

## Jim X. Chen

Department of Computer Science, George Mason University, Fairfax, VA 22030-4444  
[jchen@cs.gmu.edu](mailto:jchen@cs.gmu.edu); Phone: (703) 993-1720; Fax: (703) 993-1710; <http://www.cs.gmu.edu/~jchen>

### (a) Professional Preparation

Ph.D. in Computer Science, University of Central Florida, Orlando, Florida, April 1995  
M.S. in Computer Science, Southwest Jiaotong University, Sichuan, China, May 1986  
B.S. in Computing Science, Southwest Jiaotong University, Sichuan, China, July 1983

### (b) Appointments

8/07- : *Full Professor*,  
8/01-8/07: *Associate Professor* (tenured),  
8/95-8/01: *Assistant Professor* (tenure-track), Department of Computer Science, George Mason University  
10/93-8/95: *Visual Systems Scientist*, Institute for Simulation and Training, Orlando, Florida

### (c) Publications

#### *Books*

1. J.X. Chen and E.J. Wegman, *Foundations of 3D Graphics Programming Using JOGL and Java3D*, Springer Verlag, New York, ISBN 1-84628-185-7, 2006. (294 pages)
2. J.X. Chen, *Guide to Graphics Software Tools*, Springer Verlag, New York, ISBN 0-387-95049-4, 2002. (504 pages)

#### *Book Chapters*

1. J.X. Chen, "Data Visualization and Virtual Reality," Book Chapter in *Handbook of Statistics*, vol. 24, C.R. Rao, E.J. Wegman, and J.L. Solka (Editors), Elsevier, ISSN 0169-7161, 2005.
2. R.B. Loftin, J.X. Chen, and L. Rosenblum, "Visualization Using Virtual Reality," Book Chapter in *the Visualization Handbook*, C. Johnson (Editor), ISBN 0-12-387582-X, Elsevier, 2004.

#### *Edited Proceedings*

1. *IEEE Virtual Reality 2003: Proceedings*, J.X. Chen and R.B. Loftin (Editors), ISBN 0-7695-1882-6, 2003.
2. *IEEE Virtual Reality 2002: Proceedings*, R.B. Loftin, J.X. Chen, M. Goebel, M. Hirose, and S. Rizzo (Editors), ISBN 0-7695-1492-8, 2002.

#### *Journal Publications*

1. T. Zhang, P. Dai, J.X. Chen, et al., "The Contour Map of the Vestibular Apparatus Based on Three-Dimensional Reconstruction of the Temporal Bone," *IEEE Computing in Science and Engineering*, vol. 9, no.1, January/February 2007, pp. 26-31.

