with Kenneth I. Joy (Co-PI), 1/10/2003 – 30/6/2006.

Donation to CIPIC, ImmersaDesk (table projection system supporting stereo visualization), **Lawrence Berkeley National Laboratory**, Berkeley, California, **$70,000**, June 2003.

Co-PI, ,,Collaborative teaching and learning over ConferenceXP", **Microsoft Research**, with S. J. Ben Yoo (PI), Chen-Nee Chuah and Oliver G. Staadt (Co-PIs), **$35,000**, 1/10/2003 – 31/3/2004.

Co-PI, ,,Scalable multiresolution methods for the representation and exploration of terascale data", **Lawrence Livermore National Laboratory**, **$175,000**, with Kenneth I. Joy (PI), 1/10/2003 – 30/9/2004.

Co-PI, ,,Quantitative assessment by computer-aided anatomy of developmental abnormalities due to air pollution exposure", **Philip Morris External Research Program**, Postdoctoral Fellowship Program, **$86,400** (request for two years), with Anthony S. Wexler (PI), Rida T. Farouki and Charles G. Plopper (Co-PIs), 1/3/2003 – 28/2/2005.

Co-PI, ,,Next-generation collaborative teaching and learning over ConferenceXP", **Microsoft Research**, **$35,000**, with S. J. Ben Yoo (PI), William H. Fink, Kenneth I. Joy, Patrick E. Mantey (UC Santa Cruz), Harry R. Matthews, Dianne L. Meador and Oliver G. Staadt (Co-PIs), 1/1/2003 – 1/7/2003.

PI, ,,Clustering of adaptive mesh refinement data, interactive steering of protein folding simulations and exploration of comparative genomics data", **Lawrence Berkeley National Laboratory**, **$123,353**, with Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/10/2002 – 30/9/2003.

PI, ,,Interactive visualization methods for exploration and comparison of multi-billion base pair sequence data", **Lawrence Berkeley National Laboratory**, National Energy Research Scientific Computing Center (NERSC), Laboratory Directed Research and Development (LDRD) program, **$150,000** for FY 03, **$150,000** for FY 04 and **$80,000** for FY 04 (original requests: $200,000 for FY 03, $211,000 for FY 04, and $223,000 for FY 05), with E. Wes Bethel, Inna L. Dubchak, Kenneth I. Joy, Kenneth S. Schwartz and Edward M. Rubin (Co-PIs), 1/10/2002 – 30/9/2005.

PI, ,,Rapid volume rendering", part of UC Davis' contribution to UC San Diego's National Partnership for Advanced Computational Infrastructure (NPACI) supercomputing proposal, Scalable Visualization Alpha Project, **National Science Foundation**, **$75,000**, with Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/10/2002 – 30/9/2003.

PI, ,,Development of computer visualization tools for displaying interagency ecological program compliance monitoring data", **U.S. Bureau of Reclamation**, **$70,000**, with Kenneth I. Joy (Co-PI), 1/9/2002 – 31/12/2003.

Co-PI, ,,Scalable multiresolution methods for the representation and exploration of terascale data", **Lawrence Livermore National Laboratory**, **$175,000**, with Kenneth I. Joy (PI), 1/10/2002 – 30/9/2003.

Co-PI, ,,Effective and efficient segmentation frameworks for scientific data exploration", **National Science Foundation**, Advanced Computational Research (ACR) Program, **$250,000** (original request: $447,802), with Kenneth I. Joy (PI), 1/10/2002 – 30/9/2006.

Co-PI, ,,Adaptive mesh refinement data visualization", **Department of Energy, Office of Science**,

contract administered by Lawrence Berkeley National Laboratory, approx. **$1,112,000**, with E. Wes Bethel (PI) and Terry J. Ligocki (Co-PI), 1/4/2002 – 31/3/2005.

PI, ,,Approximation and visualization of curved, high-degree finite element data", **Lawrence Livermore National Laboratory**, **$205,025** (original request: $255,648), with Kenneth I. Joy (Co-PI), 1/4/2001 – 30/9/2003.

PI, ,,Exploration and visualization of AMR data and interactive methods for protein folding simulations", **Lawrence Berkeley National Laboratory**, **$81,916**, with Kenneth I. Joy and Nelson L. Max (Co-PIs), 1/10/2001 – 30/9/2002.

PI, ,,Multiresolution-based volume visualization supporting interactive data viewing", part of UC Davis' contribution to UC San Diego's National Partnership for Advanced Computational Infrastructure (NPACI) supercomputing proposal, **National Science Foundation**, **$75,000**, with Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/10/2001 – 30/9/2002.

PI, ,,Visualization of adaptive mesh refinement data", **Lawrence Berkeley National Laboratory**, **$62,500**, with Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/10/2001 – 30/9/2002.

