CURRICULUM VITAE
(abbreviated)

James J. Riley

May, 2013

General biographical information

Basic Data

Name: James J. Riley
Professor, Mechanical Engineering
Adjunct Professor, Applied Mathematics
Aeronautics & Astronautics

Educational History

Degrees: Ph.D., Fluid Mechanics, The Johns Hopkins University, 1972
Thesis supervisor: Stanley Corrsin
B.A., Physics, Rockhurst College, 1965

Employment History

Acting chair, Mechanical Engineering, University of Washington, 1997 to 1999
Professor, Mechanical Engineering, University of Washington, 1985 to present
Adjunct Professor, Applied Mathematics, University of Washington, 1985 to present
Adjunct Professor, Aeronautics & Astronautics, University of Washington, 2010 to present
Associate Professor, Mechanical Engineering, University of Washington, 1983 to 1985
Department Manager and Program Manager, Flow Industries, Inc., 1977 to 1983
Senior Research Scientist, Flow Industries, Inc., 1975 to 1983
Research Scientist, Flow Industries, Inc., 1973 to 1975
Research Physicist, Naval Research Laboratory, 1972 to 1973
Post-Doctoral Visiting Scientist, National Center for Atmospheric Research, 1971 to 1972
Chaire de Mathematiques Industrielles, l'Université Joseph Fourier, Grenoble, France, 1989 to 1992 (part-time, visiting chaired position)

Awards/Honors

Washington State Academy of Sciences
Senior Visiting Fellow, Isaac Newton Institute,
Cambridge University, Cambridge, U.K.
NATO Research & Technology Organization Lecturer,
Universidad Politecnica de Madrid, Spain
Director's Award, US Geological Service (2010)
Invited lecturer, Midwest Universities Lecture Tour (twice)
Visiting Award from Université Paul Sabatier,
Toulouse, France (twice)
PACCAR Professor of Engineering, University of Washington
Fellow, American Physical Society (1988)
Chair, Division of Fluid Dynamics, American Physical Society
Fellow, American Society of Mechanical Engineers (2003)
Fellow, Institute of Physics (2004)
Senior Scientific Fellow, Battelle Pacific Northwest National
Laboratories (1989)
Chaire de Mathematiques Industrielles, l'Université Joseph Fourier,
Grenoble, France (visiting chaired professorship)
Fellow, Center for Turbulence Research (Stanford/NASA Ames)
German Government Sabbatical Leave Fellowship
Australian Government Gleddon Visiting Fellowship

Consulting

Nu Power Technologies (board of advisors), May, 2002 to 2005
Midwest Dental Products, March, 2000 to March, 2001
Northwest Research Associates, 1990 to present
Battelle Pacific Northwest National Laboratories, 1989 to present
Corbis, Inc., 1995
Los Alamos National Laboratory, 1992
Flow Industries, Inc., 1983 to 1985
National Oceanic & Atmospheric Administration,
response to the Deepwater Horizon Oil Spill, 2009

Recent Service

Editorial Activities

Associate Editor, *Journal of Fluid Mechanics*
Editorial Committee, *Annual Review of Fluid Mechanics*
Associate Editor, *Journal of Turbulence*
Associate Editor, *Applied Mechanics Reviews*
Associate Editor, 2006 issue of *Annual Review of Fluid Mechanics*

Professional Society Activities

American Physical Society
- Chair, Annual Meeting of the Division of Fluid Dynamics, 2004
- Chair, Division of Fluid Dynamics, 1997
- Past Chair, Chair elect, Vice-Chair, Division of Fluid Dynamics, 1995-1998
- Chair, Division of Fluid Dynamics, 2013
- Chair elect, Vice-Chair, Division of Fluid Dynamics, 2010-2013
- Secretary/Treasurer, Division of Fluid Dynamics, 1992-1995

Co-organizer for the Workshop on Turbulence Measurements for LES, sponsored by the NSF, AFOSR, DARPA, DOE, October, 1999

Co-organizer for the Workshop on the Role of DNS in Turbulence Research, sponsored by the NSF and the Institute of Theoretical Physics, University of California, Santa Barbara, March, 1999

American Institute of Physics
- Advisory Committee for Selection of Editor of the *Physics of Fluids*, 1998

National Science Foundation
- Chair, National Visiting Committee, Fluid Mechanics Multi-Media Project, 1998-2001

National Science Foundation, Workshop on Supercomputer Usage, Chairman of the Fluid Mechanics Committee, December, 1983

American Meteorological Society
- Member, Committee on Boundary Layers and Turbulence (twice)
- Chair, Committee on Boundary Layers and Turbulence, 1987-1988
- Chair, Symposium on Turbulence and Diffusion, 1988

Publications

According to the *Google Scholar*, publications authored or coauthored by Professor Riley have been cited over 6,000 times with an h-index of 36.