2. S. Liu, X. Jin, C.C.L. Wang, and J.X. Chen, "Water-Wave Animation on Mesh Surfaces," *IEEE Computing in Science and Engineering*, vol. 8, no.5, Sept. 2006, pp. 81-87.
3. H. Zhang, C. Zhu, Q. Peng, and J.X. Chen, "Using Geometric Algebra for 3D Linear Transformations," *IEEE Computing in Science and Engineering*, vol. 8, no.3, May 2006, pp. 68-75.
4. J.X. Chen, "Learning Abstract Concepts through Interactive Playing," *Computers & Graphics*, vol. 30, no.1, 2006, pp. 10-19.
5. L. Yang, J.X. Chen, and Y. Liu, "Virtual Human Anatomy," *IEEE Computing in Science and Engineering*, vol. 7, no.5, Sept. 2005, pp. 71-73.
6. P. Dai, T. Zhang, J.X. Chen, Z. Wang, and K. Wang, "Virtual Laboratory for Temporal Bone Microanatomy," *IEEE Computing in Science and Engineering*, vol. 7, no.2, March 2005, pp. 75-79.
7. Y. Yang, J.X. Chen, and M. Beheshti, "Nonlinear Perspective Projections and Magic Lenses: 3D View Deformation," *IEEE Computer Graphics and Applications*, vol. 25, no. 1, Jan. 2005, pp. 76-84.
8. Z. Xu, Y. Yan, and J.X. Chen, "OpenGL Programming in Java," *IEEE Computing in Science and Engineering*, vol. 7, no. 1, Jan. 2005, pp. 51-55.
9. Y. Yang, J.X. Chen, and W. Kim, "Gene Expression Clustering and 3D Visualization," *IEEE Computing in Science and Engineering*, vol. 5, no. 5, Sept. 2003, pp. 37-43.
10. A. Nakano and J.X. Chen, "Guest Editor's Introduction: High-Dimensional Data Acquisition, Computing, and Visualization," *IEEE Computing in Science and Engineering*, vol. 5, no. 5, Sept. 2003, pp. 14-15.
11. J.X. Chen, "New Graphics Pipeline Approach Speeds Up Atomic Primitives Rendering," *IEEE Computing in Science and Engineering*, vol. 5, no. 3, May 2003, pp. 86-91.
12. J.X. Chen and A. Nakano, "Guest Editor's Introduction: High-Dimensional Data Acquisition, Computing, and Visualization," *IEEE Computing in Science and Engineering*, vol. 5, no. 2, March 2003, pp. 12-13.
13. Y. Yang, J.X. Chen, W. Kim, and C. Kee, "Non-linear Projection: Using Deformation in 3D Viewing," *IEEE Computing in Science and Engineering*, vol. 5, no. 2, March 2003, pp. 54-59.
14. J.X. Chen, X. Wang, and J. E. Bresenham, "The Analysis and Statistics of Line Distribution," *IEEE Computer Graphics & Applications*, vol. 22, no. 6, Nov. 2002, pp. 100-107.
15. X. Wang, J.X. Chen, D.B. Carr, B.S. Bell, and L.W. Pickle, "Geographic Statistics Visualization: Web-based Linked Micromap Plots," *IEEE Computing in Science and Engineering*, vol. 4, no. 3, May 2002, pp. 90-96.

16. Y. Yang, X. Wang, J.X. Chen, "Rendering in Virtual Reality: Integrating a 3D Model with 2D Images," *IEEE Computing in Science and Engineering*, vol. 4, no. 1, Jan. 2002, pp. 86-91.
17. J.X. Chen and S. Wang, "Data Visualization: Parallel Coordinates and Dimension Reduction," *IEEE Computing in Science and Engineering*, vol. 3, no. 5, Sept. 2001, pp. 110-113.
18. J.X. Chen, H. Wechsler, J.M. Pullen, Y. Zhu, E.B. MacMahon, "Knee Surgery Assistance: Patient Model Construction, Motion Simulation, and Biomechanical Visualization," *IEEE Transactions on Biomedical Engineering*, vol. 48, no. 9, Sept. 2001, pp. 1042-1052.
19. J.X. Chen, Y. Yang, and X. Wang, "Physics-based Modeling and Real-time Simulation," *IEEE Computing in Science and Engineering*, vol. 3, no. 3, May/June 2001, pp. 98-102.
20. J.X. Chen, J. Wang, and E.J. Wegman, "Physical Model of Dust Behaviors behind a Moving Object," *International Journal of Applied Science and Computations*, vol. 7, no. 2, 2000, pp. 1-12.
21. J.X. Chen and Y. Yang, "3D Graphics Formats and Conversions," *IEEE Computing in Science and Engineering*, vol. 2, no. 5, Sept. 2000, pp. 67-73.
22. J.X. Chen and O. Frieder, "The Applications of Computer Graphics and Software Tools," *IEEE Computing in Science and Engineering*, vol. 1, no. 6, Nov. 1999, pp. 83-87.
23. Y. Zhu, J.X. Chen, S. Xiao, and E.B. MacMahon, "3D Knee Modeling and Biomechanical Simulation," *IEEE Computing in Science and Engineering*, vol. 1, no. 4, July 1999, pp. 82-87.
24. M.C. Salzman, C. J. Dede, R.B. Loftin, and J.X. Chen, "Understanding How Immersive VR Learning Environments Support Learning through Modeling," *PRESENCE: The Journal of Teleoperators and Virtual Environments*, vol. 8, no. 3, June 1999, pp. 293-316.
25. J.X. Chen, X. Fu, and E.J. Wegman, "Real-Time Simulation of Dust Behaviors Generated by a Fast Traveling Vehicle," *ACM Transactions on Modeling and Computer Simulation*, vol. 9, no. 2, April 1999, pp. 81-104.
26. J.X. Chen, "A Jump on Visualization: the Bottom-up Approach," *IEEE Computing in Science and Engineering*, vol. 1, no. 2, March 1999, pp. 83-87.
27. J.X. Chen and X. Wang, "Approximate Method and Analysis of the Multiple Segment Line Scan-Conversion," *Computer Graphics Forum*, vol. 18, no. 1, March 1999, pp. 69-78.
28. J.X. Chen and X. Fu, "Integrating Physics-Based Computing and Visualization: Modeling Dust Behavior," *IEEE Computing in Science and Engineering*, vol. 1, no. 1, Jan. 1999, pp. 12-16.
29. J.X. Chen, "Multiple Segment Line Scan-Conversion," *Computer Graphics Forum*, vol. 16, no. 5, 1997, pp. 257-268.

