Vijay Natarajan
Curriculum Vitæ

Department of Computer Science and Automation
Indian Institute of Science
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Citizen of India

Research Interests

Scientific visualization, computational geometry, computational topology, computer graphics, mesh processing, geometric modeling.

Education

1999 – 2004	Duke University: Ph.D. in Computer Science Advisor: Prof. Herbert Edelsbrunner
1994 – 1999	Birla Institute of Technology and Science, Pilani, India: (dual degree program) M.Sc. (Hons.) in Mathematics. Advisor: Prof. B.S. Panda B.E. (Hons.) in Computer Science

Employment

2006-present	Assistant professor Department of Computer Science and Automation Supercomputer Education and Research Centre Indian Institute of Science, Bangalore
2004 – 2006	Postdoctoral researcher, Institute for Data Analysis and Visualization, UC Davis
2001 – 2004	Research assistant, Department of Computer Science, Duke University
May-July 2003	Intern, Lawrence Livermore National Laboratory, California
Jan-Aug 2002	Visiting researcher, Lawrence Livermore National Laboratory, California
Fall 2000	Teaching assistant, Department of Computer Science, Duke University (CPS 124/CPS 296: Introduction to computer graphics)
Jan-June 1999	Intern, Tata Elxsi Ltd., Bangalore, India
May-July 1998	Summer intern, Tata Institute for Fundamental Research, Mumbai, India

Awards

2011	Indian National Academy of Engineering (INAE) Young Engineer Award
2011	Microsoft Research India Outstanding Young Faculty Award
2010	Indian National Science Academy (INSA) Young Scientist Medal
2010 – 2013	Associate of Indian Academy of Sciences
1999 – 2000	Fellowship, Department of Computer Science, Duke University, Durham NC
1995 – 1999	University merit scholarship, Birla Institute of Technology and Science, Pilani

Publications

Book Chapters

[1] Suthambhara N. and Vijay Natarajan.
Simplification of Jacobi sets.
Topological Data Analysis and Visualization: Theory, Algorithms and Applications.
Valerio Pascucci, Xavier Tricoche, Hans Hagen, and Julien Tierny (Eds.)
Springer-Verlag, Mathematics and Visualization Series, 2011, 91–102.

[2] Vijay Natarajan, Patrice Koehl, Yusu Wang, and Bernd Hamann.
Visual analysis of biomolecular surfaces.
Mathematical Methods for Visualization in Medicine and Life Sciences.
Lars Linsen, Hans Hagen, and Bernd Hamann (Eds.)
Springer-Verlag, Mathematics and Visualization Series, 2007, 237–255.

Refereed Journal Papers

[1] Nithin Shivashankar, Senthilnathan M., and Vijay Natarajan.
Parallel Computation of 2D Morse-Smale Complexes.
IEEE Transactions on Visualization and Computer Graphics, 2012, to appear.

[2] Vijeth Dinesha, Neeharika Adabala, and Vijay Natarajan.
Uncertainty visualization using HDR volume rendering.
Visual Computer, 2012, to appear.

[3] Harish Doraiswamy and Vijay Natarajan.
Output-sensitive construction of Reeb graphs.
IEEE Transactions on Visualization and Computer Graphics, 18(1), 2012, 146–159.

[4] Dilip M. Thomas and Vijay Natarajan.
Symmetry in scalar field topology.
IEEE Transactions on Visualization and Computer Graphics (IEEE VIS '11), 17(12), 2011, 2035–2044.

[5] Suthambhara N. and Vijay Natarajan.
A gradient-based comparison measure for visual analysis of multifield data.
Computer Graphics Forum (EuroVis 2011), 30(3), 2011, 1101–1110.
(**Third Best Paper Award, Back Cover Image**)

[6] Suthambhara N. and Vijay Natarajan.
Relation-aware isosurface extraction in multi-field data.
IEEE Transactions on Visualization and Computer Graphics, 17(2), 2011, 182–191.