Donation to CIPIC, pocket PCs (two HP Jornada 548s, one HP Jornada 720), **Hewlett-Packard Company**, Palo Alto, California, **$2,000**, April 2001.

Co-PI, ,,Multiresolution methods for the representation and exploration of terascale data", **Department of Energy**, Accelerated Strategic Computing Initiative (ASCI), **$100,035**, with Kenneth I. Joy (PI) and Kwan-Liu Ma (Co-PI), 15/10/2001 – 15/1/2002.

Co-PI, ,,Interactive web-based volume rendering using hierarchical data representations", Mississippi State University's contribution to UC San Diego's National Partnership for Advanced Computational Infrastructure (NPACI) supercomputing proposal, **National Science Foundation**, **$75,000**, with Joerg Meyer (PI), 1/10/2001 – 30/9/2002.

Co-PI and PI of UC Davis sub-award, ,,Societal-scale information systems: technologies, design and applications", **National Science Foundation**, Information Technology Research (ITR) Program, **$7,500,000** (total UC Davis sub-award: $875,000), with James Demmel (PI), Gregory L. Fenves, Randy H. Katz, Jan M. Rabaey and Shankar Sastry (Co-PIs), 1/10/2001 – 30/9/2007.

Co-PI, ,,ViSUS: Visualization streams for ultimate scalability", **Lawrence Livermore National Laboratory**, Institute for Scientific Computing Research (ISCR), University Relations Program (URP) and Center for Applied Scientific Computing (CASC), Laboratory Directed Research and Development (LDRD) program, project no. 02-ERI-003, **$1,245,000**, with Valerio Pascucci (PI), Mark A. Duchaineau, Kenneth I. Joy, Peter Lindstrom, Kwan-Liu Ma and Samuel P. Uselton (Co-PIs), 1/10/2001 – 30/9/2004.

Co-PI and key participating investigator of UC Davis component, research co-chair of the *Human-centered Computing* thrust, Center for Information Technology Research in the Interest of Society (CITRIS), **State of California**, California Institutes for Science and Innovation (CISI) program, funds provided by the State of California: **$100,000,000** (matched by over **$200,000,000** provided by companies and individual contributors), UC Berkeley in partnership with UC Davis, UC Merced, and UC Santa Cruz, with Robert M. Berdahl (PI, Chancellor, UC Berkeley), Larry N. Vanderhoef (Co-PI, Chancellor, UC Davis), Carol Tomlinson-Keasey (Co-PI, Chancellor, UC Merced), M.R.C. Greenwood (Co-PI, Chancellor, UC Santa Cruz), Randy H. Katz (Institute Director, UC Berkeley), James Demmel (Chief Scientist and Associate Director, UC Berkeley), and Albert P. Pisano (Administrative Director, UC Berkeley), see http://www.citris.berkeley.edu/, 1/7/2001 – 30/6/2005.

Co-PI, ,,Informatics of human and monkey brain atlases", **National Institutes of Health**, National Institute of Mental Health, The Human Brain Project (Neuroinformatics), **$6,905,744**, with Edward G. Jones (PI), Leo M. Chalupa, Michael Gertz, Fredric A. Gorin, Harvey J. Karten, Bruno A. Olshausen

and Richard F. Walters (Co-PIs), 28/9/2001 – 31/10/2006.

PI, ,,NSF/DOE Lake Tahoe workshop on hierarchical visualization methods", workshop and program co-chairs: Gerald Farin, Hans Hagen and Bernd Hamann, **National Science Foundation and Department of Energy**, **$10,600**, with Gerald Farin (Co-PI), Granlibakken Conference Center, Tahoe City, California, 15.–17. Oktober 2000.

PI, ,,Multiresolution-based volume visualization supporting interactive data viewing", part of UC Davis' contribution to UC San Diego's National Partnership for Advanced Computational Infrastructure (NPACI) supercomputing proposal, **National Science Foundation**, **$75,000**, with Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/10/2000 – 30/9/2001.

PI, ,,Multiresolution- and topology-based visualization of large scientific data sets in parallel and distributed computing environments", **National Science Foundation**, Large Scientific and Software Data Set Visualization (LSSDSV) Program, **$769,629**, with V. Ralph Algazi, Michael Gertz, Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/7/2000 – 31/5/2005.

PI, ,,A study of multiresolution methods and visualization in immersive environments", second project period, **Lawrence Livermore National Laboratory**, **$154,558**, with Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/4/2000 – 31/3/2002.

Co-PI, ,,A NEES geotechnical centrifuge facility", **National Science Foundation**, Network for Earthquake Engineering Simulation (NEES), Division of Civil and Mechanical Systems, **$4,614,294**, with Bruce L. Kutter (PI), Ross W. Boulanger, Boris Jeremić, Kwan-Liu Ma, J. Carlos Santamarina, Steven A. Velinsky, Daniel W. Wilson and S. J. Ben Yoo (Co-PIs), 1/10/2000 – 31/10/2004.