Refereed Archival Journal Publications

McGah, P. M., et al. 2012. "Hemodynamic conditions in a failing peripheral artery bypass graft", *J. Vasc. Surg.*, **56**(2):403-409.

Kim, J. H., et al. 2012. "Immunosensor bioreaction towards low-cost, rapid diagnosis of tuberculosis", *Lab on a Chip*, **12**(8):1437-1440.

Lee, H.-B., O. Kieseok, Y. Woon-Hong, et al. 2012. "Enhanced bioreaction efficiency of a microfluidic mixer toward high-throughput and low-cost bioassays", *Microfluidics & Nanofluidics*, **12**(1-4):143-156.

Kongthon, J., J.-H. Chung, J.J. Riley, and S. Devasia. 2011. "Dynamics of cilia-based microfluidic devices", *J. Dyn. Systems Meas. Control - Trans. ASME*, **133**(5):051012.

Flores, O., and J. J. Riley. 2011. "Analysis of turbulence collapse in the stably stratified surface layer using direct numerical simulation", *Bound. Layer Meteor.*, **139**(2):241-259.

McGah, P. M., D. F. Leotta, K. W. Beach, J. J. Riley, and A. Aliseda. 2011. "A longitudinal study of remodeling in a revised peripheral artery bypass graft using 3D ultrasound imaging and computational hemodynamics", *J. Biomech. Engr.–Trans. ASME*, **133**(4):041008.

Schumacher, K. R., J. J. Riley, and B. A. Finlayson. 2011. "Turbulence in ferrofluids in channel flow with steady and oscillating magnetic fields", *Phys. Rev. E*, **83**(1):016307.

Wetchagarun, S., and J. J. Riley. 2010. "Dispersion and temperature statistics of inertial particles in isotropic turbulence", *Phys. Fluids*, **22**(6):063301.

Schumacher, K. R., J. J. Riley and B. A. Finlayson. 2010. "Effects of an oscillating magnetic field on homogeneous ferrofluid turbulence", *Phys. Rev. E*, **81**(1):016317.

Oh, K., B. Smith, S. Devasia, J. J. Riley, and J. H. Chung. 2010. "Characterization of mixing performance for bio-mimetic silicone cilia", *Microfluid. Nanofluid.*, **9**(4-5):645-655.

Oh, K., J. H. Chung, S. Devasia, and J. J. Riley. 2009. "Bio-mimetic silicone cilia for microfluidic manipulation", *Lab on a Chip*, **9**(11):1561-1566.

Schwarzkopf, J. D., C. T. Crowe, J. J. Riley and S. Wetchagarun. 2009. "Direct numerical simulation of stationary particles in homogeneous turbulence decay: Application of the k-epsilon model", *Int. J. Multiphase Flow*, **35**(5):411-416.

Berrouk, A. K., D. E. Stock, D. Lawrence and J. J. Riley. 2008. "Heavy particle dispersion from a point source in turbulent pipe flow", *Int. J. Multiphase Flow*, **34**(10), pp. 916-923.

Nichols-Pagel, G. A., D. B. Percival, P. G. Reinhall, and J. J. Riley. 2008. "Should structure functions be used to estimate power laws in turbulence? A comparative study", *Physica D – Nonlin. Phen.*, **237**(5), pp. 665-677.

Schumacher, K. R., J. J. Riley, and B. A. Finlayson. 2008. "Homogeneous turbulence in ferrofluids with a steady magnetic field", *J. Fluid Mech.*, **599**, pp. 1-28.

Riley, J. J., and E. Lindborg. 2008. "Stratified turbulence: a possible interpretation of some geophysical turbulence measurements", *J. Atmos. Sci.*, **65**(7), pp 2416-2424.

E. Lindborg and J. J. Riley. 2007. "A condition on the average Richardson number for weak nonlinearity of internal gravity waves", *Tellus Series A – Dyn. Meteorol. and Ocean.*, **59**(5), pp. 781-784.

Berrouk, A. S., D. Laurence, J. J. Riley, and D. E. Stock. 2007. "Stochastic modeling of heavy particle dispersion by subfilter motion for LES of high Reynolds number pipe flow", *J. Turbulence*, **8**(50), pp. 1-20.

