

## CURRICULUM VITAE ET STUDIORUM

### Valerio Pascucci

**Name:** Valerio Pascucci.  
**Rank:** Director, Center for Extreme Data Management Analysis and Visualization,  
Faculty , Scientific Computing and Imaging Institute,  
Professor, School of Computing, University of Utah,  
Laboratory Fellow, Pacific Northwest National Laboratory.  
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**Web-page:** <http://www.cedmav.org>

**Research Interests:** Scalable Algorithms, Efficient Data Layouts, Streaming Techniques, Cache Oblivious techniques, Data Analysis and Exploration, Multi-resolution Methods, Combinatorial Topology, Computer Graphics, Computational Geometry.

### Education

**May 2000** – PhD in Computer Science, Purdue University, West Lafayette, IN, U.S.A. Thesis title: “Multi-Dimensional and Multi-Resolution Geometric Data-Structures for Scientific Visualization”. Advisor: Prof. C.L. Bajaj. **Winner of “Best Student Research” Award.**

**September 2005** – UCLA Extension’s Short Intensive Course, Technical Management Program.

**January 1995** – Qualification for the membership to the Italian Order of Engineers.

**December 1993** – Laurea Degree (Master) in Electrical Engineering, University of Rome “La Sapienza”, grade 110/110. Thesis title: “An Approach to geometric modeling based on polyhedral complexes”. Advisor: Prof. A. Paoluzzi.

### Professional Experience

#### Current Professional Activities:

- Founding Director, Center for Extreme Data Management Analysis and Visualization (CEDMAV), University of Utah.
- Founding Director, Data Center Engineering Certificarte, University of Utah.
- Faculty, Scientific Computing and Imaging Institute (SCI), University of Utah.
- Professor, School of Computing, University of Utah.
- Laboratory Fellow, Pacific Northwest National Laboratory.
- Associate Editor, IEEE Transactions on Visualization & Computer Graphics.
- Founding member the steering committee, Utah Data Center Consortium (UDCC).
- Board member of ProActive Memory Services (PAMS), INC.
- Scientific Adviser for nView Medical, INC.
- Founding President, ViSUS, LLC.
- Co-Lead of the Data Analysis activities and member of the Executive Council, DOE Institute for Scalable Data Management Analysis and Visualization (SDAV), SciDAC2 project.

- Co-Lead, Scientific Data Management activities, member of the Executive Committee, DOE Center for Exascale Simulation of Combustion Turbulence (EXACT), Codesign project.

#### **Previous Experiences:**

- Visiting Professor, Extreme Computing Research Center, KAUST, Saudi Arabia, September 2014 – July 2015.
- Associate Professor, School of Computing and Scientific Computing and Imaging Institute, University of Utah. July 2008 – June 2011.
- Adjunct Assistant Professor, CS Department, UC Davis. July 2005 – June 2008.
- Associate Editor, IEEE Transactions on Visualization & Computer Graphics. January 2006 – January 2010.
- Group Leader, Data Analysis Group, CASC, LLNL, 2008.
- LLNL Project Leader for the “Visualization and Analytics Center for Enabling Technologies” (VACET), SciDAC2 project. Activity transferred at the University of Utah. October 2006 - 2012.
- Project Leader for the LDRD research project “Image segmentation and feature quantification for advanced radiography and tomography”. 2007 - 2008.
- Project Leader for the TechBase research project on “Embedded Geospatial Intelligence. April 2007 - December 2007.
- Project Leader for the LDRD research project “Efficient and Reliable Data Exploration via Multi-Scale Morse Analysis and Combinatorial Information Visualization”. October 2004 - September 2007.
- Project Leader for the “Data Representation” component of the project for “Streaming techniques for image processing” supported by NGA. March 2005 - April 2007.
- Computer Scientist, ASC PPPE Project (ASCI VIEWS), CASC, LLNL. May 2000 – June 2008.
- Project Leader for the LDRD research project “ViSUS: Visualization Streams for Ultimate Scalability”. October 2001 - September 2004.
- Visiting Scholar, Computer Science Department, Duke University, Durham, NC, U.S.A. October-November 2002.
- Senior Research Associate, Center for Computational Visualization, Computer Science and TICAM Departments, University of Texas at Austin, TX, U.S.A. January 1998 – May 2000.
- Secretary of the Purdue Chapter of the Upsilon Pi Epsilon honor soc. June 1997 – June 1998.
- Research Assistant, Computer Science Department, Purdue University, Indiana U.S.A. July 1995 – December 1998.
- Lecturer, undergraduate courses in Computer Graphics and Solid Modeling, CUD, University of Rome “La Sapienza” and at the University of Frosinone. January 1994 – June 1995.
- Research consultant, CAD Group, Computer Science Department, University of Rome “La Sapienza”. October 1991 – June 1995.

