

CHRISTIAAN PAUL GRIBBLE

VITA

October 2009

Personal Information:

Born: 8 July 1978
Citizenship: United States of America
Current position: Assistant professor
Current address: Department of Computer Science
Grove City College
100 Campus Drive, Box 3150
Grove City, PA 16127
Phone numbers: 724.450.1535 (office)
724.450.4031 (fax)
E-mail address: cpgribble@gcc.edu

Education:

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| University of Utah | PhD/Computer Science | December 2006 |
| Dissertation title: | <i>Interactive Methods for Effective Particle Visualization</i> | |
| Supervisory committee: | Steven Parker, PhD (chair) Charles Hansen, PhD Victoria Interrante, PhD Christopher Johnson, PhD Peter Shirley, PhD | |
| Carnegie Mellon University | MS/Information Networking | May 2002 |
| Thesis title: | <i>Parallel Rendering for the Terascale Computing System</i> | |
| Supervisory committee: | Jessica Hodgins, PhD (chair) Joel Welling, PhD | |
| Grove City College | BS/Mathematics BA/Political Science | May 2000 |
| Academic honors: | <i>Magna Cum Laude</i> | |

Professional Employment:

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| Grove City College | Assistant professor | January 2007—present |
| Scientific Computing & Imaging Institute | Postdoctoral research fellow | November 2006—December 2006 |
| Scientific Computing & Imaging Institute | Research assistant | August 2002—October 2006 |
| University of Bristol Computer Graphics Group | Visiting research assistant | August 2005—October 2005 |
| Pittsburgh Supercomputing Center | Research assistant | May 2001—July 2002 |

Research Interests:

Computer graphics & visualization: Light transport simulation for predictive rendering, image synthesis & visual simulation applications; global illumination algorithms; interactive rendering
High-performance computing: Scalable parallel rendering algorithms; cluster-based systems; shared & distributed memory systems; high-speed network transport protocols
Other: Computer graphics & visualization in the humanities

Grant Proposals & Related Funding:

External

1. C. Gribble. Continued Support for Computer Science Education & Research at Grove City College. Professor Partnership Program, NVIDIA Corporation, equipment donation, February 2008.
2. C. Gribble. Leveraging Programmable GPUs in Education & Research. Professor Partnership Program, NVIDIA Corporation, equipment donation, May 2007.

Internal

3. C. Gribble & W. Birmingham. Request for Student Summer Support: Advancing Research in LIVE-M: CUDA and Mobile Communications/Computing. Swezey Scientific Instrumentation Fund, Grove City College, \$16000, January 2009.
4. C. Gribble & W. Birmingham. Request for Student Summer Support: Advancing Research in the Laboratory for Interactive Visualization, Entertainment, & Mobility. Swezey Scientific Instrumentation Fund, Grove City College, \$6400, October 2007.
5. C. Gribble, W. Birmingham, & V. DiStasi. Establishing the Laboratory for Interactive Visualization, Entertainment, & Mobility (LIVE-M). Swezey Scientific Instrumentation Fund, Grove City College, \$50000, May 2007.

Publications:

Peer-Reviewed Journal Articles

1. C. Gribble. Introducing Multithreaded Programming: POSIX Threads and NVIDIA's CUDA. *ASEE Computers in Education Journal*, to appear.
2. C. Gribble. Ray Tracing for Undergraduates. *ASEE Computers in Education Journal*, October-December 2008.
3. C. Gribble, C. Brownlee, & S. Parker. Practical Global Illumination for Interactive Particle Visualization. *Computers & Graphics*, February 2008.
4. C. Gribble, T. Ize, A. Kensler, I. Wald, & S. Parker. A Coherent Grid Traversal Approach to Visualizing Particle-Based Simulation Datasets. *IEEE Transactions on Visualization & Computer Graphics*, July/August 2007.
5. D. DeMarle, C. Gribble, S. Boulos, & S. Parker. Memory Sharing for Interactive Ray Tracing on Clusters. *Journal of Parallel Computing*, February 2005.
6. C. Hansen, S. Parker, & C. Gribble. So Much Data, So Little Time... *Parallel Computing: Software Technology, Algorithms, Architectures, & Applications*, September 2003.