[7] Dilip Mathew Thomas, Vijay Natarajan, and Georges-Pierre Bonneau.
Link conditions for simplifying meshes with embedded structures.
IEEE Transactions on Visualization and Computer Graphics, 17(7), 2011, 1007–1019.

[8] Ichitaro Yamazaki, Vijay Natarajan, Zhaojun Bai, and Bernd Hamann.
Segmenting point-sampled surfaces.
The Visual Computer, 26(12), 2010, 1421–1433.

[9] Scott E. Dillard, Vijay Natarajan, Gunther H. Weber, Valerio Pascucci, and Bernd Hamann.
Topology-guided tessellation of quadratic elements.
Intl. J. Computational Geometry and Applications, 19(2), 2009, 195–211.
(**invited paper in special issue** of Intl. Symp. Algorithms and Computation, 2006)

[10] Harish Doraiswamy and Vijay Natarajan.
Efficient algorithms for computing Reeb graphs.
Computational Geometry: Theory and Applications, 42, 2009, 606–616.

[11] Manohar B. Srikanth, P.C. Mathias, Vijay Natarajan, Prakash Naidu, and Timothy Poston.
Visibility volumes for interactive path optimization.
The Visual Computer (CGI '08), 23, 2008, 1–13.

[12] Attila Gyulassy, Vijay Natarajan, Valerio Pascucci, and Bernd Hamann.
Efficient computation of Morse-Smale complexes for three-dimensional scalar functions.
IEEE Transactions on Visualization and Computer Graphics (IEEE VIS '07), 13(6), 2007, 1440–1447.

[13] Attila Gyulassy, Mark Duchaineau, Vijay Natarajan, Valerio Pascucci, Eduardo Bringa, Andrew Higginbotham, and Bernd Hamann.
Topologically clean distance fields.
IEEE Transactions on Visualization and Computer Graphics (IEEE VIS '07), 13(6), 2007, 1432–1439.

[14] Oliver G. Staadt, Vijay Natarajan, Gunther H. Weber, David F. Wiley, and Bernd Hamann.
Interactive processing and visualization of image data for biomedical and life science applications.
Auer, M., Peng, H. and Singh, A., eds., *BMC Cell Biology* (special issue), 8:S10, 2007.

[15] Vijay Natarajan, Yusu Wang, Peer-Timo Bremer, Valerio Pascucci, and Bernd Hamann.
Segmenting molecular surfaces.
Computer Aided Geometric Design, 23(6), 2006, 495–509.
(special issue on Applications of Geometric Modeling in the Life Sciences)

[16] Attila Gyulassy, Vijay Natarajan, Valerio Pascucci, Peer-Timo Bremer, and Bernd Hamann.
A topological approach to simplification of three-dimensional scalar fields.
IEEE Transactions on Visualization and Computer Graphics, 12(4), 2006, 474–484.
(**invited paper in special issue** on IEEE Conf. Visualization, 2005)

[17] Vijay Natarajan and Valerio Pascucci.
A topological method for analysis of 3D scalar functions.
Computer Graphics and Geometry, 8(1), 2006, 66–76.
(**invited paper in special issue** on Intl. Conf. Shape Modeling and Applications, 2005)

[18] Vijay Natarajan and Herbert Edelsbrunner.
Simplification of three-dimensional density maps.
IEEE Transactions on Visualization and Computer Graphics, 10(5), 2004, 587–597.

[19] Kree Cole-Mclaughlin, Herbert Edelsbrunner, John Harer, Vijay Natarajan, and Valerio Pascucci.
Loops in Reeb graphs of 2-manifolds.
Discrete and Computational Geometry, 32(2), 2004, 231–244.
(**invited paper in special issue** on 19th Annual Symposium on Computational Geometry, 2003)

[20] B.S. Panda, Vijay Natarajan, and Sajal K. Das.
Parallel algorithms for Hamiltonian 2-separator chordal graphs.
Parallel Processing Letters, 12(1), 2002, 51–64.

