

David R. Pugmire

Scientist

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Education and Training

2000 University of Utah, Computer Science, Ph.D.

1992 University of Utah, Computer Science, B.S.

Research and Professional Experience

2011-present Visualization Task Lead. Oak Ridge National Laboratory, National Center for Computational Sciences, Oak Ridge, TN.

2007-2011 Computer Scientist. Oak Ridge National Laboratory, National Center for Computational Sciences, Oak Ridge, TN.

2003-2007 Computer Scientist. Los Alamos National Laboratory, Los Alamos, NM.

1997-2003 R&D Staff, IronCAD, LLC.

Publications

1. P. Sutter, H. Yang, P. Ricker, G. Foreman, D. Pugmire. "An examination of magnetized outflows from active galactic nuclei in galaxy clusters," Monthly Notices of the Royal Astronomical Society, 2011
2. A.R. Sanderson, G. Chen, X. Tricoche, D. Pugmire, S. Kruger, J. Breslau. "Analysis of Recurrent Patterns in Toroidal Magnetic Fields," In Proceedings Visualization / Information Visualization 2010, IEEE Transactions on Visualization and Computer Graphics, Vol. 16, No. 6, 2010.
3. D. Camp, C. Garth, H. Childs, D. Pugmire, K. Joy, Streamline Integration using MPI-Hybrid Parallelism on Large Multi-Core Architecture. IEEE Transactions on Visualization and Computer Graphics, Vol 99, 2010.
4. G.H. Weber, et al., Recent Advances in VisIt: AMR Streamlines and Query-Driven Visualization, Numerical Modeling of Space Plasma Flows: Astronom 2009, Astronomical Society of the Pacific Conference Series, Vol 429, pp. 329-334, 2010.
5. D. Pugmire, H.Childs, C.Garth, S.Ahern, G. Weber, Scalable Computation of Streamlines on Very Large Datasets, Proceedings of Supercomputing 2009, Portland OR, November 2009
6. E.W. Bethel, et. al, Occam's razor and petascale visual data analysis, 2009 Journal of Physics: Conference Series 180 012084 (18pp) doi: 10.1088/1742-6596/180/1/012084
7. L. Monroe, D. Pugmire, A Case Study of Collaborative Facilities Use in Engineering Design, Proceedings of Computer Human Interactions 2009, Boston MA, April 2009
8. J. Patchett, J. Ahrens, S. Ahern, D. Pugmire, Parallel Visualization and Analysis with ParaView on a Cray XT4, Proceedings of Cray Users Group 2008, Atlanta, GA 2008
9. D. Pugmire, H.Childs, S. Ahern, Parallel Analysis and Visualization on Cray Computer Node Linux, Proceedings of Cray Users Group 2007, Helsinki Finland 2007
10. D. Pugmire, Visualization of Complex Mechanical Models, ADTSC Nuclear Weapons Program Highlights 2007.

Awards and Honors

1. Employee of the Month, Computing and Computational Sciences Directorate, June 2011
2. SciDAC Vis Night 2011 juried award for best visual aesthetics for Magnetic Field Outflows from Active Galactic Nuclei.
3. People's Choice Awards, SciDAC Vis Night 2011 for Magnetic Field Outflows from Active Galactic Nuclei.

4. People's Choice Awards, SciDAC Vis Night 2011 for Magnetic Fields in Core-Collapse Supernovae
5. People's Choice Award, SciDAC Vis Night 2010, for Clean Energy for the Future with the ITER Reactor
6. ORNL Science and Technology Award of Excellence, 2010
7. R&D 100 Award for NPU-Based Image Compositor, 2006

Synergistic Activities

1. 2008 DOE Computer Graphics Forum Technical Program Chair
2. SuperComputing 2012 Technical Paper Committee
3. Reviewer: SuperComputing Conference, IEEE Visualization Conference, International Symposium on Visual Computing, IEEE Virtual Reality, Transactions on Visualization and Computer Graphics

Graduate and Postdoctoral Advisors

Ph.D. Advisors: Elaine Cohen (chair), Chris Johnson, Rich Riesenfeld, University of Utah