

# HONG QIN

## Work Address

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## Home Address

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- Background**
- Born on June 18, 1964
  - Born in Beijing, P.R. China
  - U.S. Citizen
  - Married, one child

- Major Research Interests**
- Computer Graphics
  - Geometric and Physics-Based Modeling
  - Computer Aided Design
  - Computer Integrated Manufacturing
  - Computer Aided Geometric Design
  - Virtual Environments
  - Virtual Engineering
  - Animation, Simulation, and Robotics

- Other Research Interests**
- Finite Element Analysis and Numerical Methods
  - Visualization, Vision, and Medical Imaging
  - User Interaction and Human-Computer Interface
  - Scientific Computing
  - Applied Mathematics

- Teaching Interests**
- Computer Graphics
  - Geometric and Physics-Based Modeling
  - Computer Aided Design
  - Virtual Reality
  - Scientific Visualization
  - Computer Animation and Simulation
  - Numerical Techniques and Analysis
  - Human-Computer Interaction

- Education**
- Ph.D., University of Toronto, 1995** Toronto, Canada  
Doctor of Philosophy in Computer Science, specializing in Computer Graphics and Geometric Modeling (September, 1995). Thesis Title: *D-NURBS: Dynamic Non-Uniform Rational B-Splines*. Thesis Supervisor: Professor Demetri Terzopoulos (Computer Science, University of Toronto).
- M.Sc., Peking University, 1989** Beijing, P.R. China  
Master of Science in Computer Science (July, 1989). Thesis Title: *Optimal Algorithm and Software Implementation of Structural Analysis for Biological Molecules*. Thesis Supervisor: Professor Gong-Ben Wang (Computer Science, Peking University).
- B.Sc., Peking University, 1986** Beijing, P.R. China  
Bachelor of Science in Computer Science (July, 1986). Thesis Title: *Initiative Research on GO Expert System*. Thesis Supervisor: Professor Gong-Ben Wang (Computer Science, Peking University).
- Professional Experience**
- STATE UNIVERSITY OF NEW YORK AT STONY BROOK, DEPARTMENT OF COMPUTER SCIENCE  
Stony Brook, New York, USA  
[August, 2006 – present]  
Full professor (with tenure) in computer science.
- STATE UNIVERSITY OF NEW YORK AT STONY BROOK, DEPARTMENT OF COMPUTER SCIENCE  
Stony Brook, New York, USA  
[August, 2001 – July, 2006]  
Associate professor (with tenure) in computer science.
- STATE UNIVERSITY OF NEW YORK AT STONY BROOK, DEPARTMENT OF COMPUTER SCIENCE  
Stony Brook, New York, USA  
[September, 1997 – July, 2001]  
Assistant professor in computer science.
- UNIVERSITY OF FLORIDA, DEPARTMENT OF COMPUTER AND INFORMATION SCIENCE AND ENGINEERING  
Gainesville, Florida, USA  
[December, 1995 – October, 1997]  
Assistant professor in computer and information science and engineering.
- UNIVERSITY OF TORONTO, DEPARTMENT OF COMPUTER SCIENCE  
Toronto, Canada  
[September, 1995 – December, 1995]  
Research scientist and postdoctoral fellow in computer science.
- UNIVERSITY OF TORONTO, DEPARTMENT OF COMPUTER SCIENCE  
Toronto, Canada  
[August, 1991 – September, 1995]  
Ph.D. candidate in computer science. Research assistant in computer science. Teaching assistant in undergraduate and graduate computer science courses.
- UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, DEPARTMENT OF COMPUTER SCIENCE  
Chapel Hill, North Carolina, USA

[August, 1990 – July, 1991]

Ph.D. candidate in computer science. Research assistant in computer science.  
Teaching assistant in graduate computer science courses.

NORTH-CHINA INSTITUTE OF COMPUTING TECHNOLOGY      Beijing, P.R. China  
[July, 1989 – August, 1990]

Research scientist and senior engineer in computer network and telecommunication.

PEKING UNIVERSITY, DEPARTMENT OF COMPUTER SCIENCE

Beijing, P.R. China

[August, 1986 – July, 1989]

Research assistant in computer science. Teaching assistant in graduate computer  
science courses.

## **Honors and Awards**

Research Excellence Award, Department of Computer Science, State University of  
New York at Stony Brook, August, 2004.

ACM Solid Modeling and Applications Symposium Best Paper Award, Genova,  
Italy, June 2004.

Alfred P. Sloan Research Fellow, 2001 – 2005.

Honda Initiation Grant Award, 2001.

NSF ITR Grant Award, National Science Foundation (NSF), 2000 – 2003.

NSF CAREER Award, National Science Foundation (NSF), 1997 – 2001.

University of Toronto Open Doctoral Fellowship, 1991 – 1993.

International Student Differential Fee Waiver Scholarship, University of Toronto,  
1991 – 1993.

Best Graduate Award, Peking University, Beijing, 1986.

Honor Student Award, Peking University, Beijing, 1983 – 1985.

Silver Medal of National High School Mathematics Competition, Beijing, 1982.

Bronze Medal of Metro-Beijing Junior High School Mathematics Competition, Bei-  
jing, 1980.

## **Grants**

Principal Investigator, “SGER: Exploring Digital Sculpture with Two-hand Hap-  
tics,” National Science Foundation, \$153,544, January 2006 to January 2007.

Co-Principal Investigator, “ITR: Intelligent Deformable Models,” National Sci-  
ence Foundation, \$1,240,000, September 2003 to August 2007 (\$300,000 for Stony  
Brook, a collaborative research project among SUNY at Stony Brook, New York  
University, Stanford University, and UCLA, with Demetri Terzopoulos from New  
York University as PI, Ronald Fedkiw from Stanford University and Stanley Osher  
from UCLA as another two co-PIs).

Principal Investigator, “Visualization/MASSIVE: Multiresolution, Adaptive, Subdivision Surfaces for Interactive Visualization and Exploration,” National Science Foundation, \$350,002, (additional \$36,000 university matching fund from SUNY at Stony Brook), September 2003 to August 2006.

Principal Investigator, “Parallel Software Development for BNL Aerosol Chemical Transport and Transformation Model,” Brookhaven National Laboratory, \$27,062, November 2001 to October 2002.

Principal Investigator, “Parallel Computation Techniques and System Development for Chemical Transport Modeling and Simulation,” Brookhaven National Laboratory, \$15,432, May 2001 to November 2001.

2001 Sloan Research Fellowship, \$40,000, September 2001 to September 2003.

Principal Investigator, “A Haptics-Based Interface and Interactive Sculpting System for Virtual Environments,” National Science Foundation, \$546,446, (additional \$100,000 university matching fund from SUNY at Stony Brook), July 2001 to June 2004 (Arie Kaufman as co-PI).

Principal Investigator, “Novel Engineering Design Techniques for the Next-Generation, Integrated CAE/CAD/CIM in Automobile Industry,” Sensor CAT of New York State, \$8,000, January 2001 to December 2001.

Principal Investigator, “Physics-Based Technology and System for the Next-Generation, Integrated CAE/CAD/CIM,” Honda Initiation Grant Award, \$30,000, January 2001 to December 2001 (also see <http://research.honda.com>).

Principal Investigator, “ITR/HCI: An Interactive Graphical Modeling System based on Dynamic Subdivision Splines,” National Science Foundation Information Technology Research (ITR) Initiative, \$450,000, (additional \$55,096 university matching fund from SUNY at Stony Brook), September 2000 to August 2003.

Software Gift Donation from Structural Dynamics Research Corporation (SDRC), SDRC I-DEAS software system, \$158,000 per user, 28 simultaneous users, total \$4,424,000 to SUNY at Stony Brook.

Principal Investigator, “Graphical Modeling, Statistical Analysis, and Visualization of Large Warehouse Datasets,” SUNY SPIR program and Robocom Systems International, \$26,167, January 2000 to July 2000 (with Dr. Ye from AMS of SUNY at Stony Brook).

Principal Investigator, “A Software Tool for Graphical Understanding and Decision Making in Large Warehouse Datasets,” SUNY SPIR program and Robocom Systems International, \$38,496, June 2000 to December 2000 (with Dr. Ye from AMS of SUNY at Stony Brook).

Principal Investigator, “Physics-Based Computer Aided Geometric Design: Theory and Applications,” National Science Foundation CAREER Award, \$230,000, May 1997 to May 2001.

Principal Investigator, “A Physics-Based Geometric Modeling and Design System,” National Science Foundation Research Grant, \$271,000, January 1997 to January 2000.

Principal Investigator, “An Interactive, Physics-Based, Computer-Integrated Design Environment for Automotive CAD/CAM/CAE,” Ford Motor Company, \$37,500, May 1997 to May 1999.

**Journal Publications** Please note that, the citation data (i.e., the number of citations) for journal and conference publications come directly from internet search via Google Scholar (search engine). The citation information is applicable for both journal and conference publications. If not provided for certain papers below, it actually means that no citations were found via Google Scholar Search. The citation data were obtained via either paper title search or paper author search, and all the citation information can be easily verified.

“A Unified Subdivision Approach for Multi-dimensional Non-manifold Modeling,” Y.-S. Chang and H. Qin, *Computer Aided Design*, 2006, to appear.

“Meshless Thin-Shell Simulation Based on Global Conformal Parameterization,” X. Guo, X. Li, Y. Bao, X. Gu, and H. Qin, *IEEE Transactions on Visualization and Computer Graphics*, **12**(3): 375–385, May/June 2006.

“Manifold Splines,” X. Gu, Y. He, and H. Qin, *Graphical Models*, **68**(3): 237–254, May 2006.

“Surface Completion for Shape and Appearance,” S. Park, X. Guo, H. Shin, and H. Qin, *The Visual Computer*, **22**(3): 168–180, March 2006.

“Automatic Shape Control of Triangular B-Splines of Arbitrary Topology,” Y. He, X. Gu, and H. Qin, *Journal of Computer Science and Technology*, **21**(2): 232–237, March, 2006 (Special Issue on Recent Advances in Computer Graphics).