30. J.X. Chen, N.V. Lobo, C.E. Hughes and J.M. Moshell, "Real-time Fluid Simulation in a Networked Virtual Environment," *IEEE Computer Graphics and Applications*, vol. 17, no. 3, 1997, pp. 52-61.
31. J.X. Chen, D. Rine, and H.D. Simon, "Advancing Interactive Visualization and Computational Steering," *IEEE Computational Science and Engineering*, vol. 3, no. 4, 1996, pp. 13-17.
32. J.X. Chen, "Physically-based Modeling and Real-time Simulation of Fluids in a Networked Virtual Environment," *The Link Foundation Fellowship in Advanced Simulation and Training*, PUBLISHER - Institute for Simulation and Training, Orlando, Florida, June 1995.
33. J.X. Chen, and N. V. Lobo, "Toward Interactive-Rate Simulation of Fluids with Moving Obstacles Using Navier-Stokes Equations," *CVGIP: Graphical Models and Image Processing*, vol. 57, no. 2, 1995, pp. 107-116.
34. J.X. Chen, J.M. Moshell, C. E. Hughes, B. Blau, and X. Li, "Distributed Virtual Environment Real-Time Simulation Network," *Advances in Modeling and Analysis B*, AMSE periodicals, vol. 31, no. 1, 1994, pp. 1-7.

***Refereed Conference Publications (acceptance rates known: xx%)***

35. Y. Liu, J.X. Chen, and L. Yang, "Virtual Reality in Anatomy Applications," *16th International Conference on Artificial Reality and Telexistence*, Nov. 2006.
36. J.X. Chen, D.B. Carr, H. Wechsler, and Z. Pan, "Interactive Data Visualization with Linked Micromap Plots," *16th International Conference on Artificial Reality and Telexistence*, Nov. 2006.
37. J.X. Chen, H. Wechsler, and J. Cui, "Image-Based Fast Small Triangle Rasterization," *16th Int. Conf. on Artificial Reality and Telexistence*, Nov. 2006.
38. J.X. Chen, "Learning Abstract Concepts through Interactive Playing," Invited Paper, *1st International Conference of Edutainment 06*, in LNCS 3942: Technologies for E-Learning and Digital Entertainment, Springer, April 2006, pp. 5-6.
39. F.T. Alotaiby and J.X. Chen, "Generic Summative Assessment Functional Model," *6th IEEE Int. Conf. on Software Engineering, Networking and Parallel/Distributed Computing and First ACIS International Workshop on Self-Assembling Wireless Networks (SNPD/SAWN'05)*, May 2005, pp. 340-345.
40. F.T. Alotaiby, J.X. Chen, H. Wechsler, E.J. Wegman, and D. Sprague, "Adaptive Web-based Learning System," *12th IEEE International Conference and Workshop on the Engineering of Computer Based Systems (ECBS'05)*, April 2005, pp. 423 - 430.
41. F.T. Alotaiby, J.X. Chen, and C.J. Kee, "Component-based Framework for E-learning System Functionality," *International Conference of Society for Information Technology & Teacher Education (SITE'05)*, March, 2005.

