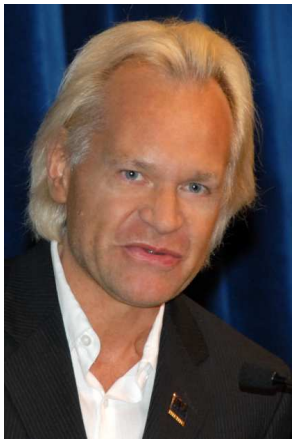

BERND HAMANN

Curriculum Vitae

May 2025

PROFESSOR
Department and Graduate Group of Computer Science, Graduate Group of Applied Mathematics and Graduate Program in Health Informatics, University of California, Davis

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GENERAL INFORMATION

Contact information

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Education

Ph.D. (Computer Science), Arizona State University, Tempe, Arizona, August 1991 (advisor: Gregory M. Nielson).

M.S./Diplom (Computer Science), Technical University of Braunschweig, Braunschweig, Germany, May 1988.

B.S. (Mathematics), Technical University of Braunschweig, Germany, July 1986.

B.S. (Computer Science), Technical University of Braunschweig, Germany, September 1985.

Citizenships

United States of America (U.S.A.) and Federal Republic of Germany

Professional experience

UC Davis Director, 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, October 2012 – September 2017.

University of California Presidential Chair in Undergraduate Education, Office of the Provost, University of California, Davis, California, July 2006 – June 2010.

Co-Director, 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), January 2005 – December 2014.

Affiliated faculty member, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, California, July 2004 – December 2014.

Affiliated lead scientist and faculty member, W. M. Keck Foundation Center for Active Visualization in the Earth Sciences (KeckCAVES), University of California, Davis, California, January 2004 – December 2019.

Co-Director (inaugural), Institute for Data Analysis and Visualization (IDAV), University of California, Davis, California, May 2004 – June 2004.

Associate Vice Chancellor for Research (Interdisciplinary Research and Strategic Initiatives), Office of Research, University of California, Davis, California, August 2003 – June 2012.

Full professor, Department of Computer Science, member of the *Center for Neuroscience*, *Graduate Group in Computer Science*, *Graduate Group in Applied Mathematics*, and *Graduate Program in Health Informatics*, University of California, Davis, California, July 2000 – present.

Faculty computer scientist, Visualization Group, Computational Research Division (CRD), Lawrence Berkeley National Laboratory (LBNL), University of California, Berkeley, California, December 1999 – September 2017.

Participating guest researcher, Data Analysis Group, Center for Applied Scientific Computing (CASC), Lawrence Livermore National Laboratory (LLNL), Livermore, California, June 1998 – June 2013.

Co-Director, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, California, January 1997 – May 2004.

Adjunct professor, Department of Computer Science and Engineering, High Performance Computing Collaboratory (Mississippi State University-NSF Engineering Research Center for Computational Field Simulation), Mississippi State University, Mississippi, August 1995 – August 2005.

Associate professor (with tenure), Department of Computer Science, University of California, Davis, California, July 1997 – June 2000.

Acting associate professor, Department of Computer Science, University of California, Davis, California, August 1995 – June 1997.

Associate professor, Department of Computer Science, Mississippi State University, Mississippi State, Mississippi, August 1994 – July 1995.

Research faculty member, Scientific Visualization Thrust, High Performance Computing Collaboratory (Mississippi State University-NSF Engineering Research Center for Computational Field Simulation), Mississippi State University, Mississippi State, Mississippi, August 1991 – July 1995.

Assistant professor, Department of Computer Science, Mississippi State University, Mississippi State, Mississippi, August 1991 – July 1994.

Research and teaching assistant, Department of Computer Science, Arizona State University, Tempe, Arizona, June 1988 – May 1991.

Application programmer, Stahlwerke Peine-Salzgitter AG (steel company), Salzgitter, Germany, October 1985 – May 1986.

Service in major leadership positions

- **Associate Vice Chancellor for Research** (2003 – 2012)

  Promoting research possibilities and supporting large research efforts throughout the university, especially large-scale and inter- and multi-disciplinary projects and initiatives.

  Establishing and working with faculty steering committees and faculty workgroups to define the research agenda and initiatives for emerging complex and inherently multi-disciplinary research areas (including nano-science and nano-technology, cyber-security, and mathematical and computational biology).

  Overseeing most interdisciplinary research efforts at UC Davis, with emphasis on oversight of **Organized Research Units (ORUs), Organized Research Projects (ORPs)**, **Central Facilities**, and **Special Research Programs** reporting to the Office of Research, including review of unit directors and scientific personnel and coordination of regular research unit reviews. **(UC Davis received between $600,000,000 and $700,000,000 oer year in total annual research funding between fiscal years 2010 and 2012, generated by grants and contracts. When combined, the research units reporting to the Office of Research were funded at a total level of approximately $125,000,000 in fiscal year 2010/11.)**

  Handling appointments, promotions and merits for directors, Academic Senate and Academic Federation personnel, and professional scientific staff members of research units reporting to the Office of Research.

  Providing guidance to faculty concerning faculty-initiated proposals related to large-scale or interdisciplinary research.

  Working with the Vice Chancellor for Research, the Associate Deans for Research, and the UC Davis Research Coordinating Council on ranking campus-internal pre-proposals, submitted by UC Davis faculty competing in Limited Submissions programs, i.e., programs that limit the number of proposals that can be submitted by the university.

  Working with members of the UC Davis Research Coordinating Council on issues related to fostering broad research initiatives and proposals, including an improved Office of Research support infrastructure for faculty

  Interacting with members of the UC Davis External Research Advisory Board concerning desirable new research directions for UC Davis, with an emphasis on industry-driven research trends and needs

- **Co-Director, Center for Image Processing and Integrated Computing (CIPIC) and Institute for Data Analysis and Visualization (IDAV)** (1997 – 2004)

  Developing and co-leading an ORU with main emphasis on inter- and multi-disciplinary research concerned with the analysis of large data sets originating in diverse scientific and engineering applications

  Generating extramural support and communicating funding opportunities for research activities especially in the areas of interactive and visualization-based data analysis, using computer graphics and virtual reality technologies

  Promoting the value of interactive and visualization-based data analysis technology on and off campus, to catalyze research efforts bringing together faculty/scientists from different disciplines and different institutions (universities, national laboratories, and industry)

  Creating a cross-fertilizing, multi-disciplinary research environment for interactive and visualization-based data analysis, co-locating undergraduate students, graduate students, post-doctoral researchers, and visiting scholars with different backgrounds

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Principal research interests

Scientific visualization and computer graphics

- Scalar field and volume visualization (contouring methods, ray casting, medical imaging)
- Vector field visualization (stream lines, particle paths, unsteady flow visualization, arbitrary grids)
- Hierarchical/multiresolution methods (hierarchical approximation and visualization)
- Virtual reality (visualization methods for immersive environments)

Geometric modeling/computer-aided geometric design (CAGD) and grid generation

- Approximation techniques (curve, surface, volume, and scattered data modeling)
- Geometric modeling (CAD, solid modeling, geometric data processing, reverse engineering)
- Data reduction techniques (mesh decimation, knot removal/insertion techniques)
- Triangulation and tessellation methods (massive data approximation/representation)

Primary teaching interests

- Undergraduate and graduate courses in scientific visualization
- Undergraduate and graduate courses in geometric modeling
- Undergraduate and graduate courses in computer graphics

Specific courses taught at UC Davis

Undergraduate courses

- Introduction to Programming and Problem Solving (ECS 30)
- Computer Graphics (ECS 175)
- Introduction to Visualization (ECS 177)
- Introduction to Geometric Modeling (ECS 178)

Graduate courses

- Advanced Visualization (ECS 277)
- Computer-aided Geometric Design (ECS 278)

Editorial boards

IEEE Transactions on Visualization and Computer Graphics (TVCG), January 1999 – March 2003.

Service as program chair/committee member, papers chair, paper/book reviewer, etc.

- Reviewing for journals

Algorithmica, Springer-Verlag.
Computer-Aided Design (CAD), Elsevier (North-Holland).
Computer-Aided Geometric Design (CAGD), Elsevier (North-Holland).
Computer Graphics and Applications (CG&A), IEEE.
Computer Graphics Forum, Eurographics Association, Cambridge University Press, United Kingdom.
Computers and Graphics, Elsevier (North-Holland).
Computing, Springer-Verlag.
International Journal of Computer-Integrated Design and Construction.
Journal of Computational Physics, Academic Press, Inc.
Journal of Manufacturing Science and Engineering, The American Society of Mechanical Engineers.
Journal on Scientific Computing, SIAM.
Journal of the American Statistical Association.
Pattern Recognition Letters, Elsevier (North-Holland).

The Computer Journal, Oxford University Press.

The Visual Computer, International Journal of Computer Graphics, Springer International.

Transactions on Graphics, ACM.

Transactions on Visualization and Computer Graphics (TVCG), IEEE.

Zentralblatt für Mathematik und ihre Grenzgebiete/Mathematics Abstracts, Springer-Verlag and Academy of Sciences of Heidelberg, Germany.

- Reviewing for proceedings

"International Conference on Cyberworlds 2020," proceedings; member of Program Committee, 2020.

"International Conference on Cyberworlds 2019," proceedings; member of Program Committee, 2019.

"International Conference on Cyberworlds 2018," proceedings; member of Program Committee, 2018.

"International Conference on Cyberworlds 2017," proceedings; member of Program Committee, 2017.

"International Conference on Cyberworlds 2016," proceedings; member of Program Committee, 2016.

"International Conference on Cyberworlds 2015," proceedings; member of Program Committee, 2015.

"International Conference on Cyberworlds 2014," proceedings; member of Program Committee, 2014.

"International Conference on Cyberworlds 2013," proceedings; member of Program Committee, 2013.

"International Conference on Cyberworlds 2012," proceedings; member of Program Committee, 2012.

"International Conference on Cyberworlds 2011," proceedings; member of Program Committee, 2011.

"Fifth International Symposium on 3D Data Processing, Visualization and Transmission (3DPVT 2010)," proceedings; member of International Program Committee, 2010.

"International Conference on Cyberworlds 2010," proceedings; member of Program Committee, 2010.

"International Conference on Cyberworlds 2009," proceedings; member of Program Committee, 2009.

"Fourth International Symposium on 3D Data Processing, Visualization and Transmission (3DPVT 2008)," proceedings; member of International Program Committee, 2008.

"Fourth International Symposium on Visual Computing (ISVC 08)," proceedings; member of International Program Committee, 2008.

"International Conference on Cyberworlds 2008," proceedings; member of Program Committee, 2008.

"International Conference on Cyberworlds 2007," proceedings; member of Program Committee, 2007.

"Workshop on Advances in Shape Modeling and Analysis 2007," proceedings; Program Co-Chair and member of Program Committee, 2007.

"Workshop on Multiscale Biological Imaging, Data Mining and Informatics," proceedings; member of the Program Committee, 2006,

"Joint Eurographics-IEEE TCVG Symposium on Visualization (EuroVis)" proceedings, Eurographics and IEEE; member of International Program Committee, 2005.

"International Symposium on Cyber Worlds: Theory and Practice"; member of International Program Committee, 2002.

"International Workshop on Computer Graphics and Geometric Modeling (CG&GM 2002)"; reviewer, 2002.

"Joint Eurographics-IEEE TCVG Symposium on Visualization (VisSym)," proceedings, Eurographics and IEEE; member of International Program Committee, 2002, 2003 and 2004.

"GraphiCon 2000," conference proceedings; member of International Program Committee, 2000.

"Second International Seminar on Principles and Methods of Engineering Design," proceedings, Università degli Studi di Napoli Federico II, Naples, Italy; member of International Program Committee, 1999.

"IEEE Visualization," conference proceedings, IEEE; Papers Co-Chair, 1999 and 2000, Papers Committee, 1998 and 2001, and member of Program Committee, 2001 and 2002; regular reviewer of technical papers, case studies, and course proposals.

"Computer Graphics International," conference proceedings, ACM/IEEE, Eurographics and Gesellschaft für Informatik (GI); member of International Program Committee, 1998 and 1999.

"Pacific Graphics," conference proceedings, IEEE; regular reviewer.

"SIGGRAPH," conference proceedings, ACM; regular reviewer.

"Supercomputing," conference proceedings, ACM/IEEE; regular reviewer.

"Symposium on Solid Modeling and Applications," proceedings, ACM; regular reviewer.

- Reviewing books

Bézier and B-spline Techniques, Prautzsch, H., Boehm, W. and Paluszny, M., Springer-Verlag, Heidelberg, Germany, 2002.

Trends in Approximation Theory, Kopotun, K., Lyche, T. and Neamtu, M, eds., Vanderbilt University Press, 2001.

Mathematical Methods for Curves and Surfaces II, Dæhlen, M., Lyche, T. and Schumaker, L. L., eds., Vanderbilt University Press, 1998.

Service as reviewer for funding agencies

Department of Energy, Accelerated Strategic Computing Initiative (ASCI) Program, Academic Strategic Alliances Program (ASAP), Centers of Excellence, member of Review Committee, evaluation of Center for Simulation of Dynamic Response of Materials, California Institute of Technology.

National Science Foundation, Directorate for Computer and Information Science and Engineering (CISE), Advanced Computational Research (ACR) Program, member of Committee of Visitors, evaluation of ACR Program.

National Science Foundation, Directorate for Computer and Information Science and Engineering (CISE), various research programs, panel and peer proposal reviews (including reviews of CAREER proposals).

National Science Foundation, Directorate for Mathematical and Physical Sciences (MPS), various research programs, peer proposal reviews.

Deutsche Forschungsgemeinschaft (DFG), Referat Informatik (Computer Science), peer proposal reviews.

Professional memberships

Association for Computing Machinery (ACM), Special Interest Group for Computer Graphics (SIGGRAPH), 1991–2019.

Institute of Electrical and Electronics Engineers Computer Society (IEEE), 1991–2019.

Society for Industrial and Applied Mathematics (SIAM), Activity Group on Geometric Design, 1991–2015.

German Association of University Professors and Lecturers (Deutscher Hochschulverband, DHV), 1995–2019.

News media coverage

News story "Amrita Computer Science Graduate Develops Groundbreaking Software to Better Understand Brain Activity," *Amrita Center for International Programs*, online news, Amrita University, Coimbatore Campus, Amritanagar, Tamilnadu, India, April 11, 2017,
https://www.amrita.edu/news/amrita-computer-science-graduate-develops
-groundbreaking-software-better-understand-brain.