Refereed Conference Papers
[Conference proceedings that appeared as a journal issue are listed under journal papers]

[1] Preeti Malakar, Vijay Natarajan, and Sathish Vadhiyar.
INST: An integrated steering framework for critical weather applications.
ICCS 2011: Proc. International Conference on Computational Science, Procedia Computer Science, 4, 2011, 116–125.

[2] Preeti Malakar, Vijay Natarajan, and Sathish Vadhiyar.
An adaptive framework for simulation and online remote visualization of critical climate applications in resource-constrained environments.
SC 2010: Proc. IEEE/ACM Supercomputing, 2010, 10.1–10.11.

[3] Harish Doraiswamy and Vijay Natarajan.
Efficient output-sensitive construction of Reeb graphs.
ISAAC '08: Proc. Intl. Symp. Algorithms and Computation, LNCS 5369, Springer-Verlag, 2008, 557–568.

[4] Scott E. Dillard, Vijay Natarajan, Gunther H. Weber, Valerio Pascucci, and Bernd Hamann.
Tessellation of quadratic elements.
ISAAC '06: Proc. Intl. Symp. Algorithms and Computation, LNCS 4288, Springer-Verlag, 2006, 722–731.

[5] Ichitaro Yamazaki, Vijay Natarajan, Zhaojun Bai, and Bernd Hamann.
Segmenting point sets.
SMI '06: Proc. IEEE Intl. Conf. Shape Modeling and Applications, 2006, 4–13.

[6] Attila Gyulassy, Vijay Natarajan, Valerio Pascucci, Peer-Timo Bremer, and Bernd Hamann.
Topology-based simplification for feature extraction from 3D scalar fields.
VIS '05: Proc. IEEE Conf. Visualization, 2005, 535–542.

[7] Vijay Natarajan and Valerio Pascucci.
Volumetric data analysis using Morse-Smale complexes.
SMI '05: Proc. Intl. Conf. Shape Modeling and Applications, 2005, 320–325.

[8] Michael Schlemmer, Ingrid Hotz, Vijay Natarajan, Bernd Hamann, and Hans Hagen.
Fast Clifford Fourier transformation for unstructured vector field data.
Proc. Intl. Conf. Numerical Grid Generation in Computational Field Simulations, 2005, 101–110.

[9] Herbert Edelsbrunner, John Harer, Vijay Natarajan, and Valerio Pascucci.
Local and global comparison of continuous functions.
VIS '04: Proc. IEEE Conf. Visualization, 2004, 275–280.

[10] Kree Cole-Mclaughlin, Herbert Edelsbrunner, John Harer, Vijay Natarajan, and Valerio Pascucci.
Loops in Reeb graphs of 2-manifolds.
SoCG '03: Proc. ACM Symposium on Computational Geometry, 2003, 344–350.

[11] Herbert Edelsbrunner, John Harer, Vijay Natarajan, and Valerio Pascucci.
Morse-Smale complexes for piecewise linear 3-manifolds.
SoCG '03: Proc. ACM Symposium on Computational Geometry, 2003, 361–370.

[12] B.S. Panda, Vijay Natarajan, and Sajal K. Das.
Parallel algorithms for Hamiltonian 2-separator chordal graphs.
IPDPS '01: International Parallel and Distributed Processing Symposium, 2001.

Refereed Short Papers, Posters, and Videos

[1] Harish Doraiswamy and Vijay Natarajan.
Computing Reeb graphs as a union of contour trees.
Poster at *IEEE VisWeek*, 2011.

[2] Vijay Natarajan.
Derived scalar fields for visual analysis of multifield data.
In *Scientific Visualization – Dagstuhl Seminar 11231*, Min Chen and Hans Hagen and Charles D. Hansen and Arie Kaufman (eds.), Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, Germany, 2011.

