Katherine J. Evans

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Education

GEORGIA INSTITUTE OF TECHNOLOGY — Atlanta, GA
Ph.D. in Atmospheric Science, May 2000.
Advisor: Robert Black
Thesis, *A Quantitative Analysis of the Physical Mechanisms Governing the Life Cycles of Persistent Flow Anomalies.*

GEORGIA INSTITUTE OF TECHNOLOGY — Atlanta, GA
M.S., December 1999.

HAVERFORD COLLEGE — Haverford, PA
B.S. in Physics, May 1993.
Advisor: Jerry Gollub
Thesis, *Fracture dynamics of a thin polymer film adhered to a glass substrate.*

Research Experience

UNIVERSITY OF TENNESSEE, 9/11–present — Knoxville, TN
Adjunct Assistant Professor, School of Mathematics
Advise Ph.D. and undergraduate students and collaborate with faculty on projects in computational science, fluid flow, and climate science.

OAK RIDGE NATIONAL LABORATORY, 6/07–present — Oak Ridge, TN
Research and Development Staff
Current research efforts include (1) site-PI and verification and validation task lead for a DOE BER SciDAC project to develop a continental-scale Community Ice Sheet model within the CESM, and (2) the configuration, development, and analysis of a fully coupled high-resolution Community Earth System model (CESM) to quantify the importance of increased resolution for climate prediction, (3) development of highly scalable and multiple time level implicit algorithms for optimal scaling and accuracy of a global spectral element atmospheric model, CAM-SE.

LOS ALAMOS NATIONAL LABORATORY, 2/06–4/07 — Los Alamos, NM
Technical Staff Member
Extended fully implicit algorithms, specifically Jacobian Free-Newton Krylov, to incorporate multiphase flow and solutal buoyancy. In tandem, developed efficient preconditioners for highly coupled physical systems. Extended a nonlinear convection phase change algorithm to study the time dependent behavior of multiple celled convective solidifying flow through (1) higher order discretizations and (2) the addition of a concentration equation to simulate solutal buoyancy effects. These algorithms have the capability to be incorporated into models of transient ocean circulations and phase transitions within an alloy. Concurrently, a model that performs linear stability analyses has been developed as a benchmark.

LOS ALAMOS NATIONAL LABORATORY, 11/03–2/06 — Los Alamos, NM
Postdoctoral Research Associate
Developed an efficient 2-D nonlinear algorithm with Jacobian-Free Newton-Krylov solver

and SIMPLE physics-based preconditioner to simulate phase transition and convection in a pure material accurate for long time integration. Analyzed the inclusion of a multigrid preconditioner for solutions of two phase flow. Designed and implemented a comprehensive condensation/evaporation scheme within a 2-D nonlinear compressible Navier-Stokes cloud model with JFNK solver. Created sub-algorithms to measure transmission and radiance of simulated stack plumes in a parallel three-dimensional computational fluid dynamics model.

GEORGIA INSTITUTE OF TECHNOLOGY, 1995–2000 Atlanta, GA
Graduate Research Assistant
Analyzed large scale anomalous upper tropospheric flow patterns in observed and model derived global databases. Developed an expanded quantitative diagnostic technique within a potential vorticity framework to partition physical aspects of the flow.

HAVERFORD COLLEGE, May 1992-1993 Haverford, PA
Research Assistant
Investigated the quantitative nature of fracture dynamics of thin polymer films with a new diagnostic employing optical sensors.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, Spring 1992 Gaithersburg, MD
Physics Research Intern
Developed and performed calculations for atomics optics research.

Computer Skills

Operating Systems/Programming Languages:
Experienced user on POSIX-standard systems (UNIX, LINUX) with system administration experience on a several small LINUX clusters. Extensive programming ability in FORTRAN 95/2003 and MATLAB. Experienced user of the LaTeX typesetting system, and several scripting languages, including python.

Tools and Databases:
Experience with several large scale atmospheric global databases and Earth system models as well as a number of climate application specific software, such as netcdf, NCL, CDO, and SCRIP, and more general tools such as Tecplot, Trilinos, and SVN.

Certifications

- DOE Q-clearance

Teaching

- *Introduction to Fluid Dynamics*, Graduate teaching assistant, which involved office hours for student questions, a substitute lecture, and organizing appropriate fluid flow films for class viewing. Georgia Institute of Technology, Atlanta, Fall 1996.
- *CESM Tutorial*, Instructor, taught ice sheet component lab to students of the Community Earth System Model (CESM). This lab presented the configuration and execution of the Community Ice Sheet Model, a component of the CESM. Nat'l Center for Atmospheric Research, Aug. 2012.

