

Vitae of Blair Perot

Dept. of Mechanical & Industrial Engineering
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EMPLOYMENT

- Professor** University of Massachusetts, Amherst, MA (2009 - Present).
Department of Mechanical and Industrial Engineering
and Graduate School of Marine Sciences and Technology
- Visiting Professor** Delft University of Technology, Netherlands (2010 - 2011).
Multi-Scale Physics Department.
- Associate Professor** University of Massachusetts, Amherst, MA (2003 - 2009).
Department of Mechanical and Industrial Engineering
and Graduate School of Marine Sciences and Technology
- Visiting Professor** Delft University of Technology, Netherlands (2003 - 2004).
Applied Mathematics Department.
- Assistant Professor** University of Massachusetts, Amherst, MA (1997 - 2003).
Department of Mechanical and Industrial Engineering
- Founder** Aquasons Inc., Canaan, NH. (1995 - Present).
Software Development.
- Staff Scientist** Los Alamos National Laboratory, Los Alamos, NM. (1994 - 1995).
T3 Group, Fluid Dynamics.

EDUCATION

- Stanford University, Ph.D.** Mechanical Engineering, January 1994.
Dissertation: "Shear-Free Turbulent Boundary Layers".
Ph.D. Minor: **Computer Science**: Parallel Architectures and Algorithms.
- Stanford University, M.S.E.** Mechanical Engineering, June 1989.
Research: "Coherent Structures in Near Wall Turbulence".
- Princeton University, B.S.E. with Highest Honors**, Aerospace Engineering, June 1987.
Senior Thesis: "A Method for Determining the Dimension of Chaotic Systems".
Minor: **Physics**.

HONORS & AWARDS

- N.W.O. Visiting Professor*, Delft University of Technology, 2010-2011
Professor of the Year, ASME Student Society, 2008, 2010.
J.M. Burgers Visiting Professor, Delft University of Technology, Netherlands, 2003-2004
Lilly Fellowship, Center for Teaching, 2002-2003.
Joseph Goldstein Award for Outstanding Junior Faculty, University of Massachusetts, 2002.
College Outstanding Teacher Award, University of Massachusetts, 2002.
STEMTEC Fellow, Five Colleges, 2002.
College Outstanding Advisor Award, University of Massachusetts, 2000.
Terman Graduate Fellowship, Stanford University, 1988-1989.
Summa Cum Laude (Highest Honors), Princeton University, 1987.
Phi Beta Kappa, National Honor Society, Princeton University, 1987.
Tau Beta Pi, Engineering Honor Society, Princeton University, 1986.

PATENTS

- Kaustubh Rao and Blair Perot, *Convergence Estimation Of Non-Linear PDE And Linear Solvers*, Docket No. 4412.1027-000, Filed December 2015.
- Martin Sanchez-Rocha and Blair Perot, *Optimal Pressure-Projection Method For Incompressible Transient And Steady-State Navier-Stokes Equations*, Docket No. 4412.1028-000, Filed March 2016.

RECENT JOURNAL AND BOOK PUBLICATIONS

1. Y. Song and J. B. Perot, *CFD Simulation of the NREL Phase VI Rotor*, *Wind Engineering*, 39 (3), 299–310, 2015. doi: 10.1260/0309-524X.39.3.299
2. T. P. Eiting, J. B. Perot, E. R. Dumont, *How much does nasal cavity morphology matter? Patterns and rates of olfactory airflow in phyllostomid bats*, *Proceedings of the Royal Society B – Biological Sciences*, 7:282 (1800) :20142161, 2015. doi: 10.1098/rspb.2014.2161.
3. B. Koren, R. Abgrall, P. Bochev, J. Frank and J. B. Perot *Physics-compatible Numerical Methods*, *Journal of Computational Physics*, **257** B, 1039-1526, 2014, doi: 10.1016/j.jcp.2013.10.015
4. C. J. Zusi and J. B. Perot, *Simulation and Modeling of Turbulence Subjected to a Periods of Axisymmetric Contraction or Expansion*, *Physics of Fluids*, 26, 115103, 2014; <http://dx.doi.org/10.1063/1.4901188>
5. T.P. Eiting, T. D. Smith, J. B. Perot and E. R. Dumont, *The Role of the Olfactory Recess in Olfactory Airflow*, *Journal of Experimental Biology*, **217** (10), 1799-1803, 2014, doi:10.1242/jeb.097402
6. J. B. Perot and C. J. Zusi, *Differential Forms for Scientists/Engineers*, *Journal of Computational Physics*, **257B**, 1373–1393, 2014. DOI: 10.1016/j.jcp.2013.08.007
7. C. J. Zusi and J. B. Perot, *Simulation and Modeling of Turbulence Subjected to a Period of Uniform Plane Strain*, *Physics of Fluids*, **25**, 110819, 2013, DOI: 10.1063/1.4821450
8. S.V. Kathuria, A. Chan, R. Graceffa, R. Nobrega, C. R. Matthews, T. C. Irving, J. B. Perot, O. Bilsel, *Advances in turbulent mixing techniques to study microsecond protein folding reactions*. *Biopolymers*, **99** (11), 888-896, 2013. DOI: 10.1002/bip.22355
9. A. Khajeh-Saeed, and J. B. Perot, *Direct Numerical Simulation of Turbulence Using GPU Accelerated Supercomputers*, *Journal of Computational Physics*, **235**, 241-257, 2013.