News story "Brain Modulyzer Provides Interactive Window into the Brain," *News Center* and *Egghead*, online news, Lawrence Berkeley National Laboratory and University of California, Davis, California,

October 10, 2016,
http://newscenter.lbl.gov/2016/10/10/brain-modulyzer-provides-interactive-window-brain/ and
http://blogs.ucdavis.edu/egghead/2016/10/10/
brain-modulyzer-software-provides-interactive-window-into-the-brain/
?utm_source=datelinehtml&utm_medium=datelinenewsletter&utm_campaign=dateline_20161011.

News story "Jesus Pulido: Graduate Student Profile," *College of Engineering News, Announcements and Events – Blog*, January 2016, College of Engineering, University of California, Davis, California, http://engineering.ucdavis.edu/blog/jesus-pulido-graduate-student-profile/.

Online news story, "Feature of the Week 02/01/2015: Progress on Developing Adaptive Optics OCT for In Vivo Retinal Imaging: Monitoring and Correction of Eye Motion Artifacts," *Optical Coherence Tomography News (OCT News)*, website covering news in optical coherence tomography, February 1, 2015, http://www.octnews.org/articles/5808266/feature-of-the-week-02-01-2015-progress-on-develop/.

Story "A Three-dimensional Eddy Census of a High-resolution Global Ocean," *ADTSC Science Highlights 2013*, LAUR 13-20839, Associate Directorate for Theory, Simulation, and Computation, Los Alamos National Laboratory, Los Alamos, New Mexico, February 2013, pp. 50–51, http://www.lanl.gov/orgs/adtsc/publications.php.

News story "UC Davis Team's Piano System Animates Hands to Do-Re-Mi," *Phys.org*, web-based news service, October 1, 2012, and *ACM TechNews*, New York, New York, October 3, 2012, http://phys.org/news/2012-10-uc-davis-team-piano-animates.html and http://technews.acm.org.

News story "Virtuoso Cartoon Pianist Plays just Like the Real Thing," *New Scientist*, online magazine, September 24, 2012,
http://www.newscientist.com/blogs/onepercent/2012/09/virtuoso-cartoon-pianist-plays.html.

News story "Virtual Reality Reveals Details of Haiti Quake," *TechMediaNetwork – OurAmazingPlanet*, online technology news, Ogden, Utah, July 2, 2012, http://www.ouramazingplanet.com/3125-haiti-earthquake-virtual-reality.html.

Geosphere press release (Geosphere Highlights), "New in Geosphere: From Fractal-sized Fragments to a Large-footprint LiDAR Survey," *The Geological Society of America (GSA)*, Boulder, Colorado, June 26, 2012, http://www.geosociety.org/news/pr/12-49.htm.

News story "Using 3-D Laser Mapping to Show Earthquake Zones," *UC Davis Magazine*, Vol. 29, No. 3, p. 10, Spring Quarter 2012, University of California, Davis, California, April 2012, http://ucdavismagazine.ucdavis.edu/issues/sp12/.

News story "Germany-U.S. Grant on Geospatial Planning," *Internationally Engaged Newsletter*, Vol. 12, University Outreach and International Programs (UOIP), University of California, Davis, California, Winter 2012 Issue, January 2012, p. 7, http://uoip.ucdavis.edu.

Feature film "X-Ray Earth," *National Geographic Channel*, National Geographic Society, Washington, D.C., May 15, 2011, 8:00pm-10:00pm (Pacific Time),
http://channel.nationalgeographic.com/tv-schedule.

Online news story, "IRIS: Illustrative Rendering of Integral Surfaces," *International Science Grid this Week (iSGTW)*, Office of Communication, Fermilab, Batavia, Illinois, March 9, 2011,
http://www.isgtw.org/visualization/iris-illustrative-rendering-integral-surfaces.

Press release, "Four Advanced Network-based Projects to Enable Research and Education Collaboration and Provide Broadband to Underserved Californians Win CENIC's 2011 Innovations in Networking Awards," *Corporation for Education Network Initiatives in California (CENIC)*, La Mirada, California, March 8, 2011,
http://www.businesswire.com/news/home/20110308005050/en/Advanced-Network-Based-Projects-Enable-Research-Education-Collaboration.

Feature film "Megaquake 10.0," *The History Channel*, History Channel Special Features film, Art and Entertainment Television Networks (AETN), New York, New York, January 12, 2011, 9:00pm-11:00pm (Eastern Time), http://www.history.com/schedule/1/12/2011.

News story "Virtual, Quaking Reality," *UC Davis Magazine*, Vol. 28, No. 2, p. 11, Winter Quarter 2011, University of California, Davis, California, January 2011, http://ucdavismagazine.ucdavis.edu/issues/win11/.

News story "New Techniques in LiDAR Visualization," *VizWorld*, online visualization and graphics news, December 10, 2010, http://www.vizworld.com/2010/12/techniques-lidar-visualization/.

News story "Immersed in Their Work, together," *CITRIS Newsletter*, University of California, Berkeley, California, October 2010, and *ACM TechNews*, New York, New York, October 18, 2010, http://citris-uc.org/news/october_2010_newsletter and http://technews.acm.org.

News story "Virtual Geology: Researchers Don Goggles in Virtual Reality Center to Study Earthquakes," *Spotlight*, online UC Davis news, University of California, Davis, California, September 7, 2010, http://ucdavis.edu/spotlight/0910/virtual_geology.html.

News story "Geologists Jump into Virtual Reality," *The Davis Enterprise*, daily newspaper, Davis, California, August 14, 2010, http://www.davisenterprise.com/story.php?id=101.9.

News story "3-D Quake Research Yields Revealing Finds: 3-D Technology out of UC Davis Gives Earthquake Researchers a Perspective that Satellites Cannot," *abc7, KGO-TV*, San Francisco, California, August 13, 2010, http://abclocal.go.com/kgo/video?id=7609579, http://us.cisionpoint.com/BouncingBallVideo.aspx?id=673125780.

News story "Laser plasma particle accelerators," *SciDAV Review*, issue 13, pp. 13–21, summer 2009, U.S. Department of Energy, Office of Science, IOP Science and Editorial Office, Washington, D.C., June 2009, http://www.scidacreview.org/0903/index.html.

News video, "Virtual Geology," *UC Davis NewsWatch*, University of California, Davis, California, June 2009, available on iTunes University web site, https://deimos.apple.com/WebObjects/Core.woa/BrowsePrivately/ucdavis-public, iTunes U $->$ UC Davis $->$ Top Downloads $->$ Virtual Geology.

News story "NERSC and CRD Decipher Science from Compact Accelerator Simulations," *Science and Technology Archive*, Lawrence Berkeley National Laboratory, University of California, Berkeley, California, May 26, 2009, http://www.lbl.gov/cs/Archive/news052609a.html.

News story "Data Mining – Slice, then Stitch," *Communications of the ACM*, Vol. 52, No. 3, monthly magazine, p. 15, Association for Computing Machinery (ACM), New York, New York, March 2009.

Story "KECKCAVES," *UC Davis Centennial Annual Report 2008*, p. 17, University of California, Davis, California, March 2009, http://annualreport.ucdavis.edu/discovery.html.

News story "Software Company Takes a Closer Look at Surgical Precision," *UC Davis News & Information*, online news magazine, University of California, Davis, California, and *Sacramento Business Journal*, Sacramento, California, January 30, 2009, http://www.news.ucdavis.edu/in_the_news/full_text/view_clip.lasso?id=26536 and http://sacramento.bizjournals.com/sacramento/stories/2009/02/02/story8.html.

News story "Basking in Big Data," *UC Davis News & Information*, online news magazine, University of California, Davis, California, January 21, 2009, http://www.news.ucdavis.edu/in_the_news/full_text/view_clip.lasso?id=26445 and http://www.technologyreview.com/computing/21976/?a=f.

News story "Analyzing All that Data," *Dateline*, weekly campus newspaper, University of California,

Davis, California, January 16, 2009, http://www-dateline.ucdavis.edu/dl_detail.lasso?id=11051.

News story "Software Algorithm Tackles Large Data Sets and Data Visualizations," *The Industry Standard*, online technology magazine, San Francisco, California, January 16, 2009, http://www.thestandard.com/news/2009/01/16/new-algorithm-help-analyze-huge-data-sets -personal-computers.

News story "Billion-point Computing for Computers," *UC Davis News & Information*, online news magazine, University of California, Davis, California, January 8, 2009, http://www.news.ucdavis.edu/search/news_detail.lasso?id=8929, http://www.eurekalert.org/pub_releases/2009-01/uoc–nte010709.php, http://www.redorbit.com/news/science/1619988/powerful_new_tool_enables_data_analysis/index.html, http://technews.acm.org/#394110, http://www.sciencedaily.com/releases/2009/01/090108082531.htm, http://www.nanowerk.com/news/newsid=8813.php, http://www.nanotech-now.com/news.cgi?story_id=31847, http://www.sflorg.com/comm_center/unv_tech/p826_66.html, http://www.sciencecentric.com/news/article.php?q=09010809-new-tool-enables-powerful-data-analysis, http://www.huliq.com/11/75687/new-tool-enables-powerful-data-analysis, http://www.sciencecodex.com/new_tool_enables_powerful_data_analysis, http://www.physorg.com/news150613790.html, http://esciencenews.com/articles/2009/01/08/new.tool.enables.powerful.data.analysis, http://www.hpcwire.com/topic/visualization/New-Tool-Enables-Powerful-Data-Analysis-37272514.html, http://www.newsguide.us/education/science/New-tool-enables-powerful-data-analysis/, http://www.ddj.com/hpc-high-performance-computing/212701591, http://www.innovations-report.de/html/berichte/informationstechnologie/tool_enables_powerful _data_analysis_125253.html, http://researchsmeesearch.tumblr.com/, and http://www.news.ucdavis.edu/in_the_news/full_text/view_clip.lasso?id=26356.

News story "Tahoe's Green Scene," *San Francisco Chronicle, Datebook*, January 4, 2009, p. 49, *San Francisco Chronicle*, San Francisco, California, and *UC Davis News & Information*, online news magazine, University of California, Davis, California, January 5, 2009, http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/01/04/PKE114Q9Q8.DTL and http://www.news.ucdavis.edu/in_the_news/full_text/view_clip.lasso?id=26272.

News story "Now What?", *Engineering Progress*, Vol. 27., No. 1, semiannual magazine, pp. 6–12, College of Engineering, University of California, Davis, California, January 2009, http://engineering.ucdavis.edu/.

News story "Alumnus Bernd Hamann Leads Research at UC-Davis," *SCI Monitor*, Fall 2008, p. 14, School of Computing and Informatics (SCI), Arizona State University, Tempe, Arizona, November 5, 2008, http://sci.fulton.asu.edu/news/publications/index.php.

News story in "Computer Science and Engineering Alumni," School of Computing and Informatics online alumni news, Arizona State University, Tempe, Arizona, November 3, 2008, http://sci.asu.edu/alumni/stories/hamann.php.

News story "More Lectures, 'Cool' Content, now on iTunes U," *Dateline*, weekly campus newspaper, University of California, Davis, California, October 10, 2008,

http://www.dateline.ucdavis.edu/dl_detail.lasso?id=10750.

News story "100 Ways that UC Davis Has Transformed the World: Virtual 'CAVE'," item 37, *UC Davis Magazine*, Vol. 26, No. 1, p. 19, Fall Quarter 2008, University of California, Davis, California, September 2008, http://www-ucdmag.ucdavis.edu/.

News story "Imaging the Future of Retina Research," *enVISION: News from the UC Davis Health System Eye Center*, Vol. 7, No. 1 (Fall 2008), quarterly university magazine, p. 18, p. 30, Department of Ophthalmology and Vision Science, University of California Health System, Sacramento, California, September 2008, http://www.ucdmc.ucdavis.edu/eyecenter/newsroom/.

News story "The Genealogy of Math," *College Currents: The UC Davis College of Letters & Science Magazine*, Vol. 3, No. 1 (Fall 2008), quarterly university magazine, pp. 7–8, University of California, Davis, California, September 2008,
http://www.ls.ucdavis.edu/friends/collegecurrents/issues/CollegeCurrentsFall2008.pdf.

News story "The Next 100 Years," *College Currents: The UC Davis College of Letters & Science Magazine*, Vol. 3, No. 1 (Fall 2008), quarterly university magazine, pp. 12–17, University of California, Davis, California, September 2008,
http://www.ls.ucdavis.edu/friends/collegecurrents/issues/CollegeCurrentsFall2008.pdf.

Cover story "Centennial Celebration: 'Dream Big' Exhibition Showcases Scholarship, Research and Doing What Matters for California, World," *Dateline*, weekly campus newspaper, University of California, Davis, California, August 22, 2008, http://www-dateline.ucdavis.edu/dl_detail.lasso?id=10602.

News story "It's all about Davis: State Fair Shines Its Spotlight on City," *UC Davis News & Information*, online news magazine, University of California, Davis, California, August 17, 2008,
http://www.news.ucdavis.edu/in_the_news/full_text/view_clip.lasso?id=24857.

News story "100 Years of Dreaming Big: Centennial Celebration to Kick Off at State Fair" and "Exhibits Tell UC Davis Story of Societal Contributions," *Dateline*, weekly campus newspaper, University of California, Davis, California, July 18, 2008,
http://www.dateline.ucdavis.edu/default.lasso?issue=07/18/2008.

News story "A Map for Fly Explorers," *Nature Methods*, Vol. 5, No. 6, June 2008, p. 466, Nature Publishing Group, New York, New York,
http://www.nature.com/nmeth/journal/v5/n6/full/nmeth0608-466.html.

News story "UC Davis Teams up with iTunes for a New Classroom," *UC Davis News & Information*, online news magazine, University of California, Davis, California, May 9, 2008, and *KOVR Channel 13 (CBS)*, local television news broadcast, Sacramento, California, May 8, 2008,
http://www.news.ucdavis.edu/in_the_news/full_text/view_clip.lasso?id=23777,
http://cbs13.com/video/?id=33282@kovr.dayport.com, and
http://cbs13.com/local/itunes.uc.davis.2.719752.html.

News story "UC Davis Creates iTunes U Site for Campus," *UC Davis News & Information*, online news magazine, University of California, Davis, California, May 7, 2008, and *Media Newswire*, deliverer of electronic news releases, May 7, 2008,
http://www.news.ucdavis.edu/in_the_news/full_text/view_clip.lasso?id=23747 and
http://media-newswire.com/release_1066108.html.

News story "Video Web Site Puts UCD in Tune with Generation," *The Davis Enterprise*, daily newspaper, Davis, California, May 7, 2008, and *UC Davis News & Information*, online news magazine, University of California, Davis, California, May 8, 2008,
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[146] Duchaineau, M. A., Bertram, M., Porumbescu, S. D., Hamann, B. and Joy, K. I. (2001), Interactive display of surfaces using subdivision surfaces and wavelets, invited presentation at: "Spring Conference on Computer Graphics (SCCG) 2001," Budmerice, Slovak Republic, April 2001.