Professional Courses

- Cargese International School, COST Action 723 *Upper Troposphere and Lower Stratosphere*. Cargese, FR, October 3–15, 2005.

Awards

- Outstanding Presentation in Physics Category, 2005 Symposium for Students and Postdocs, Los Alamos National Laboratory.
- Travel Award, Cargese International School, *Upper Troposphere and Lower Stratosphere*. Cargese, FR, October 3–15, 2005.

- Senior Dean's Fellowship for most outstanding senior Ph.D. student, School of Earth and Atmospheric Sciences, Georgia Tech. Atlanta, GA, 2000.
- William Rhodes Fellowship, School of Earth and Atmospheric Sciences, Georgia Tech. Atlanta, GA, 1997-1998.
- Kiwanian of the Year, Kiwanis Club of Los Alamos, 2004, for organizing a charity auction that raised more than 12,000 dollars for local youth programs.
- Graduate Senate Presidential Citation for outstanding service, Georgia Tech. Atlanta, GA, 1997.

Organizations

- American Geophysical Union.
- American Meteorological Society.
- Society for Industrial and Applied Mathematics.

Recent Grants

- DOE INCITE Allocation Proposal (2012) *Climate impact of regional short-lived climate forcer emissions*, senior investigator, pending.
- DOE BER SciDAC Laboratory Proposal LAB 11-588 (2011) *Multiscale Methods for Accurate, Efficient, and Scale-Aware Models of the Earth System*, senior investigator, 1.2M over 5 years to ORNL.
- DOE BER SciDAC Laboratory Proposal LAB 11-588 (2011) Site PI, Science Lead for V&V. *Predicting Ice Sheet and Climate Evolution at Extreme Scales*, 2M over 5 years to ORNL.
- DOE ASCR Leadership Computing Challenge Allocation (2010), PI. *A scalable, efficient, and accurate Community Ice Sheet Model*, 5M hours on LCF systems.
- DOE Office of Science BER Program (2010), senior investigator. *Development of Frameworks for Robust Regional Climate Modeling*, 1.5M for 3 years.

Previous Grants

- DOE Office of Science OASCR Program (2009), PI. *A Scalable, Efficient, and Accurate Community Ice Sheet Model*, 2M for 3 years.
- Institute for Advanced Algorithms and Architectures (2008), co-I. *Scalable algorithms for petascale systems with multicore architectures.*
- Oak Ridge National Laboratory LDRD (2008), PI, *Decadal Prediction of the Earth System after Major Volcanic Eruptions*, 690K for 2 years.
- Oak Ridge National Laboratory LDRD (2008), co-I, *DENOVO: The Next-Generation HPC Solver for Multi-Scale Nuclear Energy Transport.*
- Oak Ridge National Laboratory LDRD (2007), co-I, *Overcoming the Barrier to Ultrascale Climate Simulations.*

Refereed Publications

1. J. Jia, J. C. Hill, K. J. Evans, G. I. Fann (2012). A spectral deferred correction method in time applied to solving the shallow water equations. *Mon. Wea. Rev.*, in review.
2. K. J. Evans and K. S. Roddy (2012). Temporal Analysis of Weakly Unstable Thermosolutal Gradient Flows. *Phys. Fluids*, in review.
3. I. Carpenter, R. Archibald, K. Evans, P. Micikevicius, J. Larkin, J. Rosinski, J. Schwarzmeier, M. A. Taylor (2012). Progress toward accelerating HOMME for hybrid multi-core architectures. *Int. J. High Perf. Comp. Appl.*, accepted for publication.
4. S. Mahajan, K. J. Evans, J. Truesdale, J. Hack, J.-F. Lamarque (2012). Inter-annual Tropospheric Aerosol Variability in Late Twentieth Century and its Impact on Tropical Atlantic and West African Climate by Direct and Semi-direct Effects. *J. Climate*, accepted for publication.