42. F.T. Alotaiby, J.X. Chen, E.J. Wegman, H. Wechsler, and D. Sprague, "Teacher-Driven: Web-based Learning System," *ACM SIGITE'04*, Oct. 2004, pp. 284-288.(32%)
43. Y. Zhu and J.X. Chen, "Simulation and Visualization of Knee Joint Contact using Deformable Model", *4th IEEE International Conference on Computer and Information Technology (CIT 2004)*, ISBN 0-7695-2216-5/04, IEEE Computer Society Press, Sept. 2004, pp. 708-715. (26%)
44. S. Wang, J.X. Chen Z. Dong, R. S. Ledley, "SMIS – A Real-Time Stereoscopic Medical Imaging System," *IEEE Computer-Based Medical Systems (CBMS 2004)*, IEEE Computer Society Press, New York, June 2004, pp. 197-202. (30%)
45. F.T. Alotaiby and J.X. Chen, "A Model for Team-based Access Control (TMAC 2004)," *IEEE International Conference on Information Technology: Coding and Computing (ITCC'04)*, Volume 1, April 2004, pp. 450-455. (49%)
46. Y. Yang, M. Beheshti, J.X. Chen, "Apply nonlinear projections to deform 3D worlds," *Parallel and Distributed Computing, Applications and Technologies, (PDCAT'2003)*, Aug. 2003 pp. 809 - 813.
47. J.X. Chen, Y. Yang, and R.B. Loftin, "MUVEES: a PC-based Multi-User Virtual Environment for Learning," *Proc. IEEE Virtual Reality (VR'03)*, IEEE Computer Society Press, New York, April 2003, pp. 163-170. (28%)
48. J.X. Chen, X. Wang, D.B. Carr, B.S. Bell, and L.W. Pickle, "Java-based Dynamic Linked Micromap Plots", *Interface 2003*, March 2003.
49. D. B Carr, J. Chen, B.S. Bell, L. Pickle, Y. Zhang, "Interactive Linked Micromap Plots and Dynamically Conditioned Choropleth Maps," *2nd National Conference on Digital Government*, Pub. Digital Government Research Center, 2002, pp. 61-67.
50. X. Wang and J.X. Chen, "A Web-based Interactive Data Visualization with Linked Micromap Plots," *Hawaii International Conference on Statistics and Related Fields*, May 2002.
51. Y. Yang and J.X. Chen, "Impostors-Based Real-Time Avatar Behavior in Virtual Reality Systems," *IEEE International Workshop on Distributed Simulation and Real Time Applications (DSRT'01)*, IEEE Computer Society Press, New York, Aug. 2001, pp. 37-44.
52. J.X. Chen and C. Dede, "Distributed Interactive Simulation for Distance Learning," *2nd Conference on Simulation Methods and Applications*, Oct. 2000.
53. J.X. Chen, Y. Yang, and H. Wechsler, "Distributed Interactive Virtual Surgery System," *2nd Conference on Simulation Methods and Applications*, Oct. 2000.
54. K. Alford and J.X. Chen, "Parallel Information Retrieval Scalability using the Relational Model on Large Document Collections," *International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'00)*, vol. 3, June 2000, pp. 1705-1711. (25%)