Oh, K., J.-H. Chung, J. J. Riley, Y.-L. Liu, and W.-K. Liu. 2007. "Fluid flow-assisted dielectrophoretic assembly of nonowires", *Langmuir*, **23**(23), pp. 11932-11940.

Nichols, J. W., P. J. Schmidt, and J. J. Riley. 2007. "Self-sustained oscillations in variable-density jets", *J. Fluid Mech.*, **582**, pp. 341-376.

Riley, J. J. 2006. "Review of large-eddy simulation of non-premixed turbulent combustion", *J. Fluids Engr. – Trans. ASME*, Vol. 128(2), pp. 209-215.

Mitarai, S., J. J. Riley, and G. Kosály. 2005. "Testing of turbulent mixing models for Monte-Carlo PDF simulations", *Phys. Fluids*, Vol. 17(4), Art. No. 047101.

Mitarai, S., G. Kosály, and J. J. Riley. 2004. "A new Lagrangian flamelet model for local flame extinction and re-ignition", *Comb. Flame*, Vol. 137(3), pp. 306-319.

Sripakagorn, P., G. Kosály, and J. J. Riley. 2004. "Investigation of the influence of the initial Reynolds number on extinction and reignition", *Comb. Flame*, Vol. 136, pp. 351-363.

Mitarai, S., J. J. Riley, and G. Kosály. 2003. "A Lagrangian study of scalar diffusion in isotropic turbulence with chemical reaction", *Phys. Fluids*, Vol. 15, pp. 3856-3866.

Martin, S. M., G. Kosály, J. C. Kramlich, and J. J. Riley. 2003. "The premixed conditional moment closure method applied to idealized lean premixed gas turbine combustors", *J. Engr. for Gas Turbines and Power*, Vol. 125, pp. 895-900.

Riley, J. J., and S. M. de Bruyn Kops. 2003. "Dynamics of turbulence strongly influenced by buoyancy", *Phys. Fluids*, Vol. 15, pp. 2047-2059.

de Bruyn Kops, S. M., and J. J. Riley. 2003. "Large-eddy simulation of a reacting scalar mixing layer with Arrhenius chemistry", *Comp. and Math. with Applns.*, Vol. 46, pp. 547-569.

Yanase, S., M. Jizuguchi, and J. J. Riley. 2001. "Rotating magnetohydrodynamic free-shear flows. I. Linear stability analysis", *Phys. Fluids*, Vol. 13, pp. 1946-1955.

de Bruyn Kops, S. M., J. J. Riley, and G. Kosály. 2001. "Direct numerical simulation of reacting scalar mixing layers", *Phys. Fluids*, Vol. 13, pp. 1450-1465.

de Bruyn Kops, S. M., and J. J. Riley. 2001. "Mixing models for large-eddy simulation of non-premixed turbulent combustion", *J. Fluids Engr.–T. ASME*, Vol. 123, pp. 341-346.

de Bruyn Kops, S. M., and J. J. Riley. 2001. " Large-eddy simulation of non-premixed reacting flows with Arrhenius chemistry", *Comp. Math. with Applications*, to appear.

de Bruyn Kops, S. M., and J. J. Riley. 2000. "Re-examining the thermal mixing layer with numerical simulations", *Phys. Fluids*, Vol. 12, pp. 185-192.

Heo, B., I.-Y. Shen, and J. J. Riley. 2000. "Reducing disk flutter by improving aerodynamic design of base castings", *IEEE T. Magn.*, Vol. 36, pp. 2222-2224.

Cook, A. W., and J. J. Riley. 1998. "Subgrid-scale modeling for turbulent, reacting flows", *Comb. Flame*, Vol. 112, pp. 593-606.

de Bruyn Kops, S. M., and J. J. Riley. 1998. "Direct numerical simulation of laboratory experiments in isotropic turbulence", *Phys. Fluids*, Vol. 10(9), pp. 2125-2127.

Slinn, D. N., and J. J. Riley. 1998. "A model for the simulation of turbulent boundary layers in an incompressible stratified flow", *J. Comp. Phys.*, Vol. 144, pp. 550-602.

Slinn, D. N., and J. J. Riley. 1998. "Turbulent dynamics of a critically reflecting internal gravity wave", *Theoret. Comp. Fl. Dyn.*, Vol. 11, pp. 281-303.

de Bruyn Kops, S. M., J. J. Riley, G. Kosály and A. W. Cook. 1998. "Investigation of moodeling for non-premixed turbulent combustion", *Flow, Turb. Comb.*, Vol. 60, pp. 105-122.