[3] Dilip M. Thomas and Vijay Natarajan.
Feature preserving mesh simplification.
Poster at *Microsoft TechVista*, Pune, 2011.
(**Third Best Poster Award**)

[4] Vijeth Dinesha, Neeharika Adabala, and Vijay Natarajan.
Uncertainty visualization using HDR images.
Poster at *Eurographics / IEEE-VGTC Symposium on Visualization*, 2010.

[5] Harish Doraiswamy, Aneesh Sood, and Vijay Natarajan.
Constructing Reeb graphs using cylinder maps.
ACM Symposium on Computational Geometry, Video / Multimedia Track, 2010.

[6] Vijay Natarajan.
Jacobi sets.
In 09251 Abstracts Collection – Scientific Visualization, David S. Ebert and Eduard Gröller and Hans Hagen and Arie Kaufman (eds.), Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, Germany, 2010.

[7] Preeti Malakar, Vijay Natarajan, Sathish S. Vadhiyar, and Ravi S. Nanjundiah.
An integrated simulation and visualization framework for tracking cyclone Aila.
Student Research Symposium, HiPC, 2009.
(**Best Paper Award**)

[8] Preeti Malakar, Vijay Natarajan, Sathish S. Vadhiyar, and Ravi S. Nanjundiah.
An integrated simulation and visualization framework for tracking cyclone Aila.
Poster at *ATIP Workshop on High Performance Computing in India* (held in conjunction with Supercomputing 2009), Portland, Oregon, USA, 2009.

[9] Harish Doraiswamy and Vijay Natarajan.
Reeb graphs.
Poster at *Microsoft TechVista*, Chennai, 2008.

[10] Nicholas J. Huerta, Megan A. Murphy, Bobby Kansara, Vijay Natarajan, Gunther H. Weber, Dawn Y. Sumner, and Bernd Hamann.
3D reconstruction of intricate archean microbial structures using neutron computed tomography and serial sectioning.
Abstract No. IN43B-0331, *In Abstract Proceedings of American Geophysical Union (AGU) Fall Meeting 2005*, Eos Trans. AGU, 86(52).

Patents

[1] Vijay Natarajan. A method for in-place visualization of sensed data and a system thereof. Indian Patent Office, 766/CHE/2009, filed on April 2, 2009.

[2] Vijay Natarajan. In-place display of sensory data. US Patent Office, 12550199, filed on Aug 28, 2009.

Ph.D. Dissertation

Vijay Natarajan. Topological analysis of scalar functions for scientific data visualization.
Ph.D. Thesis, Department of Computer Science, Duke University, 2004.

Technical Reports

[1] Preeti Malakar, Vijay Natarajan, and Sathish S. Vadhiyar.
A Framework for Online Visualization and Simulation of Critical Weather Applications.
Technical Report, IISc-CSA-TR-2011-1, Computer Science and Automation, Indian Institute of Science, 2011.

[2] Vijay Natarajan and Rajesh Kumar. GMPOLY: A kernel level polyhedral solid modeler.
White paper, TATA ELXSI, 1999.

[3] Vijay Natarajan. On testing the necessary conditions for visibility graphs of simple polygons.
Research report, Tata Institute of Fundamental Research, Mumbai, India, 1998.

Invited Talks*

[1] *Topology of level sets: representation, computation, and applications*, CSE Department Seminar, The Ohio-State University, Columbus, USA, November 2011.

[2] *Computing and analyzing level-set topology for visualization*, Cosmic Web Morphology and Topology Workshop, Warsaw, Poland, July 2011.

[3] *Derived scalar fields for visual analysis of multifield data*, Dagstuhl Seminar on Scientific Visualization, Dagstuhl, Germany, June 2011.

[4] *Computing and analyzing level-set topology for graphics and visualization*, INRIA Rhône-Alpes, France, May 2011.