#### **Conference and Workshop Chair:**

- Program Co-Chair and Organizer for the 1st Workshop on Visual Performance Analysis (VPA) Held in conjunction with The International Conference on High Performance Computing, Networking, Storage and Analysis (SC14), November 21, 2014.
- Program Chair and Organizer for The 4th International Workshop on Standardization of 3D Based Medical Technologies, January 21-22, 2014.
- Program Co-Chair and Organizer for Dagstuhl Perspectives Workshop 14022 on Connecting Performance Analysis and Visualization to Advance Extreme Scale Computing, January 5 - 10, 2014.
- Program Co-Chair and Organizer of TopoInVis 2013, International Workshop on Topological Methods in Data Analysis and Visualization.

- Co-Chair of the ACM Symposium on Computational Geometry 2010.
- Co-Chair of the IEEE/EG International Symposium on Volume Graphics 2008.
- Program Co-Chair and Organizer of TopoInVis 2009, International Workshop on Topological Methods in Data Analysis and Visualization.
- SciDAC 2009 Organizing Committee and Co-Chair of Visualization Competition.
- Chair and Organizer of the invited minisymposium on “Visualization and Analytics for Science Discovery”, SIAM Annual Meeting, 2008.
- Program Co-Chair for the Computer Graphics area of the International Symposium on Visual Computing (ISVC) 2006.

**Program Committee Member:**

- 2015 IEEE Scientific Visualization (SciVis) 2015 program committee.
- 2015 IEEE Symposium on Large Data Analysis and Visualization 2015 (LDAV 2015) program committee.
- 2015 Eurographics conference STARs (State of the Art Reports) program committee.
- 2015 Symposium on Visualization in High Performance Computing (VHPC) program committee.
- 2015 Eurographics conference short papers program committee.
- 2014 IEEE Symposium on Large Data Analysis and Visualization (LDAV).
- 2014 Eurographics/IEEE, EuroVis 2014.
- 2014 International Advanced Workshop on High Performance Computing: From Clouds and Big Data to Exascale and Beyond.
- 2013 ACM/IEEE conference on Supercomputing (SC13).
- 2013 ACM/IEEE conference on Supercomputing, Scientific Visualization Showcase (SC13).
- 2013 ACM/IEEE Ultrascale Visualization Workshop (held in conjunction with SC13).
- 2013 Eurographics/IEEE, EuroVis 2013.
- 2013 Computational Visual Media Conference, CVM 2013.
- 2013 Fourth International Conference on Cloud Computing, GRIDs, and Virtualization, (Cloud Computing 2013).
- 2013 Workshops on Computational Geometry (held in conjunction with SoCG), WoCG 2013.
- 2012 Human-Computer Interaction & Knowledge Discovery, HCI-KDD 2012.
- 2012 Eurographics/IEEE, EuroVis 2012.
- 2012 IEEE Visualization Conference (Vis 2012).
- 2012 ACM/IEEE conference on Supercomputing (SC2012).
- 2012 3rd Int'l Emerging Computational Methods for the Life Sciences Workshop (ECMLS 2012 ).
- 2011 IEEE Visualization Conference (Vis 2011).
- 2011 ACM/IEEE conference on Supercomputing (SC2011).
- 2011 IEEE Symposium on Large-Scale Data Analysis and Visualization (LDAV11).
- 2011 SIAM/ACM Joint Conference on Geometric and Physical Modeling (GD/SPM11).
- 2011 Workshop on Emerging Computational Methods for the Life Sciences (at HPDC 2011).
- 2011 Eurographics Conference (EG11).
- 2011 7th International Symposium on Visual Computing ISVC11.
- 2011 SIBGRAPI Conference on Graphics, Patterns and Images.
- IEEE Visualization 2010 Conference (Vis 2010).
- 2010 ACM/IEEE conference on Supercomputing (SC2010).
- 2010 SIBGRAPI Conference on Graphics, Patterns and Images.
- 6th International Symposium on Visual Computing ISVC10.
- 2010 Workshop on Emerging Computational Methods for the Life Sciences (at HPDC 2010).
- IASTED International Conference on Computer Graphics and Imaging (CGIM 2010).
- SIBGRAPHI 2009.
- SciDAC 2009 Program Committee.