“Real-time Meshless Deformation,” X. Guo and H. Qin, *Computer Animation and Virtual Worlds*, **16**(3 & 4): 189–200, July, 2005. (Cited by 1)

“Physically-based Morphing of Point-sampled Surfaces,” Y. Bao, X. Guo, and H. Qin, *Computer Animation and Virtual Worlds*, **16**(3 & 4): 509–518, July, 2005. (Cited by 2)

“DigitalSculpture: A Subdivision-based Approach to Interactive Implicit Surface Modeling,” K.T. McDonnell, Y. Chang, and H. Qin, *Graphical Models*, **67**(4): 347–369, July, 2005. (Cited by 1)

“Interactive Shape Modeling using Lagrangian Surface Flow,” Y. Duan, J. Hua, and H. Qin, *The Visual Computer*, **21**(5): 279–288, June, 2005. (Cited by 2)

“Trivariate Simplex Splines for Inhomogeneous Solid Modeling in Engineering Design,” J. Hua, Y. He, and H. Qin, *ASME Transactions, Journal of Computing and*

*Information Science in Engineering (JCISE)*, **5**(2): 149–157, June, 2005. (Cited by 1)

“Dynamic PDE-based Surface Design Using Geometric and Physical Constraints,” H. Du and H. Qin, *Graphical Models*, **67**(1): 43–71, January, 2005. (Cited by 1)

“Enhancing Interactive Editing on Point Set Surfaces Through Touch-based Haptics,” X. Guo, J. Hua, and H. Qin, *IEEE Computer Graphics and Applications*, **24**(6): 31–39, November/December, 2004. (Cited by 1)

“Haptics-based Dynamic Implicit Solid Modeling,” J. Hua and H. Qin, *IEEE Transactions on Visualization and Computer Graphics*, **10**(5): 574–586, September/October, 2004. (Cited by 5)

“A Shape Design System Using Volumetric Implicit PDEs,” H. Du and H. Qin, *Computer Aided Design*, **36**(11): 1101–1116, September, 2004, (special issue on Solid Modeling Theory and Applications). (Cited by 1)

“Interpolatory, Solid Subdivision of Unstructured Hexahedral Meshes,” K.T. McDonnell, Y. Chang, and H. Qin, *The Visual Computer*, **20**(6): 418–436, August, 2004. (Cited by 3)

“Scalar-Function-Driven Editing on Point Set Surfaces,” X. Guo, J. Hua, and H. Qin, *IEEE Computer Graphics and Application*, **24**(4): 43–52, July/August 2004. (Cited by 3)

“HapticFlow: PDE-based Mesh Editing with Haptics,” Y. Duan, J. Hua, and H. Qin, *Computer Animation and Virtual Worlds*, **15**(3-4): 193–200, July, 2004. (Cited by 3)

“A Subdivision-based Deformable Model for Surface Reconstruction of Unknown Topology,” Y. Duan and H. Qin, *Graphical Models*, **66**(4): 181–202, July, 2004. (Cited by 1)

“Scalar-Field-Guided Adaptive Shape Deformation and Animation,” J. Hua and H. Qin, *The Visual Computer*, **20**(1): 47–66, April, 2004. (Cited by 2)

“Dynamic Sculpting and Animation of Free-form Subdivision Solids,” K.T. McDonnell and H. Qin, *The Visual Computer*, **18**(2): 81–96, March, 2002. (Cited by 18)

“A Novel Optimization Approach to The Effective Computation of NURBS Knots,” H. Xie and H. Qin, *International Journal of Shape Modeling*, **7**(2): 199–227, December, 2001 (Special Issue on the International Conference on Shape Modeling and Applications - SMI2001). (Cited by 3)

“A Novel Haptics-Based Interface and Sculpting System for Physics-Based Modeling and Design,” F. Dacheil, H. Qin, and A. Kaufman, *Computer Aided Design*, **33**(5): 403–420, April, 2001. (Cited by 19)

“A Novel FEM-Based Dynamic Framework For Subdivision Surfaces,” C. Mandal, H. Qin and B.C. Vemuri, *Computer Aided Design*, **32**(8&9): 479–497, 2000 (Special Issue on Solid Modeling). (Cited by 31)

“Dynamic Modeling of Butterfly Subdivision Surfaces,” C. Mandal, H. Qin and B.C. Vemuri, *IEEE Transactions on Visualization and Computer Graphics*, **6**(3): 265–287, July-September, 2000. (Cited by 18)

“Dynamic Catmull-Clark Subdivision Surfaces,” H. Qin, C. Mandal and B.C. Vemuri, *IEEE Transactions on Visualization and Computer Graphics*, **4**(3): 215–229, July-September, 1998. (Cited by 57)

“Triangular NURBS and Dynamic Generalizations,” H. Qin and D. Terzopoulos, *Computer Aided Geometric Design*, **14**(4): 325–347, 1997. (Cited by 20)

“Physics-Based Geometric Design,” H. Qin, *International Journal of Shape Modeling*, **2**(2 & 3): 139–188, 1996. (Cited by 7)

“D-NURBS: A Physics-Based Geometric Design Framework,” H. Qin and D. Terzopoulos, *IEEE Transactions on Visualization and Computer Graphics*, **2**(1): 85–96, March, 1996. (Cited by 60)

“Dynamic NURBS Swung Surfaces for Physics-Based Shape Design,” H. Qin and D. Terzopoulos, *Computer Aided Design*, **27**(2): 111–127, February, 1995. (Cited by 31)

“Dynamic NURBS with Geometric Constraints for Interactive Sculpting,” D. Terzopoulos and H. Qin, *ACM Transactions on Graphics*, **13**(2): 103–136, April, 1994. (Cited by 131)

“The Program and Algorithm for Optimal Biological Sequence Alignment,” H. Qin and G. Wang, *Acta Scientiarum Naturalium Universitatis Pekinensis*, **27**(1): 51–60, January, 1991.

**Submitted  
Journal  
Papers**

“Design and Analysis of Optimization Methods for Subdivision Surface Fitting,” K.-S. D. Cheng, W. Wang, H. Qin, K.-Y. K. Wong, H. Yang, and Y. Liu, *IEEE Transactions on Visualization and Computer Graphics*, June, 2006, under review.

“A Novel Framework for Physically Based Sculpting and Animation of Free-form Solids,” K.T. McDonnell and H. Qin, *Graphical Models*, May, 2006, under review.

“Spherical Splines for Genus Zero Shape Modeling,” Y. He, X. Gu, and H. Qin, *IEEE Transactions on Visualization and Computer Graphics*, November, 2005, under review.

“A Unified Subdivision Approach for Multi-dimensional Non-Manifold Modeling,” Y. Chang and H. Qin, *Computer-Aided Design*, September, 2005, under review.

“A PDE-Based Deformable Surface for Shape Reconstruction,” Y. Duan, L. Yang, H. Qin, D. Samaras, and H.-K. Zhao, *Computer Vision and Image Understanding*, April, 2005, under review.

“Triangular B-splines with Free Knots,” Y. He, H. Qin, and X. Gu, *Computer Aided Geometric Design*, July, 2004, under review.

- Conference Publications** “Manifold T-splines,” Y. He, K. Wang, H. Wang, X. Gu, and H. Qin, *Proceedings of Geometric Modeling and Processing 2006*, July 26-28, 2006, Pittsburgh, Pennsylvania, USA, to appear.
- “Spline Thin-Shell Simulation of Manifold Surfaces,” K. Wang, Y. He, X. Guo, X. Gu, and H. Qin, *Proceedings of Computer Graphics International 2006*, June 26-28, 2006, Zhejiang University, Hangzhou, China, to appear.
- “Shape Topics: A Compact Representation and New Algorithms for 3D Partial Shape Retrieval,” Y. Liu, H. Zha, and H. Qin, *Proceedings of IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, June 17-22, 2006, New York City, New York, USA, to appear.
- “The Generalized Shape Distributions for Shape Matching and Analysis,” Y. Liu, H. Zha, and H. Qin, *Proceedings of IEEE International Conference on Shape Modeling and Applications 2006*, June 14-16, 2006, Matsushima, JAPAN, to appear.
- “Curves-on-Surfaces: A General Shape Comparison Framework,” X. Li, Y. He, X. Gu, and H. Qin, *Proceedings of IEEE International Conference on Shape Modeling and Applications 2006*, June 14-16, 2006, Matsushima, JAPAN, to appear.
- “GPU-Accelerated Volume Splatting With Elliptical RBFs,” N. Neophytou, K. Mueller, K.T. McDonnell, W. Hong, X. Guan, H. Qin, and A. Kaufman, *Proceedings of the Eurographics/IEEE-VGTC Symposium on Visualization (EuroVIS 2006)*, May 8-10, 2006, Lisbon, Portugal, to appear.
- “Automatic Registration of Mammograms using Texture-based Anisotropic Features,” K. Wang, H. Qin, P.R. Fisher, and W. Zhao, *Proceedings of 2006 IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, Arlington, Virginia, USA, April 6-9, 2006, to appear.
- “Temporal Registration of 2D X-ray Mammograms using Triangular B-spline Finite Element Method (TBFEM),” K. Wang, Y. He, H. Qin, P.R. Fisher, and W. Zhao, *Proceedings of SPIE on Medical Imaging 2006 (Conference on Image Processing)*, San Diego, California, USA, February 11-16, 2006.
- “Brain Image Analysis Using Spherical Splines,” Y. He, X. Li, X. Gu, and H. Qin, *Proceedings of the Fifth International Workshop on Energy Minimization Methods in Computer Vision and Pattern Recognition, Lecture Notes in Computer Science (LNCS) 3757*, November 9-11, 2005, St. Augustine, Florida, USA, pages 633 – 644.
- “Topology-driven Surface Mappings with Robust Feature Alignment,” C. Carner, M. Jin, X. Gu, and H. Qin, *Proceedings of IEEE Visualization 2005*, October 23-28, 2005, Minneapolis, Minnesota, USA, pages 543 – 550.
- “Incorporating Rigid Structures in Non-rigid Registration using Triangular B-splines,” K. Wang, Y. He, and H. Qin, *Proceedings of the Third International Workshop on Variational, Geometric and Level Set Methods in Computer Vision (in conjunction with ICCV 2005), Lecture Notes in Computer Science (LNCS) 3752*, October 16, 2005, Beijing, China, pages 235 – 244.

“A  $C^1$  Globally Interpolatory Spline of Arbitrary Topology,” Y. He, M. Jin, X. Gu, and H. Qin, *Proceedings of the Third International Workshop on Variational, Geometric, and Level Set Methods in Computer Vision (in conjunction with ICCV2005), Lecture Notes in Computer Science (LNCS) 3752*, October 16, 2005, Beijing, China, pages 295 – 306.