55. J.X. Chen, E.J. Wegman, X. Fu, and Y. Yang, "Near Real-Time Simulation of Particle Systems," *3rd IEEE International Workshop on Distributed Interactive Simulation and Real Time Applications (DiS-RT'99)*, Oct. 1999, pp. 33-40. (57%)
56. J.X. Chen, C. J. Dede, X. Fu, and Y. Yang, "Distributed Interactive Learning Environment," *3rd IEEE International Workshop on Distributed Interactive Simulation and Real Time Applications (DiS-RT'99)*, Oct. 1999, pp. 49-56. (57%)
57. J.X. Chen, K. Alford, and O. Frieder, "Digital Library Information Categorization, Visualization, and Retrieval," *International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA '99)*, July 1999. (24%)
58. Y. Zhu, J.X. Chen, X. Fu, and D. Quammen, "A Virtual Reality System for Knee Diagnosis and Surgery Simulation," *IEEE Virtual Reality'99*, March 1999, pp. 84-85. (21%)
59. J.X. Chen, X. Fu, and E.J. Wegman, "A New Method in Real-Time Simulation of Particle Systems," *ICSA 1999 Applied Statistics Symposium*, June 1999.
60. K. Alford and J.X. Chen, "Information Retrieval using a Database Management System in a Parallel Environment," *DoD Users Group Conference*, June 1999.
61. S. Xiao, J. Lu, J.X. Chen, and D. Gao, "A New Approach to Mechanical Structure approximation Analysis with Global Characteristics," *Manufacturing Science and Engineering*, 1999, pp. 157-161.
62. J. Wang, J.X. Chen, and E. J. Wegman, "Physical Model of Dust Behaviors behind a Moving Vehicle," *International Conference on Scientific Computing and Mathematical Modeling, IMACS'98*, June 1998, pp. 146-157.
63. E.J. Wegman, Q. Luo, and J.X. Chen, "Immersive Methods for Exploratory Analysis," *Computing Science and Statistics*, vol. 29, no. 1, 1998, pp. 206-214. (*Computing Science and Statistics* is the annual publication of *Interface* and normally consists of the proceedings of the annual meeting.)
64. Y. Zhu and J.X. Chen, "Establishing a 3D Human Gait and Knee Model," *6th International Conference in Central Europe on Computer Graphics and Visualization*, Feb. 1998, pp. 541-546. (64%)
65. J.X. Chen, E. J. Wegman, and J. Wang, "Animation of Dust Behaviors in a Networked Virtual Environment," *6th International Conference in Central Europe on Computer Graphics and Visualization*, Feb. 1998, pp. 487-494. (64%)
66. J.X. Chen, "An Improvement on Line Scan-Conversion," *SIGGRAPH'97 Visual Proceeding*, Aug. 1997. (40%)
67. J.X. Chen and E.J. Wegman, "Animation of Particle Behaviors," *The U.S. Army Conference on Applied Statistics*, Oct. 1997.

68. J.X. Chen, "Physically-based Modeling in Information Categorization," *SIGGRAPH'96*, Technical Sketches, Aug. 1996. (25%)
69. J.X. Chen, "Distributed Interactive Simulation of Fluid Turbulences," *15th Workshop on standards for DIS*, Institute for Simulation & Training, Sept. 1996.
70. J.X. Chen, "Synchronization in DIS/HLA (High Level Architecture)," *15th Workshop on standards for DIS*, Institute for Simulation & Training, Sept. 1996.
71. M. Sartor, G. Prasad, G. Martin, J.X. Chen, M. Altman, M. Kilby and C. Lisle, "Dynamic Virtual Environments: Final Report," *IST Technical Report IST-TR-96-23*, July 5 1996.
72. J.X. Chen and O. Frieder, "Information Retrieval Using Hyper-image Visualization," *the ACM Conference on Information and Knowledge Management (CIKM'95) Workshop on New Paradigms in Information Visualization and Manipulation (NPIV'95)*, Nov. 1995. (66%)
73. J.X. Chen, "Fluid Simulation and Synchronization of Fluids," *IEEE Southeastern Simulation Conference of the Society for Computer Simulation (SCS)*, Oct. 1995, pp. 318-324. (80%)
74. J.X. Chen, N.V. Lobo, C.E. Hughes, and J.M. Moshell, "Simulation and Synchronization of Fluids in a DIS," *1st Workshop on Simulation and Interaction in Virtual Environments*, July 1995, pp. 159-167. (65%)
75. J.X. Chen and M. Sartor, "An Approach to Implementing Fluids in A Distributed Interactive Simulation," *12th DIS Workshop on Standards for the Interoperability of Distributed Simulations*, March 1995, pp. 309-318.
76. J.X. Chen and M. Sartor, "Fluids in a Distributed Interactive Simulation," *IEEE 5th Annual Conference on AI, Simulation, and Planning in High Autonomy Systems: Distributed Interactive Simulation Environments*, Dec. 1994, pp. 43-47.