Cook, A. W., J. J. Riley, and G. Kosály. 1997. "A laminar flamelet approach to subgrid-scale chemistry in turbulent flows", *Comb. Flame*, Vol. 109, pp. 332-341.

de Bruyn Kops, S. M., and J. J. Riley. 1997. "Scalar transport characteristics of the linear-eddy model", *Comb. Flame*, Vol. 112, pp. 253-260.

Montgomery, C. J., G. Kosály, and J. J. Riley. 1997. "Direct numerical simulation of turbulent nonpremixed combustion with multistep hydrogen-oxygen kinetics", *Comb. Flame*, Vol. 109, pp. 113-144.

Cook, A. W., and J. J. Riley. 1996. "Direct numerical simulation of a turbulent reactive plume on a parallel computer", *J. Comp. Physics*, Vol. 129, pp. 263-283.

Lombard, P. N., and J. J. Riley. 1996. "Instability and breakdown of internal gravity waves. 1. Linear stability analysis", *Phys. Fluids*, Vol. 8, pp. 3271-3287.

Slinn, D. N., and J. J. Riley. 1996. "Turbulent mixing in the oceanic boundary layer caused by internal wave reflection from sloping terrain", *Dynam. Atmos. Oceans*, Vol. 24, pp. 51-62.

Lombard, P. N., and J. J. Riley. 1996. "On the breakdown into turbulence of propagating internal waves", *Dynam. Atmos. Oceans*, Vol. 23, pp. 345-355.

Mètais, O., P. Bartello, E. Garnier, J. J. Riley, and M. Lesieur. 1996. "Inverse cascade in stably-stratified rotating turbulence", *Dyn. Atmos. Oceans*, Vol. 23, pp. 193-203.

Metais, O., C. Flores, S. Yanase, J. J. Riley and M. Lesieur. 1995. "Rotating free-shear flows. Part 2. Numerical simulations", *J. Fluid Mech.*, Vol. 293, pp. 47-80.

Winters, K. B., Lombard, P. N., J. J. Riley, and E. D'Asaro. 1995. "Available potential energy and mixing in density-stratified fluids", *J. Fluid Mech.*, Vol. 289, pp. 115-128.

Cook, A. W., and J. J. Riley. 1994. "A subgrid model for equilibrium chemistry in turbulent flows", *Phys. Fl.*, Vol. 6(8), pp. 2868-2870.

Mell, W. E., V. Nilsen, G. Kosály, and J. J. Riley. 1994. "Investigation of closure models for nonpremixed turbulent reacting flows", *Phys. Fl.*, Vol. 6(3), pp. 1331-1356.

Mell, W. E., V. Nilsen, G. Kosály, and J. J. Riley. 1993. "Direct numerical simulation investigation of the conditional moment closure model for nonpremixed turbulent reacting flows", *Combust. Sci. Tech.*, Vol. 91, pp. 179-186.

Yanase, S., C. Flores, O. Métais, and J. J. Riley. 1993. "Rotating free shear flows. Part 1: linear stability analysis", *Phys. Fl.*, Vol. 5(11), pp. 2725-2737.

Montgomery, C. J., G. Kosály, and J. J. Riley. 1993. "Direct numerical simulation of turbulent reacting flow using a reduced hydrogen-oxygen mechanism", *Combust. Flame*, Vol. 95, pp. 247-260.

Winters, K. B., and J. J. Riley. 1992. "Instability of internal waves near a critical level", *Dynam. Atmos. Oceans*, Vol. 16, pp. 249-278.

Chen, C., J. J. Riley, and P. A. McMurtry. 1991. "An investigation of Favre averaging in turbulent flows with chemical reaction", *Combust. Flame*, Vol. 87, pp. 257-277.

Lelong, M.-P., and J. J. Riley. 1991. "Internal wave–vortical mode interactions in strongly stratified flows", *J. Fluid Mech.*, Vol. 232, pp. 1-19.

Mell, W. E., G. Kosaly, and J. J. Riley. 1991. "The length-scale dependence of scalar mixing", *Phys. Fl.*, Vol. 3A(10), pp. 2472-2477.

Frank, A., B. Balick, and J. Riley. 1990. "Stellar Wind Paleontology - Shells and Halos of Planetary Nebula", *Astron. J.*, Vol. 100, pp. 1903-1914.

Jou, W.-H., and J. J. Riley. 1989. "Progress in direct numerical simulations of turbulent reacting flows", *AIAA J.*, Vol. 27(11), pp. 1543-1556.