- Eurographics 2009.
- Eurovis 2009.
- 5th International Symposium on Visual Computing ISVC09.
- Eurographics 2008.
- 4th International Symposium on Visual Computing (ISVC) 2008.
- IEEE/ACM conf. on “3D Data Processing Visualization and Transmission” (3DPVT) 2008.
- Eurographics Symposium on Parallel Graphics and Visualization (EGPGV) 2008.
- IEEE conference on “Visualization” (VIS) 2007.
- ACM Symposium on “Computational Geometry” (SoCG) 2007.
- IEEE Conference on “Shape Modeling and Applications” (SMI) 2007.
- International Symposium on Visual Computing (ISVC) 2007.
- IASTED Conference on “Graphics and Visualization in Engineering” (VGE) 2007.
- IASTED Conference on “Visualization, Imaging, and Image Processing” (VIIP) 2007.
- IEEE conference on “Visualization” (VIS) 2006.
- ACM symposium on “Solid and Physical Modeling” (SPM) 2006.
- Eurographics/IEEE TCVG “Symposium on Visualization” (EuroVis) 2006.
- IEEE Conference on “Shape Modeling and Applications” (SMI) 2006.
- IASTED Conference on “Visualization, Imaging, and Image Processing” (VIIP) 2006.
- IEEE conference on “Visualization” (VIS) 2005.
- ACM symposium on “Solid and Physical Modeling” (SPM) 2005.
- Eurographics/IEEE TCVG “Symposium on Visualization” (EuroVis) 2005.
- IEEE Conference on “Shape Modeling and Applications” (SMI) 2005.
- IASTED Conference on “Visualization, Imaging, and Image Processing” (VIIP) 2005.
- ACM symposium on “Solid Modeling” (SM) 2004.
- IASTED Conference on “Visualization, Imaging, and Image Processing” (VIIP) 2004.
- SCS symposium on “High Performance Computing” (HPC) 2004.
- Eurographics/IEEE TCVG “Symposium on Visualization” (VisSym) 2004.
- IEEE/ACM conf. on “3D Data Processing Visualization and Transmission” (3DPVT) 2004.
- ACM symposium on “Solid Modeling” (SM) 2003.
- IEEE/ACM conf. on “3D Data Processing Visualization and Transmission” (3DPVT) 2002.

**Contributions to National Reports:**

- DOE report on “Data Crosscutting Requirements Review”, 2013.
- DOE report on “Exascale Data Management, Analysis, and Visualization”, 2011.
- DOE report on “Mathematics for Analysis of Petascale Data”, 2008.
- DOE report on “Multiscale Mathematics Initiative: A Roadmap”, 2004.
- DOE report on “The Office of Science Data-Management Challenge”, 2004.

**Standardization:**

- Member of the IEEE 3333-2 WG - Standardization of 3D Based Medical Application Working group.
- Chair of the Subcommittee of the IEEE 3333-2 WG - P3333.2.3 - Standard for Three-Dimensional (3D) Medical Data Management.

**Panel member:**

- DOE Early Career Research Program panel, 2013 .
- NSF Panel on FY10 CAREER awards for Graphics and Visualization Program.
- NSF Panel on 2009 Strategic technologies for Cyber Infrastructure (STCI).
- NSF Panel on 2009 IUCRC Fundamental Research Supplements.