[145] Gregorski, B. F., Küster, F., Hamann, B. and Joy, K. I. (2001), Mesh painting on subdivision surfaces in virtual reality environments, presented at: "2001 UC Davis Student Workshop on Computing," University of California, Davis, California, September 2001.

[144] Hamann, B. (2001), A survey of recent research results in multiresolution scientific data approximation and visualization, invited seminar presentation, School of Computing Science, Simon Fraser University, Burnaby, British Columbia, Canada, February 2001.

[143] Hamann, B. (2001), A survey of techniques for multiresolution scientific data modeling and visualization, invited presentation, Rensselaer Computer Science Colloquium Series, Department of Computer Science, Rensselaer Polytechnic Institute, Troy, New York, September 2001.

[142] Hamann, B. (2001), Geometric design approaches and challenges in scientific visualization, invited presentation at: "IMA Annual Program for 2000 – 2001: Mathematics in Multimedia; Geometric Design and Computer Graphics; Workshop 7 (Geometric Design)," Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota, April 2001.

[141] Hamann, B. (2001), Hierarchical approaches for the visualization of massive scientific data, invited seminar presentation, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, Illinois, August 2001.

[140] Hamann, B. (2001), Issues and approaches concerning multiresolution modeling and visualization of scientific data sets, invited seminar presentation, Department of Mathematics, Applied Mathematics Seminar, University of California, Davis, California, October 2001.

[139] Hamann, B. (2001), Multiresolution-based representation and visualization of large data sets, invited seminar presentation, Distinguished Lecturer Series, Department of Computer and Information Science, The Ohio State University, Columbus, Ohio, February 2001.

[138] Küster, F., Bruckschen, R. W., Hamann, B. and Joy, K. I. (2001), Visualization of particle traces in virtual environments, presented at: "ACM Symposium on Virtual Reality Software and Technology 2001 (VRST 2001)," Banff, Alberta, Canada, November 2001.

[137] Küster, F., Hamann, B. and Joy, K. I. (2001), VirtualExplorer: A plugin-based virtual reality framework, presented at: "Photonics West – Electronic Imaging 2001," San Jose, California, January 2001.

[136] LaMar, E. C., Hamann, B. and Joy, K. I. (2001), A magnification lens for interactive volume visualization, presented at: "Ninth Pacific Conference on Computer Graphics and Applications – Pacific Graphics 2001," Tokyo, Japan, October 2001.

[135] Pinskiy, D. V., Brugger, E. S., Ahern, S. and Hamann, B. (2001), Constructing isosurfaces in a localized fashion using an underlying octree data structure, presented at: "Photonics West – Electronic Imaging 2001," San Jose, California, January 2001.

[134] Pinskiy, D. V., Brugger, E. S., Childs, H. R. and Hamann, B. (2001), An octree-based multiresolution approach supporting interactive rendering of very large volume data sets, presented at: "The 2001 International Conference on Imaging Science, Systems, and Technology," Las Vegas, Nevada, June 2001.

[133] Scheuermann, G., Bobach, T., Hagen H., Mahrous, K. M., Hamann, B., Joy, K. I. and Kollmann, W. (2001), A tetrahedra-based stream surface algorithm, presented at: "IEEE Visualization 2001," San Diego, California, October 2001.

[132] Scheuermann, G., Frey, J., Hagen, H., Hamann, B., Jeremić, B. and Joy, K. I. (2001), Visualization of seismic soils structure interaction simulations, presented at: "IASTED International Conference on Visualization, Imaging, and Image Processing (VIIP) 2001," Marbella, Spain, September 2001.

[131] Weber, G. H., Hagen, H., Hamann, B., Joy, K. J., Ligocki, T. J., Ma, K.-L. and Shalf, J. M. (2001), Visualization of adaptive mesh refinement data, presented at: "Photonics West – Electronic Imaging 2001," San Jose, California, January 2001.

[130] Weber, G. H., Kreylos, O., Ligocki, T. J., Shalf, J. M., Hagen, H., Hamann, B. and Joy, K. I. (2001), Extraction of crack-free isosurfaces from adaptive mesh refinement data, presented at: "Joint Eurographics-IEEE TCVG Symposium on Visualization (VisSym '01)," Ascona, Switzerland, May 2001.

[129] Weber, G. H., Kreylos, O., Ligocki, T. J., Shalf, J. M., Hagen, H., Hamann, B., Joy, K. I. and Ma, K.-L. (2001), High-quality volume rendering of adaptive mesh refinement data, presented at: "Sixth International Fall Workshop on Vision, Modeling, and Visualization 2001," Stuttgart, Germany, November 2001.

[128] Bertram, M., Duchaineau, M. A., Hamann, B. and Joy, K. I. (2000), Bicubic subdivision-surface wavelets for large-scale isosurface representation and visualization, presented at: "IEEE Visualization 2000," Salt Lake City, Utah, October 2000.

[127] Bertram, M., Duchaineau, M. A., Hamann, B. and Joy, K. I. (2000), Wavelets on planar tessellations, presented at: "The 2000 International Conference on Imaging Science, Systems, and Technology (CISST 2000)," Las Vegas, Nevada, June 2000.

[126] Bertram, M., Duchaineau, M. A., Hamann, B. and Joy, K. I. (2000), Generalizing lifted tensor-product wavelets to irregular polygonal domains, invited presentation at: "Fourth Dagstuhl Seminar on Scientific Visualization," Dagstuhl, Germany, May 2000.

[125] Bertram, M., Hamann, B., Joy, K. I., Konkle, S. E. and Hagen, H. (2000), Terrain modeling using Voronoi hierarchies, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[124] Bonnell, K. S., Duchaineau, M. A., Schikore, D. R., Hamann, B., and Joy, K. I. (2000), Material boundary surfaces, invited presentation at: "Fourth Dagstuhl Seminar on Scientific Visualization," Dagstuhl, Germany, May 2000.

[123] Bonnell, K. S., Schikore, D. R., Joy, K. I., Duchaineau, M. A. and Hamann, B. (2000), Constructing material interfaces from data sets with volume-fraction information, presented at: "IEEE Visualization 2000," Salt Lake City, Utah, October 2000.

[122] Bremer, P.-T., Kreylos, O., Hamann, B. and Wolter, F.-E. (2000), Simplification of large, closed triangulated surfaces using atomic envelopes, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[121] Bremer, P.-T., Kreylos, O., Hamann, B. and Wolter, F.-E. (2000), Simplification of closed triangulated surfaces, presented at: "2000 UC Davis Student Workshop on Computing," University of California, Davis, California, September 2000.

[120] Bremer, P.-T., Hamann, B., Kreylos, O. and Wolter F.-E. (2000), Simplification of closed triangulated surfaces, presented at: "The Fifth International Conference on Mathematical Methods for Curves and Surfaces," Oslo, Norway, June/July 2000.

[119] Duchaineau, M. A., Bertram, M., Joy, K. I. and Hamann, B. (2000), Realtime view-dependent optimization of billion-triangle isosurfaces, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[118] Gregorski, B. F., Hamann, B. and Joy, K. I. (2000), Approximating material interfaces during data simplification, presented at: "2000 UC Davis Student Workshop on Computing," University of California, Davis, California, September 2000.

[117] Gregorski, B. F., Hamann, B. and Joy, K. I. (2000), Reconstruction of B-spline surfaces from scattered data points, presented at: "Computer Graphics International 2000," Geneva, Switzerland, June 2000.

[116] Hamann, B. (2000), Computer-aided geometric design methods for numerical grid generation: Non-uniform rational B-splines (NURBS), presented at: "Seventh International Conference on Numerical Grid Generation in Computational Field Simulations, Short Course on Advances in Numerical Grid Generation," Chateau Whistler Resort, Whistler, British Columbia, Canada, September 2000.

[115] Hamann, B. (2000), Grid generation technology and hierarchical approaches for the visualization of massive scientific data, invited presentation at: "Seventh International Conference on Numerical Grid Generation in Computational Field Simulations," Chateau Whistler Resort, Whistler, British Columbia, Canada, September 2000.

[114] Hamann, B. (2000), Hierarchical approaches for representing and visualizing massive scientific data sets, invited presentation at: Institut d'Informatique et Mathématiques Appliquées (IMAG), Laboratoire de Modélisation et Calcul, Grenoble, France, June 2000.

[113] Hamann, B., Joy, K. I., Max, N. L. and Rocke, D. M. (2000), Hierarchical methods for the representation and visualization of terascale data, ASCI ASAP Level 2 Program Review, Sandia National Laboratories, Livermore, California, May 2000.

[112] Heckel, B. and Hamann, B. (2001), Divisive parallel clustering for multiresolution analysis, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[111] Kreylos, O., Hamann, B., Ligocki, T. J. and Bethel, E. W. (2000), Interactive exploration of scientific data using virtual reality methods, presented at: "2000 UC Davis Student Workshop on Computing," University of California, Davis, California, September 2000.

[110] Kreylos, O., Ma, K.-L. and Hamann, B. (2000), A multi-resolution interactive previewer for volumetric data on arbitrary meshes, presented at: "2000 International Computer Symposium – Workshop on Computer Graphics and Virtual Reality," National Chung Cheng University, Chiayi, Taiwan, R.O.C., December 2000.

[109] Kreylos, O., Ma, K.-L. and Hamann, B. (2000), Point-based rendering of arbitrary-mesh volumetric data at multiple levels of resolution, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchi-

cal Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[108] Küster, F., Duchaineau, M. A., Hamann, B., Joy, K. I. and Ma, K.-L. (2000), The DesignersWorkbench: Towards real-time immersive modeling, presented at: "Photonics West – Electronic Imaging 2000," San Jose, California, January 2000.

[107] Küster, F., Hamann, B. and Joy, K. I. (2000), Interactive two-handed terrain and set design in immersive environments, presented at: "The Tenth International Conference on Artificial Reality and Tele-existence (ICAT 2000)," National Taiwan University, Taipei, Taiwan, R. O. C., October 2000.

[106] Küster, F., Hamann, B. and Joy, K. I. (2000), Interactive two-handed virtual design, presented at: "2000 UC Davis Student Workshop on Computing," University of California, Davis, California, September 2000.

[105] LaMar, E. C., Duchaineau, M. A., Hamann, B. and Joy, K. I. (2000), Multiresolution techniques for interactive texture-based rendering of arbitrarily oriented cutting planes, presented at: "Joint Eurographics and IEEE TCVG Symposium on Visualization (VisSym '00)," Amsterdam, The Netherlands, May 2000.

[104] LaMar, E. C., Hamann, B. and Joy, K. I. (2000), Multiresolution techniques for interactive texture-based volume visualization, presented at: "Photonics West – Electronic Imaging 2000," San Jose, California, January 2000.

[103] Ligocki, T. J., Van Straalen, B., Shalf, J. M., Weber, G. H. and Hamann, B. (2000), A framework for visualizing hierarchical computations, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[102] Meyer, J., Borg, R., Hamann, B., Joy, K. I., Ma, K.-L. and Max, N. L. (2000), Volume visualization of large-scale biomedical data, presented at: "NPACI All-hands Meeting 2000," San Diego Supercomputer Center (SDSC), University of California, San Diego, California, February 2000.

[101] Meyer, J., Borg, R., Hamann, B., Joy, K. I. and Olson, A. J. (2000), VR-based rendering techniques for large-scale biomedical data sets, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[100] Meyer, J., Borg, R., LaMar, E. C. and Hamann, B., (2000), VR-based rendering techniques for large-scale applications, invited presentation at: "Fourth Dagstuhl Seminar on Scientific Visualization," Dagstuhl, Germany, May 2000.

[99] Moritz, E., Küster, F., Hamann, B., Joy, K. I. and Hagen, H. (2000), Towards immersive clay modeling: Interactive modeling with octrees, presented at: "Photonics West – Electronic Imaging 2000," San Jose, California, January 2000.

[98] Pinskiy, D. V., Ahern, S., Brugger, E. S. and Hamann, B. (2000), Multiresolution cutting-plane visualization based on an octree, presented at: "2000 UC Davis Student Workshop on Computing," University of California, Davis, California, September 2000.

[97] Scheuermann, G., Hamann, B., Joy, K. I., Hagen, H. and Kollmann, W. (2000), Localizing vector field topology, invited presentation at: "Fourth Dagstuhl Seminar on Scientific Visualization," Dagstuhl, Germany, May 2000.

[96] Schussman, S. E., Bertram, M., Hamann, B. and Joy, K. I. (2000), Hierarchical data representations based on planar Voronoi diagrams, presented at: "Joint Eurographics and IEEE TCVG Symposium on Visualization (VisSym '00)," Amsterdam, The Netherlands, May 2000.

[95] Sigeti, D. E., Gregorski, B. F., Ambrosiano, J. J., Graham, G., Duchaineau, M. A., Hamann, B. and Joy, K. I. (2000), Approximating material interfaces in two- and three-dimensional meshes during

data simplification, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[94] Takanashi, I., Lum, E. B., Meyer, J., Ma, K.-L., Hamann, B. and Olson, A. J. (2000), Segmentation and volume rendering of human brain cryosections, presented at: "IEEE Visualization 2000," Salt Lake City, Utah, October 2000.

[93] Trotts, I. J., Hamann, B., Joy, K. I. and Kenwright, D. N. (2000), Simplification of tetrahedral meshes using a quadratic error metric, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[92] Weber, G. H., Kreylos, O., Ligocki, T. J., Shalf, J. M., Hagen, H. and Hamann, B. (2000), Crack-free isosurfaces for AMR data, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[91] Wiley, D. F., Bertram, M., Jordan, B. W. and Hamann, B. (2000), Hierarchical best linear spline approximation, presented at: "NSF/DOE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization," Granlibakken Conference Center, Tahoe City, California, October 2000.

[90] Bertram, M., Hamann, B. and Joy, K. I. (1999), Progressive triangulations for scattered data, presented at: "1999 UC Davis Student Workshop on Computing," University of California, Davis, California, October 1999.

[89] Gregorski, B. F., Hamann, B. and Joy, K. I. (1999), Reconstruction of surfaces from scattered points, presented at: "1999 UC Davis Student Workshop on Computing," University of California, Davis, California, October 1999.

[88] Hamann, B. (1999), Representing and visualizing large-scale experimental and computer-simulated data sets, Medical Informatics/Bioinformatics Seminar, School of Medicine, Stanford University, Stanford, California, November 1999.

[87] Hamann, B. (1999), Visualization of data from earthquake simulation experiments and large data sets, presented at: "Workshop on Network Properties for the NSF Network for Earthquake Engineering Simulation (NEES) Program," UC Berkeley Richmond Field Station, Richmond, October 1999.