Co-PI, ,,Interactive exploration and analysis of terascale data sets in virtual environments", second project period, **Lawrence Livermore National Laboratory**, **$73,178**, with Kenneth I. Joy (PI), 1/10/2000 – 30/9/2001.

Co-PI, ,,Interactive web-based volume rendering using hierarchical data representations", Mississippi State University's contribution to UC San Diego's National Partnership for Advanced Computational Infrastructure (NPACI) supercomputing proposal, **National Science Foundation**, **$75,000**, with Joerg Meyer (PI), 1/10/2000 – 30/9/2001.

Co-PI, ,,The W. M. Keck Foundation Cellular and Molecular Neuroscience Imaging Program", **W. M. Keck Foundation**, Los Angeles, California, **$2,485,358** ($2,000,000 from W. M. Keck Foundation), with Edward G. Jones (PI), Barbara Chapman, Fredric A. Gorin, Xiao-Bo Liu, Anne K. McAllister, Bruno A. Olshausen and James M. Stone (Co-PIs), 1/8/2000 – 31/7/2003.

Co-PI, ,,Interactive exploration and analysis of terascale data sets in virtual environments", first project period, **Lawrence Livermore National Laboratory**, **$49,292**, with Kenneth I. Joy (PI), 1/4/2000 – 30/9/2000.

Co-PI, ,,Image-based rendering for interactive TV viewpoint choice", **ST Microelectronics, Inc./UC Digital Media Innovation (DiMI) Program**, **$123,216** (original request), with Nelson L. Max (PI), Kenneth I. Joy and Kwan-Liu Ma (Co-PIs), 1/2/2000 – 31/12/2001.

Co-PI, ,,Interactive data analysis and visualization technology for experimental and theoretical plasma physics data", **General Atomics/UC Digital Media Innovation (DiMI) Program**, **$87,981** (original request), with Kwan-Liu Ma (PI), Kenneth I. Joy and Nelson L. Max (Co-PIs), 1/5/2000 – 30/4/2001.

PI, ,,Multiresolution-based volume visualization supporting interactive data viewing", part of UC Davis' contribution to UC San Diego's National Partnership for Advanced Computational Infrastructure (NPACI) supercomputing proposal, **National Science Foundation**, **$75,447**, with Kenneth I. Joy, Kwan-Liu Ma and Nelson L. Max (Co-PIs), 1/10/1999 – 30/9/2000.

PI, ,,A study of multiresolution methods and visualization in immersive environments", first project

period, **Lawrence Livermore National Laboratory**, **$25,000**, with Kenneth I. Joy (Co-PI), 1/6/1999 – 30/9/1999.

Co-PI, ,,Development of techniques for interactive exploration and analysis of terascale data sets in virtual environments", **Lawrence Livermore National Laboratory**, **$207,126**, with Kenneth I. Joy (PI), 1/7/1999 – 30/9/2002.

PI, ,,CAREER Supplement Award", supplement to 1996 CAREER Award, **National Science Foundation**, Advanced Computational Infrastructure and Research, **$25,000**, Dezember 1998.

Donation to Bernd Hamann, contribution to an NSF CAREER Supplement Award, **Silicon Graphics, Inc.**, Mountain View, California, **$25,000**, November 1998.

PI, ,,Hierarchical methods for the representation and visualization of terascale data coupled with data mining and immersive environments", **Department of Energy**, Accelerated Strategic Computing Initiative (ASCI), Academic Strategic Alliances Program (ASAP), Level 2 – Strategic Investigations, **$966,000**, with Kenneth I. Joy, Kwan-Liu Ma, Nelson L. Max and David M. Rocke (Co-PIs), 1/10/1998 – 31/3/2002.

PI, ,,Towards real-time vector field visualization for massive and multi-source data using hierarchies", **1998 NRA Award**, **NASA Ames Research Center**, NAS Systems Division, NASA's Research in Scientific Visualization of Computational Fluid Dynamics and Related Aerosciences Program, **$300,000** (original request), with Kenneth I. Joy, Nelson L. Max and David M. Rocke (Co-PIs), 1/7/1998 – 31/12/2000.

Donation to the Center for Image Processing and Integrated Computing (CIPIC), **Fakespace, Inc.**, Mountain View, California, approx. **$45,000** (contribution towards immersive workbench purchase), März 1998.