- DOE/ASCR SBIR Phase I Panel Review, 2009.
- DOE Panel on the Status of Required Computational and Applied Math Tools for Fusion Simulation, February-May, 2007.
- NSF Panel on Computational Geometry, 2004.

**Memberships:** Upsilon Pi Epsilon honor society, Association for Computing Machinery, American Mathematical Society, IEEE Computer Society, and Society for Industrial and Applied Mathematics.

**Awards:**

- DOE Federal Laboratory Consortium for Excellence in Technology Transfer, Intergated Partnership Award, April 29, 2015.
- Eurographics Symposium on Parallel Graphics and Visualization (EGPGV), Best Paper Award, 2013.
- MICCAI workshop on Multimodal Brain Image Analysis (MBIA), Best paper award, 2013.
- XXVI SIBGRAPI Conference on Graphics, Patterns and Images, Best Paper Award 2013
- IEEE Symposium on Large-Scale Data Analysis and Visualization (LDAV), Best Paper Award, 2012.
- IEEE Symposium on Large-Scale Data Analysis and Visualization (LDAV), Best Paper Honorable Mention, 2012.
- IEEE Pacific Visualization 2011, Best Paper Award, March 2011.
- XXIV SIBGRAPI Conference on Graphics, Patterns and Images, Best Paper Award 2011
- Supercomputing 2009, finalist for the Bandwidth Challenge, November 2009.
- IEEE Visualization 2006, Best Application Paper Award', October 2006.
- DNT award "In recognition of Outstanding Technical Achievement", May 2002.
- Upsilon Pi Epsilon Honor Society award for "Best Student Research" for PhD Thesis, May 2000.

**Patents:**

- "Rapid, Interactive Editing of Massive Imagery Data", US Patent 8,836,714 (Sep 16, 2014).
- "Seam processing for panorama weaving." US patent 8,890,894 (Nov 18, 2014) .
- "High Performance Data Layout and Processing", Pending patent, Publication 20090287702 (Nov 19, 2009).
- "Encoding Images of 3D Objects with Improved Rendering Time and Transmission Process". US Patent 6,438,266 (Oct 19, 1999).

**Postdocs advised in Utah:**

Brian Summa (current),  
 Brian Summa (now Professor at Tulane University),  
 John Edwards (now Professor at Idaho State University),  
 Julien Tierny (Fullbright fellow, now Researcher at Sorbonne Universites UPMC),  
 Avishek Saha (now Research Scientists at Yahoo Labs),  
 Joshua Levine (now Professor at Clemson University),  
 Bei Wang (now Research Computer Scientist at the SCI institute),  
 Attila Gyulassy (now Research Scientist at the SCI institute).

**Postdocs advised in LLNL:**

Ming Jiang,

Ajith Mascarenhas.

**Current PhD Students:**

Will Usher,  
Duong Hoang,  
Laura Lediaev,  
Sidharth Kumar (expected graduation 2015),  
Shusen Liu (expected graduation 2015),  
Dan Maljovec (expected graduation 2015),  
Aaditya Landge (expected graduation 2016),

**Former PhD Students:**

Harsh Bhatia (graduated in December 2014),  
Brian Summa, (graduated in December 2012),  
Attila Gyulassy, (graduated in December 2008),  
Janine Bennett, (graduated in September 2008),  
Peer-Timo Bremer. (graduated in December 2004).

**Current Master Students:**

Cameron Christensen (expected graduation 2015),  
Mike Liu (expected graduation 2015),  
Roozbeh Gholizadeh (expected graduation 2015),  
Laura Lediaev (expected graduation 2015).

**Former Master Students:**

Sujin Philip (graduated in August 2014),  
Atul Rungta (graduated in August 2013),  
Shreeraj Jadhav (graduated in May 2012),  
Dogan Demir (graduated in December 2011),

**Other Students advised and supported at LLNL:**

Rita Borgo (PhD), Steven Callahan (PhD), Min Chen (PhD), Kree Cole-McLaughlin (PhD), Scott Dillard (PhD), Dmitriy Morozov (PhD), Amit Patel (Ph.D.), Anna Majkowska (PhD), Ajith Mascarenhas (PhD), Vijay Natarajan (PhD), Issam Safa (PhD), Carlos Scheidegger (PhD), Alexander Sherman (PhD), John Schreiner (PhD), Shantanu Singh (PhD), Huy Vo (PhD), Kenneth Weiss (PhD), W. Taylor Holliday (MS), Jonathan Strasser (MS), Valerie Szudziejka (MS), Garrett A. Aldrich (BS).