“Shape and Appearance Repair for Incomplete Point Surfaces,” S. Park, X. Guo, H. Shin, and H. Qin, *Proceedings of the Tenth International Conference on Computer Vision (ICCV 2005), Volume II*, October 17-20, 2005, Beijing, China, pages 1260 – 1267.

“Physically-based Morphing of Point-sampled Surfaces,” Y. Bao, X. Guo, and H. Qin, *International Conference on Computer Animation and Social Agents (CASA 2005)*, October 17-19, 2005, Hong Kong. (Cited by 2)

“Real-time Meshless Deformation,” X. Guo and H. Qin, *International Conference on Computer Animation and Social Agents (CASA 2005)*, October 17-19, 2005, Hong Kong. (Cited by 1)

“A Hybrid Physics-Based Scheme for Interpolation Subdivision using Coupled Physics and Subdivision Coefficients,” S. Ray and H. Qin, *Proceedings of the 13th Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2005)*, October 12-14, 2005, Macao, China, pages 166 – 168.

“Fairing Triangular B-splines of Arbitrary Topology,” Y. He, and X. Gu, and H. Qin, *Proceedings of the 13th Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2005)*, October 12-14, 2005, Macao, China, pages 153 – 156. (Cited by 1)

“Design and Manipulation of Polygonal Models in a Haptic, Stereoscopic Virtual Environment,” J. Hua, Y. Duan, and H. Qin, *Proceedings of International Conference on Shape Modeling and Applications (SMI 2005)*, June 15-17, 2005, MIT, Cambridge, Massachusetts, pages 145 – 154. (Cited by 1)

“Rational Spherical Splines for Genus Zero Shape Modeling,” Y. He, X. Gu, and H. Qin, *Proceedings of International Conference on Shape Modeling and Applications (SMI 2005)*, June 15-17, 2005, MIT, Cambridge, Massachusetts, pages 82 – 91. (Cited by 3)

“Manifold Splines,” X. Gu, Y. He, and H. Qin, *Proceedings of ACM Symposium on Solid and Physical Modeling (SPM 2005)*, June 13-15, 2005, Cambridge, Massachusetts, pages 27 – 38. (Cited by 5)

“Direct Sketching of 3D Shapes on Polygonal Models,” Y. Duan, J. Hua, and H. Qin, *Proceedings of the Eighth Conference on Geometric Design and Computing*, 2004.

“Fitting Subdivision Surfaces to Unorganized Point Data using SDM,” Dominic Cheng, W. Wang, Hong Qin, Kenneth Wong, Huaiping Yang, and Yang Liu, *Proceedings of The 12th Pacific Conference on Computer Graphics and Applications*

(*Pacific Graphics 2004*), pages 16 – 24, Seoul, Korea, October 6-8, 2004. (Cited by 4)

“Surface Reconstruction of Noisy and Defective Data-Sets,” H. Xie, K.T. McDonnell, and H. Qin, *Proceedings of IEEE Visualization 2004*, pages 259 – 266, October 10-15, 2004, Austin, Texas. (Cited by 5)

“A Deformable Modeling Paradigm for 3D Shape Recovery from Visual Inputs,” Y. Duan and H. Qin, *Proceedings of the International Symposium on Computer Vision, Object Tracking, and Recognition*, August 30-31, 2004, Beijing, China, (Invited Paper).

“HapticFlow: PDE-Based Mesh Editing with Haptics,” Y. Duan, J. Hua, and H. Qin, *The 17th International Conference on Computer Animation and Social Agents (CASA2004)*, July, 2004, Geneva, Switzerland. (Cited by 3)

“A Hybrid Physics-Based Subdivision Technique Using Coupled Dynamic and Subdivision Parameters,” S. Ray and H. Qin, *Proceedings of the Computer Graphics International Conference (CGI2004)*, June 16-19, 2004, Heraklion, Crete, Greece, pages 44 – 51. (Cited by 1)

“Point Set Surface Editing Techniques based on Level-Sets,” X. Guo, J. Hua, and H. Qin, *Proceedings of the Computer Graphics International Conference (CGI2004)*, June 16-19, 2004, Heraklion, Crete, Greece, pages 52 – 59. (Cited by 1)

“Medial Axis Extraction and Shape Manipulation of Solid Objects Using Parabolic PDEs,” H. Du and H. Qin, *Proceedings of The Ninth ACM Symposium on Solid Modeling and Applications (Solid Modeling 2004)*, June 9-11, 2004, Genova, Italy, pages 25 – 35. (Cited by 2)

“Multiresolution Heterogeneous Solid Modeling and Visualization Using Trivariate Simplex Splines,” J. Hua, Y. He, and H. Qin, *Proceedings of the Ninth ACM Symposium on Solid Modeling and Applications (Solid Modeling 2004)*, June 9-11, 2004, Genova, Italy, pages 47 – 58, (Best Paper Award). (Cited by 2)

“A Framework for Multi-dimensional Adaptive Subdivision Objects,” Y. Chang and H. Qin, *Proceedings of the Ninth ACM Symposium on Solid Modeling and Applications (Solid Modeling 2004)*, June 9-11, 2004, Genova, Italy, pages 123 – 134. (Cited by 3)

“Shape Reconstruction from 3D and 2D Data Using PDE-Based Deformable Surfaces,” Y. Duan, L. Yang, H. Qin, and D. Samaras, *Proceedings of the Eighth European Conference on Computer Vision (Computer Vision - ECCV 2004), Part III*, May 11-14, 2004, Prague, Czech Republic, pages 238 – 251 (Lecture Notes in Computer Science 3023). (Cited by 11)

“Surface Reconstruction with Triangular B-splines,” Y. He and Hong Qin, *Proceedings of Geometric Modeling and Processing 2004 (GMP2004)*, April 13-15, 2004, Tsinghua University, Beijing, China, pages 279 – 287. (Cited by 4)

“2.5D Active Contour for Surface Reconstruction,” Y. Duan and H. Qin, *The Eighth International Workshop on Vision, Modeling, and Visualization (VMV*

2003), Munich, Germany, November 19-21, 2003, pages 431 – 439. (Cited by 1)

“Shape Design, Reconstruction, and Manipulation Using Volumetric Implicit PDEs,” (Abstract), H. Du and H. Qin, *The Eighth SIAM Conference on Geometric Design and Computing (SIAM-GD’03)*, Seattle, Washington, November 10-13, 2003.

“Sketch-based Adaptive Free-Form Deformation,” (Abstract), J. Hua, H. Xie, and H. Qin, *The Eighth SIAM Conference on Geometric Design and Computing (SIAM-GD’03)*, Seattle, Washington, November 10-13, 2003.

“Explicit Surface Flow for Mesh Editing,” (Abstract), Y. Duan, J. Hua and H. Qin, *The 8th SIAM Conference on Geometric Design and Computing*, November 10-13, 2003, Seattle, WA.

“Tangential-Flow Based Surface Reconstruction,” (Abstract), Y. Duan and H. Qin, *The 8th SIAM Conference on Geometric Design and Computing*, November 10-13, 2003, Seattle, WA.

“Dynamic Points: A Real-time Sculpting System on Point Set Surfaces,” (Abstract), X. Guo, J. Hua, and H. Qin, *The Eighth SIAM Conference on Geometric Design and Computing*, Seattle, WA, November 10-13, 2003.

“Optimization-driven Subdivision Surface Design,” (Abstract), H. Xie, J. Hua, and H. Qin, *The Eighth SIAM Conference on Geometric Design and Computing*, Seattle, WA, November 10-13, 2003.

“Voxels on Fire,” Y. Zhao, X. Wei, Z. Fan, A. Kaufman, and H. Qin, *Proceedings of IEEE Visualization 2003 (Vis’03)*, October 19-24, 2003, Seattle, Washington, pages 271 – 278. (Cited by 7)

“Piecewise  $C^1$  Continuous Surface Reconstruction of Noisy Point Cloud via Local Implicit Quadric Regression,” H. Xie, J. Wang, J. Hua, H. Qin, and A. Kaufman, *Proceedings of IEEE Visualization 2003 (Vis’03)*, October 19-24, 2003, Seattle, Washington, pages 91 – 98. (Cited by 12)

“Dynamic Sculpting and Deformation of Point Set Surfaces,” X. Guo and H. Qin, *Proceedings of the Eleventh Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2003)*, October 8-10, 2003, Canmore, Alberta, Canada, pages 123 – 130. (Cited by 5)

“Free-Form Deformations via Sketching and Manipulating Scalar Fields,” J. Hua and H. Qin, *Proceedings of the 8th ACM Symposium on Solid Modeling and Applications (SM’03)*, Seattle, Washington, June 16-20, 2003, pages 328 – 333. (Cited by 6)

“Interactive Shape Design Using Volumetric Implicit PDEs,” H. Du and H. Qin, *Proceedings of the 8th ACM Symposium on Solid Modeling and Applications (SM’03)*, Seattle, Washington, June 16-20, 2003, pages 235 – 246. (Cited by 4)

“An Interpolatory Subdivision for Volumetric Models over Simplicial Complexes,” Y. Chang, K. T. McDonnell, and H. Qin, *Proceedings of the International Confer-*

ence on Shape Modeling and Applications (SMI 2003), Seoul, Korea, May 12-15, 2003, pages 143 – 152. (Cited by 7)

“ElasticPaint: A Particle System for Feature Mapping with Minimum Distortion,” C. Carner and H. Qin, *Proceedings of The 16th International Conference on Computer Animation and Social Agents (CASA 2003)*, Rutgers University, New Brunswick, New Jersey, May 7-9, 2003, pages 60 – 67. (Cited by 1)

“2.5D Active Surface for Surface Reconstruction,” (Abstract), Y. Duan and H. Qin, *DIMACS Workshop on Surface Reconstruction*, April 30 - May 2, 2003, DIMACS Center, Rutgers University, Piscataway, NJ.