#### **(d) Synergistic Activities**

**Associate Editor-in-Chief**, *AIP/IEEE Computing in Science & Engineering*, 2006-

**Associate Editor-in-Chief**, *International Journal of Virtual Reality*, 2006-

**General Co-Chair**, *IEEE Virtual Reality (VR 2006)*, 2006

**Director**, *Computer Graphics Laboratory*, GMU, 1998-

**ACM and UPE Student Advisor**, *Computer Science Department*, GMU, 1995-

**Courses Developed:** Computer Games Technology (2005), Virtual Reality (2001), Real-time Graphical Simulation (1996)

#### **(e) Collaborators & Other Affiliations**

##### **• Collaborators (co-authors):**

Kenneth Lowell Alford, Fahad T. Alotaiby, Mohsen Beheshti, B. Sue Bell, Daniel B. Carr, Pei-Dong Dai, Christopher J. Dede, Zegang Dong, Ophir Frieder, Xiadong Fu, Xiaodong Fu, Charles E. Hughes, Xiaogang Jin, Changjin Kee, Woosung Kim, Robert S. Ledley, Xin Li, Yanling Liu, Niels da Vitoria Lobo, Bowen R. Loftin, Edward B. Mac Mahon, J. Michael Moshell, Aiichiro Nakano, Linda Williams Pickle, Mark Pullen, Donna Quammen, David Rine, Larry

Rosenblum, Horst D. Simon, Debra Sprague, Jingfang Wang, Ke-Qiang Wang, Shuangbao Wang, Xusheng Wang, Zheng-Min Wang, Harry Wechsler, Edward J. Wegman, Shide Xiao, Zhigen Xu, Yusong Yan, Lin Yang, Yonggao Yang, Hua Zhang, Tian-Yu Zhang, Tianshu Zhou, Changqian Zhu, Ying Zhu

- **Doctoral Advisors**

Dissertation Director:

Prof. Niels da Vitoria Lobo, Department of Computer Science, UCF

Committee members:

Prof. Charles Hughes, UCF

Prof. Michael Moshell, UCF

Prof. Demitri Terzopoulos, UCLA

- **Doctoral Advisees**

Fahad Alotaiby (Assistant Professor, Arab Open University, Riyadh, Saudi Arabia, graduated July 2005)

Jayfus Doswell (President, Juxtopia, LLC, graduated May 2005)

Shuangbao Wang (Research Assistant Professor, GSE, George Mason University, graduated April 2004)

Duncan MacPherson (Senior Scientist, National Imagery and Mapping Agency, graduated April 2003)

Xusheng Wang (Assistant Professor of CS, University of Texas - Pan American, graduated April 2003)

Yonggao Yang (Assistant Professor of CS, Prairie View A&M University, Texas, graduated June 2002)

Xiaodong Fu (Senior Software Engineer, RealNetworks, Inc, graduated June 2000)

Ying Zhu (Assistant Professor of CS, Georgia State University, graduated May 2000)