Peer-Reviewed Conference & Symposium Papers

7. C. Gribble. Introducing Multithreaded Programming: POSIX Threads and NVIDIA's CUDA. In *2009 ASEE Annual Conference & Exposition*, June 2009.
8. K. Ramani, C. Gribble, & A. Davis. StreamRay: A Stream Filtering Architecture for Coherent Ray Tracing. In *Fourteenth International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS '09)*, March 2009.
9. C. Gribble & K. Ramani. Coherent Ray Tracing via Stream Filtering. In *IEEE/Eurographics Symposium on Interactive Ray Tracing*, August 2008.
10. C. Gribble. Ray Tracing for Undergraduates. In *2008 ASEE Annual Conference & Exposition*, June 2008.
11. C. Gribble & S. Parker. Interactive Particle Visualization with Advanced Shading Models using Lazy Evaluation. In *Eurographics Symposium on Parallel Graphics & Visualization*, May 2007.
12. C. Gribble, A. Stephens, J. Guilkey, & S. Parker. Visualizing Particle-Based Simulation Data on the Desktop. In *British HCI 2006 Workshop on Combining Visualization & Interaction to Facilitate Scientific Exploration & Discovery*, September 2006.
13. C. Gribble & S. Parker. Enhancing Interactive Particle Visualization with Advanced Shading Models. In *ACM SIGGRAPH Third Symposium on Applied Perception in Graphics & Visualization*, July 2006.
14. J. Bigler, J. Guilkey, C. Gribble, C. Hansen, & S. Parker. A Case Study: Visualizing Material Point Method Data. In *Eurographics/IEEE-VGTC Symposium on Visualization*, May 2006.
15. D. DeMarle, C. Gribble, & S. Parker. Memory-Savvy Distributed Interactive Ray Tracing. In *Eurographics Symposium on Parallel Graphics & Visualization*, June 2004.
16. D. DeMarle, S. Parker, M. Hartner, C. Gribble, & C. Hansen. Distributed Interactive Ray Tracing for Large Volume Visualization. In *IEEE Symposium on Parallel Visualization & Graphics*, October 2003.
17. C. Gribble, J. Vasak, & J. Welling. A Visualization Subsystem for the PSC TCS. In *IEEE Workshop on Commodity-Based Visualization Clusters*, October 2002.

Peer-Reviewed Book Chapters

18. C. Gribble. Interactive Particle Visualization. In *Trends in Interactive Visualization: State of the Art Survey*, Zudilova-Seinstra, Adriaansen, & van Liere, editors, November 2008.

Other

19. J. Heinly, K. Bensema, & C. Gribble. Packet-Based Interactive Ray Tracing with CUDA. Poster, in *ACM SIGGRAPH/Eurographics High Performance Graphics*, August 2009.
20. K. Ramani, C. Gribble, & A. Davis. Stream Filtering in StreamRay: An Architecture for Coherent Ray Tracing. Technical report, *Department of Computer Science, Grove City College, GCC-CS-002-2008*, August 2008.
21. I. Wald, C. Gribble, S. Boulos, & A. Kensler. SIMD Ray Stream Tracing. Poster, in *IEEE/Eurographics Symposium on Interactive Ray Tracing*, September 2007.
22. C. Gribble, T. Ize, A. Kensler, I. Wald, & S. Parker. A Coherent Grid Traversal Approach to Visualizing Particle-Based Simulation Datasets. Poster, in *IEEE Symposium on Interactive Ray Tracing*, September 2006.
23. C. Gribble & S. Parker. An Experimental Design for Determining the Effects of Illumination Models in Particle Visualization. Poster, in *ACM SIGGRAPH Second Symposium on Applied Perception in Graphics & Visualization*, August 2005.
24. C. Gribble, S. Parker, & C. Hansen. Interactive Volume Rendering of Large Datasets using the Silicon Graphics Onyx4 Visualization System. Technical report, *School of Computing, University of Utah, UUSOC-04-003*, January 2004.
25. C. Gribble, X. Cavin, M. Hartner, & C. Hansen. Cluster-based Interactive Volume Rendering with Simian. Technical report, *School of Computing, University of Utah, UUSOC-03-017*, September 2003.
26. C. Gribble & S. Parker. A Survey of the Itanium Architecture from a Programmer's Perspective. Technical report, *Scientific Computing & Imaging Institute, University of Utah, UUSCI-2003-003*, August 2003.

Teaching Interests:

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| Computer graphics & visualization: | Introductory & advanced computer graphics, scientific visualization, game design & development |
| High-performance computing: | Parallel & distributed computing, parallel programming for shared & distributed memory systems |
| Other: | Operating systems, computer security, computer networking |

Courses Taught:

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| Computer Programming II, Grove City College | Fall 2009 |
| Advanced Programming & Data Structures, Grove City College | Fall 2009 |
| Object Oriented & Advanced Programming, Grove City College | Fall 2009 |
| Data Communications & Networking, Grove City College | Fall 2009 |
| Advanced Programming & Data Structures, Grove City College | Spring 2009 |
| Computer Architecture & Organization, Grove City College | Spring 2009 |
| Operating Systems, Grove City College | Spring 2009 |
| Introduction to Computer Graphics, Grove City College | Spring 2009 |
| Computer Programming I, Grove City College | Fall 2008 |
| Computer Programming II, Grove City College | Fall 2008 |
| Advanced Programming & Data Structures, Grove City College | Fall 2008 |
| Object Oriented & Advanced Programming, Grove City College | Fall 2008 |
| Computer Programming I, Grove City College | Spring 2008 |
| Advanced Programming & Data Structures, Grove City College | Spring 2008 |
| Operating Systems, Grove City College | Spring 2008 |
| Introduction to Computer Graphics, Grove City College | Spring 2008 |
| Image Synthesis using Ray Tracing, Grove City College | Spring 2008 |
| Computer Programming I, Grove City College | Fall 2007 |
| Computer Programming II, Grove City College | Fall 2007 |
| Advanced Programming & Data Structures, Grove City College | Fall 2007 |