McMurtry, P. A., J. J. Riley, and R. W. Metcalfe. 1989. "Effects of Heat Release on Large-Scale Structures in Turbulent Mixing Layers", *J. Fluid Mech.*, Vol. 199, pp. 297-332.

Staquet, C., and J. J. Riley. 1989. "On the Velocity Field Associated with Potential Vorticity", *Dyn. Atmos. Oceans*, Vol. 14, pp. 93-123.

Soetrisno, M., D. S. Eberhardt, J. J. Riley, and P. A. McMurtry. 1989. "A Study of Inviscid, Supersonic Mixing Layers Using a Second-Order TVD Scheme", *AIAA J.*, Vol. 27, pp. 1770-1778.

Domaradzki, J. A., R. W. Metcalfe, R. S. Rogallo, and J. J. Riley. 1987. "Analysis of Subgrid-Scale Viscosity with Use of Results from Direct Numerical Simulations", *Phys. Rev. Let.*, Vol. 58, No. 6, pp. 547-550, February.

Metcalfe, R. W., S. A. Orszag, M. E. Brachet, S. Menon, and J. J. Riley. 1987. "Secondary Instability of a Temporally-Growing Mixing Layer", *J. Fluid Mech.*, Vol. 184, pp. 207-243.

Riley, J. J., R. W. Metcalfe, and S. A. Orszag. 1986. "Direct numerical simulations of chemically reacting mixing layers", *Phys. Fluids*, Vol. 29(2), pp. 406-422.

McMurtry, P. A., W.-H. Jou, J. J. Riley, and R. W. Metcalfe. 1986. "Direct Numerical Simulations of Mixing Layers with Heat Release", *AIAA J.*, Vol. 24, No. 6, p. 962, June.

Metcalfe, R. W., C. J. Rutland, J. H. Duncan, and J. J. Riley. 1986. "Numerical Simulations of Active Stabilization of Laminar Boundary Layers", *AIAA J.*, Vol. 24, No. 9, p. 1494, September.

Gore, R. A., C. T. Crowe, T. R. Troutt, and J. J. Riley. 1985. "A Numerical Study of Particle Dispersion in Large-Scale Structures", *Multi-Phase Flow and Heat Transfer*, HTD Vol. 47, Bk. No. 600304.

Maxey, M. R., and J. J. Riley. 1983. "Equation of Motion for a Small Rigid Sphere in a Nonuniform Flow", *Phys. Fl*, Vol. 26, March, pp. 883-889.

Gad-el-Hak, M., R. F. Blackwelder, and J. J. Riley. 1983. "On the Interaction of Compliant Coatings with Boundary Layer Flows", *J. Fluid Mech.*, Vol. 140, pp. 257-280.

Gad-el-Hak, M., R. F. Blackwelder, and J. J. Riley. 1981. "On the Growth of Turbulent Regions in Laminar Boundary Layers", *J. Fluid Mech.*, Vol. 110, pp. 73-95.

Riley, J. J., and S. Corrsin. 1974. "The Relation of Turbulent Diffusivities to Lagrangian Velocity Statistics for the Simplest Shear Flow", *J. Geophys. Res.*, Vol. 79, pp. 1768-1771.

Riley, J. J., and G. S. Patterson, Jr. 1974. "Diffusion Experiments with Numerically Integrated Isotropic Turbulence", *Phys. Fl.*, Vol. 17, pp. 292-297.

Riley, J. J. 1973. "Relating One-Point Concentration Moments of a Chemical Reactant to the Lagrangian Probability Density", *Phys. Fl.*, Vol. 16, pp. 1161-1162.

Herring, J. R., J. J. Riley, G. S. Patterson, Jr., and R. H. Kraichnan. 1973. "Growth of Uncertainty in Decaying Isotropic Turbulence", *J. Atmos. Sci.*, Vol. 30, pp. 997-1006.

Chapters of Books:

Riley, J.J., and E. Lindborg. 2013. "Recent Progress in Stratified Turbulence", in *Ten Chapters in Turbulence*, P.A. Davidson, Y. Kaneda, and K. R. Sreenivasan, eds., Cambridge University Press.

Meneveau, C., and J.J. Riley. 2011. "Stanley Corrsin", in *A Voyage through Turbulence*, P.A. Davidson, Y. Kaneda, K. Moffatt, K.R. Sreenivasan, eds., Cambridge University Press.