PI, ,,Application-specific visualization technology for the immersive workbench", **Office of Naval Research (ONR)**, Defense University Research Instrumentation Program (DURIP), **$127,500** (UC Davis match: $42,500), with V. Ralph Algazi, Jean-Jacques Chattot, Andrew J. Fisher, Graham E. Fogg, Kenneth I. Joy, Nelson L. Max, James F. Quinn, Bahram Ravani, David M. Rocke, Susan L. Ustin, Wes Wallender and David L. Woodruff (Co-PIs and individual investigators), 2/3/1998 – 28/2/2002.

Donation to the Center for Image Processing and Integrated Computing (CIPIC), **Lockheed Martin**, San Jose, California, **$2,000**, Februar 1998.

PI, ,,Visualization and representation of very large data sets", **North Atlantic Treaty Organization (NATO)**, International Scientific Exchange Programme, approx. **$5,630** (=206,000.00 Belgian Franc, exchange rate of 12/12/1997), 1/1/1998 – 31/12/1998.

Co-PI, ,,Advanced computing infrastructure for UC Davis Computer Science and Engineering", **National Science Foundation**, CISE Instrumentation Program, **$150,000** (UC Davis match: $60,000), with David M. Rocke (PI) and Kent Wilken (Co-PI), 1/4/1998 – 31/3/1999.

PI, ,,Hierarchical representations for the visualization of large volume data sets", **Office of Naval Research (ONR)**, Volume Visualization Program, **$406,550** (original request), with Kenneth I. Joy and Nelson L. Max (Co-PIs), 1/1/1997 – 31/12/1999.

Co-PI and Associate Director, ,,Data-intensive computing", UC Davis' contribution to UC San Diego's National Partnership for Advanced Computational Infrastructure (NPACI) supercomputing proposal, **National Science Foundation**, approx. **$1,900,000** (including UC Davis match), with David M. Rocke (PI), James F. Quinn and David L. Woodruff (Co-PIs), 1/10/1997 – 31/1/2005.

Co-PI, ,,Hierarchical methods for the accelerated visualization of very large scientific data sets", **U.S. Army Research Office (ARO)**, Defense University Research Instrumentation Program (DURIP), **$212,908**, with Kenneth I. Joy (PI) and Nelson L. Max (Co-PI), 1/3/1997 – 1/3/1999.

PI, ,,Development of techniques for the representation and rendering of multiresolution scientific data", **Lawrence Livermore National Lab.**, Livermore, California, **$54,491**, 1/10/1996 – 30/6/1998.

PI, ,,A proposal regarding the unification of data reduction and multiresolution methods for use in scientific visualization and the education in scientific visualization", **1996 CAREER Award**, **National Science Foundation**, New Technologies Program, **$200,000**, 1/7/1996 – 30/9/2005.

Co-PI, ,,An interactive computer graphics system for the teaching of undergraduate optics", **National Science Foundation (EHR/DUE-CCD)**, **$175,928**, with John Foley (PI), Department of Physics, Mississippi State University, 1/1/96 – 31/12/97. *Der ursprüngliche Forschungsantrag wurde von Prof. John Foley und Prof. Bernd Hamann verfaßt. Die National Science Foundation entschied im November 1995, diesen Antrag zu fördern. Da Prof. Hamann zu diesem Zeitpunkt bereits den Ruf an die University of California (Davis) angenommen hatte, einigte man sich, Prof. Hamann durch Prof. David C. Banks, Mississippi State University, als Co-PI zu ersetzen.*

PI, ,,Development of an interactive visualization system for the analysis of water quality", **U.S. Army Corps of Engineers**, Waterways Experiment Station, Vicksburg, Mississippi, **$55,834**, 25/9/1995 – 30/9/1996.

PI, ,,Accelerated scattered data interpolation algorithms for the generation of rectilinear data from scattered SCAPS data", **U.S. Army Corps of Engineers**, Waterways Experiment Station, Vicksburg, Mississippi, **$35,306**, with Robert J. Moorhead (Co-PI), 16/5/1995 – 15/11/1995.

PI, ,,Improving the computer graphics education via an interactive software system for 3D data reduction and visualization", educational supplements to CISE-supported research grants, **National Science Foundation**, New Technologies Program, **$20,000**, 3/1994 – 8/1997.

Co-PI, ,,A unified air-sea visualization system", **Office of Naval Research (ONR)**, Arlington, VA, **$456,606**, with Robert J. Moorhead (PI) and James H. Corbin (Co-PI), 1/10/94 – 30/9/96.

PI, ,,Development of an interactive tool for the visualization of irregularly sampled data obtained from soil contamination measurement", **U.S. Army Corps of Engineers**, Waterways Experiment Station, Vicksburg, Mississippi, **$64,337**, with Robert J. Moorhead (Co-PI), 1/9/1993 – 15/6/1994.