[86] Hamann, B. (1999), A look at the future of hierarchical schemes in scientific visualization, seminar talk presented at: National Energy Research Scientific Computing Center (NERSC), Lawrence Berkeley National Laboratory, University of California, Berkeley, California, September 1999.

[85] Eick, S., Hamann, B., Heermann, P., Johnson, C. and Krogh, M. (1999), Visualizing large-scale data sets: Challenges and opportunities, panel presentation, Ma, K.-L., organizer, and Van Rosendale, J., chair, in: *Conference Abstracts and Applications – ACM SIGGRAPH 99*, ACM Press, New York, New York, pp. 133–135.

[84] Hamann, B. (1999), A semi-automatic approach for the correction and reduction of large CAD data containing discontinuities, invited presentation, ELASIS, Fiat research center, Pomigliano, Italy, March 1999.

[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.

[82] Hamann, B. (1999), A vision for solving massive scientific data visualization problems, Los Alamos National Laboratory, Los Alamos, New Mexico, April 1999.

[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.

[79] Hamann, B. (1999), Dealing with large CAD data containing errors and trimming curves, invited presentation, Mechanical Engineering Department, Università degli Studi di Napoli Federico II, Naples, Italy, March 1999.

[78] Hamann, B. (1999), Dealing with terascale data in the context of data analysis and visualization, Sandia National Laboratory, New Mexico, April 1999.

[77] Hamann, B. (1999), Hierarchical approximation, clustering, and combinatorial optimization supporting multiresolution visualization, invited presentation at: "NSF/DOE Workshop on Large-scale Visualization and Data Management," Salt Lake City, Utah, May 1999.

[76] Hamann, B., chair (1999), Hierarchical data representations, remote visualization, and virtual reality, Birds-of-a-Feather presentation, "NPACI All-hands Meeting 1999," San Diego Supercomputer Center (SDSC), University of California, San Diego, California, January 1999.

[75] Hamann, B. (1999), Hierarchical methods addressing data and visualization corridor challenges, 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.

[73] Hamann, B. (1999), Multiresolution models in scientific visualization and the interplay between research and education, invited poster presentation at: "NSF CAREER Principal Investigator Meeting," Washington, D.C., January 1999.

[72] Hamann, B. (1999), Recent developments in interactive computer-aided design, invited presentation, Mechanical Engineering Department, Politecnico di Bari, Dipartimento di Progettazione e Produzione Industriale, Bari, Italy, March 1999.

[71] Hamann, B. and Kreylos, O. (1999), A simulated annealing method for the construction of hierarchical representations of scalar- and vector-valued functions, invited presentation at: "Fourth Dagstuhl Seminar on Geometric Modelling," Dagstuhl, Germany, May 1999.

[70] Hamann, B., Kreylos, O., Monno, G. and Uva, A. E. (1999), Optimal linear spline approximation of digitized models, presented at: "1999 IEEE International Conference on Information Visualization," London, United Kingdom, July 1999.

[69] Heckel, B., Weber, G. H., Hamann, B. and Joy, K. I. (1999), Construction of vector field hierarchies, presented at: "IEEE Visualization '99," San Francisco, California, October 1999.

[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 Francisco, 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.

Software documentation

[2] Forgang, A. B., Hamann, B. and Cerco, C. F. (1996), Water Quality Data Site Characterization Interactive Research Toolkit, User's Manual, Version 1.0, U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi, September 1996 (available at http://graphics.cs.ucdavis.edu/people/forgang/scirt_manual.html).

[1] Barlow, J. H., Hamann, B. and Moorhead, R. J. (1995), Site Characterization Interactive Research Toolkit, User's Manual, Version 3.0, U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi, December 1995 (available at http://www.erc.msstate.edu/thrusts/scivi/html/SCIRT/scirtmanual.html).

Disclosures, inventions, licenses, patents, etc.

[2] Shah, N. Y., Couronne, O., Dubchak, I. L., Klock, B. D., Hamann, B. and Brudno, M. (2003), Phylo-VISTA (interactive visualization tool for multiple DNA sequence alignments), software disclosure and abstract form filed, Patent Department, Lawrence Berkeley National Laboratory, University of Califonia, Berkeley.

[1] Shah, N. Y. and Hamann, B. (2003), Phylo-VISTA (interactive visualization tool for multiple DNA sequence alignments), disclosure and record of invention form filed, Technology Transfer Center, University of Califonia, Davis.

ADVISING AND SUPERVISORY ACTIVITIES

Claus, F. (2019–2022), Digital twins in self compensating assembly processes, Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Department of Computer Science, University of California, Davis, October 2019 – July 2022. **(Currently a Software Engineer at Daimler Truck AG, Department of Product Lifecycle Management, Wörth am Rhein, Germany)**

Weber, P. (2019–2020), Effective interfaces for augmented reality environments, Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Department of Computer Science, University of California, Davis, October 2019 – September 2020.

Zheng, C. (2019), Machine learning methods for image and video data analysis and classification, visiting scholar from the School of Mathematics and Statistics, Northeast Normal University, Changchun, Jilin Province, P. R. China, supervisor, Department of Computer Science, University of California, Davis, August 2019.

Naranjo Valero, C. X. (2017–2020), Human-centered design for augmented reality environments, Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Department of Computer Science, University of California, Davis, October 2017 – May 2020.

Rüdiger, P. (2017–2021), Know what you see — Visual analytics enabling machine learning performance evaluation, exchange Ph.D. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Department of Computer Science, University of California, Davis, October 2017 – August 2021. **(Currently a post-doctoral researcher at the Institute for Manufacturing Technology and Production Systems, Department of Mechanical and Process Engineering, University of Kaiserslautern, Germany)**

Fernández-Prieto, D. (2016–2018), Integrative data visualization for planning urban and building environments, Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), Department of Computer Science, University of California, Davis, October 2016 – March 2018.

Fütterling, V. (2016–2019), Scalable algorithms for realistic real-time rendering, Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), Department of Computer Science, University of California, Davis, April 2016 – June 2019. **(Currently a Graphics Software Engineer at Haas Schleifmaschinen GmbH, Trossingen, Germany)**

Gillmann, C. (2016–2018), Visualization of medical and biomedical data with uncertainty, Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), Department of Computer Science, University of California, Davis, October 2016 – July 2018. **(Currently a Group Leader of Data Management at Fraunhofer Institute for Applied Information Technology (FIT), Schloss Birlinghoven, Sankt Augustin, Germany)**

Griffin, K. S. (2016–2019), Visualization of smoothed particle hydrodynamics simulation data using a reproducing kernel interpolation scheme and high-performance computing platforms, Ph.D. student,

advisor, Department of Computer Science, University of California, Davis, July 2016 – December 2019. **(Currently a Senior Software Technology Engineer at Nvidia Corporation, Santa Clara, CA)**

Hossainzadeh, B. (2016), Development of a genetic algorithm for the optimization of linear splines, Supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2016 – June 2016.

Kim, B. J. (2016), Exploring the efficiency of a genetic algorithm for the optimization of linear splines, Supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2016 – June 2016.

Zhang, X. (2016–2017), Context-aware image inpainting, exchange Ph.D. student ("Joint-training Ph.D. Student") from the School of Computer Science and Technology, Shandong University, Jinan, Shandong Province, P. R. China, co-supervisor and co-advisor, Department of Computer Science, University of California, Davis, September 2016 – August 2017.

Linares, O. A. C. (2015–2016), Three-dimensional segmentation of the head for assessing bone changes in odontology, exchange Ph.D. student from the Institute of Mathematical Sciences and Computing (ICMC)), University of Sao Paulo, Sao Carlos, Sao Paulo, Brazil, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis. October 2015 – September 2016.

Liu, J. (October 2015–present), User-guided processing and analysis of volumetric image data, M.S. student, co-advisor, Department of Computer Science, University of California, Davis.

Van Tonningen, A. K. (2015), Interactive analysis and processing of medical image data, Supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, October 2015 – December 2015.

Vargas, A. R. S. (2015–2016), Visual exploration to support the identification of relevant attributes in multidimensional time-varying data, exchange Ph.D. student from the Institute of Mathematical Sciences and Computing (ICMC)), University of Sao Paulo, Sao Carlos, Sao Paulo, Brazil, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis. October 2015 – September 2016.

Borges, V. R. P. (2014–2015), Image processing methods for the morphological analysis and classification of green algae, exchange Ph.D. student from the Institute of Mathematical and Computer Sciences (ICMC)), University of Sao Paulo, Sao Carlos, Sao Paulo, Brazil, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, May 2014 – April 2015. **(Currently an Assistant Professor, Department of Computer Science, University of Brasilia, Brasilia, Brazil)**

Friedrich, M. (2014), Real-time dense 3-d reconstruction from image sequences, visiting M.S. student from the Department of Computer and Information Science (Informatik und Informationswissenschaft), University of Konstanz, Konstanz (Universität Konstanz), Konstanz, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, March 2014 – September 2014.

Makevnin, E. (2014), Approaches for analyzing and visualizing exa-scale data sets, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, July 2014 – October 2014.

Mascareno, D. (2014), Visualization of magnetic field lines, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, October 2014 – December 2014.

Mosbach, D. (2014–2020), Geometric modeling for adaptive surface reconstruction of computed tomography data, visiting M.S. student and exchange Ph.D. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Department of Computer Science, University of California, Davis, July 2014 – June 2020. **(Currently a Software Engineer at Math2Market GmbH, Kaiserslautern, Germany)**

Murugesan, S. (2014–2017), Visual analysis methods for exploration of static and dynamic networks, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, January 2014 – December 2017. **(Currently a Software Engineer, Intel Corporation, Santa Clara, California)**

Post, T. M. (2014–2018), Visual analysis for graphs, networks and flows, Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, October 2014 – March 2018.

Rupprecht, F.-A. (2014–2018), Scalable human-centered decision making processes in virtual environments, Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, October 2014 – March 2018.

Schmeißer, A. (2014), Approaches for analyzing and visualizing exa-scale data sets, visiting Ph.D. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, July 2014 – October 2014.

Umlauf, G. (2014), Reconstruction of geometry from recorded video data, collaborating visiting scholar from the Department of Computer Science (Informatik), University of Applied Sciences, Konstanz (Hochschule Konstanz), Konstanz, Germany, March and April 2014.

Zeyen, M. (2014), Approaches for analyzing and visualizing exa-scale data sets, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, July 2014 – October 2014.

Grytten, I. (2013), Determining and extracting geometrical invariants from digital images for searching large image databases, supervisor (visiting undergraduate student, Department of Informatics, University of Oslo, Norway), Institute for Data Analysis and Visualization (IDAV), University of California, Davis, April 2013 – June 2013.

Jusufi, I. (2013–2014), Visualization methods for analyzing the bahavior of high-performance parallel computer systems, post-doctoral researcher from the Department of Computer Science, Linnaeus University, Sweden, co-supervisor, Institute for Data Analysis and Visualization (IDAV), Department of Computer Science, University of California, Davis, July 2013 – July 2014. **(Currently a Senior Lecturer, Computer and Information Sciences, Media Technology, Linnaeus University, Växjö, Sweden)**

Kronenberger, M. (2013–2019), Algorithmic curvature theories in 3D image processing, visiting M.S. student and exchange Ph.D. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Department of Computer Sciene, University of California, Davis, September 2013 – March 2019. **(Currently a Software Engineer at Fraunhofer Institute for Industrial Mathematics (ITWM), Kaiserslautern, Germany)**

McCarthy, C. M. (2013), Information visualization methods for the analysis of complex communication patterns of large multi-core computer systems, supervisor (undergraduate student researcher),

Department of Computer Science, University of California, Davis, April 2013 – December 2013.

Mu, A. Y. (2013), Animating displacement vector fields to visualize terrain movements resulting from earthquakes, co-supervisor (undergraduate student researcher), Department of Microbiology, University of California, Davis, January 2013 – June 2013.

Murugesan, S. (2013), Visualization of the relationship between adaptive mesh refinement simulations and multi-core computer systems, real-time recognition and characterization of hand movement using low-end commodity cameras, supervisor (visiting undergraduate student, Department of Computer Science, Amrita University, India), Institute for Data Analysis and Visualization (IDAV), University of California, Davis, April 2013 – December 2013.

Rüdiger, P. (2013–2014), Development and comparative evaluation of visualization methods for complex simulated scientific data, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Department of Computer Sciene, University of California, Davis, September 2013 – August 2014.

Vu, C. N. (2013), Interactive visualization of displacement vector fields for analyzing the effects of earthquakes, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2013 – March 2013.

Weber, C. D. (2013–2015), Approximation and feature extraction methods for complex and large flow data, post-doctoral researcher from the Department of Computer Science, (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), Department of Computer Science, University of California, Davis, September 2013 – August 2015. **(Currently a Software Developer at Q-DAS GmbH, Weinheim, Germany)**

Zheng, C. (2013–2014), Feature extraction and feature matching algorithms for stereo image data and 3D geometry reconstruction, exchange Ph.D. student ("Joint-training Ph.D. Student") from the School of Mathematics and Statistics, Northeast Normal University, Changchun, Jilin Province, P. R. China, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, August 2013 – August 2014.

Bauer, J. (2012–2015), Large display interaction using mobile devices, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, May 2012 – July 2015. **(Currently a Software Architect at Aberle GmbH (Körber AG), Dahn, Germany)**

Dutra da Silva, R. (2012), Topological and multiresolution methods for scientific data analysis and visualization, exchange Ph.D. student from the Institute of Computing, University of Campinas, Campinas, Sao Paulo, Brazil, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, May 2012 – December 2012. **(Currently an Assistant Professor, Department of Informatics, Federal University of Technology of Parana, Curitiba, Brazil)**

Menck, N. (2012), Interactive methods for factory planning in virtual reality environments, exchange Ph.D. student (International Research Training Group fellow) from the Institute for Manufacturing Technology and Production Systems, University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis.

Niu, D. (2012–2014), Quadrangular and hexahedral mesh generation for applications in scientific data approximation and visualization, exchange Ph.D. student ("Joint-training Ph.D. Student") from the School of Computer Science and Technology, Shandong University, Jinan, Shandong Province, P. R. China, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, September 2012 – August 2014. **(Currently an Associate Professor, School of Information Science and Engineering, Shandong University, Jinan, Shandong**

Province, P. R. China)

Weber, C. D. (2012–2013), Scattered data approximation methods for global ocean data, collaborating post-doctoral researcher from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, (main co-supervisor: H. Hagen), October 2012 – June 2013.