“Virtual Clay: Haptics-based Deformable Solids of Arbitrary Topology,” (invited paper) K. T. McDonnell and H. Qin, *Proceedings of the Second International Workshop on Articulated Motion and Deformable Objects (AMDO 2002)*, *Lecture Notes in Computer Science (LNCS 2492)*, Springer-Verlag, November 21-23, 2002, Palma de Mallorca, Spain, pages 1 – 20. (Cited by 2)

“Haptics-based Volumetric Modeling Using Dynamic Spline-based Implicit Functions,” J. Hua and H. Qin, *Proceedings of the Eighth IEEE/SIGGRAPH Symposium on Volume Visualization and Graphics 2002 (VolVis 2002)*, October 28-29, 2002, Boston, Massachusetts, pages 55 – 64. (Cited by 13)

“A Physics-based Framework for Subdivision Surface Design with Automatic Rules Control,” H. Xie and H. Qin, *Proceedings of the Tenth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2002)*, October 9-11, 2002, Beijing, P.R. China, pages 304 – 315. (Cited by 3)

“A New Solid Subdivision Scheme based on Box Splines,” Y. Chang, K.T. McDonnell, and H. Qin, *Proceedings of Seventh ACM Symposium on Solid Modeling and Applications (Solid Modeling 2002)*, June 17-21, 2002, Saarbruecken, Germany, pages 226 – 233. (Cited by 10)

“Dynamic Implicit Solids with Constraints for Haptic Sculpting,” J. Hua and H. Qin, *Proceedings of International Conference on Shape Modeling and Applications (SMI 2002)*, Banff, Alberta, Canada, May 17-22, 2002, pages 119 – 128. (Cited by 4)

“Dynamic NURBS with Time-varying Knot Vectors,” (Abstract), H. Xie and H. Qin, *The Seventh SIAM Conference on Geometric Design and Computing*, Sacramento, California, November 5-8, 2001, page 22.

“A Novel Subdivision-Based Deformable Model for Surface Reconstruction of Arbitrary Topology,” (Abstract), Y. Duan and H. Qin, *The Seventh SIAM Conference on Geometric Design and Computing*, Sacramento, California, November 5-8, 2001, page 22.

“Real-time Volume Sculpting System Using Implicit Functions,” (Abstract), J. Hua and H. Qin, *The Seventh SIAM Conference on Geometric Design and Computing*, Sacramento, California, November 5-8, 2001, pages 30 – 31.

“Physics-Based PDE Solids with Global and Local Constraints for Geometric Design,” (Abstract), H. Du and H. Qin, *The Seventh SIAM Conference on Geometric Design and Computing*, Sacramento, California, November 5-8, 2001, page 26.

“Haptic Sculpting of Volumetric Implicit Functions,” J. Hua and H. Qin, *Proceedings of the Ninth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2001)*, Tokyo, Japan, October 16-18, 2001, pages 254 – 264. (Cited by 19)

“Integrating Physics-Based Modeling with PDE Solids for Geometric Design,” H. Du and H. Qin, *Proceedings of the Ninth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2001)*, Tokyo, Japan, October 16-18, 2001, pages 198 – 207. (Cited by 8)

“A Novel Modeling Algorithm for Shape Recovery of Unknown Topology,” Y. Duan and H. Qin, *Proceedings of Eighth IEEE International Conference on Computer Vision (ICCV 2001)*, July 7-14, 2001, Vancouver, British Columbia, Canada, pages 402 – 409. (Cited by 4)

“Extracting Boundary Surface of Arbitrary Topology from Volumetric Datasets,” Y. Duan and H. Qin, *Proceedings of Joint IEEE TCVG and Eurographics Workshop on Volume Graphics 2001 (VG'01)*, June 21-22, 2001, Stony Brook, New York, pages 235 – 248. (Cited by 3)

“Novel Solver for Dynamic Surfaces,” S. Ray and H. Qin, *Proceedings of Graphics Interface 2001 (GI 2001)*, June 7-9, 2001, Ottawa, Ontario, Canada, pages 47 – 54. (Cited by 2)

“Intelligent Balloon: A Subdivision-Based Deformable Model For Surface Reconstruction Of Arbitrary, Unknown Topology,” Y. Duan and H. Qin, *Proceedings of the Sixth ACM Symposium on Solid Modeling and Applications (Solid Modeling 2001)*, June 6-8, 2001, Ann Arbor, Michigan, pages 47 – 58. (Cited by 7)

“FEM-Based Subdivision Solids for Dynamic and Haptic Interaction,” K.T. McDonnell and H. Qin, *Proceedings of Sixth ACM Symposium on Solid Modeling and Applications (Solid Modeling 2001)*, June 6-8, 2001, Ann Arbor, Michigan, pages 312 – 313. (Cited by 7)

“Hierarchical D-NURBS Surfaces and Their Physics-Based Sculpting,” M. Zhang and H. Qin, *Proceedings of International Conference on Shape Modeling and Applications (SMI 2001)*, May 7-11, 2001, Genova, Italy, pages 257 – 266. (Cited by 4)

“Automatic Knot Determination of NURBS for Interactive Geometric Design,” H. Xie and H. Qin, *Proceedings of International Conference on Shape Modeling and Applications (SMI 2001)* May 7-11, 2001, Genova, Italy, pages 267 – 276. (Cited by 10)

“Virtual Clay: A Real-time Sculpting System with Haptic Toolkits,” K.T. McDonnell, H. Qin, and R.A. Wlodarczyk, *Proceedings of 2001 ACM Symposium on*

*Interactive 3D Graphics*, Research Triangle Park, North Carolina, USA, March 19-21, 2001, pages 179 – 190. (Cited by 41)

“FEM-Based Dynamic Subdivision Splines,” (Invited Paper), H. Qin, *Proceedings of the Eighth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2000)*, Hong Kong, October 3-5, 2000, pages 184 – 191. (Cited by 1)

“Dynamic PDE Surfaces with Flexible and General Geometric Constraints,” H. Du and H. Qin, *Proceedings of the Eighth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2000)*, Hong Kong, October 3-5, 2000, pages 213 – 222. (Cited by 4)

“Direct Manipulation and Interactive Sculpting of PDE Surfaces,” H. Du and H. Qin, *Computer Graphics Forum (Proceedings of Eurographics 2000)*, **19**(3): C261 – C270, Interlaken, Switzerland, August 21-25, 2000. (Cited by 20)

“Dynamic Sculpting and Animation of Free-form Subdivision Solids,” K.T. McDonnell and H. Qin, *Proceedings of IEEE Computer Animation 2000*, Philadelphia, Pennsylvania, May 3-5, 2000, pages 126 – 133. (Cited by 2)

“Manipulating Butterfly Subdivision Surfaces with Forces,” (Abstract), C. Mandal, H. Qin, and B. C. Vemuri, *The Sixth SIAM Conference on Geometric Design*, Albuquerque, New Mexico, November 2-5, 1999, page 41.

“A Subdivision-Based Finite Element Method and its Applications,” (Abstract), C. Mandal, H. Qin, and B. C. Vemuri, *The Sixth SIAM Conference on Geometric Design*, Albuquerque, New Mexico, November 2-5 1999, pages 56 – 57.

“Haptic Manipulation of Virtual Spline Objects,” (Abstract), F. Dacheille, H. Qin, A. Kaufman, and J. El-Sana, *Sixth SIAM Conference on Geometric Design*, Albuquerque, New Mexico, November 2-5, 1999, page 40.

“A Novel FEM-Based Dynamic Framework For Subdivision Surfaces,” C. Mandal, H. Qin and B.C. Vemuri, *Proceedings of Fifth ACM Symposium on Solid Modeling and Applications (Solid Modeling 1999)*, Ann Arbor, Michigan, June 9-11, 1999, pages 191 – 202. (Cited by 31)

“Haptic Sculpting of Dynamic Surfaces,” F. Dacheille, H. Qin, A. Kaufman, and J. El-Sana, *Proceedings of 1999 Symposium on Interactive 3D Graphics*, Atlanta, Georgia, April 26-28, 1999, pages 103 – 110. (Cited by 21)

“A New Dynamic FEM-Based Subdivision Surface Model for Shape Recovery and Tracking in Medical Images,” C. Mandal, B.C. Vemuri, and H. Qin, *Lecture Notes in Computer Science, Proceedings of First International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI’98)*, Cambridge, Massachusetts, October 11-13, 1998, pages 753 – 760. (Cited by 8)

“Physics-Based Modeling Framework for Graphics, Computer-Aided Design, and Visualization,” H. Qin, *Proceedings of International Symposium on Computing and Microelectronics Technologies*, May 3, 1998, pages 250 – 267, Peking University Press.

“Shape Recovery Using Dynamic Subdivision Surfaces,” C. Mandal, B.C. Vemuri and H. Qin, *Proceedings of Sixth IEEE International Conference on Computer Vision (ICCV 1998)*, Bombay, India, January 4-7, 1998, pages 805 – 810. (Cited by 9)

“Dynamic Catmull-Clark Subdivision Surfaces,” (Abstract), C. Mandal, H. Qin and B.C. Vemuri, *The Fifth SIAM Conference on Geometric Design*, Nashville, Tennessee, November 3-6, 1997, page 30.

“Dynamic Smooth Subdivision Surfaces for Data Visualization,” C. Mandal, H. Qin and B.C. Vemuri, *Proceedings of IEEE Visualization’1997*, Phoenix, Arizona, October 19-24, 1997, pages 371 – 377. (Cited by 7)

“D-NURBS for Physics-Based Shape Modeling,” H. Qin, *Twenty-Third International Conference on Computer Graphics and Interactive Techniques (ACM SIGGRAPH’96 Technical Sketches)*, New Orleans, Louisiana, August 4-9, 1996.

“Dynamic Sculpting of Triangular NURBS Objects,” (Abstract), H. Qin and D. Terzopoulos, *The Fourth SIAM Conference on Geometric Design*, Nashville, Tennessee, November 6-9, 1995, page A24.

“D-NURBS,” (Invited Paper), H. Qin and D. Terzopoulos, *Proceedings of Third Pacific Conference on Computer Graphics and Applications (Pacific Graphics 1995)*, Seoul, South Korea, August, 1995, in *Fundamentals of Computer Graphics*, J. Chen *et al.* (eds.), World Scientific, Singapore, 1995, pages 455 – 474.

“Dynamic Manipulation of Triangular B-Splines,” H. Qin and D. Terzopoulos, *Proceedings of Third Symposium on Solid Modeling and Applications (Solid Modeling 1995)*, Salt Lake City, Utah, May 17-19, 1995, ACM Press, pages 351 – 360. (Cited by 16)

“Physics-Based NURBS Swung Surfaces,” H. Qin and D. Terzopoulos, *Proceedings of the Sixth IMA Conference on the Mathematics of Surfaces*, London, UK, September, 1994, in *The Mathematics of Surfaces VI*, G. Mullineux (ed.), Oxford University Press, Oxford, UK, 1996, pages 267 – 290. (Cited by 1)

“NURBS with Lagrangian Dynamics,” (Abstract), H. Qin and D. Terzopoulos, *The Third SIAM Conference on Geometric Design*, Tempe, Arizona, November 1-5, 1993, page A27.