5. K. J. Evans, P. H. Lauritzen, S. K. Mishra, R. Neale, M. A. Taylor, J. J. Tribbia (2012). AMIP Simulation with the CAM4 Spectral Element Dynamical Core. *J. Climate*, accepted for publication.
6. K. J. Evans, A. G. Salinger, P. H. Worley, S. Price, W. Lipscomb, J. Nichols, J. B. White III, M. Perego, J. Edwards, M. Vertenstein, J.-F. Lemieux (2012). A modern solver template to manage solution algorithms in the Community Earth System Model. *Int. J. High Perf. Comp. App.*, **26**: 54-62, doi:10.1177/1094342011435159.
7. J. Dennis, J. Edwards, K. J. Evans, O. Guba, P.H. Lauritzen, A. Mirin, A. St.-Cyr, M. Taylor, P. Worley (2012). CAM-SE: A scalable spectral element dynamical core for the Community Atmosphere Model. *Int. J. High Perf. Comp. App.*, **26**: 74-89, doi:10.1177/1094342011428142.
8. J.-F. Lemieux, S. Price, K. J. Evans, D. A. Knoll, A. Salinger, D. Holland, T. Payne (2011). Implementation of the Jacobian-Free Newton-Krylov method for solving the first-order ice sheet momentum balance, *J. Comp. Phys.*, **230**:6531-6545, doi:10.1016/j.jcp.2011.04.037.
9. R. Archibald, K. Evans, J. Drake, J. White (2011). Multiwavelet discontinuous Galerkin accelerated EPL method for the shallow water equations on the cubed sphere. *Mon. Wea. Rev.*, **139**:457-473.
10. K. Evans, M. Taylor, J. Drake (2010). Accuracy analysis of a spectral element atmospheric model using a fully implicit solution framework. *Mon. Wea. Rev.*, **138**:3333-3341.
11. R. Archibald, K. Evans, J. Drake, J. White (2009). Time acceleration methods for convection in the cubed sphere. *Lecture Notes in Comp. Sci.*, **5545**:253-262.
12. K. Evans, D. Rouson, A. Salinger, M. Taylor, W. Weijer, and J. White (2009). A scalable and adaptable solution framework within components of the Community Climate System Model. *Lecture Notes in Comp. Sci.*, **5545**:332-341.
13. K.J. Evans and D.A. Knoll (2007). Temporal accuracy analysis of phase change convection simulations. *Int. Journal of Num. Meth. Fluids.* **55**:637-655. DOI 10.1002/fld.1478.
14. K.J. Evans and D.A. Knoll and M.A. Pernice (2007). Enhanced Algorithm efficiency using a multigrid preconditioner and a SIMPLE based smoother. *Journal of Comp. Phys.*, **223**:121-126.
15. K.J. Evans and D.A. Knoll and M.A. Pernice (2006). Development of 2-D algorithm to simulate convection and phase transition efficiently. *Journal of Comp. Phys.*, **219**:404-417.
16. K.J. Evans and R.X. Black (2003). Piecewise tendency diagnosis of weather regime transitions. *Journal. of Atm. Sci.*, **60**:1941-1959.
17. R.X. Black and K.J. Evans (1998). The statistics and horizontal structure of anomlaous weather regimes in the community climate model. *Mon. Wea. Rev.*, **126**:841-859.

Conference Proceedings

1. M. Norman, J. Larkin, R. Archibald, I. Carpenter, V. Anantharaj, P. Micikevicus, K. Evans (2012). Porting the Community Atmosphere Model - Spectral Element Code to Utilize GPU Accelerators *Proceedings of the Cray Users Group, Stuttgart, Germany.*
2. P. A. Lott, H. C. Elman, K. J. Evans, X. S. Li, A. G. Salinger, C. S. Woodward (2011). Recent Progress in Nonlinear and Linear Solvers. *in Proc. SciDAC 2011, Denver, CO, July 10-14, 2011, http://press.mcs.anl.gov/scidac2011/.*
3. M. Taylor, K. Evans, J. Hack, and P. Worley (2010). Subcycled Dynamics in the Spectral Community Atmosphere Model, Version 4. *Proceedings of 2010 Scientific Discovery through Advanced Computing (SciDAC) Conference, Chattanooga, TN, July 11-15 2010. Oak Ridge National Laboratory.*

4. A. Sandu , A. St.-Cyr, K. J. Evans (2009). Atmospheric amd Oceanic Computational Science. *First International Workshop, Proceedings of the 9th International Conference on Computational Science, May 24-27, Baton Rouge, LA, USA.*
5. J. White, K.J. Evans, R. Archibald, J. Drake, P. Worley, and D. Kothe (2008). Acceleration of Time Integration. *Proceedings of the Cray Users Group, Helsinki, Norway.*
6. K.J. Evans and R.X. Black (1999). Piecewise tendency diagnosis of weather regime transitions. *Preprints of the 12th Annual Conference on Atmospheric and Oceanic Fluid Dynamics, June 7-11 1999, New York City, NY, USA*
7. R.X. Black and K.J. Evans (1997). Piecewise tendency diagnosis: Quantifying the sources of regime transition. *Preprints of the 11th Annual Conference on Atmospheric and Oceanic Fluid Dynamics, June 23-27 1997, Tacoma, WA USA*