Bernardin, T. S. (2011), Interactive geological data processing and visualization, post-doctoral researcher from the Department of Geology, University of California, Davis, co-supervisor (main co-supervisor: L. H. Kellogg), June 2011 – August 2011. **(Currently an Engineer at Retro Studios, Austin, Texas)**

Giménez, A. (2011–2017), A systematic approach to analyzing high-performance computing systems, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, October 2011 – December 2017. **(Currently a Software Engineering Manager, BlueVoyant LLC, New York, New York)**

Hagel, D. (2011–2012), Online reconstruction of geometric primitives, visiting M.S. student from the Department of Computer Science (Informatik), University of Applied Sciences, Konstanz, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, May 2011 – February 2012.

Hsiao, B. (2011), Linking multiple views for effective information visualization, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2011 – March 2011.

Isaacs, K. E. (2011–2015), Analysis of parallel traces via logical structure, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, October 2011 – December 2015. **(Currently an Associate Professor in the School of Computing, The University of Utah, Salt Lake City, Utah)**

Liu, Z. (2011), Three-dimensional information visualization methods, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2011 – March 2011.

Mouradian, J. A. V. (2011–2012), Information visualization in immersive environments, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis. January 2011 – March 2012.

Puszkar, C. (2011), Interactive methods for design, analysis and visualization applications in immersive environments, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, June 2011 – July 2011.

Raible, J. (2011–2012), Online segmentation of laser scan data, visiting M.S. student from the Department of Computer Science (Informatik), University of Applied Sciences, Konstanz, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, May 2011 – February 2012.

Schröder, S. (2011), Development of particle-based visualization methods for Earth mantle dynamics data, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, February 2011 – March 2011.

Severeijns, T. (2011), Innovative information visualization approaches, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis. January 2011 – June 2011.

Streletz, G. J. (July 2011–present), Analyzing and visualizing simulated and observed ocean and climate

data, Ph.D. student, advisor, Department of Computer Science, University of California, Davis.

Tahmasebi, A. A. (2011), Simulating and testing new processor designs, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis. October 2011 – December 2011.

Wang, X. (2011–2012), Geometric data approximation, modeling and visualization methods for applications in geology and geophysics, visiting associate professor from the Division of Information Sciences, College of Computer Science and Technology, Jilin University, Changchun, P. R. China, supervisor, Institute for Data Analysis and Visualization (IDAV) and Department of Computer Science, University of California, Davis, May, 2011 – April 2012.

Banesh, D. (2010–2020), Feature identification and analysis for ocean, physics and plasma applications, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2010 – Decenber 2020. **(Currently a Computer Scientist at Los Alamos National Laboratory, Los Alamos, New Mexico)**

Barthoff, A.-K. (2010), Information visualization methods for analyzing complex geophysics data, co-supervisor, collaborating visiting M.S. student, Institute of Informatics, University of Rostock, Germany, August 2010 – October 2010.

Bottleson, J. O. (2010–2020), Light reconstruction for augmented reality, Ph.D. student, October 2010 – March 2020, M.S. student, April 2020 – September 2020, advisor, Department of Computer Science, University of California, Davis, October 2010 – September 2020.

Chen, F. (2010–2012), The simulation and visualization of multiphase fluid, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-advisor and co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, January 2010 – June 2012. **(Currently a Visualization Scientist at the German Aerospace Center (DLR), Braunschweig, Germany)**

Deller, M. (2010), Visualization of global-scale earth science data in immersive and virtual environments, co-supervisor, collaborating visiting scholar, German Research Center for Artificial Intelligence (DFKI), Kaiserslautern, Germany, May 2010 – June 2010.

Denker, K. (2010–2014), Acquisition and on-line reconstruction of 3D point data from hand-held laser scanners and multi-camera stereo-matching, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, January 2010 – July 2014. **(Currently a Software Engineer at Gleason-Pfauter Maschinenfabrik GmbH, Ludwigsburg, Germany)**

Engel, D. (2010–2014), Explorative and model-based visual analysis of multivariate data, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, October 2010 – July 2014. **(Currently a Data Scientist at BASF SE, Ludwigshafen, Germany)**

Engel, D. (2010), Cluster based visualization of multidimensional data, exchange M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, January 2010 – September 2010.

Giménez, A. (2010–2011), Hierarchical representation and visualization of multi-dimensional R-trees, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, and collaborator (professional staff engineer), Intel Corporation, Folsom, California, January 2010 – September 2011.

Hummel, M. (2010), Trajectory-based visualization of flow simulation data, exchange student (affiliated with the International Research Training Group) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, January 2010 – June 2010.

Obermaier, H. (2010), Multi-field visualization, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, January 2010 – December 2010.

Olech, P.-S. (2010), Human-computer interface technology for visualization of global-scale earth science data in large-scale display environments, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, May 2010 – June 2010.

Pulido, J. (2010–2019), Visualization and analysis using multiresolution methods for data reduction in turbulence, astronomy, and cosmology, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2010 – December 2019. **(Currently a Computer Scientist at Los Alamos National Laboratory, Los Alamos, New Mexico)**

Westerteiger, R. (2010–2014), Virtual reality methods for research in the geosciences, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, and the German Aerospace Center (DLR), Braunschweig, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, September 2010 – July 2014. **(Currently a Software Engineer at Math2Market GmbH, Kaiserslautern, Germany)**

Zhi, J. (2010), Progressive parallel coordinate visualization, supervisor (visiting undergraduate student researcher), Department of Computer Science, University of California, Davis, October 2010 – December 2010.

Aldrich, G. A. (2009–2020), Feature-based visualization and analysis of scientific data ensembles, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2009 – June 2020. **(Currently a scientific software engineer at Stellar Science, Ltd. Co., Albuquerque, New Mexico)**

Bottleson, J. O. (2009–2010), Tensor data processing and visualization, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2009 – September 2010.

Capps, A. G. (2009–2016), Visualization and analysis of microstructure in images of the living human retina, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, October 2009 – June 2016. **(Currently a Computer Scientist at Lawrence Livermore National Laboratory, Livermore, California)**

Natarajan, V. (2009), Topology-based methods for scientific data analysis and visualization, collaborating visiting scholar, Department of Computer Science and Automation, Indian Institute of Science, Bangalore, India, February 2009.

Rosenbaum, R. (2009–2012), Flexible interfaces for the integrated visualization of very large scientific and abstract data across diverse display environments, post-doctoral research associate from the Institute of Informatics, University of Rostock, Germany, supervisor, Institute for Data Analysis and Visualization (IDAV) and Department of Computer Science, University of California, Davis, January 2009 – January 2012. **(Currently an Information Technology Coordinator at Bayer Business Services, Berlin, Germany)**

Yang, X. (2009–2013), Sound simulation and visualization in virtual manufacturing systems, exchange Ph.D. student (International Research Training Group fellow) from the Institute for Manufacturing Technology and Production Systems, University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, October 2009 – March 2013. **(Currently an Engineer at Daimler Research and Advanced Engineering, Daimler AG, Böblingen, Germany)**

Zhu, Y. (2009–2013), Computer animation of piano performance, M.S. student, co-advisor, Department of Computer Science, University of California, Davis, October 2009 – September 2013.

Aldrich, G. A. (2008–2009), Visualization of wave propagation in three dimensions with applications in geophysics, Research Specialist, co-supervisor, Department of Geology, University of California, Davis, July 2008 – September 2009.

Aldrich, G. A. (2008), Adaptive mesh generation and refinement, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2008 – June 2008.

Beketayev, K. (2008–2013), Extracting and visualizing topological information from large high-dimensional data sets, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2008 – September 2013. **(Currently chief technology officer (CTO) at Sparcit, Berkeley, California)**

Bishop, S. M, (2008–2011), Data processing, analyis and visualization methods for applications in geological sciences, Ph.D. student, co-supervisor and co-advisor, Department of Computer Science, University of California, Davis, October 2008 – March 2011.

Burkhart, D. (2008–2011), Subdivision for volumetric finite elements, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, March 2008 – September 2011. **(Currently a Scientific Staff Member at Fraunhofer Institute for Industrial Mathematics (ITWM), Kaiserslautern, Germany)**

Early, A. C. (2008), Surface ray tracing applied to point data, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2008 – June 2008.

Hijazi, Y. (2008), Feature-based visualization, visiting scholar (International Research Training Group post-doctoral researcher) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, July 2008 – August 2008.

Hlawitschka, M. (2008–2011), Efficient visualization of tensor fields with application to magnetic resonance data, post-doctoral researcher from the Department of Computer Science, (Informatik), University of Leipzig, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), Department of Computer Science, University of California, Davis, November 2008 – April 2011. **(Currently a Professor of and Dean for Research in Computer Science at the Leipzig University of Applied Sciences (Hochschule für Technik, Wirtschaft und Kultur Leipzig), Leipzig, Germany)**

Keller, P. (2008–2009), Adaptive extraction and representation of geometric structures from unorganized 3D points sets, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis. January 2008 – November 2009.

Kou, A. (2008), Modeling with and visualizing point data, supervisor (undergraduate student researcher),

Department of Computer Science, University of California, Davis, April 2008 – June 2008.

Ng, S. (2008), Combining ray tracing and volumetric ray casting, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2008 – June 2008.

Scheuermann, G. (2008), Topological methods for noisy scientific data analysis and visualization, collaborating visiting scholar, Department of Mathematics and Computer Science, University of Leipzig, Leipzig, Germany, October 2008.

Yuan, G. M. (2008), Modeling with and visualizing point data, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2008 – June 2008.

Bafico, S. A. (2007), Computer graphics methods for scientific data processing and visualization, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2007 – June 2007.

Fraga, I. (2007), Computer graphics and geometric modeling methods for interactive terrain data visualization and exploration, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2007 – June 2007.

Heringer, M. (2007), Visualization of flow field data using invariant moments, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, February 2007 – March 2007.

Hlawitschka, M. (2007), Efficient visualization of tensor fields with application to magnetic resonance data, visiting Ph.D. student from the Department of Computer Science (Informatik), University of Leipzig, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, October 2007 – November 2007.

Hotz, I. (2007), Vector and tensor field visualization methods for two- and three-dimensional data sets, collaborating visiting scholar, Konrad-Zuse-Zentrum für Informationstechnik Berlin and DFG Research Center "Matheon," Berlin, Germany, July 2007 – August 2007.

King, O. M. (2007), Computer graphics methods for scientific data processing and visualization, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2007 – June 2007.

Michalska, A. M. (2007), Efficient and robust processing of point data with applications in scientific visualization and geometric design, visiting student from the School of Engineering and Science, Jacobs University Bremen, Germany, supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, June 2007 – August 2007.

Morr, F. (2007), Visualization of flow field data using invariant moments, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, February 2007 – March 2007.

Morse, B. J. (2007), Computer graphics and geometric modeling methods for scientific data processing and visualization, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2007 – June 2007.

Natarajan, V. (2007), Topology-based methods for scientific data analysis and visualization, collaborating visiting scholar, Department of Computer Science and Automation, Indian Institute of Science, Bangalore, India, November 2007.

Okamoto, K. D. (2007), Computer graphics methods for scientific data processing and visualization, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2007 – June 2007.

Salzbrunn, T. (2007), Flow visualization and analysis based on integral line predicates, Ph.D. student, University of Leipzig, Germany, September 2007, Ph.D. committee member (Gutachter).

Shafii, S. (2007–2013), Feature detection in the environmental sciences, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, July 2007 – December 2013. **(Currently a Software Engineer at Oculus VR, Menlo Park, California)**

Umlauf, G. (2007), Data-dependent approximation methods for the hierarchical representation of two- and three-dimensional data sets, collaborating visiting scholar, Department of Computer Science, Universität of Kaiserslautern, Germany, July and November 2007. **(Currently a Professor of Computer Science at the University of Applied Sciences, Konstanz (Hochschule Konstanz), Konstanz, Germany)**

Williams, S. J. (2007–2012), Identification and quantification of mesoscale eddies in a global ocean simulation, Ph.D. student, co-advisor and major professor, Department of Computer Science, University of California, Davis, July 2007 – September 2012.

Woodhouse, C. A. (2007), Data segmentation methods with applications in scientific data processing and visualization, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2007 – September 2007.

Hering-Bertram, M. (2006), Continuous representation of geometrical data, in German (Kontinuierliche Repräsentation geometrischer Daten), habilitation (Habilitationsschrift), Universität of Kaiserslautern, Germany, March 2006, habilitation examiner.

Hlawitschka, M. (2006), Efficient visualization of tensor fields with application to magnetic resonance data, visiting Ph.D. student from the Department of Computer Science (Informatik), University of Leipzig, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, May 2006 – October 2006.

Vančo, M. (2006–2008), Robust segmentation and reconstruction of complex real-world surface models from digital scans, post-doctoral researcher from the Department of Computer Science, Chemnitz University of Technology, Germany, co-supervisor, September 2006 – September 2008. **(Currently a Software Engineer, Cruise LLC, San Francisco, California)**

Weber, G. H. (2006), Visual exploration of high-resolution bio-medical imaging data, Project Scientist at the Institute for Data Analysis and Visualization, University of California, Davis, August 2006 – December 2006. **(Currently a Computational Staff Research Scientist/Engineer at Lawrence Berkeley National Laboratory, Berkeley, California, and Adjunct Associate Professor of Computer Science, University of California, Davis)**

Wong, G. (2006), Visualization methods for high-resolution three-dimensional gene expression imaging data, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2006 – June 2006.

Bernardin, T. S. (2005–2011), Interactive, human-in-the-loop visualization for discovery in large datasets, Ph.D. student, co-advisor and major professor, Department of Computer Science, University of California, Davis, September 2005 – June 2011. **(Currently an Engineer at Retro Studios, Austin, Texas)**

Chan, K. (2005), Integrating force-feedback technology into interactive data exploration, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, August 2005 – December 2005.

Dillard, S. E. (2005–2009), Topology-guided scientific data analysis and visualization with applications in volume rendering and materials science image data processing, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, September 2005 – June 2009.

Escalante, M. D. (2005), Scientific visualization in virtual reality environments, co-supervisor (undergrad-

uate student researcher), Department of Computer Science, University of California, Davis, January 2005 – June 2005.

Gallagher, A. (2005), Retina reconstruction from high-resolution imaging data, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, August 2005 – December 2005.

Goundan, A. (2005), Visualization of seismic tomography data, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, August 2005 – December 2005.

Gu, S. (2005–2008), Interactive techniques for modeling and transforming point set data, Ph.D. student, co-advisor (graduate student researcher), Department of Computer Science, University of California, Davis.

Hijazi, Y. (2005–2007), Feature-based visualization, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, January 2005 – December 2007.

Huang, M.-Y. (2005–2012), Visually exploring, analyzing, and relating gene expression and in vivo DNA binding data, Ph.D. student, co-advisor and major professor, Department of Computer Science, University of California, Davis, July 2005 – March 2012.

Kansara, B. (2005), Terrain reconstruction from contour lines, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, August 2005 – December 2005.