**Tutorial courses organized:**

- Multi-resolution modeling, visualization, compression and streaming of volumetric data, Presented at Eurographics 2004.
- Multi-resolution modeling, visualization and compression of volumetric data, Presented at IEEE Visualization 2003 (<http://www.pascucci.org/VIS03-tutorial/index.html>).

**Classes taught:**

- Advanced Algorithms (University of Utah - Fall 2013).
- Computational Topology (University of Utah - Spring 2013) - **Dean's letter for excellence**

#### **in teaching.**

- Scientific Visualization (University of Utah - fall 2011).
- Computational Topology (University of Utah - spring 2011) - **Dean's Top 15% Teaching Award.**
- Scientific Visualization (University of Utah - fall 2010).
- Introduction to Computer Graphics (University of Utah - spring 2010).
- Scientific Visualization (University of Utah - fall 2009).
- Computational Topology (University of Utah - spring 2009 - **Dean's letter for excellence in teaching**).
- Morse Theory for Data Analysis and Visualization (UC Davis - spring 2006).

#### **Lecture Series Given at Summer Schools:**

- Big Scientific Data Made Simple. A Hands-on Tutorial in Data Generation, Processing, and Delivery for High Performance Computing and High Resolution Imaging. KAUST, Saudi Arabia, June 28-29, 2015.
- Hartree Summer School on Visualization, organized by STFC Daresbury Laboratory, UK, 14-19 June 2015.
- Hartree Summer School on Visualization, organized by STFC Daresbury Laboratory, UK, 2014.
- Écoles D'Été on "Advanced Methods in Scientific Visualization", organized by INRIA, CEA, EDF. Centre Port-Royal, Saint-Lambert-des-Bois, France, 2007.
- "Proteomes and Proteins" organized by The International School of Advanced BioMedicine and BioInformatics and by The Lipari International School for Computer Science Researchers. Lipari, Italy, 2006.

#### **Keynote and Plenary Talks**

- Plenary talk at XSEDE 15: "Extreme Data Management, Analysis and Visualization: Exploiting Large Data for Science Discovery", St. Louis, MO, July 28, 2015.
- Keynote at Saudi Arabian High Performance Computing (SAHPC) 2014: "Extreme Data Management, Analysis and Visualization: Exploiting Large Data for Science Discovery", Khobar, SA, December 7, 2014.
- Keynote at Global 3D Tech Forum 2014 Symposium 2014: "Big Data and the Scientific Method", Seoul, South Korea, October 15, 2014.
- Keynote at EGPGV 2014: "The big gift of big data", Swansea, UK, Tuesday, June 10, 2014.
- Keynote at Jacobi 2013: "High-Performance Computing: Mathematical Models and Algorithms", Kaliningrad, Russia, October 4, 2013.
- Keynote at IX Congress of the Peruvian Society of Computing, October 14, 2010.
- Plenary talk at 23rd SIBGRAPI Conference on Graphics, Patterns and Images, August 31, 2010.

#### **Other Invited Talks**

- Extreme Data Management Analysis and Visualization: Exploiting Large Data for Science Discovery, Qatar National Research Found, Doha, Qatar, September, 24, 2014,.
- The Big Gift of Big Data, ATPESC Training Program, Argonne National Laboratory, August, 7, 2014.
- The Big Gift of Big Data, International Advanced Research Workshop on High Performance Computing: From Clouds and Big Data to Exascale and Beyond. Cetraro, Italy, July 10, 2014.
- The Big Gift of Big Data. School of Computing, Leeds University, Leeds, UK, July 17, 2014.
- Shonan Meeting on Computer Visualization - Concepts and Challenges, Shonan Village Center, Japan, March 12, 2014.
- SIAM minisymposium on Graph Analysis for Scientific Discovery, Portland, OR, February 21, 2014.
- IMA Hot Topics Workshop on Predictability in Earth System Processes, Minneapolis, MN,

November 19, 2013.