[5] *Computing and analyzing level-set topology for graphics and visualization*, Bangalore ACM SIGGRAPH Elements '11, Bangalore, India, March 2011.

[6] *Topology-based methods for visualization*, ICTS Workshop on Scientific Discovery through Intensive Data Exploration, Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore, India, February 2011.

[7] *Reeb graphs*, IMPECS Workshop on Geometric Computing, IIT Delhi, India, November 2010.

[8] *Reeb graphs*, GE John F. Welch Research Centre, Bangalore, India, January 2010.

[9] *Topological methods for visualization and shape analysis*, General Motors R&D, India Science Lab, Bangalore, India, December 2009.

*Excluding paper presentations at conferences and workshops

[10] *Scalar Field Visualization: Level-set Topology*, Dr. Homi J. Bhabha Birth Centenary Workshop on Introduction to Graph and Geometric Algorithms, IISc Bangalore, July 2009.

[11] *Jacobi Sets*, Dagstuhl Seminar on Scientific Visualization, Dagstuhl, Germany, June 2009.

[12] *Scalar Field Visualization: Level-set Topology*, Workshop on Introduction to Graph and Geometric Algorithms, BITS Pilani, January 2009.

[13] *Scientific Visualization*, Seminar on Trends in Computer Graphics Applications, M.S. Ramaiah School of Advanced Studies, Bangalore, November 2008.

[14] *Scalar Field Visualization: Level-set Topology*, Workshop on Introduction to Geometric Algorithms, IIT Kharagpur, November 2008.

[15] *Feature-directed Visualization*, Vivekananda University, Belur, West Bengal, October 2008.

[16] *Visualization for Data Understanding*, Workshop on High Performance Computing and Societal Applications, Sri Sathya Sai University, Prasanthi Nilayam, June 2008.

[17] *Topological Analysis for Data Visualization*, Invited talk in 73^{rd} Annual Conference of Indian Mathematical Society, December 2007.

[18] *Topologically Clean Distance Fields*, IIIT Hyderabad, December 2007.

[19] *Visualization for Data Understanding*, Keynote talk, Excitement of Research Workshop, IIIT Hyderabad, December 2007.

[20] *Topological Methods for Data Analysis and Visualization*, Sarnoff Corporation, Bangalore, India, March 2007.

[21] *Topological Methods for Data Analysis and Visualization*, GE John F. Welch Research Centre, Bangalore, India, December 2006.

[22] *Introduction to Visualization*, Siddaganga Institute of Technology, Tumkur, India, November 2006.

[23] *Critical points and flow structure for 3D scalar data*, Graphics lunch, Department of computer science, UC Berkeley, USA, February, 2005.

[24] *Critical points and flow structure for density data*, NSF site visit, BioGeometry project, Duke University, November 2003.

[25] *Simplification of 3-dimensional density maps*, Second annual meeting of NSF ITR BioGeometry project, Stanford University, October 2001.

Research Grants

Principal Investigator

$2008-2011$	Intel India (Rs. 18,00,000)	*Geometry computing on the GPU*	with Samvit Kaul (Intel collaborator)
$2008-2011$	Department of Science and Technology (Rs. 23,30,744)	*Multiscale methods for scientific visualization*	with P.C. Mathias (co-PI)

Co-Principal Investigator

$2007-2012$	Department of Science and Technology (Rs. 3,00,56,400)	*DST Center for Mathematical Biology*	with Govindan Rangarajan (PI) and 18 co-PIs

2007 – 2008	International Swiss Bilateral Research Initiative (8,500 Swiss Francs)	*Point based graphics and geometry*	with Renato Pajarola
Aug-Sep 2006	Lawrence Livermore National Laboratory ($17,231)	*Analysis and visualization of scientific data using topology-based methods*	with Bernd Hamann (PI) and Gunther H. Weber (Co-PI)
Apr-Sep 2005	Lawrence Livermore National Laboratory ($74,613)	*Topological analysis for scientific visualization*	with Bernd Hamann (PI) and Gunther H. Weber (Co-PI)