PI, ,,Reparametrization of NURBS surfaces", **Lawrence Livermore National Laboratory**, Livermore, California, **$25,922**, sub-contractor: Gerald Farin, Computer Science Department, Arizona State University, Tempe, Arizona, 1/8/1993 – 30/7/1994.

Co-PI, ,,Visualization for acoustic monitoring of global ocean climates", **ARPA/NSF**, Washington, D.C., **$2,050,800**, with Robert J. Moorhead (PI), 1/8/93 – 30/9/96.

Investigator, ,,National Grid Project – Microwave and millimeter advanced computational environment", **Mississippi State University-NSF Engineering Research Center for Computational Field Simulation**, Mississippi State University, insgesamt: **$150,000** (Bernd Hamann: $8,736), with Joe F. Thompson (PI), 11/93 – 10/94.

PI, ,,Data reduction and new visualization techniques for three-dimensional data sets", **1992 Research Initiation Award (RIA)**, **National Science Foundation**, New Technologies Program, **$95,000**, 9/1992 – 8/1997.

PI, ,,Data reduction and generalized visualization techniques for trivariate data sets", **1992 Research Initiation Award**, **Mississippi State University**, **$6,000**, 1/1/1992 – 31/12/1992.

Investigator, ,,Oceanographic data visualization II", **Naval Oceanographic Office (NAVO)**, Stennis Space Center, Mississippi, **$53,822**, with Robert J. Moorhead (PI), 15/7/92 – 15/1/93.

Investigator, ,,Oceanographic data visualization I", **Naval Oceanographic Office (NAVO)**, Stennis Space Center, Mississippi, **$33,000**, with Robert J. Moorhead (PI), 15/1/92 – 15/5/92.

PI, ,,National Grid Project – Algorithm development for non-uniform rational B-spline (NURBS) curves and surfaces", **Mississippi State University-NSF Engineering Research Center for Com-**

putational Field Simulation, **Mississippi State University**, approx. **$350,000**, 1/8/1991 – 31/3/1995.

PI, ,,National Grid Project – Surface approximation for CAD data containing errors", **Mississippi State University-NSF Engineering Research Center for Computational Field Simulation**, **Mississippi State University**, approx. **$250,000**, 1/8/1991 – 31/3/1995.

FIRMA — MITGRÜNDUNG

Stratovan Corporation

Mitgründer; November 2005

Lizenzen und Patente von Stratovan Corporation

- US 9342893, Method and apparatus of performing image segmentation
- US 8799328 B2, Centralized selection context for user interface data binding and event handling
- US 8644578 B1, Method and apparatus of identifying objects of interest using imaging scans
- US 8201101, Resolution independent layout
- US 8194964, Analysis of anatomic regions delineated from image data

AUSZEICHNUNGEN, NOMINIERUNGEN, ERNENNUNGEN UND ORGANISATIONSTÄTIGKEITEN

Gewinner, **NSF Research Initiation Award (RIA)**, National Science Foundation, 1992.

Gewinner, **Research Initiation Award**, Mississippi State University, 1992.

Gewinner, **Hearin-Hess Distinguished Professorship in Engineering**, College of Engineering Faculty Award Program, Mississippi State University, 1995.

Nominiert für einen **NSF PFF (Presidential Faculty Fellows) Award**, ausgewählt vom Präsidenten der Mississippi State University, 1995.

Nominiert für einen **Outstanding Researcher Award** als einziger Kandidat des Department of Computer Science, College of Engineering Faculty Award Program, Mississippi State University, 1995.

Nominiert für ein **William L. Giles Distinguished Professorship**, Mississippi State University, 1995.

Ernennung zum **Co-Direktor** des Forschungszentrums **,,CIPIC – Center for Image Processing and Integrated Computing"**, University of California, Davis, 1996.

Gewinner, **NSF CAREER Award**, National Science Foundation, 1996.

Nominiert für ein **Sloan Research Fellowship** als einziger Kandidat des Department of Computer Science, University of California, Davis, 1996.

Gewinner, **Best Panel Award**, Terascale visualization: Approaches, pitfalls and issues, *IEEE Visualization '97*, Phoenix, Arizona, Oktober 1997.

Nominiert für den **NSF Alan T. Waterman Award**, (höchste jährliche Auszeichnung der NSF für einen Wissenschaftler unter 35 Jahren), 1998.

Mitglied, **Research Council**, **Digital Media Innovation Program (DiMI)**, University of California, Davis, Juli 1998 – Juni 2002.

Chair, **Industrial Affiliates Program (IAP)**, Department of Computer Science, University of California, Davis, 1999–2004.

UC Davis **Acting Committee Chair**, **UC Davis Computational Science and Engineering Initiative**, University of California, Davis, 1999–2000.