Invited and Chaired Workshops

1. DOE ASCR Workshop on Extreme Solvers: Transition to Future Architectures, Organizing Committee Member, American Geophysical Union, Washington, DC, March 8-9, 2012.
2. ICIS Workshop on Multiphysics Simulations: Challenges and Opportunities, Invited Speaker, Park City, UT, USA. July 31–Aug 6, 2011.
3. Copper Mountain Conference on Iterative Methods, "Iterative Methods in Applications of Energy and the Environment," Session Chair, Copper Mountain, CO, USA. April 2–6, 2010.
4. PDE breakout session, "Cross-cutting Technologies for Computing at the Exascale," Rockville, MD, USA. Feb. 2–4, 2010.
5. Theme of the Year Workshop, "Frontiers in Geophysical Simulation," Organizing Committee Member, Boulder, CO, USA. August 18–20, 2009.
6. Mini-Symposium on Atmospheric and Oceanic Computational Science, co-chair, International Conference on Computational Science, Baton Rouge, LA, USA. May 25–27, 2009.
7. Young Investigators Symposium, Oak Ridge National Laboratory, Oak Ridge, TN, October 13–15, 2008.
8. Fall Creek Falls Conference on Delivering Science on Petascale Computers, Bell Creek State Park, TN, September 7–10, 2008.
9. Computer Science and Mathematics Division Seminar Series, founder and chair, Oak Ridge National Laboratory, Oak Ridge, TN, 2007-2008.
10. U.S. – France Young Engineering Scientists Symposium, Washington, DC, October 22–24, 2007.
11. Fall Creek Falls Conference on Key Challenges in Computational Science at the Petascale, Nashville, TN, September 24–26, 2007.
12. Multiscale Modeling Workshop, co-chair, Grand Challenges Workshop Series, Los Alamos National Laboratory, Los Alamos, NM, November 17, 2006.

Invited Seminars

1. "The multiscale nature of global climate models," Earth and Atmospheric Science Seminar Series, Georgia Institute of Technology, Georgia Tech, Atlanta, GA, 2012. Geoarcheology Conference, University of Tennessee, Knoxville, TN, Sept., 2011.
2. "Design and analysis of the Community Earth System Model," Developing International Geoarcheology Conference, University of Tennessee, Knoxville, TN, Sept., 2011.
3. "The importance of being on time: Temporal accuracy in global Earth system models," Computational Sciences Department Seminar Series, The Florida State University, Tallahassee, FL, Feb., 2011.

4. "Using Computational Physics to understand and predict Earth's dynamical processes," Distinguished Graduate Fellows Seminar Series, University of Tenn., Knoxville, TN, Nov., 2010.
5. "A Scalable, Efficient, and Accurate Community Ice Sheet Model," Computer Science and Mathematics Division Advisory Board Review, June, 2010.
6. "The importance of being on time", Theme of the Year Workshop: Frontiers in Geophysical Simulation, Nat'l Center for Atm. Research, Boulder, CO, August, 2009.
7. "Fully Implicit solution framework for scalable Earth system models," Applied Mathematics Department, University of Maryland, February, 2009.
8. "Implicit solvers for fluid modeling and Earth systems applications," Sandia Nat'l Lab, December 2007.
9. "Linear stability analysis as a temporal accuracy benchmark," Fluid Dynamics Working Group, Oak Ridge Nat'l Lab and U. of Tennessee., October, 2007.
10. "Simulating fine scale convection using the JFNK-MGS algorithm," Nuclear Science and Engineering Division, Idaho Nat'l Lab., December, 2006.
11. "Temporal accuracy analysis of convection with phase transition using a JFNK-SIMPLE solution method," Mathematics Department, University of Tennessee, September, 2006.
12. "Simulation of convection with phase transition using a JFNK-MGS algorithm," Department of Applied Math, Columbia University, February, 2006.
13. "JFNK-SIMPLE algorithm applied to convection and phase change of a pure material," Sandia Nat'l Lab, November 2005.
14. "Algorithmic analysis of convection with phase transition," Center for Nonlinear Studies Seminar Series, Los Alamos Nat'l Lab. March, 2005.