International Collaborator

2007 – 2010	National Science Foundation, USA ($300,000)	*Topology-based methods for analysis and visualization of noisy data*	with Bernd Hamann (PI), Valerio Pascucci (co-PI), Gunther Weber (Senior Personnel), and Gerik Scheuermann (International Collaborator)

Teaching

Jan 2011	(SERC, IISc)	SE 294: Data Analysis and Visualization
Aug 2010	(CSA, IISc)	E0 271: Computer Graphics
Jan 2010	(CSA, IISc)	E0 373: Topological Methods for Visualization
Aug 2009	(CSA, IISc)	E0 271: Computer Graphics
Jan 2009	(SERC, IISc)	SE 294: Data Analysis and Visualization
Aug 2008	(CSA, IISc)	E0 271: Computer Graphics
Jan 2008	(CSA, IISc)	E0 373: Topological Methods for Visualization
Jan 2008	(SERC, IISc)	SE 294: Data Analysis and Visualization (jointly with P.C. Mathias and Debnath Pal)
Aug 2007	(CSA, IISc)	E0 271: Computer Graphics
Jan 2007	(CSA, IISc)	E0 373: Topological Methods for Visualization
Spring 2006	(UC Davis)	ECS 289L: Morse Theory for Data Analysis and Visualization

Advising and Mentoring Activities[†]

Dilip M. Thomas	Ph.D. (CSA)	2009-present	*Symmetry in scalar fields*
Senthilnathan M	Ph.D. (CSA)	2009-present	
Nitin Singh	Ph.D. (Interdisciplinary Mathematical Sciences)	2009-present (jointly advised by Basudeb Datta, MATH)	
Preeti Malakar	Ph.D. (CSA)	2008-present (jointly advised by Sathish Vadhiyar, SERC)	*Integrated parallelization of computations and visualization*
Nithin Shivashankar	Ph.D. (CSA)	2008-present	*Morse-Smale complex: computation and applications*

[†]Thesis/Project advisor unless otherwise specified

Harish Doraiswamy	Ph.D. (CSA)	2008-present	*Reeb graph*
Suthambhara N	Ph.D. (CSA)	2007-present	*Visual analysis of interactions in multi-field scientific data*
Raghavendra G. S.	M.Sc. (Engg.) (CSA)	2008-present	*Modeling cavities and pockets in proteins*
Kanuj Kumar	M.Sc. (Engg.) (CSA)	2007-present	*Reconstruction of 3D neuronal structures*
Talha Bin Masood	M.E. (CSA)	2011-present	*Symmetry detection in scalar fields*
Debasish Tapna	M.E. (CSA)	2010 – 2011	*Topology preserving subsampling*
Vijeth Dinesha	M.E. (CSA)	2009 – 2010	*Uncertainty visualization using HDR volume rendering*
Dilip M. Thomas	M.E. (CSA)	2008 – 2009	*Topology preserving mesh simplification*
Sandeep Chakradhari	M.E. (CSA)	2007 – 2008	*Visualization of automation system architecture*
Arun Kumar Reddy	M.E. (CSA)	2007 – 2008	*Shape descriptors for protein molecules*
Sumit Kumar	M.E. (CSA)	2007 – 2008	*Visualization of biomolecular surfaces*
Sonali D. Patil	Project Assistant	September 2011-present	*Molecular Visualization*
Shantanu Choudhary	Project Assistant	July 2010-August 2011	*Multifield visualization*
Aneesh Sood	Project Assistant	June 2009-June 2010	*Reeb graphs*
Nitesh Kumar	Junior Research Fellow (DST Centre for Mathematical Biology, with Prof. S.K. Sikdar)	Feb-June 2008	*Segmentation of neurons from confocal microscopy images*
Rajesh Bhasin	Intern (BITS Pilani, Goa)	June-July 2008	*Protein Viewer*
Attila Gyulassy	Ph.D. (UC Davis)	2004-2008 (research mentor)	*Efficient topology-based methods for analysis and visualization of three-dimensional scalar fields*
Ichitaro Yamazaki	Ph.D. (UC Davis)	2004-2008 (research mentor)	*Segmentation of point samples*
Harnit Singh	Undergraduate researcher (UC Davis)	Jan-July 2005 (co-supervisor)	*Topology-based segmentation of molecular surfaces*