Co-Organisator des Workshops **NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization**, Farin, G., Hagen, H. and Hamann, B., workshop and program co-chairs, Granlibakken Conference Center, Tahoe City, California, 15.–17. Oktober 2000 (electronic abstracts available at http://graphics.cs.ucdavis.edu/hvm00).

Mitglied, **ArtsVision Steering Committee**, **UC Davis ArtsVision Initiative**, University of California, Davis, 2000–2001.

Mitglied, **Computational Science Steering Committee**, **UC Davis Computational Science Initiative**, University of California, Davis, 2000–2001.

Mitglied, **Executive Committee**, **The W. M. Keck Foundation Cellular and Molecular Neuroscience Imaging Program**, Center for Neuroscience, University of California, Davis, 2000–2003.

Mitglied, **Faculty Search Committee**, **Department of Electrical and Computer Engineering**, University of California, Davis, 2000–2003.

Mitglied, **UC Davis Coordination Committee**, **Center for Information Technology Research in the Interest of Society (CITRIS)** (lead campus: UC Berkeley), California Institutes for Science and Innovation (CISI) program, University of California, Davis, Juli 2001 – Juni 2012.

Mitglied, **Committee of Visitors** (evaluation committee), Evaluierung des ,,Advanced Computational

Research (ACR) Programs", **National Science Foundation**, Arlington, Virginia, August 15, 2001.

Nominiert für die Position des **Chair of the Department of Computer Science**, 2001; Department of Computer Science, **Rensselaer Polytechnic Institute**, Troy, New York, September 2001.

Mitglied, **Program Committee**, **UC Davis Technocultural Studies**, University of California, Davis, 2002–2004.

Co-Organisator des Workshops **Visualization Requirements for DOE-sponsored Computational Science and Engineering Applications Workshop**, Bethel, E. W., Hamann, B. and Simon, H. D., workshop and program co-organizers, Berkeley, California, 5. Juni 2002, http://vis.lbl.gov/Events/VisGreenbookWorkshop-June02/index.html.

Mitglied, **Review Committee**, evaluation of **Center for Simulation of Dynamic Response of Materials** (DOE Center of Excellence, California Institute of Technology, Pasadena, California), **Department of Energy**, Accelerated Strategic Computing Initiative (ASCI) Program, Academic Strategic Alliances Program (ASAP), Oktober 2002.

Mitglied (ex officio), **Research Coordinating Council**, August 2003 – Juni 2012; Office of Research, University of California, Davis.

Gewinner, **Best Application Award**, *IEEE Visualization 2003*, Seattle, Washington, Oktober 2003.

Mitglied (ex officio), **Research Vision Study Group**, Oktober 2003 – September 2007; Office of Research, University of California, Davis.

Co-Organisator des Workshops **NSF Lake Tahoe Workshop on Collaborative Virtual Reality and Visualization**, Bajcsy, R., Gross, M., Hamann, B., Joy, K. I. and Staadt, O. G., workshop and program co-chairs, Granlibakken Conference Center, Tahoe City, California, 26.–28. Oktober 2003 (electronic abstracts available at http://graphics.cs.ucdavis.edu/CVRV2003/program.html).

Mitglied (ex officio), **Nanoscience and Nanotechnology Steering Committee**, Januar 2004 – Juni 2012; Office of Research, University of California, Davis.

Co-Organisator des Workshops **Mathematical Foundations of Scientific Visualization, Computer Graphics, and Massive Data Exploration**, Möller, T., Hamann, B. and Russell, R. D., workshop and program co-chairs, Banff International Research Station (BIRS), Banff Centre, Banff, Alberta, Canada, 22.–27. Mai 2004.

Ernennung zum **Co-Direktor** des Forschungsinstituts **„IDAV – Institute for Data Analysis and Visualization"**, University of California, Davis, 2004.

Facilitator, **Intel-UC Davis Center of Excellence Working Group**, Oktober 2004 – September 2005; Intel, Folsom, California, and Graduate School of Management and College of Engineering, University of California, Davis.

Mitglied, **Search Committee for the position of „Executive Director of Technology Transfer and Business Development"**, Oktober–Dezember 2004; **Office of Research**, University of California, Davis.

Mitglied, **Committee on Research and Outreach (ROC)**, Oktober 2004 – September 2008, Department of Computer Science, University of California, Davis.

Mitglied, **Project Steering Committee**, Oktober 2004 – Dezember 2005, **Training to Enhance Prevention, Deterrence, Response and Recovery from Weapons-of-Mass-Destruction (WMD) Incidents in the California Dairy and Processed Produce Systems**, Department of Homeland Security Training Grant effort, Western Institute for Food Safety and Security (WIFSS), University of California, Davis.

Mitglied, **UC Davis Stem Cell Internal Advisory Committee**, Dezember 2004 – Juni 2012; University of California, Davis.