Recent Conference Talks

1. "Scalable Algorithms for Global Climate Modeling", Invited. SAMSI Workshop on Uncertainty Quantification for High Performance Computing, Oak Ridge, TN, May 3, 2012.
2. "CAM4 high resolution study comparison of T341 with T85," K.J. Evans, Atmosphere Model Working Group Meeting, NCAR, Boulder, CO, Feb, 2012.
3. "Recent developments in the GLIDE CISM dycore to create high-resolution, continent-scale Greenland simulations," K.J. Evans, Land Ice Working Group Meeting, NCAR, Boulder, CO, Feb, 2012.
4. "High resolution, parallel, continental ice sheet modeling using nonlinearly consistent solution algorithms," Invited. AGU Fall Meeting, San Francisco, CA, Dec. 2011.
5. "Mean state and global characteristics of the 1 degree spectral Community Atmosphere Model," K.J. Evans, Dept. of Energy, Office of Biological and Environmental Research Science Team Meeting, Washington, DC, Sept., 2011.
6. "Progress towards high-resolution continental-scale ice sheet simulations using a higher-order dynamical core in Glimmer-CISM," K.J. Evans, Community Climate System Model Workshop, Breckenridge, CO, June, 2011.
7. "Efficient simulation with a fully implicit solver in HOMME," K.J. Evans, SIAM Conference on Mathematical and Computational Issues in the Geosciences, Long Beach, CA, USA, March, 2011.
8. "Configuration and assessment of a high-resolution spectral and spectral element CAM," K.J. Evans, Atmosphere Model Working Group Meeting, NCAR, Boulder, CO, Feb, 2011.

9. "An Improved Solution Framework for Greenland Ice Sheet Simulation within Glimmer-CISM," K.J. Evans, Land Ice Working Group Meeting, NCAR, Boulder, CO, Jan, 2011.

Invited Educational Presentations

1. NIMBioS Lecture, Vols Teach program, University of Tennessee, Knoxville, TN, March, 2012.
2. Harnessed Atom Curriculum Program, Oak Ridge Institute for Research and Education, through the Dept. of Nuclear Energy, Oak Ridge, TN, July, 2011-12.
3. Oak Ridge Science Camp for Middle School Students, Oak Ridge Institute for Research and Education, Oak Ridge, TN, July, 2011-12.
4. Austin Peay Governor's school visit, Oak Ridge National Laboratory, Oak Ridge, TN, June, 2010-12.

Recent Poster Presentations

1. S. Mahajan, K. J. Evans, J.J. Hack, J. Truesdale, and J.-F. Lamarque (2012). Interannual Tropospheric Aerosol Variability in Late Twentieth Century and its Impact on Tropical Atlantic and West African Climate by Direct and Semi-direct Effects. *Community Earth System Model Workshop*, Breckenridge, CO, USA.
2. A. L. Gaddis, J. B. Drake, K. J. Evans, R. W. Gentry (2011). Evaluating predictability in nonlinear climate systems using the Mt. Pinatubo Eruption *AGU Fall Meeting*, San Francisco, CA, USA.
3. K.J. Evans, R.A. Archibald, D.S. McKenna, J. Truesdale, M. Vertenstein, P.H. Worley (2011). Development and analysis of a high-resolution spectral Community Atmosphere Model (CAM4) *AGU Fall Meeting*, San Francisco, CA, USA.
4. K.J. Evans, J.-F. Lemieux, J. Nichols, M. Perego, S. Price, A. Salinger, P. Worley (2011). Advanced Ice Sheet Modeling: Nonlinearly Consistent continental scale ice sheet modeling. *World Research Climate Programme*, Denver, CO, USA.
5. J. McClean, D. Bader, M. Maltrud, K.J. Evans (2011). Fully-coupled fine-resolution CCSM simulations: A prototype and advancements. *World Research Climate Programme*, Denver, CO, USA.
6. R.A. Archibald, K.J. Evans, D.S. McKenna, J. Truesdale, M. Vertenstein, P.H. Worley (2011). Development and analysis of a high-resolution spectral Community Atmosphere Model (CAM4) *World Research Climate Programme*, Denver, CO, USA.
7. K.J. Evans, R.A. Archibald, D.S. McKenna, J. Truesdale, M. Vertenstein, P.H. Worley (2011). Development and analysis of a high-resolution spectral Community Atmosphere Model (CAM4) *Dept. of Energy, Office of Biological and Environmental Research Science Team Meeting*, Washington, DC, USA.
8. J. Jia, G. Fann, J.C. Hill, K.J. Evans (2011). A spectral deferred correction method in a spectral element shallow water model *Dept. of Energy Office of Adv. Sci. Comp. Research PI Meeting*, Reston, VA, USA.
9. J. Jia, G. Fann, J.C. Hill, K.J. Evans (2011). The Krylov deferred correction methods *International Conf. Society of Industrial and Applied Mathematics*, Vancouver, BC, Canada.
10. K.J. Evans, J.C. Hill, J. Jia, G. Fann (2011). A spectral deferred correction method in a spectral element shallow water model *SIAM Conference on Mathematical and Computational Issues in the Geosciences*, Long Beach, CA, USA.
11. P. A. Lott, C. S. Woodward, K.J. Evans (2011). Advancing Climate Science with Scalable Solvers *Computing Directorate External Review, LLNL*, Livermore, CA, USA.