**Submitted  
Conference  
Papers**

“GPU-based Conformal Flow on Surface,” K. Hegeman, H. Wang, X. Gu, M. Ashikhmin, and H. Qin, submitted to *Eurographics/ACM SIGGRAPH Symposium on Computer Animation*, under review.

“Manifold Splines with Single Extraordinary Point,” X. Gu, Y. He, M. Jin, F. Luo, H. Qin, and S.-T. Yau, submitted to *ACM Solid and Physical Modeling Symposium 2006*, under review.

“Curve Space on Surfaces,” X. Li, X. Gu, and H. Qin, submitted to *IEEE Conference on Computer Vision and Pattern Recognition*, 2006, under review.

**Other Publications** “Point-based Dynamic Deformation and Crack Propagation,” X. Guo and H. Qin, Technical Report, Department of Computer Science, SUNY at Stony Brook, October, 2004.

“Virtual Clay: A Real-time, Haptics-based Sculpting System,” K. T. McDonnell, H. Qin and R. A. Włodarczyk, In *Proceedings of Graduate Research Conference 2001*, Department of Computer Science, Stony Brook University, Stony Brook, NY, April 2001 (Won best paper/presentation award).

“Direct Manipulation of Butterfly Subdivision Surfaces: A Physics-based Approach,” C. Mandal, H. Qin B. C. Vemuri, UFL-CISE Technical Report TR98-009.

“Natural Terrain Modeling Using Subdivision Surfaces,” C. Mandal, H. Qin and B.C. Vemuri, UFL-CISE Technical Report TR98-020.

“A Novel FEM-based Dynamic Framework For Subdivision Surfaces,” C. Mandal, H. Qin, and B. C. Vemuri, UFL-CISE Technical Report TR98-021.

“Physics-Based Shape Modeling And Shape Recovery Using Multiresolution Subdivision Surfaces,” C. Mandal, H. Qin and B.C. Vemuri, UFL-CISE Technical Report TR99-001.

## **Conference Presentations**

“Spline Thin-Shell Simulation of Manifold Surfaces,” at *Computer Graphics International (CGI) 2006*, June 28, 2006, Zhejiang University, Hangzhou, P.R. China.

“The Generalized Shape Distributions for Shape Matching and Analysis,” at *The International Conference on Shape Modeling and Applications 2006 (SMI'06)*, June 15, 2006, Tohoku University, Sendai, JAPAN.

“Brain Image Analysis Using Spherical Splines,” at *The Fifth International Workshop on Energy Minimization Methods in Computer Vision and Pattern Recognition*, November 10, 2005, St. Augustine, Florida, USA.

“Incorporating Rigid Structures in Non-rigid Registration using Triangular B-splines,” at *The Third International Workshop on Variational, Geometric and Level Set Methods in Computer Vision (in conjunction with ICCV 2005)*, October 16, 2005, Beijing, China.

“A  $C^1$  Globally Interpolatory Spline of Arbitrary Topology,” at *The Third International Workshop on Variational, Geometric, and Level Set Methods in Computer Vision (in conjunction with ICCV 2005)*, October 16, 2005, Beijing, China.

“Shape and Appearance Repair for Incomplete Point Surfaces,” at *The Tenth International Conference on Computer Vision (ICCV 2005)*, October 19, 2005, Beijing, China.

“Surface Reconstruction of Noisy and Defective Data-Sets,” at *IEEE Visualization 2004*, October 14, 2004, Austin, Texas, U.S.A.

“Medial Axis Extraction and Shape Manipulation of Solid Objects Using Parabolic PDEs,” at *The Ninth ACM Symposium on Solid Modeling and Applications (Solid Modeling 2004)*, June 9-11, 2004, Genova, Italy.

“Multiresolution Heterogeneous Solid Modeling and Visualization Using Trivariate Simplex Splines,” at *The Ninth ACM Symposium on Solid Modeling and Applications (Solid Modeling 2004)*, June 9-11, 2004, Genova, Italy (Best Paper Award).

“Surface Reconstruction with Triangular B-splines,” at *Geometric Modeling and Processing 2004 (GMP2004)*, April 13-15, 2004, Tsinghua University, Beijing, China.

“Shape Design, Reconstruction, and Manipulation Using Volumetric Implicit PDEs,” at *The Eighth SIAM Conference on Geometric Design and Computing (SIAM-GD’03)*, Seattle, Washington, November 10-13, 2003.

“Sketch-based Adaptive Free-Form Deformation,” at *The Eighth SIAM Conference on Geometric Design and Computing (SIAM-GD’03)*, Seattle, Washington, November 10-13, 2003.

“Dynamic Points: A Real-time Sculpting System on Point Set Surfaces,” at *The Eighth SIAM Conference on Geometric Design and Computing (SIAM-GD’03)*, Seattle, WA, November 10-13, 2003.

“Optimization-driven Subdivision Surface Design,” at *The Eighth SIAM Conference on Geometric Design and Computing (SIAM-GD’03)*, Seattle, WA, November 10-13, 2003.

“Virtual Clay: Haptics-based Deformable Solids of Arbitrary Topology,” at *The Second International Workshop on Articulated Motion and Deformable Objects (AMDO 2002)*, Palma de Mallorca, Spain, November 21-23, 2002.

“A Physics-based Framework for Subdivision Surface Design with Automatic Rules Control,” at *The Tenth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2002)*, Beijing, P.R. China, October 9-11, 2002.

“Physics-Based CAGD: Theory, Methodology, Techniques, and Design Environments,” at *The First Chinese Conference on Geometric Design and Computing*, Qingdao, P.R. China, June 1, 2002.

“Subdivision: Its Past, Present, and Future (invited tutorial),” at *The Advanced Course Session of the First Chinese Conference on Geometric Design and Computing*, Qingdao, P.R. China, May 31, 2002.

“Dynamic NURBS with Time-varying Knot Vectors,” at *SIAM Conference on Geometric Design and Computing*, Sacramento, California, November 5-8, 2001.

“A Novel Subdivision-Based Deformable Model for Surface Reconstruction of Arbitrary Topology,” at *SIAM Conference on Geometric Design and Computing*, Sacramento, California, November 5-8, 2001.

“Real-time Volume Sculpting System Using Implicit Functions,” at *SIAM Conference on Geometric Design and Computing*, Sacramento, California, November 5-8, 2001.

“Physics-Based PDE Solids with Global and Local Constraints for Geometric Design,” at *SIAM Conference on Geometric Design and Computing*, Sacramento, California, November 5-8, 2001.

“Haptic Sculpting of Volumetric Implicit Functions,” at *The Ninth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2001)*, Tokyo, Japan, October 16-18, 2001.

“Integrating Physics-Based Modeling with PDE Solids for Geometric Design,” at *The Ninth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2001)*, Tokyo, Japan, October 16-18, 2001.

“Hierarchical D-NURBS Surfaces and Their Physics-Based Sculpting,” at *International Conference on Shape Modeling and Applications (SMI 2001)*, May 7-11, 2001, Genova, Italy.

“FEM-Based Dynamic Subdivision Splines,” at *The Eighth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2000)*, Hong Kong, October 3-5, 2000.

“Dynamic PDE Surfaces with Flexible and General Geometric Constraints,” at *The Eighth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2000)*, Hong Kong, October 3-5, 2000.

“Manipulating Butterfly Subdivision Surfaces with Forces,” at *The Sixth SIAM Conference on Geometric Design*, Albuquerque, New Mexico, November 2-5, 1999.

“A Subdivision-Based Finite Element Method and its Applications,” at *The Sixth SIAM Conference on Geometric Design*, Albuquerque, New Mexico, November 2-5, 1999.

“Haptic Manipulation of Virtual Spline Objects,” at *The Sixth SIAM Conference on Geometric Design*, Albuquerque, New Mexico, November 2-5, 1999.

“A Novel FEM-Based Dynamic Framework For Subdivision Surfaces,” At *The Fifth ACM Symposium on Solid Modeling and Applications (Solid Modeling 1999)*, Ann Arbor, Michigan, June 9-11, 1999.

“Physics-Based Modeling Framework for Graphics, Computer-Aided Design, and Visualization,” at *International Symposium on Computing and Microelectronics Technologies*, Peking University, May 3, 1998.

“Dynamic Catmull-Clark Subdivision Surfaces,” at *The Fifth SIAM Conference on Geometric Design*, Nashville, Tennessee, November 3-6, 1997.

“D-NURBS for Physics-Based Shape Modeling,” at *The Twenty-Third International Conference on Computer Graphics and Interactive Techniques (ACM Siggraph'96 Technical Sketches)*, New Orleans, Louisiana, August 4-9, 1996.

“Dynamic Sculpting of Triangular NURBS Objects,” at *The Fourth SIAM Conference on Geometric Design*, Nashville, Tennessee, November 6-9, 1995.

“Dynamic Manipulation of Triangular B-Splines,” at *The Third Symposium on Solid Modeling and Applications (Solid Modeling 1995)*, Salt Lake City, Utah, May 17-19, 1995.

“Physics-Based NURBS Swung Surfaces,” at *The Sixth IMA Conference on the Mathematics of Surfaces*, London, UK, September, 1994.

“Physics-Based Design Paradigms,” at *University of Toronto and University of Waterloo Computer Graphics Joint-Meeting*, Toronto, May, 1994.

“NURBS with Lagrangian Dynamics,” at *The Third SIAM Conference on Geometric Design*, Tempe, Arizona, November 1-5, 1993.

**Invited  
Talks**

“Novel Volumetric Subdivision Schemes for Solid Modeling and Applications,” at *International Symposium on Information and Computational Science 2006*, Dalian University of Technology (DUT), Dalian, China, August 15-18, 2006.

“Dynamic Virtual Volumetric Environments for Visual Computing Applications,” at *Tsinghua University*, Beijing, China, August 9, 2006.

“Dynamic Virtual Volumetric Environments for Visual Computing Applications,” at *Xiamen University*, Xiamen, China, August 2, 2006.

“Dynamic Volumetric Virtual Environments for Visual Computing Applications,” at *Institute of Applied Physics and Computational Mathematics*, Beijing, China, July 25, 2006.