Mitglied, **Executive Board**, Information Technology Research (ITR) Program grant "Societal-scale in-

formation systems: technologies, design and applications," Januar 2005 – September 2007; University of California, Berkeley and Davis.

Mitglied (ex officio), **Group of Organized Research Unit Directors**, Januar 2005 – Juni 2012; Office of Research, University of California, Davis.

Mitglied, **UC Davis Academic Senate Public Service Committee**, Januar 2005 – Juni 2012; University of California, Davis.

Mitglied (ex officio), **Computational Resource Center Working Group**, 2005–2006; co-chair, Oktober 2005 – September 2007; Office of Research, University of California, Davis.

Co-Organisator des Workshops **University of Kaiserslautern and UC Davis International Workshop on Visualization of Large Data Sets with Applications in Geospatial Planning, Modeling, and Engineering**, Kellogg, L. H., Hagen, H., Joy, K. I., Kutter, B. L. and Rundle, J. B., Workshop Co-Organizatoren, University of California, Davis, Juli 2005.

Mitglied, **Search Committee for the position of ,,Edward Teller Chair of Applied Science"**, Oktober 2005 – Juni 2006; **Department of Applied Science**, University of California, Davis.

Mitglied (ex officio), **University of California Universitywide Information Technology Guidance Committee – Cyberinfrastructure Advisory Group**, organized by Associate Vice President Kristine Hafner, April 2006 – März 2007; Office of the President, University of California, Oakland.

Gewinner, **University of California Presidential Chair in Undergraduate Education**, Juli 2006 – Juni 2010; ,,Scientific Visualization in the Geological Sciences: An Interdisciplinary Research Experience for Undergraduates", University of California, Davis.

Co-Organisator, **International Workshop on Visualization in Medicine and Life Sciences**, Lars Linsen, Hans Hagen and Bernd Hamann, workshop and program co-chairs, Binz, Rügen, Germany, 19.–21. Juli 2006.

Mitglied, **Research Advisory Committee (RAC)**, McClellan Nuclear Radiation Center (MNRC), November 2006 – Juni 2012; Office of Research, University of California, Davis.

Mitglied, **UC Davis 2007 Chancellor's Fall Conference Planning Committee**, Februar 2007 – Oktober 2007; University of California, Davis.

Mitglied, **UC Davis 2007 Cyberinfrastructure Workshop Planning Committee**, März 2007 – April 2007; University of California, Davis.

Mitglied, **UC Davis College of Engineering Biomedical Technology Translational Research Initiative (BTTRI) Committee**, Mai 2007 – Juni 2012; University of California, Davis.

Mitglied, **Campus Council for Information Technology (CCFIT)**, Oktober 2007 – September 2011; University of California, Davis.

Chair, **Chancellor's Fall Conference Follow-up Committee**, Recommendations for information technology at UC Davis, Oktober 2007 – April 2008; University of California, Davis.

Mentor, **UC Discovery Fellowship Program, Industry-University Cooperative Research Program (IUCRP)**, April 2008 – Juni 2012; Office of the President, University of California.

Gewinner, **Outstanding Paper Award**, *IADIS Multi-conference on Computer Science and Information Systems (MCCSIS) 2008 – International Conference on Computer Graphics and Visualization (CGV) 2008*, Amsterdam, The Netherlands, July 2008.

Mitglied, **Containment Laboratory Review Committee**, Development of policy for the operations, development, and management of UC Davis containment (BSL3) microbiology research laboratories, Oktober 2008 – Juni 2012; University of California, Davis.

Mitglied, **Biotechnology Advisory Committee (BAC)**, UC Davis Biotechnology Program, Januar 2009 – Juni 2012; Office of Research, University of California, Davis.

Mitglied, **University of California Shared Research Computing Services Oversight Board**,

organized by Associate Vice President David J. Ernst, Juni 2009 – Juni 2012; Office of the President, University of California, Oakland.

Co-Organisator, **Second International Workshop on Visualization in Medicine and Life Sciences 2009**, Lars Linsen, Bernd Hamann, Hans-Christian Hege and Hans Hagen, workshop and program co-chairs, Bremerhaven, Germany, 22.-24. Juli 2009.

Mitglied, **NSF CREATE Advisory Board**, Integrative Graduate Education and Research Traineeship (IGERT) effort, UC Davis Biotechnology Program and Department of Chemical Engineering and Materials Science, August 2009 – Juni 2012; Office of Research, University of California, Davis.

Mitglied (ex officio), **Subcommittee on Research Computing (SORC)**, Oktober 2009 – Juni 2012; University of California, Davis.