Riley, J. J. 2007. "Intermediate-scale dynamics of the upper troposphere and stratosphere", in *Large-Scale Disasters: Prediction, Control, and Mitigation*, M. Gad-el-Hak, ed., Cambridge University Press.

de Bruyn Kops, S. M., J. J. Riley, and K. B. Winters. 2004. "Reynolds and Froude number scaling in stably-stratified flows", in *Reynolds Number Scaling in Turbulent Flow*, A. J. Smits (Ed.), Kluwer Academic Publishers.

Riley, J. J., and M.-P. Lelong. 2000. "Fluid Motions in the presence of strong stable stratification", *Ann. Rev. Fluid Mech.*, (invited article), Vol. 32, pp. 613-657.

Riley, J. J. 1999. "Turbulent Combustion Modeling", in *Transition, Turbulence and Combustion Modeling*, (invited article) A. Hanifi et al., eds., Kluwer Academic.

Cook, A. W., and J. J. Riley. 1998. "Progress in subgrid-scale combustion modeling", in *Computational Fluid Dynamics Review 1997*, (invited article) M. Hafez, ed., Wiley.

Riley, J. J. 1996. "Numerical simulation of variable-density, reacting flows", in *Computational Fluid Dynamics*, (invited article) M. Lesieur, P. Comte and J. Zinn-Justin, eds., Elsevier.

Métais, O., J. J. Riley, and M. Lesieur. 1993. "Numerical Simulations of Stably-Stratified, Rotating Turbulence", in *Stably-Stratified Flows: Flow & Dispersion over Topography*, I. P. Castro & N. J. Rockliff, eds., Oxford University Press, to appear; also in *Selected Papers from the Ninth Symposium on Turbulent Shear Flows*, Springer-Verlag.

Riley, J. J., M.-P. Lelong, and D. N. Slinn. 1991. "Organized structures in strongly stratified flows", in *Turbulence and Coherent Structures*, O. Métais and M. Lesieur, eds., Kluwer Academic Publishers.

Staquet, C., and J. J. Riley. 1989. "A Numerical Study of a Stably-Stratified Mixing Layer", in *Turbulent Shear Flows 6*, Springer-Verlag, pp. 381-397.

Riley, J. J., and P. A. McMurtry. 1989. "The Use of Direct Numerical Simulation in the Study of Turbulent, Chemically-Reacting Flows", in *Turbulent Reacting Flows, Vol. 2. Structure and Predictive Schemes*, (invited article) ed. by R. Borghi and S. N. B. Murthy, Springer-Verlag, pp. 486-514.

Riley, J. J., M. Gad-el-Hak, and R. W. Metcalfe. 1988. "Compliant Surfaces", *Ann. Rev. Fluid Mech.*, (invited article) Vol. 20, pp. 393-420.

Riley, J. J., and M. Gad-el-Hak. 1984. "Some Insights into Transitional and Turbulent Boundary Layers", invited paper for the Conference on Fundamentals in Fluid Mechanics, Northwestern University, June; in *Frontiers in Fluid Mechanics*, ed. by S. H. Davis and J. L. Lumley, Springer-Verlag, pp. 123-155.

Riley, J. J., R. W. Metcalfe, and M. A. Weissman. 1981. "Direct Numerical Simulations of Homogeneous Turbulence in Density-Stratified Fluids", presented at the Workshop on Nonlinear Properties of Internal Waves, January; in *Nonlinear Properties of Internal Waves*, AIP Conference Proceedings No. 76, ed. by B. J. West, pp. 79-112.

Weissman, M. A., R. W. Metcalfe, and J. J. Riley. 1981. "Nonlinear Internal Wave Interactions", presented at the Workshop on Nonlinear Properties of Internal Waves, January; in *Nonlinear Properties of Internal Waves*, AIP Conference Proceedings No. 76, ed. by B. J. West, pp. 253-266.

Riley, J. J., and R. W. Metcalfe. 1980. "Direct Numerical Simulations of the Turbulent Wake of an Axisymmetric Body", *Selected Papers from the 2nd Symposium on Turbulent Shear Flows*, Springer-Verlag, Berlin, pp. 78-93.

Riley, J. J., and R. W. Metcalfe. 1980. "Direct Numerical Simulations of a Perturbed, Turbulent Mixing Layer", AIAA-80-O274, presented at the 18th Aerospace Sciences Meeting, January, 30 pages.

Miscellaneous

Adrian, R. J., C. Meneveau, R. D. Moser and J. J. Riley. 2000. "Final Report on 'Turbulence Measurements for LES' Workshop", available on the World Wide Web at: www.me.washington.edu/les.