“Manifold Splines: Theory and Applications for Visual Computing,” at *Institute of Systems Science, Academy of Mathematics and System Sciences, Chinese Academy of Sciences*, Beijing, China, July 20, 2006.

“Dynamic Virtual Volumetric Environments for Graphics and Visualization”, at *Beijing University of Aeronautics and Astronautics (Beihang University)*, Beijing, China, July 10, 2006.

“Dynamic Virtual Volumetric Environments for Graphics and Visualization,” at *Institute of Computing Technology, Chinese Academy of Sciences*, Beijing, China, July 6, 2006.

Invited instructor for “Geometric Modeling and Visual Computing: Theory and Applications,” *an advanced graduate course of Summer School*, Peking University, Beijing, China, July 3-18, 2006.

“Dynamic Points: When Geometry Meets Physics,” at *Institute of Computing Technology, Chinese Academy of Sciences*, Beijing, China, June 21, 2006.

“Manifold Splines: Theory and Applications for Visual Computing”, at *China-graph'2006 Conference*, Hangzhou, China, June 28, 2006.

“Dynamic Points: When Geometry Meets Physics,” at *Department of Mathematics, University of Texas at Arlington*, Arlington, Texas, April 7, 2006.

“Dynamic Points: When Geometry Meets Physics,” at *Center for Information Science, Peking University*, Beijing, P.R. China, September 1, 2005.

Invited instructor for “Advanced Graphics and Visualization: Theory, Algorithms, and Applications,” *an advanced graduate course of the Dragon Star Initiative sponsored by National Natural Science Foundation of China*, Zhongshan University, Guangzhou, China, August 22-26, 2005.

“Dynamic Points: When Geometry Meets Physics,” at *Department of Computer Science, The Hong Kong University of Science and Technology*, Hong Kong, August 19, 2005.

“Manifold Splines: From Points to Surfaces of Arbitrary Topology,” at *Department of Computer Science and Technology, Tsinghua University*, Beijing, China, August 16, 2005.

“Manifold Splines: From Points to Surfaces of Arbitrary Topology,” at *Institute of Computing Technology, Chinese Academy of Sciences*, Beijing, China, August 15, 2005.

“From Points to Splines for Virtual-Part Engineering,” at *ARO VPERI Workshop (Virtual Parts Engineering Research Initiative, Army Research Office)*, University of Utah, Salt Lake City, June 7-8, 2005.

“Digital Geometric Processing: Interactive Manipulation and Dynamic Deformation of Point-Set Geometry with Physical and Haptic Interaction,” at *Workshop on Image Processing and Computer Vision/Graphics*, Hangzhou, China, December 20-24, 2004.

“Digital Geometry Processing: Interactive Editing and Manipulation of Point Set Geometry with Physical and Haptic Interaction,” at *Tsinghua University*, Beijing, China, August 31, 2004.

“A Deformable Modeling Paradigm for 3D Shape Recovery from Visual Inputs,” at *International Symposium on Computer Vision, Object Tracking and Recognition, Institute of Automation, Chinese Academy of Sciences*, Beijing, China, August 30-31, 2004.

“Digital Geometry Processing: Interactive Editing and Manipulation of Point Set Geometry with Physical and Haptic Interaction,” at *Institute of Systems Science, Academy of Mathematics and Systems Sciences (AMSS), Chinese Academy of Sciences*, Beijing, China, August 27, 2004.

“Digital Geometry Processing: Interactive Editing and Manipulation of Point Set Geometry with Physical and Haptic Interaction,” at *Peking University*, Beijing, China, August 27, 2004.

Invited instructor for “Advanced Graphics and Visualization: Theory, Algorithms, and Applications,” *a graduate course of the Dragon Star Initiative sponsored by*

*National Natural Science Foundation of China*, Beijing University of Technologies, Beijing, China, May 24-28, 2004.

Invited instructor for “Advanced Graphics and Visualization: Theory, Algorithms, and Applications,” a graduate course of the *Dragon Star Initiative* sponsored by *National Natural Science Foundation of China*, Peking University, Beijing, China, August 18-22, 2003.

“I-DEFORM: Interactive, Dynamic, Efficient Flow for Object Rendering and Modeling,” at *Tsinghua University*, Beijing, China, August 20, 2003.

“I-DEFORM: Interactive, Dynamic, Efficient Flow for Object Rendering and Modeling,” at *Army High Performance Computing Research Center (AHPARC) Workshop on Graphics Modeling, Simulation and Visualization*, Florida A&M University, Tallahassee, Florida, June 23-24, 2003.

“I-DEFORM: Interactive, Dynamic, Efficient Flow for Object Rendering and Modeling,” at *the Department of Applied Mathematics and Statistics, SUNY at Stony Brook*, May 27, 2003.

“Virtual Clay: Haptics-based Deformable Solids of Arbitrary Topology,” at *The Second International Workshop on Articulated Motion and Deformable Objects (AMDO 2002)*, Palma de Mallorca, Spain, November 21, 2002.

“DYNASOAR: DYNAMIC Solid Objects of ARbitrary topology,” at *Peking University*, Beijing, P.R. China, June 5, 2002.

“Physics-Based CAGD: Theory, Methodology, Techniques, and Design Environments,” at *the First Chinese Conference on Geometric Design and Computing*, Qingdao, P.R. China, June 1, 2002.

“Subdivision: Its Past, Present, and Future (invited tutorial),” at *the Advanced Course Session of the First Chinese Conference on Geometric Design and Computing*, Qindao, P.R. China, May 31, 2002.

“DYNASOAR: DYNAMIC Solid Objects of ARbitrary topology,” at *Microsoft Research Asia*, Beijing, P.R. China, May 30, 2002.

“DYNASOAR: DYNAMIC Solid Objects of ARbitrary topology,” at *Chinese Academy of Sciences*, Beijing, P.R. China, May 29, 2002.

“DYNASOAR: DYNAMIC Solid Objects of ARbitrary topology,” at *Tsinghua University*, Beijing, P.R. China, May 28, 2002.

“Manipulating Virtual Clay with Haptic Toolkits,” at *Department of Computer Science, The University of California at Davis*, Davis, California, November 6, 2001.

“Intelligent Balloon: A Subdivision-Based Deformable Model for Surface Reconstruction of Arbitrary, Unknown Topology,” at *Ford Motor Company Research Laboratory*, Dearborn, Michigan, June 7, 2001.

“FEM-Based Dynamic Subdivision Splines,” at *Pacific Graphics 2000*, Hong Kong, October 4, 2000.

“Physics-Based Modeling For Visual Computing Applications,” at *Department of Computer Science, University of Toronto*, June 14, 2000.

“Physics-Based Modeling For Visual Computing Applications,” at *SGI Alias | Wavefront, Toronto*, June 13, 2000.

“Physics-Based Modeling for Visual Computing Applications,” at *Center for Data Intensive Computing, Brookhaven National Laboratory*, Upton, New York, April 14, 2000.

“Physics-Based Modeling for Engineering Design,” at *Ford Motor Company Research Laboratory*, Dearborn, Michigan, June 9, 1999.

“Physics-Based Modeling Framework for Graphics, CAD, and Visualization,” at *Tsinghua University*, Beijing, P.R. China, January 7, 1999.

“Physics-Based Modeling and Shape Design Framework for CAD/CAM, Graphics, and Visualization,” at *National Institute of Standards and Technology (NIST)*, Gaithersburg, Maryland, December 14, 1998.

“Dynamic Catmull-Clark Subdivision Surfaces,” at *Naval Research Laboratory*, Washington, D.C., June 1, 1998.

“Dynamic Subdivision Surfaces and Their Applications in Graphics,” at *ChenXing Mathematics Center, Academia Sinica*, Beijing, P.R. China, May 7, 1998.

“Dynamic Subdivision Surfaces and Their Applications in Graphics,” at *Tsinghua University*, Beijing, P.R. China, May 6, 1998.

“Physics-Based Modeling Framework for Graphics, Computer-Aided Design, and Visualization,” at *Peking University*, Beijing, P.R. China, May 3, 1998.

“Physics-Based Modeling Framework for Graphics, CAD, and Visualization,” at *IBM T.J. Watson Research Center*, Hawthorne, New York, April 27, 1998.

“Physics-Based Catmull-Clark Subdivision Surfaces for CAD/CAM,” at *Structural Dynamics Research Corporation*, Milford, Ohio, April 24, 1998.

“D-NURBS for Physics-Based Shape Design,” at *Peking University*, Beijing, P.R. China, June 10, 1997.

“D-NURBS for Physics-Based Shape Design,” at *Tsinghua University*, Beijing, P.R. China, June 11, 1997.

“D-NURBS for Physics-Based Shape Design,” at *Institute of Computing, Academia Sinica*, Beijing, P.R. China, June 12, 1997.

“Physics-Based Geometric Modeling for Computer Graphics and CAD,” at *Department of Computer Science, Yale University*, New Haven, Connecticut, April 30, 1997.

“Physics-Based Geometric Modeling for Computer Graphics and CAD,” at *Department of Computer Science, Rutgers University*, New Brunswick, New Jersey, April 7, 1997.

“Physics-Based Geometric Modeling for Computer Graphics and CAD,” at *Department of Computer Science, Johns Hopkins University*, Baltimore, Maryland, April 4, 1997.

“Physics-Based Geometric Modeling for Computer Graphics and CAD,” at *Department of Computer Science, Michigan State University*, East Lansing, Michigan, March 31, 1997.

“Physics-Based Geometric Modeling for Computer Graphics and CAD,” at *Department of Computer Science, State University of New York at Stony Brook*, Stony Brook, New York, March 17, 1997.

“Towards an Interactive Physics-Based Design Environment for Automobile CAD/CAM,” at *Ford Motor Company Research Laboratory*, Dearborn, Michigan, January 30, 1997.

“Physics-Based Geometric Modeling and Design,” at *Structural Dynamics Research Corporation*, Milford, Ohio, November 8, 1996.

“Physics-Based Geometric Modeling for Graphics and CAGD,” at *Computer Science Department, University of British Columbia*, Vancouver, British Columbia, June 21, 1996.

“D-NURBS for Physics-Based Modeling,” at *School of Computing Science, Simon Fraser University*, Burnaby, British Columbia, June 20, 1996.