- National Renewable Energy Laboratory (NREL), Denver, CO, November 15, 2013.
- Los Alamos National Laboratory, Los Alamos NM, July 9, 2013.
- Eidgenössische Technische Hochschule Zurich (ETH), Zurich, CH, May 3, 2013.
- KASUT Visualization Summit, Saudi Arabia, April 16, 2013.
- Stanford Linear Accelerator, Menlo Park CA, March 7, 2013.
- ADOBE, Lehi, UT, December 5, 2012.
- Workshop at SIGGRAPH ASIA 2012, Singapore, November 26, 2012.
- Exascale Research Conference, Arlington VA, October 2, 2012.
- DOE CScADS, Snowbird UT, August 1, 2012.
- High Performance Computing, Grids, and Clouds, Cetraro Italy, June 28, 2012.
- High Performance Computing, Grids, and Clouds, Cetraro Italy, June 29, 2012.
- Algorithms in the Field at the ACM Symposium on Computational Geometry, UNC, June 19, 2012.
- BATTELLE headquarters, Columbus OH, May 7, 2012.
- Idaho National Laboratory, Idaho Falls, Apr 12, 2012.
- IAMCS-KAUST Workshop on Computational Biomedicine and Geophysics, Utah, April 5, 2012.
- GE Healthcare, Utah, March 22, 2012.
- ARUP Laboratories, Utah, March 7, 2012.
- BATTELLE Eastern Science & Technology Center, Arlington VA, January 27, 2012.
- DOE Computer Graphics Forum, Asheville, NC, April 27, 2011.
- DOE CScADS, Lake Tahoe, July 27, 2011.
- Telecom ParisTech, June 26, 2011.
- International Supercomputing Conference (ISC), June 22, 2011.
- Dagstuhl Seminar on Scientific Visualization, June 6, 2011.
- 2<sup>nd</sup> National Conference in Advancing Tools and Solutions for Nuclear Material Detection, May 3, 2011, Salt Lake City, UT.
- Visualization in Computational Bioscience, February 24, 2011, Texas A&M University, TX.
- Commissariat l'énergie Atomique (CEA) TERA100 High Performance Computing Center, Arpajon, France, February 3, 2011.
- Institute for Science and Technology (IST), Austria, January 27, 2011.
- HP-CAST 15: New Orleans, Louisiana, Nov. 13, 2010.
- Universidad Católica San Pablo (UCSP), October 10, 2010, Trujillo, Peru.
- University of San Paulo, August 27, 2010, San Paulo, Brazil.
- American-Chinese Cyberinfrastructure and E-Science workShop (ACCESS) 2010, National Center of Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign (UIUC), August 9, 2010.
- CScADS 2010, July 28, 2010, Snowbird, UT.
- SciDAC conference, July 14, 2010, Chattanooga, TN.
- Pacific Northwest National Laboratory, March 12, 2010, Richland, WA.
- CUNY Graduate Center, February 25, 2010 New York, NY.
- CSRI workshop on workshop on combinatorial algebraic topology, August 30, 2009 in Santa Fe, NM.
- CScADS 2009, July 20, 2009 in Lake Tahoe, CA.
- University of Utah Campus Cyberinfrastructure Day, March 11, 2009.
- Joint AMS-MAA Mathematics Meetings Tuesday January 6, 2009.
- SciDAC 2008, Seattle, Washington, October 2008.
- Fifth International Conference on Flow Dynamics, Sendai, Japan, October, 2008.
- Sandia National Laboratory, Computation Directorate, Livermore, California, May, 2008.
- The Ohio State University Computer Science and Engineering, Columbus, Ohio, May, 2008.
- Stanford Linear Accelerator Center SciDAC Computational Astrophysics Consortium Meet-



ing, Stanford, California, April, 2008.