Lazic, N. (2005–2006), Information visualization techniques for geological data sets, visiting M.S. student from the Department of Computer Science (Informatik), University of Potsdam, Germany, supervisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, November 2005 – May 2006.

Lee, S. (2005), Spline methods for bone representation and morphing, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2005 – June 2005.

Lehner, B. (2005–2008), Meshing techniques for image/video compression and surface reconstruction, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, January 2005 – July 2008. **(Currently a Professor of Electrical Engineering and Information Technology at the University of Applied Sciences of Konstanz (Fachhochschule Konstanz), Konstanz, Germany)**

Maga, M. M. (2005), Modeling and visualizing large three-dimensional data sets in virtual reality environments using hierarchical volume rendering methods, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2005 – June 2005.

Ng, K. M. (2005), Scientific visualization in virtual reality environments, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2005 – March 2005.

Rübel, O. (2005–2009), Linking automated data analysis and visualization with applications in developmental biology and high-energy physics, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, December 2005 – November 2009. **(Currently a Research Scientist**

(Career) at Lawrence Berkeley National Laboratory, Berkeley, California)

Rübel, O. (2005), Linking automated data analysis and visualization with applications in developmental biology and high-energy physics, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, March – October 2005.

Saindon, P. (2005), Visualization of air pollution data, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, August 2005 – December 2005.

Schlemmer, M. (2005–2008), Pattern recognition methods for feature-based and comparative visualization, exchange Ph.D. student (International Research Training Group fellow) from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Institute for Data Analysis and Visualization (IDAV), University of California, Davis, January 2005 – January 2008.

Shafii, S. (2005–2007), Modeling and human-computer interaction in virtual reality environments, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2005 – June 2007.

Singh, H. (2005), Topology-based segmentation of arbitrary surfaces, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2005 – March 2005.

Archer, A. D. (2004), Texture-based visualization methods for tensor field data considering topological structure, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, February 2004 – September 2004.

Cook, A. J. (2004), Visualization of graphs relevant for genomics data analysis, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, February 2004 – June 2004.

Dillard, S. E. (2004–2005), Topology-guided volume rendering, M.S. student, advisor, Department of Computer Science, University of California, Davis, October 2004 – September 2005.

Fuller, A. R. (2004–2009), Interactive visualization and segmentation of volumetric in-vivo retinal images acquired with optical coherence tomography, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2004 – June 2009.

Jones, J. R. (2004), Morphing bone geometry, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, February 2004 – June 2004.

Ju, D. Y. (2004), Scalar and vector field visualization and visualization of gene expression imaging data, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2004 – June 2004.

Karis, B. J. (2004), Tree growth animation, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, February 2004 – June 2004.

Knoop, E. F. (2004), Water resource visualization techniques, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, February 2004 – June 2004.

Li, B. (2004), Collaborative visualization, M.S. student, co-advisor, Department of Computer Science, University of California, Davis, October 2004 – December 2004.

Natarajan, V. (2004–2006), Processing and visualization of scientific data using concepts from computational topology and computational geometry, post-doctoral researcher from the Department of Computer Science, Duke University, supervisor, October 2004 – September 2006. **(Currently a Professor of Computer Science and Automation at the Indian Institute of Science, Bangalore, India)**

Postarnakevich, N. (2004), Measures for the comparison of evolutionary trees, co-supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, February 2004 – June 2004.

Slankard, T. W. (2004–2007), Experimental and digital image data analysis and visualization, M.S. student, advisor, Department of Computer Science, University of California, Davis. October 2004 – September 2007.

Ahlborn, B. A. (2003–2005), Visualization of unstructured hexahedral mesh data, M.S. student, co-advisor, Department of Computer Science, University of California, Davis, June 2003 – September 2005.

Bernardin, T. S. (2003–2004), Visualization of multiresolution terrain data, visiting scholar, University of Karlsruhe, Germany, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, October 2003 – September 2004.

Crawford, C. W. (2003–2005), Visualization and interactive tools for protein structure analysis and manipulation, visualization, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2003 – April 2005.

Dillard, S. E. (2003–2004), Topology-guided volume rendering, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, October 2003 – September 2004.

Feng, Z. X. Louis (2003–2010), Global methods for tensor field visualization, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, October 2003 – December 2010.

Fiorentino, M. (2003), Interaction techniques for immersive virtual reality environments, post-doctoral researcher from Politecnico di Bari, Dipartimento di Disegno, Italy, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, May 2003. **(Currently a Professor of Mechanical Engineering at the Politecnico di Bari, Italy)**

Fuller, A. R. (2003–2004), Semi-automatic multiresolution mapping of triangular meshes, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, October 2003 – September 2004.

Green, M. S. (2003), Isosurface extraction from unstructured hexahedral mesh hierarchies, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, October 2003 – December 2003.

Gyulassy, A. G. (2003–2008), Combinatorial construction of Morse-Smale complexes for topology-based data analysis and visualization (Honorable Mention – "2009 Zuhair A. Munir Award for Best Doctoral Dissertation," College of Engineering), Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2003 – December 2008.

Hotz, I. (2003–2006), Analysis and visualization of discrete and continuous vector and tensor fields, post-doctoral researcher from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, supervisor, August 2003 – August 2006. **(Currently a Full Professor of Interactive Visualization, Division for Media and Information Technology and Department of Science and Technology, Linköping University, Sweden)**

Hu, A. E. (2003), DNA sequence data exploration and visualization, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2003 – March 2003.

Kreylos, O. (2003–2006), Visualization and interaction technology research for immersive and virtual reality display environments, post-doctoral researcher from the Department of Computer Science and the Department of Geology, University of California, Davis, co-supervisor, August 2003 – June 2006. **(Currently a Research Scientist, DataLab, Data Science and Informatics, Shields Library,**

University of California, Davis)

Park, S. W. (2003–2007), Discrete computational methods for volume data processing in scientific visualization, Ph.D. student, advisor, Department of Computer Science, University of California, Davis. October 2003 – December 2007.

Rauwendaal, R. R. (2003–2004), Topology-based segmentation of height field data, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, April 2003 – September 2004.

Renzulli, P. A. (2003), Interaction techniques for immersive virtual reality environments supporting engineering design applications, visiting scholar, Politecnico di Bari, Dipartimento di Ingegneria Meccanica, Italy, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, May 2003 – December 2003.

Rueda-Velásquez, C. A. (2003–2007), Data modeling and processing for streaming data applications with a focus on environmental monitoring, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, October 2003 – September 2007.

Slankard, T. W. (2003–2004), Experimental earthquake data visualization, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2003 – September 2004.

Szudziejka, V. A. (2002–2006), Scattered data approximation and visualization methods for sensor network data, M.S. student, graduated in Spring Quarter 2006, advisor, Department of Computer Science, University of California, Davis.

Uva, A. E. (2003), Mechanical design and interface technology for immersive environments, researcher from Politecnico di Bari, Dipartimento di Ingegneria Meccanica e Gestionale, Italy, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, November – December 2003. **(Currently a Professor of Mechanical Engineering at the Politecnico di Bari, Italy)**

Weber, G. H. (2003–2006), Visual exploration of high-resolution bio-medical imaging data and development of topological methods for interactive analysis of scalar fields, post-doctoral researcher from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, August 2003 – July 2006.

Wiley, D. F. (2003–2006), Higher-order approximation of scalar and vector field data, reconstruction and interactive manipulation of surfaces obtained from scanned point sets, and software development for complex surface editing and analysis, post-doctoral researcher from the Department of Computer Science, University of California, Davis, co-supervisor, August 2003 – September 2006. **(Founder of and currently serving full time as president and chief technology officer for Stratovan Corporation, Sacramento, California)**

Yau, P. C. B. (2003–2004), Topology graph extraction from segmented brain surface data and graph mapping, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, January 2003 – August 2004.

Bruckschen, R. W. (2002–2003), Point-based visualization techniques for very large volumetric data sets, post-graduate researcher, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, October 2002 – September 2003.

Chew, A. (2002–2003), High-precision object modeling in three-dimensional virtual environments, M.S. student, co-advisor, Department of Computer Science, University of California, Davis, October 2002 – September 2003.

Gieselman, S. (2002–2003), Efficient generation of three-dimensional geometrical information from images, M.S. student, co-advisor, Department of Computer Science, University of California, Davis, October

2002 – March 2003.

Sreevalsan-Nair, J. (2002–2007), Computational and interactive visualization with a focus on topological analysis, dual contouring and water-resource data representation, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2002 – March 2007. **(Currently an Associate Professor of computer science at the International Institute of Information Technology, Bangalore, India)**

Shah, N. Y. (2002–2006), Visualization methods for comparative and functional genomics data exploration applications, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2002 – September 2006. **(Currently CEO and Co-founder of Amaranth Medical Analytics, Bengaluru, Karnataka, India)**

Szudziejka, V. A. (2002–2003), Research project in scattered data approximation, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis, October 2002 – March 2003.

Vivodtzev, F. (2002), Smooth transformation of brain surface triangulations, visiting scholar from Institut d'Informatique et Mathématiques Appliquées de Grenoble (IMAG), Université Joseph Fourier, Grenoble, France, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, July – September 2002.

Weber, G. H. (2002–2003), Visualization of adaptive mesh refinement data and topology-based exploration of volume data, Ph.D. student, co-advisor, University of California, Davis, and University of Kaiserslautern, Germany, November 2002 – August 2003.

Bruckschen, R. W. (2001–2002), Visualization techniques for massive medical and biomedical data sets, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2001 – September 2002.

Co, C. S. (2001–2006), Meshless methods for volume visualization, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis.

Fang, D. C. (2001–2003), Adaptive visualization of scalar fields represented with octrees and extraction of crack-free isosurfaces from adaptive mesh refinement data, M.S. student, co-advisor, Department of Computer Science, University of California, Davis, October 2001 – June 2003.

Gray, J. T. (2001–2003), Adaptive visualization of scalar fields represented with tetrahedral meshes and multi-valued data visualization, M.S. student, co-advisor, Department of Computer Science, University of California, Davis, October 2001 – June 2003.

Linsen, L. (2001–2004), Volumetric subdivision techniques for the hierarchical representation and visualization of scientific data, post-doctoral researcher from the Department of Computer Science (Informatik), University of Karlsruhe, Germany, co-supervisor, October 2001 – August 2004. **(Currently a Full Professor, Faculty of Mathematics and Computer Science, University of Münster, Germany)**

Nuber, C. (2001–2003), Visualization and exploration of large scientific data sets in virtual and immersive environments, post-doctoral researcher from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, October 2001 – April 2003.

Pietsch, B. (2001), Virtual modeling using industry-strength application programming interfaces, visiting scholar, Universität Bielefeld, Oberstufen-Kolleg, Bielefeld, Germany, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, July – September 2001.

Scorzelli, G. (2001), Design of a software architecture supporting interactive visualization of hierarchically represented scientific data, visiting scholar from Universitá di Roma Tre, Dipartimento Informatica e Automazione, Italy, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC),

University of California, Davis, June – December 2001.

Streletz, G. J. (2001–2005), Using finite element schemes for scientific data approximation, Ph.D. student, advisor, Department of Computer Science, University of California, Davis.

Weber, G. H. (2001), Visualization of adaptive mesh refinement data and topology-based exploration of volume data, Ph.D. student, co-advisor, University of California, Davis, and University of Kaiserslautern, Germany, January 2001 – July 2001.

Abla, G. (2000), Visualization of vector fields, post-graduate researcher from Xinjiang University in Urumqi, Computer Training Center, P. R. China, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, April 2000 – December 2000.

Bender, M. (2000), A functional framework for efficient web-based scientific visualization systems, Ph.D. student, University of Kaiserslautern, Germany, January 2000, Ph.D. committee member and examiner. **(Currently a Professor of Applied Computer Science and Digital Media at the University of Applied Sciences of Kaiserslautern (Fachhochschule Kaiserslautern), Zweibrücken, Germany)**

Bobach, T. (2000), Computing stream surfaces in three dimensions based on vector field topology, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, May 2000 – August 2000.

Bonneau, G.-P. (2000), Multiresolution techniques for scientific visualization, l'habilitation à diriger des recherches (habilitation), Université Joseph Fourier, Grenoble, France, June 2000, habilitation examiner. **(Currently a Full Professor of Computer Science at the University of Grenoble, France)**

Bremer, P.-T. (2000–2004), Hierarchical data approximation and visualization methods based on topological approaches, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 2000 – September 2004 **(Currently a Computer Scientist at Lawrence Livermore National Laboratory, Livermore, California, and Research Computer Scienist, The University of Utah, Salt Lake City)**

Bruckschen, R. W. (2000–2001), Visualization techniques for medical and biomedical data sets, post-graduate researcher, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, October 2000 – September 2001.

Frey, J. (2000), Analysis of tensor field topology for simulated earthquake data, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, May 2000 – August 2000.

Tesdall, A. (2000–2001), Development of an interactive multiresolution flow simulation environment coupling numerical simulation and immersive visualization, post-doctoral researcher from the Department of Mathematics, University of California, Davis, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, November 2000 – December 2001. **(Currently an Associate Professor of Mathematics at The City University of New York (CUNY), College of Staten Island, New York, New York)**

Uva, A. E. (2000), Engineering design in immersive environments, post-doctoral researcher from Politecnico di Bari, Dipartimento di Progettazione e Produzione Industriale, Italy, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, April – May 2000.

Weber, G. H. (2000), Visualization of adaptive mesh refinement data and topology-based exploration of volume data, Ph.D. student, University of California, Davis, and University of Kaiserslautern,

Germany, co-advisor, February 2000 – October 2000.

Wischgoll, T. (2000), Invariants of three-dimensional fluid flow data, visiting Ph.D. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, April 2000 – May 2000. **(Currently a Professor of Computer Science and Engineering at Wright State University, Dayton, Ohio)**

Abla, G. (1999–2000), Visualization of vector fields on tetrahedral grids, post-graduate researcher from Xinjiang University in Urumqi, Computer Training Center, P. R. China, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, August 1999 – February 2000.

Bremer, P.-T. (1999–2000), Boundary simplification of a closed triangulated body, M.S. thesis, University of California, Davis and and University of Hannover, Germany, March 2000, co-advisor (visiting M.S. student at the Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, October 1999 – March 2000).

Chen, J.-L. (1999–2004), Clustering and hierarchical visualization methods for large vector field data sets, Ph.D. student, advisor, Department of Computer Science, University of California, Davis. October 1999 – June 2004.

Cheung, T. T. (1999–2000), Scientific data approximation with curved finite elements, undergraduate exchange student from the Department of Computer Science, University of Sydney, Australia, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, July 1999 – April 2000.

Heiming, C. (1999), Biomedical visualization research, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, January 1999 – May 1999.