Service

Department and University Service

Indian Institute of Science

2011-present	Member, SERC user support committee, Supercomputer Education and Research Centre
2011-present	Member, CSA second floor building committee, Department of Computer Science and Automation
2009-present	Member, Electrical Sciences division webpage committee, Divisional of Electrical Sciences
2008	Joint Coordinator, Showcase committee, IISc centenary conference, Department of Computer Science and Automation, Supercomputer Education and Research Centre
2008-present	Member, Department curriculum committee, Department of Computer Science and Automation
2007-present	Coordinator, CSA webpage committee, Department of Computer Science and Automation
$2007-2009$	Member, FIST implementation committee, Department of Computer Science and Automation
2006-present	Member, Research students admission committee, Department of Computer Science and Automation
2006-present	Member, Research students admission committee, Supercomputer Education and Research Centre

Department of Computer Science, Duke University

$2003-2004$	Graduate student liaison
$2001-2003$	Representative of the department to the Graduate and Professional Student Council
$2000-2004$	Member of the graduate student recruitment committee

Professional service

- Program committee member
  - EuroVis 2012, Vienna, Austria, June 2012.
  - IEEE Symposium on Large-Scale Data Analysis and Visualization (LDAV 2011), Providence, USA, October 2011.
  - International Workshop on Topology-Based Methods in Data Analysis and Visualization (TopoInVis 2011), Zurich, Switzerland, April 2011.
  - IEEE Visualization (Vis 2010), Salt Lake City, Utah, USA, 2010.
  - EuroVis 2009, Berlin, Germany, June 2009.
  - International Workshop on Topology-Based Methods in Data Analysis and Visualization (TopoInVis 2009), Snowbird, Utah, USA, February 2009.
  - International Symposium on Volume Graphics (VG 08), Los Angeles, California, USA, August 2008.
  - Symposium on Point-Based Graphics (PBG 08), Los Angeles, California, USA, August 2008.
  - International Symposium on Volume Graphics (VG 07), Prague, Czech Republic, September 2007.
  - International Workshop on Topology-based Methods in Visualization (TopoInVis 2007), Leipzig, Germany, March 2007.
- Organizing committee member
  - FSTTCS 2008
- Reviewer for
  - ACM Transactions on Graphics
  - IEEE Transactions on Visualization and Computer Graphics
  - Journal on Computer Aided Geometric Design
  - Discrete and Computational Geometry
  - Computational Geometry: Theory and Applications
  - Computer Graphics Forum
  - Computers and Graphics
  - Nucleic Acids Research
- Reviewer for
  - IEEE Conference on Visualization
  - ACM Symposium on Computational Geometry

  - ACM Symposium on Solid Modeling
  - ACM Symposium on Theory of Computing
  - Eurovis: Eurographics / IEEE VGTC Symposium on Visualization
  - Eurographics Symposium on Geometry Processing
  - IARCS Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS)
  - International Meshing Roundtable
  - International Symposium on Volume Graphics
  - SMI: International Conference on Shape Modeling and Applications
  - Symposium on Point-Based Graphics
- Proposal Reviewer for
  - NSA Mathematical Sciences Grant Program, USA
  - DST, India
- Member of
  - Association for Computing Machinery (ACM)
  - Institute of Electrical and Electronics Engineers, Inc. (IEEE)
  - IEEE Computer Society
  - Bangalore ACM SIGGRAPH Core Committee