“Physics-Based Geometric Modeling for Graphics and CAGD,” at *Department of Ocean Engineering and Department of Mechanical Engineering, Massachusetts Institute of Technology*, Cambridge, Massachusetts, May 8, 1996.

“Dynamic Non-Uniform Rational B-Splines,” at *XOX Corporation*, St. Paul, Minnesota, October 20, 1995.

“Dynamic Non-Uniform Rational B-Splines,” at *SGI Alias | Wavefront*, Toronto, Ontario, September 6, 1995.

“Dynamic NURBS for Computer Graphics and CAGD,” at *Department of Computer Science, University of Utah*, Salt Lake City, Utah, May 30, 1995.

“Dynamic NURBS: Physics-Based Models for Graphics and CAGD,” at *College of Computing, Georgia Institute of Technology*, Atlanta, Georgia, April 12, 1995.

“Dynamic NURBS for Computer Graphics and CAGD,” at *Department of Computer and Information Sciences, University of Florida*, Gainesville, Florida, February 27, 1995.

**Professional** EDITORIAL BOARD MEMBER:  
**Activities**

- IEEE Transactions on Visualization and Computer Graphics, 2005 – present.
- The journal of The Visual Computer, 2003 – present.

CONFERENCE CHAIR:

- The 23rd International Conference on Computer Graphics (CGI'05), June 8-10, 2005, Stony Brook, New York.

CONFERENCE SESSION CHAIR:

- ACM Symposium on Solid and Physical Modeling (SPM 2005), June 13-15, 2005, MIT, Cambridge, Massachusetts.
- International Conference on Shape Modeling and Applications (SMI'05), June 15-17, 2005, MIT, Cambridge, MA.
- Geometric Modeling and Processing 2004 (GMP2004), Beijing, China, April 13-15, 2004.
- The Second International Workshop on Articulated Motion and Deformable Objects (AMDO 2002), Palma de Mallorca, Spain, November 21-23, 2002.
- The Seventh ACM Symposium on Solid Modeling and Applications (Solid Modeling 2002), June 17-21, 2002, Saarbruecken, Germany.
- IEEE Computer Animation Conference (Computer Animation 2000), May 3-5, 2000, Philadelphia, Pennsylvania, USA.

INTERNATIONAL PROGRAM COMMITTEE MEMBER:

- The Ninth IASTED International Conference on Computer Graphics and Imaging (CGIM 2007), February 13-15, 2007, Innsbruck, Austria.
- The 17th IEEE Visualization Conference (VIS 2006), October 29 - November 3, 2006, Baltimore, Maryland, U.S.A.
- The 19th Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI 2006), October 8-11, 2006, Manaus, Amazonas, Brazil.
- The ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA 2006), September 2-4, 2006, Vienna, Austria.
- The Sixth IASTED International Conference on Visualization, Imaging, and Image Processing (VIIP 2006), August 28-30, 2006, Palma De Mallorca, Spain.
- The 5th International Workshop on Volume Graphics (VG06), July 30-31, 2006, Boston, Massachusetts, U.S.A.
- Geometric Modeling and Processing 2006 (GMP2006), July 26-28, 2006, Pittsburgh, Pennsylvania, U.S.A.
- The Fourth International Conference on Articulated Motion and Deformable Objects (AMDO-e 2006), July 11-14, 2006, Andratx, Mallorca, Spain.
- The 24th Computer Graphics International Conference (CGI'2006), June 26-28, 2006, Zhejiang University, Hangzhou, P.R. China.

- International Conference on Shape Modeling and Applications 2006 (SMI'06), June 14-16, 2006, Tohoku University, Sendai, JAPAN.
- ACM Solid and Physical Modeling Symposium 2006 (ACM SPM'06), June 6-8, 2006, Cardiff University, Wales, UK.
- International Conference on Computer Vision Theory and Applications 2006 (VISAPP 2006), February 25-28, 2006, Setubal, Portugal.
- The 9th International Conference on Computer Aided Design and Computer Graphics (CAD/Graphics 2005), December 7-10, 2005, Hong Kong.
- The Thirteenth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2005), Macao, China, October 12-14, 2005.
- The Fifth IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2005), September 7-9, 2005, Benidorm, Spain.
- The Eleventh IMA Conference on the Mathematics of Surfaces, University of Loughborough, UK, September 5-7, 2005.
- The Eighty IASTED International Conference on Computer Graphics and Imaging (CGIM 2005), August 15-17, 2005, Honolulu, Hawaii, USA.
- ACM SIGGRAPH/Eurographics Symposium on Computer Animation 2005 (SCA 2005), July 29-31, 2005, Los Angeles, CA.
- International Conference on Shape Modeling and Applications 2005 (SMI 2005), June 13-17, 2005, MIT, Cambridge, MA, USA.
- The Tenth ACM Symposium on Solid and Physical Modeling (SPM 2005), June 13-15, 2005, MIT, Cambridge, MA, USA.
- The Third International Workshop on Articulated Motion and Deformable Objects (AMDO 2004), September 22-24, 2004, Palma de Mallorca, Spain.
- The 7th IASTED International Conference on Computer Graphics and Imaging (CGIM 2004), August 17-19, 2004, Kauai, Hawaii, USA.
- Computer Graphics International 2004 (CGI2004) Conference, Crete, Greece, June 16-19, 2004.
- The Ninth ACM Symposium on Solid Modeling and Applications (SM 2004), Genova, Italy, June 9-11, 2004.
- International Conference on Shape Modeling and Applications 2004 (SMI 2004), Genova, Italy, June 7-9, 2004.
- Geometric Modeling and Processing 2004 (GMP2004), Beijing, China, April 13-15, 2004.
- The Eighth International Conference on Computer Aided Design and Computer Graphics (CAD/Graphics'2003), Macao, October 29-31, 2003.
- The Eleventh Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2003), Canmore, Alberta, CANADA, October 8-10, 2003.
- The Sixth IASTED International Conference on Computers, Graphics, Imaging (CGIM 2003), Honolulu, Hawaii, USA, August 13-15, 2003.
- The Third International Workshop on Volume Graphics (VG03), Tokyo, Japan, July 7-8, 2003.

- Computer Graphics International Conference 2003 (CGI 2003), Tokyo, Japan, July 9-11, 2003.
- The 5th International Conference on Shape Modeling and Applications (SMI 2003), Seoul, Korea, May 12-16, 2003.
- The 16th International Conference on Computer Animation and Social Agents (CASA'2003), New Brunswick, New Jersey, USA, May 7-9, 2003.
- The Asian Symposium on Computer Mathematics 2003 (ASCM'03), Beijing, P.R. China, April 17-19, 2003.
- The Second International Workshop on Articulated Motion and Deformable Objects (AMDO'2002), Palma de Mallorca, Spain, November 21-23, 2002.
- The Tenth Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2002), Beijing, P.R. China, October 9-11, 2002.
- The 15th International Conference on Computer Animation (Computer Animation 2002), Geneva, Switzerland, June 19-21, 2002.
- Computer Graphics International Conference 2002 (CGI2002), University of Bradford, Bradford, UK, July 1-5, 2002.
- The Seventh ACM Symposium on Solid Modeling and Applications (Solid Modeling 2002), Saarbruecken, Germany, June 17-21, 2002.
- Geometric Modeling and Processing 2002: Theory and Applications, Tokyo, Japan, July 10-12, 2002.
- The 4th International Conference on Shape Modeling and Applications (SMI 2002), Banff, Alberta, Canada, May 17-22, 2002.
- ACM Symposium on Virtual Reality Software and Technology 2001 (VRST), Banff, Alberta, Canada, November 15-17, 2001.
- Eurographics Workshop on Animation and Simulation 2001 (EG CAS'2001), Manchester, UK, September 2-3, 2001.
- CAD/Graphics'2001 (The Seventh International Conference on Computer Aided Design and Graphics), Kunming, China, August 20-22, 2001.
- IEEE Computer Animation 2001 (The 14th Conference on Computer Animation), Seoul, Korea, November 6-8, 2001.
- Pacific Graphics 2001 (The Ninth Pacific Conference on Computer Graphics and Applications), Tokyo, Japan, October 16-18, 2001.
- Computer Graphics International Conference 2001 (CGI2001), Hong Kong, July 3-6, 2001.
- The Second International Workshop on Volume Graphics 2001 (VG'01), Stony Brook, NY, June 21-22, 2001.
- Pacific Graphics 2000 (The Eighth Pacific Conference on Computer Graphics and Applications), Hong Kong, October 3-5, 2000.
- IEEE Computer Animation 2000 Conference, Philadelphia, May 3-5, 2000.
- Geometric Modeling and Processing 2000: Theory and Applications, Hong Kong, April 10-12, 2000.

PANEL MEMBER OR REFEREE FOR (FUNDING AGENCIES):

- National Science Foundation, 1997 – present.
- The Research Council of Norway, 2002 – present.
- National Natural Science Foundation of China, 2004 – present.
- U.S. Civilian Research and Development Foundation (CRDF), 2002.
- City University of Hong Kong's Strategic Research Fund, 2006.
- The Israel Science Foundation (ISF), 2006.