Ken Alford (Professor, Leadership & Info. Strategy Dept., National Defense Univ., graduated April 2000)

Jingfang Wang (Research Scientist, AT&T, graduated Sept. 1998)

- **Doctoral Committee Member**

Hua Zhang (Director: Changqian Zhu, June 06)

Suet Chun Lee (Director: D. Rine, April 06)

Hui Zeng (Director: D. Rine, May 05)

Yuguang Zhang (Director: D. Carr, May 04)

James Yven (Director: H. Wechsler, March 04)

James A. Shine (Director: D. Carr; Dec. 02)

Christine Youngblut (Director: E. Sibley; March 01)

Donald M. York (Director: P. Brouse; March 01)

Catherine McCabe (Director: O. Frieder; May 00)

Padmavathi V. Mundur (Directors: A. Sood and R. Simon; April 00)

Nicole Melander (Director: O. Frieder; July 99)

Phil Barry (Director: P. Brouse; Feb. 99)

Junda Chen (Director: D. Rine; Feb. 98)

Carol Lundquist (Director: O. Frieder; Nov. 97)

Ron H. Kausewitz (Director: A. Sood; Nov. 97)

David Grossman (Director: O. Frieder; Dec. 95)

- **International Collaboration**

*Guest Professor*, Xihua University, Chengdu, China (May, 2006)

*Advisory Professor*, Beijing Jiaotong University, Beijing, China (June, 2005)  
*Concurrent Professor*, Fudan University, Shanghai, China (June, 2005)  
*Guest Professor*, Sichuan Normal University, Chengdu, China (December, 2004)  
*Guest Professor*, Southwest Jiaotong University, Chengdu, China (December, 2002)  
*Distinguished Visiting Professor*, Hoseo University, Asan, Korea (August, 2002)

### **MAJOR GRANT AND CONTRACT AWARDS**

“MRI: A VR Testbed for Research and Teaching in Visualization, Simulation and Edutainment,”

*National Science Foundation*

Principal Investigator (PI)

8/15/06 - 7/31/08

\$131,616

“Museum-Related Multimedia and Virtual Environments for Teaching and Learning Science,”

*National Science Foundation*

Co-PI (PI: Chris Dede; Co-PI: David K. Allison, Lynn Fontana)

2/1/00 - 1/31/02

\$1,008,906

“DEVISE: Designing Environments for Virtual Immersive Science Education,”

*U.S. Department of Education*

Co-PI (PI: Mike Behrmann; Co-PI: Chris Dede)

9/1/99 - 9/1/01

\$400,000

### **PATENTS**

1. J. Cui and J. X. Chen, "Image-based Clipping," *US Patent number 7,170,530*, January 30, 2007.
2. J.X. Chen, "Method and Apparatus for Generating a Straight Line," *US Patent number 6,480,195*, Nov. 2002.
3. N.V. Lobo and J.X. Chen, "Real-Time Simulation of Fluids," *US Patent number 5537641*, July 1996.

### **HONORS AWARDED**

- Certificate of Appreciation, *IEEE Computer Society* (for organizing IEEE Virtual Reality 2006)
- Recognition Award, *George Mason Intellectual Properties* (for creative contributions to his licensed invention, 2006)
- Certificate of Appreciation, *IEEE Computer Society* (for organizing IEEE Virtual Reality 2004)
- Certificate of Appreciation, *IEEE Computer Society* (for organizing IEEE Virtual Reality 2003)
- Certificate of Appreciation, *IEEE Computer Society* (for organizing IEEE Virtual Reality 2002)
- Certificate of Recognition, *BFGOODRICH Collegiate Inventors Program* (for a distinguished contribution to the 1999 national collegiate invention competition, 1999)
- Certificate of Appreciation, *GMU* (for a one-day community orientation contribution, 1997)
- Link Foundation Fellowship, *Link Foundation* (for real-time fluid simulation, 1994)