Contributor to the CD-ROM entitled *Leonardo da Vinci*, published by Corbis, Inc., 1996

Additional

Numerous other papers in the proceedings of meetings, conferences, workshops and symposia; numerous industrial reports

Other Scholarly Activities

Invited Seminars

University of British Columbia, January, 2012
Okinawa Institute for Science and Technology, July, 2011
National Center for Atmospheric Research, Boulder, June, 2010.
University of Texas, Austin, March, 2010.
Stanford University, March, 2010.
St. Andrews University, December, 2008.
Cambridge University, November, 2008.
Imperial College London, October, 2008.
Northwestern University, March, 2008.
University of Notre Dame, March, 2008.
Illinois Institute of Technology, March, 2008.
University of Illinois CU, March, 2008.
Purdue University, March, 2008.
Washington State University, November, 2007.
University of Michigan, September, 2007.
Michigan State University, September, 2007.
Iowa State University, September, 2007.
University of Wisconsin, September, 2007.
University of Minnesota, September, 2007.
Institut de Recherche sur les Phénomenes Hors Equilibre,
Marseille, France, July, 2007.
Institut de Mecanique des Fluides, Toulouse, France, July, 2006
Northwest Research Associates, Bellevue, Washington, September, 2005
University of Western Australia, Perth, Australia, June, 2004
Royal Melbourne Institute of Technology, Melbourne, Australia, June, 2004
Monash University, Melbourne, Australia, June, 2004
Curtin University of Technology, Perth Western Australia, May, 2004
University of Western Australia, Perth, Western Australia, April, 2004
California Institute of Technology, November, 2003
Technische Universität Berlin, June, 2003
Politecnico di Milano, May, 2003
Institut für Technische Mechanik, RWTH Aachen, May, 2003
Technische Universität München, April, 2003
University of Washington, Aeronautics & Astronautics, January, 2003
Arizona State University, April, 2001
University of California, San Diego, April, 2001
Stanford University, March, 2001
Lawrence Livermore National Laboratory, July, 1999
California Institute of Technology, January, 1999
Stanford University, July, 1998
Lawrence Livermore National Laboratory, July, 1998 (2 seminars)

Battelle PNNL, August, 1997
University of Washington, Civil Engineering, January, 1997
Johns Hopkins University, May, 1996
University of Maryland, May, 1996
University of California, Irvine, April, 1996
University of California, San Diego, April, 1996
Midwest Lecture Tour: Notre Dame U., Illinois Institute of Technology, U. Illinois, Champagne-Urbana, Purdue U., March, 1996
Midwest Lecture Tour: U. Michigan, Michigan St. U., Northwestern U., U. Minnesota, October, 1995
University of Southern California, March, 1995
University of Western Australia, Perth, September, 1994
University of Sydney, Australia, September, 1994
California Institute of Technology, January, 1992
University of Southern California, January, 1992
Los Alamos National Laboratory, November, 1991
Lawrence Livermore National Laboratory, May, 1991
Universidad de Zaragoza, Spain, September, 1990
Centre National de Recherches Meteorologiques, Toulouse, France, August, 1990
École Centrale de Lyon, France, July, 1990
Politecnico di Torino, Italy, June, 1990 (2 seminars)
Institut de Mécanique de Grenoble, France, May, 1990
University of Houston, February, 1990
Boeing Commercial Airplane Company, October, 1989
Arizona State University, September, 1989
University of Arizona, August, 1989
Northwest Research Associates, January, 1989
Stanford University Series on Turbulence in the Environment, February, 1988
Battelle PNNL, December, 1987
Arizona State University, October, 1987

Invited Presentations at Meetings/Workshops

Los Alamos Ocean Turbulence Conference
Santa Fe, NM, June, 2013
International Conference on Theoretical and Applied Mechanics
Beijing, China, August, 2012
European Turbulence Conference, ETC13
Warsaw, September, 2011
Plenary speaker, Joint Fluids Engineering Conference
ASME-JSME-KSME
Hamamatsu, Japan, July, 2011