- Arizona State University School of Computing and Informatics Computer Science & Engineering, Tempe, Arizona, February, 2008.
- University of Tennessee, Computer Science Department, Knoxville, TN, November 9, 2007.
- Oak Ridge National Laboratory (ORNL), Oak Ridge, TN, November 8, 2007.
- Supercomputing 2007, Ultrascale Visualization Workshop, Reno, NV, November 12, 2007.
- The University of Nevada Reno, Department of Computer Science & Engineering and The Northern Nevada IEEE, Reno, NV, September 28, 2007.
- Nashville 2007 Fall Creek Falls: Key Challenges in Modeling and Simulation, Nashville, TN, September 26, 2007.
- Battelle briefing by Industrial Partnerships and Commercialization (IPAC) Office and the Deputy Director for Science and Technology, Livermore, September 25, 2007.
- FET 2007, IUSV Workshop on Feature Extraction and Tracking, Computer Science Department UC Davis, CA, August 1, 2007.
- Third University of Rome, Computer Science Department, July, 9, 2007.
- Dagstuhl seminar on Scientific Visualization, July, 2007.
- DOE/ASCR Visualization and Analytics Workshop, Salt Lake City, Utah, June 7-8, 2007.
- Simulation and Modeling at the Exascale for Energy, Ecological Sustainability and Global Security (E3SGS) Town Hall Meeting, group co-chair for Integrate large, complex, and possibly distributed software systems with components derived from multiple applications domains and with distributed data gathering and analysis tools, Berkeley, CA, April 18, 2007.
- Ultra-Scale Visualization workshop, Supercomputing 2006, Tampa, FL, November 13, 2006.
- APDEC all hands meeting, Berkeley, CA, October, 2006.
- 2006 NGA Academic Research Program Symposium, National Academy of Sciences, Keck Center, Washington DC, September 13-15, 2006.
- Lawrence Berkeley National Laboratory, September 28, 2005.
- IMA/MCIM Industrial Problems Seminar, October 28, 2005.
- The National Forum for Geoscience Information Technology (FGIT), Washington, D.C., October 6, 2005.
- Dagstuhl seminar on Scientific Visualization: Challenges for the Future, Dagstuhl International Conference And Research Center For Computer Science, June, 9, 2005.
- Third University of Rome, Computer Science Department, June, 9, 2005.
- University of Padova, Computer Science Department, June, 9, 2005.
- University of Genova, Computer Science Department, June, 9, 2005.
- National Research Council, Pisa, IT, Computer Science Department, June, 9, 2005.
- DOE Computer Graphics Forum, April 27, 2004, Santa Fe, NM.
- DOE MICS Headquarters, February 11, 2004, Germantown, MD.
- University of California Riverside, Computer Science Dept., Feb.2, 2004, Riverside, CA.
- University of Maryland, Computer Science Dept., Dec. 12, 2003, College Park, MD.
- UNC Chapel Hill, Computer Science Dept., Nov. 25, 2002, Chapel Hill, NC.
- NSF/DoE Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization, Oct. 16, 2000, Lake Tahoe, CA.
- Lawrence Livermore National Laboratories, Aug. 24, 1999, Livermore, CA.
- Workshop on Multi-Resolution Representation of 3D Geometry for Progressive Transmission, Oct. 17, 1998, Research Triangle Park, NC.
- Computational Mathematics Institute, National Research Council, Feb. 5, 1998, Pisa, Italy.
- University of Padova, Department of Computer Engineering, Feb. 3, 1998, Padova, Italy.
- Voronoi Workshop, Feb. 21, 1997, Arizona State University, AZ, U.S.A.