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| Image Synthesis using Ray Tracing, Grove City College | | Fall 2007 |
| Computer Programming I, Grove City College | | Spring 2007 |
| Operating Systems, Grove City College | | Spring 2007 |
| Web Programming Technologies, Grove City College | | Spring 2007 |

Other Teaching Experience:

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| Advanced Computer Graphics II, University of Utah | Co-instructor | Spring 2006 |
| Advanced Computer Graphics II, University of Utah | Assistant instructor | Spring 2005 |
| Telecommunication Security, Carnegie Mellon University | Teaching assistant | Spring 2002 |

Honors & Awards:

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| University of Utah Graduate Research Fellowship Program | Research fellow | 2005—2006 |
| School of Computing Outstanding Teaching Assistant Award Program | Honorable mention | 2005 |
| NASA Glenn Research Center Collaborative Summer Research Program | Accepted applicant | 2001 |
| Carnegie Mellon University Full Tuition Scholarship for Graduate Studies | | 2000—2002 |
| Grove City College Synod of the Trinity Scholarship | | 1996—2000 |
| Grove City College Presidential Scholars List | | 1999—2000 |
| Grove City College Dean's List, with distinction | | 1996—1999 |
| National Collegiate Mathematics Award | | 1997 |
| Elks National Foundation 4-year Scholarship for Undergraduate Studies | | 1996 |

Academic & Professional Service:

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| Grove City College Chapter of Sigma Xi, the Scientific Research Society | Vice president | 2009—present |
| Grove City College Campus Technology Committee | Member | 2009—present |
| Grove City College Chapter of the Association for Computing Machinery | Academic advisor | 2008—present |
| Grove City College Visual Simulation Group | Director | 2007—present |
| Center for Vision & Values Working Group on Ethics & Character Formation | Member | 2007—present |
| ACM/Eurographics High-Performance Graphics conference | Program committee | 2009 |
| IEEE/Eurographics Symposium on Interactive Ray Tracing | Program committee | 2007—2008 |
| IEEE/Eurographics Symposium on Interactive Ray Tracing | Steering committee | 2006—2008 |
| IEEE/Eurographics Symposium on Interactive Ray Tracing | Publicity chair | 2008 |
| IEEE Symposium on Interactive Ray Tracing | Poster session chair | 2006 |
| IEEE Symposium on Interactive Ray Tracing | Co-organizer | 2006 |
| Graduate Student Advisory Committee, University of Utah | Chairman | 2004—2005 |
| School of Computing Research Day, University of Utah | Director | 2005 |
| Graduate Student Advisory Committee, University of Utah | Student representative | 2003—2004 |
| Incoming Graduate Student Working Group, University of Utah | Student representative | 2004 |
| IEEE Visualization conference series | Student volunteer | 2002—2003 |
| ACM/IEEE Supercomputing conference series | Student volunteer | 2003 |
| Information Networking Symposium, Carnegie Mellon University | Director | 2002 |
| B.Y.T.E. Computer Science Honor Society, Grove City College | President | 1999 |
| Interfraternity Council, Grove City College | President | 1999 |
| Pan Sophic Fraternity, Grove City College | Rush chairman | 1998 |
| Pan Sophic Fraternity, Grove City College | Treasurer | 1998 |

Professional Memberships:

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|---|--|--------------|
| Council on Undergraduate Research | | 2009—present |
| ACM Special Interest Group on Graphics and Interactive Techniques | | 2007—present |
| Sigma Xi, the Scientific Research Society | | 2007—present |
| American Society for Engineering Education | | 2007—present |
| Institute for Electrical & Electronics Engineers | | 2003—present |
| Association for Computing Machinery | | 2002—2003 |
| Beta Tau Upsilon Epsilon, Grove City College Computer Science Honor Society | | 1998—2000 |
| Kappa Mu Epsilon, National Mathematics Honor Society | | 1998 |

Reviews & Panels:

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|---|----------|------|
| ACM SIGGRAPH/Eurographics High Performance Graphics | Reviewer | 2009 |
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| SIGGRAPH Asia | Reviewer | 2009 |
| American Society for Engineering Education, North Central Section | Reviewer | 2007—2008 |
| National Science Foundation, CRI-07 Knowledge Discovery | Panelist | 2007 |
| IEEE/Eurographics Symposium on Interactive Ray Tracing | Reviewer | 2006—2008 |
| Eurographics conference series | Reviewer | 2005—2006, 2008—2009 |
| IEEE Visualization conference series | Reviewer | 2005, 2007—2009 |
| Eurographics Symposium on Rendering | Reviewer | 2004 |
| IASTED Computer Graphics & Imaging | Reviewer | 2004 |