Plenary speaker, Annual Meeting of the Division of
Fluid Dynamics of the American Physical Society,
November, 2010.
Keynote speaker, NCAR Geophysical Turbulence Workshop,
National Center for Atmospheric Research
Boulder, CO, August, 2010
Euromech Colloquium on Small-Scale Turbulence,
Turin, Italy, October, 2009.
Could not attend, health-related issue.
International Symposium on Turbulence,
Beijing, November, 2009.
Could not attend, health-related issue.
Plenary Speaker, 12th European Turbulence Conference,
Marberg, Germany, September, 2009.
Could not attend, health-related issue.
Workshop on Inertial Range Dynamics and Mixing,
Cambridge, UK, September, 2008.
IUTAM Workshop: Rotating Stratified Turbulence and
Turbulence in the Atmosphere and Oceans,
Cambridge, UK, December, 2008.
Keynote speaker, Density Effects in Fluid Dynamics Workshop,
Los Alamos National Laboratory, December, 2007
Institute for Mathematical Sciences Turbulence Workshop,
Imperial College London, March, 2007
Keynote speaker, Sedona International Workshop on Stable
Atmospheric Boundary Layers, November, 2006
Spontaneous Imbalance Workshop, Seattle, August, 2006
Keynote speaker, Geophysical Turbulence Workshop,
National Center for Atmospheric Research,
Boulder, July, 2005
LES/SGS Workshop, California Institute of Technology, November, 2003
31st AIAA Fluid Dynamics Conference, June, 2001
IUTAM 2001, invited session chair and discussion moderator, June
ASME Fluids Engineering Summer Meeting, Symposium on the
Role of Industry in Developing Fluid Power Generating Systems,
May, 2001
European Geophysical Society, April, 2000, Nice, France
NSF Workshop on Turbulence Measurements for LES, October, 1999
Second AFOSR Conference on DNS and LES, June, 1999, Rutgers
Workshop on the Role of DNS in Turbulence Research, March, 1999,
University of California, Santa Barbara
Mexican Physical Society, Annual Meeting, October, 1998
Sandia National Laboratory, June, 1998,
DOE Scientific Simulation Initiative Workshop

European Summer School on Turbulence, June, 1998, Stockholm
(series of lectures)
Lawrence Livermore National Laboratory, June, 1997,
Workshop on Turbulent Transport and Numerical Modeling
Sandia National Laboratory, Combustion Modeling Workshop,
September, 1997
Los Alamos National Laboratory, June, 1997,
Workshop on Turbulence and Transport Modeling
Workshop on Computing the Future II, June, 1997
National Center for Atmospheric Research, August, 1996,
Workshop on Stratified and Rotating Turbulence
American Water Resource Association, November, 1996,
Annual Meeting
American Physical Society, November, 1995
48th Meeting of the Division of Fluid Dynamics
Los Alamos National Laboratory, May, 1995
Nonlinear Phenomena in Ocean Dynamics
EUROMECH 339, Internal Waves, Turbulence and Mixing
in Stratified Fluids, Lyon, France, September, 1995
EUROMECH Course on Computational Fluid Mechanics, Les Houches,
France, June, 1993 (series of lectures)
Thirteenth Symposium on Turbulence
University of Missouri, Rolla, September 1992
Los Alamos National Laboratory, Reactive Turbulence Workshop,
Center for Nonlinear Studies (2 papers), August, 1992
University of Hawaii Workshop on the Dynamics of Oceanic Internal
Gravity Waves, January, 1991
NASA Langley Research Center/ICASE Combustion Workshop,
October, 1989
American Meteorology Society, April, 1989
Seventh Conference on Atmospheric and Oceanic Waves
and Stability
American Physical Society, November, 1998
41st Meeting of the Division of Fluid Dynamics
Brown University/Yale University Free Shear Flows Conference, June, 1988
United States-France Joint Workshop on Turbulent Reacting Flows,
Rouen, France, July, 1987
Symposium on Prospects of Turbulence Research, the National Center for
Atmospheric Research, June, 1987
American Institute of Aeronautics and Astronautics
Fluid Dynamics and Plasma Dynamics Meeting, June, 1987
Second International Symposium on Stratified Flows, Caltech, January, 1987
American Meteorology Society, November, 1985
Seventh Symposium on Turbulence and Diffusion

Société Francaise de Physique Congres National, Nice, September, 1985
International Workshop: Puzzles in Free Shear Layers, Brown University, November, 1984
Conference on Fundamentals in Fluid Mechanics, Northwestern University, June, 1984

Additional

Numerous other presentations at meetings, conferences, workshops and symposia

Additional Educational Activities

James Riley was involved in the initiation and the NSF oversight of *Multimedia Fluid Mechanics I*, published by Cambridge University Press, a popular DVD-based product for undergraduate education which has been translated into several languages, has received outstanding reviews, and is being used in many universities with great success. He is a coauthor of the second edition, *Multimedia Fluid Mechanics II*, which has recently become available. This edition is now being included in most undergraduate texts books on fluid mechanics.