REFEREE FOR (BOOKS, 1999 – PRESENT):

- *McGraw-Hill.*
- *Springer-Verlag.*
- *World Scientific Publishing Company.*

REFEREE FOR (JOURNALS, 1994 – PRESENT):

- *IEEE Computer Graphics and Applications.*
- *ACM Computing Surveys.*
- *Computer Aided Geometric Design.*
- *Graphical Models.*
- *Communications of the ACM.*
- *ACM Transactions on Graphics.*
- *The Visual Computer.*
- *Image and Vision Computing.*
- *IEEE Transactions on Visualization and Computer Graphics.*
- *IEEE Transactions on Pattern Analysis and Machine Intelligence.*
- *Computer Aided Design.*
- *Graphical Models and Image Processing.*
- *The International Journal of High Performance Computer Graphics, Multi-media and Visualization.*
- *Computer Graphics Forum (The International Journal of the Eurographics Association).*
- *International Journal of Shape Modeling.*
- *ASME Transactions, Journal of Computing and Information Science in Engineering (JCISE).*
- *IEEE Transactions on Medical Imaging.*
- *Journal of Robotics and Computer Integrated Manufacturing.*
- *SPIE Journal, Optical Engineering.*
- *IEEE Transactions on Parallel and Distributed Systems.*
- *Journal of Computer Science and Technology (JCST).*
- *Journal of Computational and Applied Mathematics.*

- *The Electronic Letters on Computer Vision and Image Analysis (ELCVIA), Special Issue on Articulated Motion & Deformable Objects.*
- *SIAM Journal on Computing.*
- *Journal of Image Analysis & Stereology (IAS).*
- *Computers & Graphics.*
- *Electronics and Telecommunication Research Institute (ETRI) Journal.*
- *International Journal of Computers and Their Applications.*
- *The ASME Journal of Mechanical Design.*
- *International Journal of Computational Geometry and Applications (IJCGA).*
- *IEEE Transactions on Computers.*
- *IEEE Signal Processing Letters.*
- *ASME Journal of Manufacturing Science and Engineering.*
- *Numerical Algorithms.*
- *Journal of Mechanics of Materials and Structures.*

REFEREE FOR (CONFERENCES, 1994 – PRESENT):

- *ACM Siggraph.*
- *ACM Solid Modeling and Applications.*
- *Computer Graphics International Conference (CGI).*
- *Graphics Interface.*
- *IEEE Visualization.*
- *Eurographics Workshop on Animation and Simulation.*
- *International Conference on Shape Modeling and Applications.*
- *ACM Conference on User Interface Software Technology (ACM UIST).*
- *International Conference on Shape Modeling and Applications (SMI).*
- *Eurographics.*
- *IEEE/ACM SIGGRAPH Symposium on Volume Visualization and Graphics.*
- *ACM Symposium on Interactive 3D Graphics.*
- *ASME Design Automation Conference.*
- *Dagstuhl Conference on Geometric Design.*
- *IASTED International Conference on Computer Graphics and Imaging.*
- *International Symposium on Tools and Methods of Competitive Engineering (TMCE).*
- *Geometric Modeling and Processing.*
- *ASME International Design Engineering Technical Conferences & Computers and Information in Engineering Conference.*
- *ASME Design Automation Conference.*
- *ACM Symposium on Computational Geometry.*

EXTERNAL EXAMINER FOR PH.D. DISSERTATION:

- Dr. Xuetao Li, Computer Science Department, National University of Singapore, September 2002.

AWARD COMMITTEE MEMBER:

- Best Paper Award Committee for ACM Symposium on Solid and Physical Modeling, June 13-15, 2005, MIT, Cambridge, Massachusetts.

**Teaching  
Activities**

“Geometric Foundations for Graphics and Visualization (CSE530),” Spring Semesters, Years 1999-2006, Department of Computer Science, SUNY at Stony Brook.

“Fundamentals of Computer Graphics (CSE328),” Fall Semesters, Years 1999-2006, Department of Computer Science, SUNY at Stony Brook.

“Introduction to Engineering and Applied Sciences (EAS101),” Fall 1999, Department of Computer Science, SUNY at Stony Brook.

“Seminar on Modeling and Simulation (CSE655),” 1999 – present (Spring, Fall, and Summer Semesters), Department of Computer Science, SUNY at Stony Brook.

“Introduction to Visualization (CSE332),” Fall 1998, Department of Computer Science, SUNY at Stony Brook.

“Scientific Visualization (CSE564),” Spring 2004, Department of Computer Science, SUNY at Stony Brook.

“Physics-Based Modeling for Visual Computing (CSE621),” Spring Semesters, Years 1998, 2001-2006, Department of Computer Science, SUNY at Stony Brook.

“Introduction to Computer Graphics (CAP4700),” Spring Semesters Years 1996-1997, CISE Department, University of Florida (UFL).

“Computer Graphics (CAP5705),” Spring Semesters, Years 1996-1997, CISE Department, UFL.

“Selected Topics on 3-D Interactive Graphics (CIS6930),” Fall 1996, CISE Department, UFL.

**University  
Services**

Two Ph.D students graduated in May, 2006.

Organizer of Computer Science Open House Event (for prospective graduate students), March 24, 2006.

Computer Science Graduate Admission Committee Chair, January 2006 – present.

Computer Science Faculty Recruiting Committee Member, 2003 – present.

Member of the Faculty Academic Advisory Group for Chinese-mother-tongue International Freshmen, Stony Brook University, 2005 – present.

Computer Science Graduate Admission Committee co-Chair, 2004 – 2005.

One M.Sc. student graduated in May, 2005.

One Ph.D. student graduated in June, 2005.

Examiner for CS Ph.D. Qualification Exams, January, 2005.

One M.Sc. student graduated in December, 2004.

One Ph.D. student graduated in August, 2004.

One Ph.D. student graduated in June, 2004.

Examiner for CS Ph.D. Qualification Exams, May, 2004.

Faculty Judge, Graduate Research Conference 2004, Department of Computer Science, Stony Brook University, May 7, 2004.

One Ph.D. student graduated in March, 2004.

Draft and update the Alumni/Perspectives Section for the new version of our CS graduate brochure.

Examiner for CS Ph.D. Qualification Exams, January 2004

Two Ph.D. students graduated in August, 2003.

One M.Sc. student graduated in August, 2003.

Examiner for CS Ph.D. Qualification Exams, May, 2003.

Faculty Judge, Graduate Research Conference 2003, Department of Computer Science, SUNY at Stony Brook, April, 2003.

Computer Science Graduate admission Committee Member, 2002 – present.

Computer Science Faculty Recruiting Committee Member, 2000 – 2001.

Computer Science Graduate Admission Committee Member, 1997 – 2001.

Three M.Sc. students graduated in December, 2000.

Creator and Organizer for annual Computer Science Graduate Student Orientation, 1998 – 2000.

Examiner for CS Ph.D. Qualification Exams, October, 1999.

Two M.Sc. students graduated in June, 1999.

One Ph.D. student graduated (at the University of Florida) in December, 1998.

Academic advising of CSE and ISE majors each year

Advisor of more than ten Ph.D. students, more than ten M.Sc. students, and one undergraduate student (at SUNY at Stony Brook).

Advisor of three Ph.D. students, three M.Sc. students and one undergraduate (previously at UFL from 1996 to 1997).

Thesis and Examination Committee member for many other Ph.D. and M.Sc. students at CS Department of SUNY at Stony Brook (e.g., Oleg Mishchenko, Miao Jin, Jianning Wang, Liu Yang, Eli Packer, Mohit Gupta, Nan Zhang, Hui Guo, Jing Luo, Kyle Hegeman, Xin Guan, Anurag Purwar (Mechanical Engineering), Neophytos Neophytou, Yang Wang, Ye Zhao, Wei Hong, Baoquan Chen, Frank Dachille, Yan Chen, Jihad El-Sana, Chuan-Kai Yang, Xiaoming Wei, Nan Zhang, Hoijung Chung (M.Sc.), Kefei Lu (M.Sc.), etc.).

Dissertation and Thesis Committee Member for: Minbo Shim (CS Ph.D. candidate), Yanling Guo (EE Ph.D. candidate), Shuangying Huang (CS M.Sc. candidate) (previously at UFL from 1996 to 1997)

## **Graduated Ph.D. Students**

**So far, nine Ph.Ds have graduated under my supervision!**

Chhandomay Mandal (Ph.D., December 1998), Dissertation title: A Dynamic Framework for Subdivision Surfaces, Current position: senior research engineer, Sun Microsystems, Inc.

Ye Duan (Ph.D., June 2003), Dissertation title: Topology Adaptive Deformable Models for Visual Computing, Current position: assistant professor of computer science, University of Missouri at Columbia.

Kevin T. McDonnell (Ph.D., August 2003), Dissertation title: DYNASOAR: DYNAMIC Solid Objects of ARbitrary topology, Current position: assistant professor of computer science, Dowling College.

Haixia Du (Ph.D., March 2004), Dissertation title: PDE-based Geometric Modeling and Interactive Sculpting for Graphics, Current position: research scientist, NIH.

Jing Hua (Ph.D., June 2004), Dissertation title: DIVE: Dynamic Inhomogeneous Volumetric Environments for Graphics and Visualization, Current position: assistant professor of computer science, Wayne State University.

Hui Xie (Ph.D., August 2004), Dissertation title: Surface Design and Reconstruction Techniques in Computer Graphics, Current position: research scientist, Siemens Research Corporation.

Yu-Sung Chang (Ph.D., June 2005), Dissertation title: Multiresolution Solid Objects on Simplicial Complexes, Current position: research scientist, Wolfram Research, Inc.

Ying He (Ph.D., May 2005), Dissertation title: Manifold Splines, Current position: assistant professor of computer science, School of Computer Engineering, Nanyang Technological University, Singapore.

Xiaohu Guo (Ph.D., May 2005), Dissertation title: Point-Based Modeling, Animation, and Simulation System for Computer Graphics, Current position: assistant professor of computer science, University of Texas at Dallas.

**Current Ph.D.  
Advisees**

Kexiang Wang, Xin Li, Yunfan Bao, Hongyu Wang.

**Other and  
Former Ph.D.  
Advisees**

**These students stayed in the Ph.D graduate program for a few years, but did not complete their Ph.D studies!**

Sumantro Ray, Christopher Carner, Meijing Zhang, Robert A. Wlodarczyk, Peng Du, Jing Lou, Xiaojing Li, Tao Yang, Xiangying Ma (at SUNY at Stony Brook).

Seyoun Park (exchange doctoral student from KAIST, 2004 - 2005)

Tamara Pearson (CS Ph.D. candidate), Carol Will (ME Ph.D. candidate) (previously at UFL from 1996 to 1997).

**Graduated  
M.Sc. Students:**

**11 MS students have graduated under my supervision.**

Francesco Gallarotti (June 2005).

En-Kuang Frank Liu (December 2004).

Matt Richardson (August 2003).

Qinhong Pan (December 2000).

Tao Wang (December 2000).

Honglei Zhang (December 2000).

Juan Ramirez (June 1999).

Vivek Palan (June 1999).

Chhandomay Mandal (May 1997).

Ed Porras (May 1997).

Chris Gilmore (May 1997).

**Current M.Sc.  
Advisees**

YueHu Ou, Kijin Keum

**Former  
Undergraduate  
Advisees**

Robert A. Wlodarczyk (at SUNY at Stony Brook)

Chris Gilmore (previously at UFL in 1996)

**Memberships**

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE).

IEEE COMPUTER SOCIETY.

ASSOCIATION FOR COMPUTING MACHINERY (ACM).

SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS (SIAM).

THE EUROPEAN ASSOCIATION FOR COMPUTER GRAPHICS (EUROGRAPHICS).