Heinig, L. (1999), Interactive rendering of hierarchically represented scientific data on the immersive workbench, M.S. student, co-advisor, Department of Computer Science, University of California, Davis, June 1999 – September 1999.

Kreylos, O. (1999–2003), Optimization techniques for hierarchical scientific data approximation and visualization and methods for the interactive manipulation of proteins and protein folding simulations, Ph.D. student, advisor, Department of Computer Science, University of California, Davis, October 1999 – June 2003.

Meyer, J. (1999–2000), Interactive visualization of medical and biological data sets, post-doctoral researcher from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, March 1999 – August 2000. **(Currently a Research Engineer at Apple, Inc., Cupertino, California)**

Pinskiy, D. V. (1999–2001), Multiresolution techniques for interactive volume visualization based on an error-controlled octree data structure, M.S. thesis, advisor, Department of Computer Science, University of California, Davis, June 2001.

Scheuermann, G. (1999–2000), Topological vector field visualization with Clifford algebra, post-doctoral researcher from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, March 1999 – September 1999 and March 2000 – July 2000. **(Currently a Full Professor and Dean of Mathematics and Computer Science at the University of Leipzig, Leipzig, Germany)**

Wald, I. (1999), Multi-source data visualization using distributed processing methods and immersive environments, visiting post-graduate student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, September 1999 – October 1999.

Jankun-Kelly, T. J. (1998–1999), Feature extraction and visualization techniques for multi-source scientific data sets, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, October 1998 – June 1999. **(Currently a Professor of Computer Science at Mississippi State University, Mississippi State, Mississippi)**

Kreylos, O. (1998), Optimal multi-resolution approximation of univariate and multivariate functions, M.S. thesis, University of California, Davis, and University of Karlsruhe, Germany, October 1998, co-advisor (visiting M.S. student at the Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, April 1998 – November 1998).

Küster, F. (1998–2001), The digital workshop: Interactive modeling and visualization in immersive environments, Ph.D. student, co-advisor, Department of Computer Science, University of California, Davis, October 1998 – June 2001. **(Currently a Professor of Electrical Engineering & Computer Science and Biomedical Engineering at the University of California, San Diego)**

Liverani, A. (1998–1999), Virtual computer-aided design and interactive finite element techniques for the immersive workbench, post-doctoral researcher (Dott. Ing.) from DIEM — Department of Mechanical and Aeronautical Engineering, University of Bologna, Italy, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, December 1998 – March 1999. **(Currently a Professor of Mechanical and Aeronautical Engineering at the University of Bologna, Italy)**

Lundy, S. I. (1998), Simulated annealing and data-dependent triangulations, M.S. thesis, advisor, Applied Mathematics, University of California, Davis, May 1998.

Moritz, E. (1998–1999), Virtual design and stereoscopic rendering research, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, September 1998 – February 1999.

Rodrian, H.-C. (1998), Skeleton-based implicit surfaces for modeling, animation, and visualization, Ph.D. student, University of California, Davis, and University of Kaiserslautern, Germany, co-advisor, May 1998. **(Currently a Professor of Applied Computer Science at the University of Applied Sciences of Bingen (Fachhochschule Bingen), Germany)**

Rosenthal, E. S. (1998), Interactive and real-time visualization of 3D unstructured grids using localized viewing techniques, M.S. thesis, advisor, University of California, Davis, October 1998.

Schätzl, R. (1998–1999), Multiresolution data approximation research, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-supervisor and co-advisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, September 1998 – February 1999.

Schussman (Konkle), S. E. (1998–2000), Representation and understanding of scientific data, M.S. thesis, co-advisor, University of California, Davis, September 1996.

Weber, G. H. (1998–1999), Interactive visualization of vector fields using tetrahedral hierarchies, visiting M.S. student from the Department of Computer Science (Informatik), University of Kaiserslautern, Germany, co-advisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, September 1998 – May 1999.

Wiley, D. F. (1998–2003), Construction of hierarchical data approximations using higher-order polynomial methods, Ph.D. student, advisor, Department of Computer Science, University of California, Davis,

October 1998 – June 2003.

Wushour, D. (1998–1999), Computer-aided design and data approximation research, post-graduate researcher from Xinjiang University in Urumqi, Department of Electronics and Information Science, P. R. China, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, March 1998 – March 1999.

Bertram, M. (1997–2000), Multiresolution modeling for scientific visualization, Ph.D. student, graduated in Summer Quarter 2000, advisor, Department of Computer Science, University of California, Davis. **(Currently a Professor of Electrical Engineering and Informatics at the University of Applied Sciences of Bremen (Hochschule Bremen), Germany)**

Uva, A. E. (1997–1998), Computer-aided design and reverse engineering research, visiting scholar, Politecnico di Bari, Dipartimento di Progettazione e Produzione Industriale, Italy, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, October 1997 – December 1998.

Völker, M. (1997), Photorealistic rendering of diamonds with ray tracing, visiting M.S. student from the Department of Physics, Technical University of Munich, Germany, supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis, April 1997 – September 1997.

Barnes, J. C. (1996–1998), Various research projects in visualization, advisor (Ph.D. student, discontinued visualization research), Department of Computer Science, University of California, Davis.

Forgang, A. B. (1996), Concurrent visualization of simulated and measured water quality data, M.S. thesis, advisor, University of California, Davis, September 1996.

Gieng, T. S. (1996–1997), Constructing multiresolution surface triangulations, supervisor (undergraduate student researcher, McNair Scholar), Department of Computer Science, University of California, Davis.

Heckel, B. (1996–2000), Clustering-based multiresolution methods for scientific visualization, Ph.D. student, graduated in Spring Quarter 2000, advisor, Department of Computer Science, University of California, Davis. **(Currently Vice President of Engineering, HelloFresh SE, Berlin, Germany)**

Jordan, B. W. (1996–1997), Research projects in multiresolution methods, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis.

Trotts, I. J. (1996–1999), Diverse research projects in visualization and geometric modeling, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis.

Wiley, D. F. (1996–1998), Diverse research projects in visualization and geometric modeling, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis.

Wynn, C. W. (1996–1997), Research projects in multiresolution methods, supervisor (undergraduate student researcher), Department of Computer Science, University of California, Davis.

Patel, G. (1995), Virtual reality techniques applied to visualization methods for three-dimensional scalar field data, M.C.S. project, advisor, Mississippi State University, Mississippi State, Mississippi, December 1995.

Shih, I. (1995), Tools for solid geometric modeling using NURBS, M.C.S. project, advisor, Mississippi State University, Mississippi State, Mississippi, May 1995.

Westerburg, J. M. (1995), A comparison of methods used for solving the radiosity equation, M.C.S. project, advisor, Mississippi State University, Mississippi State, Mississippi, May 1995.

Xie, S. (1995), Triangulation-based multiresolution methods for the representation and visualization of scattered data in the plane, M.S. thesis, advisor, Mississippi State University, Mississippi State, Mississippi, August 1995.

Hong, G. (1994), Automatic generation and visualization of 3D tetrahedral grids, M.S. thesis, advisor,

Mississippi State University, Mississippi State, Mississippi, August 1994.

Jolly, S. R. (1994), Approximation techniques for the visualization of three-dimensional time-varying oceanographic data, M.C.S. project, advisor, Mississippi State University, Mississippi State, Mississippi, December 1994.

McAllister, J. K. (1994–1995), Extraction and visualization of features in oceanographic data, supervisor (graduate student researcher), Mississippi State University-NSF Engineering Research Center, Mississippi State University, Mississippi State.

Chen, J.-L. (1992–1994), Development of various data reduction algorithms, supervisor (graduate student researcher), Mississippi State University-NSF Engineering Research Center, Mississippi State University, Mississippi State.

Chen, M.-L. (1992), Tools for the interactive specification and manipulation of NURBS curves and surfaces, M.C.S. project, advisor, Mississippi State University, Mississippi State, Mississippi, December 1992.

Hong, Y. (1992–1994), Efficient computation of surface-surface intersections, supervisor (graduate student researcher), Mississippi State University-NSF Engineering Research Center, Mississippi State University, Mississippi State.

Thompson, A. E. (1992), An interactive system for modeling and visualizing the forest, M.S. thesis, advisor, Mississippi State University, Mississippi State, Mississippi, December 1992.

Tsai, P.-Y. (1992–1995), Various projects in geometric modeling and geometry processing, supervisor (graduate student researcher), Mississippi State University-NSF Engineering Research Center, Mississippi State University, Mississippi State.

Wu, D. (1992–1994), Development of three-dimensional visualization algorithms, supervisor (graduate student researcher), Department of Computer Science, Mississippi State University, Mississippi State.

RESEARCH GRANTS, CONTRACTS, AND DONATIONS

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**, January 1, 2019 – June 30, 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**, October 1, 2016 – September 30, 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**, October 1, 2015 – September 30, 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**, October 1, 2014 – September 30, 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**, July 1, 2014 – December 31, 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**, October 1, 2013 – September 30, 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, June 16–18, 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**, October 1, 2012 – September 30, 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), October 1, 2012 – September 30, 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), July 1, 2012 – June 30, 2017 (first no-cost extension for October 1, 2015 – September 30, 2016, second no-cost extension for October 1, 2016 – June 30, 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**, December 1, 2011 – November 30, 2016. (no-cost extension for December 1, 2015 – Novemember 30, 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), October 1, 2011 – September 30, 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), September 1, 2011 – August 31, 2017 (no-cost extension for September 1, 2015 – August 31, 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), October 1, 2010 – September 30, 2011.

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), **$455,000** (Computer Science component: $69,731), October 1, 2009 – September 30, 2010.

Co-Investigator, "Digitally merged environments," planning grant to develop a Canada-California 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), September 1, 2009 – July 31, 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, July 22–24, 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**, July 1, 2009 – December 31, 2013 (additional funding of approx. **280,000 euro** for period July 1,

2009 – December 31, 2013, provided by Ministry for Science, Education, Research and Culture, Mainz, Rhineland-Palatinate, Germany, and funding of approx. **200,000 euro** for period September 1, 2009 – August 30, 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), January 1, 2009 – December 31, 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: $113,400), October 1, 2008 – September 30, 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), July 15, 2008 – July 14, 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), March 1, 2008 – March 31, 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), January 1, 2008 – May 31, 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), September 1, 2007 – August 31, 2011.

PI, "The transcription network controlling Drosophila development," **Lawrence Berkeley National Laboratory**, **$29,335**, with Gunther H. Weber (Senior Personnel), August 1, 2007 – December 31, 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: $88,000), October 1, 2007 – September 30, 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), August 4, 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), August 20, 2006 – September 30, 2006.

PI, "The transcription network controlling Drosophila development," **Lawrence Berkeley National Laboratory**, **$112,978**, with Gunther H. Weber (Co-PI), August 1, 2006 – July 31, 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: $87,500), October 1, 2006 – September 30, 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), September 15, 2006 – September 14, 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), August 31, 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), July 31, 2006 – May 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, July 19–21, 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), July 1, 2006 – June 30, 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), June 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), April 1, 2006 – March 31, 2011.

PI, "The transcription network controlling Drosophila development," **Lawrence Berkeley National Laboratory**, **$116,896**, with Gunther H. Weber (Co-PI), August 1, 2005 – July 31, 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, April 1, 2005 – December 31, 2008.

PI, "Topological analysis for scientific visualization," **Lawrence Livermore National Laboratory**, **$74,613**, with Vijay Natarajan and Gunther H. Weber (Co-PIs), April 1, 2005 – September 30, 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), July 1, 2005 – June 30, 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**, January 1, 2005 – June 30, 2009 (additional funding of approx. **300,000 euro** for period January 1, 2005 – June 30, 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**, August 11, 2004 – September 30, 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, May 22–27, 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), January 1, 2004 – September 30, 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**, October 1, 2004 – March 31, 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), October 1, 2004 – September 30, 2007.

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), October 1, 2004 – September 30, 2007.

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

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**, July 1, 2004 – December

31, 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**, July 1, 2004 – June 30, 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), January 1, 2004 – December 31, 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), October 1, 2003 – January 31, 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), October 1, 2003 – June 30, 2006.

Donation to CIPIC, ImmersaDesk (table projection system supporting stereo visualization), **Lawrence Berkeley National Laboratory**, Berkeley, California, **$70,000**, July 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**, October 1, 2003 – March 31, 2004.

Co-PI, "Scalable multiresolution methods for the representation and exploration of terascale data," **Lawrence Livermore National Laboratory**, with Kenneth I. Joy (PI), **$175,000**, October 1, 2003 – September 30, 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, with Anthony S. Wexler (PI), Rida T. Farouki and Charles G. Plopper (Co-PIs), **$86,400** (request for two years), March 1, 2003 – February 28, 2005.

Co-PI, "Next-generation collaborative teaching and learning over ConferenceXP," **Microsoft Research**, 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), **$35,000**, January 1, 2003 – July 31, 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), October 1, 2002 – September 30, 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 05 (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), October 1, 2002 – September 30, 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), October 1, 2002 – September 30, 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), September 1, 2002 – December 31, 2003.

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), April 1, 2002 – September 30, 2003.

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

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

Co-PI, "Adaptive mesh refinement data visualization," **Department of Energy, Office of Science**, contract administered by Lawrence Berkeley National Laboratory, with E. Wes Bethel (PI) and Terry J. Ligocki (Co-PI), approx. **$1,112,000**, April 1, 2002 – March 31, 2005.

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), October 1, 2001 – September 30, 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), October 1, 2001 – September 30, 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), October 1, 2001 – September 30, 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), October 15, 2001 – January 15, 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**, with Joerg Meyer (PI), **$75,000**, October 1, 2001 – September 30, 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, with James Demmel (PI), Gregory L. Fenves, Randy H. Katz, Jan M. Rabaey and Shankar Sastry (Co-PIs), **$7,500,000** (total UC Davis sub-award: $875,000), October 1, 2001 – September 30, 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, with Valerio Pascucci (PI), Mark A. Duchaineau, Kenneth I. Joy, Peter Lindstrom, Kwan-Liu Ma and Samuel P. Uselton (Co-PIs), **$1,245,000**, October 1, 2001 – September 30, 2004.

Co-PI and key participating investigator of UC Davis component, reserach 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/, July 1, 2001 – June 30, 2005.

Co-PI, "Informatics of human and monkey brain atlases," **National Institutes of Health**, National Institute of Mental Health, The Human Brain Project (Neuroinformatics), 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), **$6,905,744**, September 28, 2001 – October 30, 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, October 15–17, 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), October 1, 2000 – September 30, 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), July 1, 2000 – May 31, 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), April 1, 2000 – March 31, 2002.

Co-PI, "A NEES geotechnical centrifuge facility," **National Science Foundation**, Network for Earthquake Engineering Simulation (NEES) Program, Division of Civil and Mechanical Systems, 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), **$4,614,294**, October 1, 2000 – October 31, 2004.

