

**Andrew J. Hanson**  
Computer Science Department  
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### Professional Degrees:

1966: Harvard College, B.A. *cum laude* in Chemistry and Physics  
1971: Massachusetts Institute of Technology, Ph.D. in Theoretical Physics (Thesis Advisor: Prof. Kerson Huang)

### Appointments:

1996–present: Professor, Computer Science, Indiana University  
1995–1996: Visiting Scientist, iMAGIS, Grenoble, France (sabbatical leave)  
1989–1995: Associate Professor, Computer Science, Indiana University  
1980–1989: Senior Computer Scientist, SRI International Artificial Intelligence Center  
1979–1980: Project Scientist, Technology Development of California, San Jose, CA  
1971–1979: Postdoctoral Research Associate in Theoretical Physics; Lawrence Berkeley Laboratory, Stanford Linear Accelerator Center, Cornell University, Massachusetts Institute of Technology, Institute for Advanced Study (Princeton)

### Professional Affiliations:

American Association for Artificial Intelligence, American Mathematical Society, American Physical Society, Association for Computing Machinery (Siggraph), IEEE Computer Society, Sigma Xi.

### Selected Publications:

1. A.J. Hanson and Chi-Wing Fu, “Approaches to Interactive Visualization of Large-scale Dynamic Astrophysical Environments,” in Proceedings of NSF/DoE Lake Tahoe Workshop on Hierarchical Approximation and Geometrical Methods for Scientific Visualization, 15–17 October 2000, Lake Tahoe, CA, Springer, 2001. Accepted for publication.
2. A.J. Hanson, Chi-Wing Fu, and E.A. Wernert, “Very Large Scale Visualization Methods for Astrophysical Data,” in W. de Leeuw and R. van Liere, editors, *Data Visualization 2000*, pp. 115–124, 2000. Proceedings of the the Joint EUROGRAPHICS - IEEE TCVG Symposium on Visualization, May 29-31, 2000, Amsterdam, the Netherlands.  
<http://www.cs.indiana.edu/~hanson/papers/vissym00.pdf>
3. E.A. Wernert and A.J. Hanson, “A Framework for Assisted Exploration with Collaboration,” in Proceedings of IEEE Visualization ’99, pp. 241–248, 1999.  
<http://www.cs.indiana.edu/~hanson/papers/vis99.pdf>
4. A.J. Hanson, E.A. Wernert, and S.B. Hughes, “Constrained Navigation Environments,” in Hans Hagen, Gregory M. Nielson, and Frits Post, editors, *Scientific Visualization: Dagstuhl ’97 Proceedings*, pp. 95–104. IEEE Computer Society Press, 1999.

5. A.J. Hanson and E.A. Wernert, "Constrained 3D Navigation with 2D Controllers," in Proceedings of *IEEE Visualization '97*, pp. 175–182, 1997.  
<http://www.cs.indiana.edu/~hanson/papers/vis97.pdf>

### Other Relevant Publications:

1. *Animation presented at the Siggraph 2000 Electronic Theater*: Andrew J. Hanson and Philip C.W. Fu, "Cosmic clock," Siggraph Video Review, vol. 134, scene 5, 2000. 3:35 minute refereed video animation.
2. A.J. Hanson and E. Wernert, "Image-Based Rendering with Occlusions via Cubist Images," in Proceedings of IEEE Visualization '98, pp. 327–334, 1998.
3. A.J. Hanson, "Constrained Optimal Framings of Curves and Surfaces using Quaternion Gauss Maps," in Proceedings of IEEE Visualization '98, pp. 375–382, 1998.
4. A.J. Hanson and H. Ma, "Quaternion Frame Approach to Streamline Visualization," in *IEEE Trans. on Visualization and Computer Graphics* **1**, No. 2, pp. 164–174, 1995.
5. A.J. Hanson, T. Munzner, and G. Francis, "Interactive Methods for Visualizable Geometry," *IEEE Computer* **27**, No. 7, pp. 73–83, 1994.

### Selected Grants and Contracts

1. "The Journey of the Sun – A Virtual Reality Simulation ," co-principal investigator with Priscilla Frisch and Donald York, Dept. of Astronomy, University of Chicago. NASA Applied Information Systems Research Program grant NAG5-8163, 2/1/1999 –1/31/2002, \$221,259.
2. Participant in "An Infrastructure for Conceptualization and Visualization," D. Wise, principal investigator, an NSF Institutional Infrastructure grant, 7/1/93 – 6/30/98, NSF CDA 93-03189 for \$1,250,514 plus \$325,000 in matching funds.
3. Principal Investigator for "Interactive Mathematical Visualization," 8/1/92 – 1/31/95, NSF IRI-91-06389, for \$176,378 plus \$23,000 match.
4. Co-Principal Investigator on NSF research instrumentation grant for graphics laboratory, NSF CDA-92-23008, 5/1/93 – 10/31/95, for \$100,000 plus \$50,000 Indiana University match.
5. Principal Investigator on NSF-funded joint research project with Stanford University Psychology Department, "Teaching and Learning of Spatial Intuition: Collaborative Research," 15 February 1986 – 30 November 1988. NSF grant number IST-8511751, for \$171,975.

### Recent Collaborators:

Philip Chi-Wing Fu, Stuart Levy, Eric Wernert, Stephen Hughes, George Francis, Tamara Munzner.

### Graduate Students:

Pheng Ann Heng (1992), Robert Cross (1995), JiYoung Chang (1995), Hui Ma (1996), Eric Wernert (2000). *Current Ph.D. candidates*: Philip Chi-Wing Fu.