Technical/ Workshop Reports

1. J. Ang, K. Evans, A. Geist, M. Heroux, P. Hovland, O. Marquez, L. Curfman McInnes, E. Ng, and S. Wild. *Workshop on Extreme Solvers: Transition to Future Architectures*, Sponsored by the U.S. Dept. of Energy, Office of Advanced Scientific Research, March 8–9, 2012, American Geophysical Union, Washington, DC.

2. D. E. Keyes, L. C. McInnes, C. Woodward, W.D. Gropp, E. Myra, M. Pernice, J. Bell, J. Brown, A. Clo, J. Connors, E. Constantinescu, D. Estep, K. Evans, et al. *Multiphysics Simulations: Challenges and Opportunities*, Tech. Rep. ANL/MCS-TM-321, Argonne National Laboratory, Report of workshop sponsored by the Institute for Computing in Science (ICiS), July 30-Aug 6, 2011, Park City, Utah (Dec. 2011).
3. J.R. Stephens, B.C. Letellier, and K.J. Evans. *Materials Control team Sampling Summary: Plume Positions determined by LIDAR and ERAD modeling, Hydrotest 3608*, Tech. Memo MC04-024 Los Alamos National Lab., April, 2005.
4. K.J. Evans, D.S. DeCroix, and J. Reisner. *Improved Bulk Microphysics Scheme applied to a non-linear 2-D cloud model.* LA-UR-04-8706, Los Alamos National Lab., September, 2004.
5. K.J. Evans and D.S. DeCroix. *Improved Bulk Microphysics Scheme for use in cloud models with a non-linear Navier-Stokes equation set* LA-UR-04-5634, Los Alamos National Lab., August, 2004.
6. E.R. Birnbaum and K.J. Evans. *Material Dispersion from Open-Air Dynamic Experimentation: Extrapolation from ground to air* LA-CP-04-0504, Tech. Memo MC04-015 Los Alamos National Lab., May, 2004.

In the Media

1. Genedek, E. "Climate Scientists Compute in Concert," http://www.olcf.ornl.gov/2012/02/27/climate-scientists-compute-in-concert, Feb, 2012.
2. Kumar, N. "10 Questions for a Climate Scientist: Kate Evans," http://blog.energy.gov/, May, 2011.
3. Kerns, C. "Using Supercomputers to explore ice sheets," http://www.physorg.com/news/2011-02-supercomputers-explore-ice-sheet-dynamics.html, Feb., 2011.
4. Grant, A. "Virtual Everything," *Discover Magazine*, http://discover.coverleaf.com/discovermagazine/201009?pg=64#pg64, Sept., 2010.

Reviewer

- Journal of Computational Physics
- Monthly Weather Review
- INCITE, Director's Discretion LCF allocations
- Swiss Supercomputing Center, Supercomputer allocations

Advising

- Jennifer Ribbeck, U. Tennessee, Bredesen Center Distinguished Graduate Fellow, advisor
- Abigail Gaddis, U. Tennessee, Ph.D. Candidate, co-advisor
- Melissa Allen, U. Tennessee, Bredesen Center ESE, Ph.D. Committee
- Tianyu Jiang, Adrianna Boghozian, ORNL HERE student program, 2012
- Katherine Roddy, Dartmouth, (RAMS/HERE ORNL student program, 2008,2009)

References

- Dr. Jim Hack, Oak Ridge National Laboratory, hack@ornl.gov, (865) 574-5435.
- Dr. Bill Lipscomb, Los Alamos Nat'l Laboratory, lipscomb@lanl.gov, (505) 667-0395.
- Dr. Mark Taylor, Sandia National Laboratories, mataylo@sandia.gov, (505) 284-1874.