Co-PI, "Interactive exploration and analysis of terascale data sets in virtual environments," second project period, **Lawrence Livermore National Laboratory**, with Kenneth I. Joy (PI), **$73,178**, October 1, 2000 – September 30, 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**, with Joerg Meyer (PI), **$75,000**, October 1, 2000 – September 30, 2001.

Co-PI, "The W. M. Keck Foundation Cellular and Molecular Neuroscience Imaging Program," **W. M. Keck Foundation**, Los Angeles, California, 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), **$2,485,358** ($2,000,000 from W. M. Keck Foundation), August 1, 2000 – July 31, 2003.

Co-PI, "Interactive exploration and analysis of terascale data sets in virtual environments," first project

period, **Lawrence Livermore National Laboratory**, with Kenneth I. Joy (PI), **$49,292**, April 1, 2000 – September 30, 2000.

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

Co-PI, "Interactive data analysis and visualization technology for experimental and theoretical plasma physics data," **General Atomics/UC Digital Media Innovation (DiMI) Program**, with Kwan-Liu Ma (PI), Kenneth I. Joy and Nelson L. Max (Co-PIs), **$87,981** (original request), May 1, 2000 – April 30, 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), October 1, 1999 – September 30, 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), June 1, 1999 – September 30, 1999.

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

PI, "CAREER Supplement Award," supplement to 1996 CAREER Award, **National Science Foundation**, Advanced Computational Infrastructure and Research, **$25,000**, December 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), October 1, 1998 – March 31, 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), July 1, 1998 – December 31, 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), March 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), March 2, 1998 – February 28, 2002.

Donation to the Center for Image Processing and Integrated Computing (CIPIC), **Lockheed Martin**, San Jose, California, **$2,000**, February 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 December 12, 1997), January 1, 1998 – December 31, 1998.

Co-PI, "Advanced computing infrastructure for UC Davis Computer Science and Engineering," **National Science Foundation**, CISE Instrumentation Program, with David M. Rocke (PI) and Kent Wilken (Co-PI), **$150,000** (UC Davis match: $60,000), April 1, 1998 – March 31, 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), January 1, 1997 – December 31, 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**, with David M. Rocke (PI), James F. Quinn and David L. Woodruff (Co-PIs), approx. **$1,900,000** (including UC Davis match), October 1, 1997 – January 31, 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** (UC Davis match: $70,000), with Kenneth I. Joy (PI) and Nelson L. Max (Co-PI), March 1, 1997 – March 1, 1999.

PI, "Development of techniques for the representation and rendering of multiresolution scientific data," **Lawrence Livermore National Laboratory**, Livermore, California, **$54,491**, October 1, 1996 – June 30, 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**, July 1, 1996 – September 30, 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, January 1, 1996 – December 31, 1997. *The original proposal was prepared entirely by John Foley and myself. The NSF decided in November 1995 to fund this project. Due to my leaving Mississippi State University in August 1995, John Foley and I agreed to replace me by David Banks, Mississippi State University, as the Co-PI.*

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**, September 25, 1995 – September 30, 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), May 16, 1995 – November 15, 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**, March 1994 – August 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), October 1, 1994 – September 30, 1996.

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), September 1, 1993 – June 15, 1994.

PI, "Reparametrization of NURBS surfaces," **Lawrence Livermore National Laboratory**, Livermore, California, **$25,922**, sub-contracted to Gerald Farin, Computer Science Department, Arizona State University, Tempe, Arizona, August 1, 1993 – July 30, 1994.

Co-PI, "Visualization for acoustic monitoring of global ocean climates," **ARPA/NSF**, Washington, D.C., **$2,050,800**, with Robert J. Moorhead (PI), August 1, 1993 – September 30, 1996.

Investigator, "National Grid Project – Microwave and millimeter advanced computational environment," **Mississippi State University-NSF Engineering Research Center for Computational Field Simulation**, **Mississippi State University**, total award **$150,000** (Bernd Hamann: $8,736), with Joe F. Thompson (PI), November 1993 – October 1994.

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**, September 1992 – August 1997.

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

Investigator, "Oceanographic data visualization II," **Naval Oceanographic Office (NAVO)**, **Stennis Space Center**, Mississippi, **$53,822**, with Robert J. Moorhead (PI), July 15, 1992 – January 15, 1993.

Investigator, "Oceanographic data visualization I," **Naval Oceanographic Office (NAVO)**, **Stennis Space Center**, Mississippi, **$33,000**, with Robert J. Moorhead (PI), January 15, 1992 – May 15, 1992.

PI, "National Grid Project – Algorithm development for non-uniform rational B-spline (NURBS) curves and surfaces," **Mississippi State University-NSF Engineering Research Center for Computational Field Simulation**, **Mississippi State University**, approx. **$350,000**, August 1, 1991 – March 31, 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**, August 1, 1991 – March 31, 1995.

COMPANY CO-FOUNDED

Stratovan Corporation

Co-founder, November 1995

Stratovan media coverage and press releases

- Press release, "Stratovan Corporation's Checkpoint Software Delivers Better Shape Analysis of 3D Medical Images," *PRWeb*, Davis, California, and Chicago, Illinois, November 29, 2014, http://www.prweb.com/releases/Stratovan/11/prweb12358834.htm.
- Press release, "Stratovan Working to Advance Airport Security and Efficiency," *PRWeb*, Davis, California, September 10, 2014, http://www.prweb.com/releases/Stratovan/CDR/prweb12146557.htm.
- News story "TSA Awards $6.2 Million Contracts to UC Davis Startup," *Engineering Progress*, Spring 2014, semiannual magazine, p. 21, College of Engineering, University of California, Davis, California, http://engineering.ucdavis.edu/wp-content/uploads/2013/08/SP14_Engineering_Progress.pdf.
- News story, "TSA Awards $6.2 million Contracts to UC Davis Startup," *Engineering News*, on-line news magazine, College of Engineering, University of California, Davis, California, March 5, 2014, http://engineering.ucdavis.edu/blog/tsa-awards-6-2-million-contracts-uc-davis-start/.
- News story, "Stratovan Lands Two TSA Contracts," *Sacramento Business Journal*, Sacramento, California, February 26, 2014, http://www.bizjournals.com/sacramento/news/2014/02/26/stratovan-lands-two-tsa-contracts.html?ana=e_sac_rdup&s=newsletter&ed=2014-02-26.
- News story, "Stratovan Corporation Awarded $6.2M Contract," *Business Wire*, San Francisco, California, and New York, New York, February 25, 2014, http://www.businesswire.com/news/home/20140225007074/en/Stratovan-Corporation-Awarded-6.2M-Contract#.Uw-R3meYZEY.

Stratovan licenses and patents

- 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

AWARDS, NOMINATIONS, SERVICE, AND LEADERSHIP

Awards

NSF CAREER Award, 1996, National Science Foundation, New Technologies Program.

Hearin-Hess Distinguished Professorship in Engineering (College of Engineering Faculty Award Program), awarded on May 10, 1995; one of ten Hearin-Hess Distinguished Professorships awarded in the College of Engineering, Mississippi State University.

NSF Research Initiation Award (RIA), 1992, National Science Foundation, New Technologies Program.

Research Initiation Award, 1992, Mississippi State University.

Leadership, committee service, and high-prestige nominations, offers, etc.

Member, **College of Engineering Faculty Personnel Committee (FPC)**, Committee on Academic Personnel (CAP), University of California, Davis; September 1, 2019 – December 31, 2019.

Chair, **College of Engineering Faculty Personnel Committee (FPC)**, Committee on Academic Personnel (CAP), University of California, Davis; September 1, 2018 – August 31, 2019.

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

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

Member, **College of Engineering Faculty Personnel Committee (FPC)**, Committee on Academic Personnel (CAP), University of California, Davis; September 1, 2016 – August 31, 2018.

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

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

Co-organizer, **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, June 16–18, 2013.

Offer for the position of **Executive Vice President and Provost**, November 2012; Naval Postgraduate School (NPS), Monterey, California; declined.

Service as **UC Davis Director**, of **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, October 2012 – September 2017.

Member, **UC Davis National Center for Advancing Translational Sciences (NCATS) Working Group**, Development of strategies for proposal planning, April 2012 – June 2012; Office of Research, University of California, Davis.

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

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

Member, **UC Davis Coastal and Marine Sciences Institute Planning Committee**, appointed by

Chancellor Linda P. Katehi and Vice Chancellor for Research Harris A. Lewin, June 2011 – October 2011; Office of the Chancellor, University of California, Davis.

Member, **International Programs Advisory Committee**, March 2011 – June 2012; Office of University Outreach and International Programs, University of California, Davis.

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

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

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

Workshop co-organizer of the **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, December 13–15, 2010.

Member, **Northern California Nanotechnology Center Strategic Advisory Committee**, October 2010 – June 2012; College of Engineering, University of California, Davis.

Finalist (candidate) for the position of **Rector ("President") of the University of Leipzig**, September 2010, University of Leipzig, Germany; candidacy withdrawn.

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

Workshop and program co-chair of the **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 and program co-chairs, University of California, Davis, Bodega Marine Laboratory (BML), Bodega Bay, California, March 19–21, 2010.

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, January 2010 – June 2010; Office of the Provost, University of California, Davis.

Member, **Subcommittee on Research Computing (SORC)**, October 2009 – June 2012; University of California, Davis.

Member, **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 – June 2012; Office of Research, University of California, Davis.

Co-organizer, **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, July 22–24, 2009.

Member, **University of California Shared Research Computing Services Oversight Board**, organized by Associate Vice President David J. Ernst, June 2009 – June 2012; Office of the President, University of California, Oakland.

Member, **Biotechnology Advisory Committee (BAC)**, UC Davis Biotechnology Program, January 2009 – June 2012; Office of Research, University of California, Davis.

Member, **Containment Laboratory Review Committee**, Development of policy for the operations, development, and management of UC Davis containment (BSL3) microbiology research laboratories,

October 2008 – June 2012; University of California, Davis.

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

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

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

Offer for the position of **Vice President for Research and Dean of the Graduate College**, July 2007; University of Nevada, Las Vegas; declined.

Member, **UC Davis College of Engineering Biomedical Technology Translational Research Initiative (BTTRI) Committee**, May 2007 – June 2012; University of California, Davis.

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

Member, **UC Davis 2007 Chancellor's Fall Conference Planning Committee**, February 2007 – October 2007; University of California, Davis.

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

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

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

Offer for an **endowed Lexis/Nexis Eminent Scholar tenured full professor position ($1.5M endowment)**, October 2005; College of Engineering and Computer Science, Wright State University, Dayton, Ohio; declined.

Member, **Search Committee for the position of "Edward Teller Chair of Applied Science"**, October 2005 – June 2006; **Department of Applied Science**, University of California, Davis.

Co-organizer and co-chair of the workshop **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-organizers, University of California, Davis, July 2005.

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

Member, **UC Davis Academic Senate Public Service Committee**, January 2005 – June 2012; University of California, Davis.

Member, **Executive Board**, Information Technology Research (ITR) Program grant "Societal-scale information systems: technologies, design and applications," January 2005 – September 2007; University of California, Berkeley and Davis.

Member, **UC Davis Stem Cell Internal Advisory Committee**, December 2004 – June 2012; University of California, Davis.

Member, **Project Steering Committee**, October 2004 – December 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.

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

Member, **Search Committee for the position of "Executive Director of Technology Transfer and Business Development"**, October–December 2004; **Office of Research**, University of California, Davis.

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

Service as inaugural **Co-Director** of **IDAV – Institute for Data Analysis and Visualization**, University of California, Davis, May 2004 – June 2004.

Co-organizer and co-chair of the workshop **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, May 22–27, 2004.

Member (ex officio), **Nanoscience and Nanotechnology Steering Committee**, January 2004 – June 2012; Office of Research, University of California, Davis.

Co-organizer and co-chair of the workshop **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, October 26–28, 2003 (electronic abstracts available at http://graphics.cs.ucdavis.edu/CVRV2003/program.html).

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

Winner, **Best Application Award**, *IEEE Visualization 2003*, Seattle, Washington, October 2003.

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

Member, **Review Committee**, evaluation of the **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), October 2002.

Co-organizer and co-chair of the workshop **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, June 5, 2002, http://vis.lbl.gov/Events/VisGreenbookWorkshop-June02/index.html.

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

Designated candidate for an **endowed Tier-1 Canadian Research Chair (CRC) tenured full professor position**, October 2001; School of Computing Science, Simon Fraser University, Burnaby, British Columbia, Canada; declined.

Nomitated for the position of **Chair of the Department of Computer Science**, 2001; Department of Computer Science, **Rensselaer Polytechnic Institute**, Troy, New York, September 2001.

Member, **Committee of Visitors** (evaluation committee), evaluation of the "Advanced Computational Research (ACR) Programs." **National Science Foundation**, Arlington, Virginia, August 15, 2001.

Member, **ArtsVision Steering Committee**, 2000-2001; UC Davis ArtsVision Initiative, University of California, Davis.

Co-leader, **Computational Science Steering Committee**, and co-lead author of the committee's final report, 2000-2001; UC Davis Computational Science Initiative, University of California, Davis.

Member, **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, July 2001 – June 2012.

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

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

Member, **Faculty Search Committee**, 2000–2001, 2001–2002, and 2002–2003; **Department of Electrical and Computer Engineering**, University of California, Davis.

Workshop and program co-chair of the **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, October 15–17, 2000 (electronic abstracts available at http://graphics.cs.ucdavis.edu/hvm00/program.html).

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

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

Member, **Research Council**, 1998–present; **Digital Media Innovation Program (DiMI)**, University of California, Davis.

Nominee for an **NSF Alan T. Waterman Award**, 1998; award presented annually to one outstanding researcher, under 35 years of age, in any field of science or engineering.

Appointed as **Co-Director** of the **Center for Image Processing and Integrated Computing (CIPIC)**, an Organized Research Center (ORU), November 1996 (serving until May 2004); University of California, Davis.

Nominee for a **Sloan Research Fellowship**, 1996; selected as the only nominee from the Department of Computer Science, University of California, Davis.

Nominee for an **NSF PFF (Presidential Faculty Fellows) Award**, 1995; selected by the President of Mississippi State University as one of two nominees from Mississippi State University.

Nominee for an **Outstanding Researcher Award** for the College of Engineering Faculty Award Program, 1995; selected as the only nominee from the Department of Computer Science, Mississippi State University.

Nominee for a **William L. Giles Distinguished Professorship**, 1995; selected as one of two nominees from the Department of Computer Science, Mississippi State University.

Offer for a **tenure-track assistant professorship**, 1992; Department of Mathematics, **Vanderbilt University**, Nashville, Tennessee; declined.