# Publications

## Edited Books & Journal Special Issues

- [1] J. Bennett, F. Vivodtzev, and V. Pascucci. Topological and statistical methods for complex data. *Mathematics and Visualization*. Springer, 2015.
- [2] P.-T. Bremer, I. Hotz, V. Pascucci, and R. Peikert. Topological methods in data analysis and visualization: Theory, algorithms, and applications iii. *Mathematics and Visualization*. Springer, 2014.
- [3] P.-T. Bremer, H. Hagen, and V. Pascucci. Foundations of topological analysis. *Computer Aided Geometric Design*, 30(6), July 2013.
- [4] P. C. Wong, H.-W. Shen, and V. Pascucci. Extreme-scale visual analytics. *IEEE Computer Graphics and Applications*, 32(4), July/August 2012.
- [5] V. Pascucci, X. Tricoche, H. Hagen, and J. Tierny, editors. *Topological Methods in Data Analysis and Visualization: Theory, Algorithms, and Applications*, Mathematics and Visualization. Springer, 2010.
- [6] G. Bebis, R. Boyle, B. Parvin, D. Koracin, P. Remagnino, A. V. Nefian, M. Gopi, V. Pascucci, J. Zara, J. Molineros, H. Theisel, and T. Malzbender, editors. *Advances in Visual Computing, Second International Symposium, ISVC 2006, Lake Tahoe, NV, USA, November 6-8, 2006 Proceedings, Part I*, volume 4291 of *Lecture Notes in Computer Science*. Springer, 2006.
- [7] G. Bebis, R. Boyle, B. Parvin, D. Koracin, P. Remagnino, A. V. Nefian, M. Gopi, V. Pascucci, J. Zara, J. Molineros, H. Theisel, and T. Malzbender, editors. *Advances in Visual Computing, Second International Symposium, ISVC 2006 Lake Tahoe, NV, USA, November 6-8, 2006. Proceedings, Part II*, volume 4292 of *Lecture Notes in Computer Science*. Springer, 2006.

## Referred Journal Articles

- [1] S. Philip, B. Summa, J. Tierny, P. Bremer, and V. Pascucci. Distributed seams for gigapixel panoramas. *Visualization and Computer Graphics, IEEE Transactions on*, 21(3):350–362, March 2015.
- [2] S. Liu, B. Wang, J. J. Thiagarajan, P.-T. Bremer, and V. Pascucci. High-dimensional visualization: Visual exploration of high-dimensional data through subspace analysis and dynamic projections. *Computer Graphics Forum*, 34(3):271–280, June 2015.
- [3] J. Edwards, E. Daniel, V. Pascucci, and C. Bajaj. Approximating the generalized Voronoi diagram of closely spaced objects. *Computer Graphics Forum*, 34(2):299–309, May 2015.
- [4] P.-T. Bremer, D. Maljovec, A. Saha, B. Wang, J. Gaffney, B. Spears, and V. Pascucci. ND<sup>2</sup>AV: N-dimensional data analysis and visualization analysis for the national ignition campaign. *Computing and Visualization in Science*, 17(1):1–18, 2015.
- [5] B. Summa, A. A. Gooch, G. Scorzelli, and V. Pascucci. Paint and click: Unified interactions for image boundaries. *Computer Graphics Forum*, 34(2):385–393, May 2015.

- [6] H. Bhatia, B. Wang, G. Norgard, V. Pascucci, and P.-T. Bremer. Local, smooth, and consistent jacobi set simplification. *Computational Geometry: Theory and Applications*, 48(4):311 – 332, 2015.
- [7] W. Harvey, I.-H. Park, O. Rbel, V. Pascucci, P.-T. Bremer, C. Li, and Y. Wang. A collaborative visual analytics suite for protein folding research. *Journal of Molecular Graphics and Modelling*, 53(0):59 – 71, 2014.
- [8] H. Bhatia, V. Pascucci, and P. Bremer. The natural helmholtz-hodge decomposition for open-boundary flow analysis. *IEEE Transactions on Visualization and Computer Graphics*, PP(99):1–1, 2014.
- [9] A. Gyulassy, D. Günther, J. A. Levine, J. Tierny, and V. Pascucci. Conforming morse-smale complexes. *IEEE Trans. Vis. Comput. Graph*, 20(12):2595–2603, 2014.
- [10] H. Bhatia, V. Pascucci, R. M. Kirby, and P.-T. Bremer. Flow visualization: Extracting features from time-dependent vector fields using internal reference frames. *Computer Graphics Forum*, 33(3):21–30, June 2014.
- [11] A. Gyulassy, P.-T. Bremer, R. W. Grout, H. Kolla, J. Chen, and V. Pascucci. Stability of dissipation elements: A case study in combustion. *Comput. Graph. Forum*, 33(3):51–60, 2014.
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