Co-chair, **UC Davis Academic Assessments Workgroup**, organized by Provost and Executive Vice Chancellor Enrique J. Lavernia (subsequently by Provost and Executive Vice Chancellor Ralph J. Hexter) and Vice Provost for Student Affairs Fred E. Wood, Januar 2010 – Juni 2010; Office of the Provost, University of California, Davis.

Co-chair des Workshops **Phase-II Kick-off Workshop of the International Research Training Group ,,Visualization of Large Data Sets with Applications in Geospatial Planning, Modeling and Engineering"**, Hagen, H. and Hamann, B., Workshop Co-chairs, University of California, Davis, Bodega Marine Laboratory (BML), Bodega Bay, California, 19.-21. März 2010.

Co-chair, **UC Davis Bodega Marine Laboratory Strategic Plan Committee**, organized by Chancellor Linda P. Katehi, April 2010 – Januar 2011; Office of the Chancellor, University of California, Davis.

Mitglied, **Northern California Nanotechnology Center Strategic Advisory Committee**, Oktober 2010 – Juni 2012; College of Engineering, University of California, Davis.

Co-Organisator des Workshops **Workshop on Cooperation between the University of California, Davis, and the Cyprus Institute**, Barry M. Klein and Jan W. Hopmans, UC Davis workshop co-organizers, Nicosia, Cyprus, 13.–15. Dezember 2010.

Mitglied, **Taskforce to Explore a UC Davis Branch Campus in Madrid, Spain**, Chair, Sub-group on Research, Februar 2011 – Juni 2012; University of California, Davis.

Mitglied, **UC Davis-Sandia National Laboratories, Livermore Working Group**, Development of a roadmap for major research collaborations, Februar 2011 – Mai 2011; Office of Research, University of California, Davis.

Mitglied, **Recruitment Advisory Committee for the position of ,,Executive Associate Vice Chancellor for Research Administration",** März 2011 – April 2011; Office of Research, University of California, Davis.

Mitglied, **International Programs Advisory Committee**, März 2011 – Juni 2012; Office of University Outreach and International Programs, University of California, Davis.

Mitglied, **UC Davis Coastal and Marine Sciences Institute Planning Committee**, appointed by Chancellor Linda P. Katehi and Vice Chancellor for Research Harris A. Lewin, Juni 2011 – Oktober 2011; Office of the Chancellor, University of California, Davis.

Mitglied, **NSF Center for Biophotonics Science and Technology (CBST) Transition Planning Committee**, appointed by Vice Chancellor for Research Harris A. Lewin, August 2011 – Juni 2012; Office of the Vice Chancellor for Research, University of California, Davis.

Mitglied, **UC Davis Research Core Administration Committee**, appointed by Vice Chancellor for Research Harris A. Lewin, November 2011 – Juli 2012; Office of the Vice Chancellor for Research, University of California, Davis.

Mitglied, **UC Davis National Center for Advancing Translational Sciences (NCATS) Working**

Group, Development of strategies for proposal planning, April 2012 – Juni 2012; Office of Research, University of California, Davis.

Direktor (UC Davis), **Los Alamos National Laboratory - UC Davis Institute of Next-generation Visualization and Analysis (INGVA)**, Los Alamos National Laboratory and University of California, Davis, Oktober 2012 – September 2017.

Co-Organisator, **Third International Workshop on Visualization in Medicine and Life Sciences 2013**, Lars Linsen, Hans-Christian Hege and Bernd Hamann, workshop and program co-chairs, Leipzig, Germany, 16.-18. Juni 2013.

Chair, **Distinguished Lecturer Series Committee**, Department of Computer Science, University of California, Davis; September 2013 – September 2017.

Mitglied, **Bylaws Committee**, Academic Senate Graduate Council, University of California, Davis; seit September 2015.

Mitglied, **College of Engineering Faculty Personnel Committee (FPC)**, Committee on Academic Personnel (CAP), University of California, Davis; September 2016 – August 2018.

Gewinner, **Best Paper Award**, *BrainKDD: The Third International Workshop on Data Mining and Visualization for Brain Science*, held in conjunction with *The Seventh ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB 2016)*, Seattle, Washington, October 2016.

Faculty Coordinator, **Computer Science Advisory Board**, Department of Computer Science, University of California, Davis; seit Mai 2017.

Mitglied, local organizing committee, **XXX IUPAP Conference on Computational Physics 2018 (CCP 2018)**, Barry M. Klein, conference chair, Davis, California, 29. Juli – 2. August 2018.

Chair, **College of Engineering Faculty Personnel Committee (FPC)**, Committee on Academic Personnel (CAP), University of California, Davis; September 2018 – August 2019.

Mitglied, **College of Engineering Faculty Personnel Committee (FPC)**, Committee on Academic Personnel (CAP), University of California, Davis; August 2019 – Dezember 2019.