

CURRICULUM VITAE
(abbreviated)

James J. Riley

PACCAR Professor of Engineering

March, 2008

General biographical information

Name: James J. Riley

Degrees: Ph.D., Fluid Mechanics, The Johns Hopkins University, 1972

Thesis supervisor: Stanley Corrsin

B.A., Physics, Rockhurst College, 1965

Experience:

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

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:

PACCAR Professor of Engineering

Fellow, American Physical Society

Chair, Division of Fluid Dynamics, American Physical Society

Fellow, American Society of Mechanical Engineers

Fellow, (British) Institute of Physics

Senior Scientific Fellow, Battelle Pacific Northwest National
Laboratories

Chaire de Mathematiques Industrielles, l'Université Joseph Fourier,
Grenoble, France (visiting chaired professorship)

Awards/Honors (continued):

Fellow, Center for Turbulence Research (Stanford/NASA Ames)
Invited lecturer, Midwest Universities Lecture Tour
(twice – 1996/97 and 2007/08)
German Government Sabbatical Leave Fellowship
Australian Government Gleddon Visiting Fellowship
Visiting Award from Université Paul Sabatier, Toulouse, France

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

Publications

According to the *Science Citation Index*, publications authored or coauthored by J. J. Riley have been cited over 2,900 times.

1. Refereed Archival Journal Publications

- Slinn, D. N., and J. J. Riley. 2008. “Internal wave reflection from sloping boundaries”, *J. Fluid Mech.*, in revision.
- Riley, J. J., and E. Lindborg. 2008. “Stratified turbulence: a possible interpretation of some geophysical turbulence measurements”, *J. Atmos. Sci.*, to appear.
- Schumacher, K. R., J. J. Riley, and B. A. Finlayson. 2008. “Homogeneous turbulence in ferrofluids with a steady magnetic field”, *J. Fluid Mech.*, to appear.
- 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*, Vol. 237, pp. 665-677.
- Oh, K., J. H. Chung, and J. J. Riley. 2007. “Fluid flow-assisted dielectrophoretic assembly of nanowires”, *Langmuir*, Vol. 23(23), pp. 11932-11940.
- Lindborg, E., and J. J. Riley. 2007. “A condition on the average Richardson number for weak non-linearity of internal gravity waves”, *Tellus Series A – Dyn. Met. Ocean.*, Vol. 59(5), pp. 781-784.
- Berrouk, A. S., L. Dominique, J. J. Riley, and D. E. Stock. 2007. “Stochastic modeling of fluid velocity seen by heavy particles for two-phase LES of nonhomogeneous and anisotropic turbulent flows”, *J. Turbulence*, Vol. 8, N. 50.
- Nichols, J. W., P. J. Schmidt, and J. J. Riley. 2007. “Self-sustained oscillations in variable-density jets”, *J. Fluid Mech.*, Vol. 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(3), pp. 351-363.
- Mitarai, S., J. J. Riley. 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 non-premixed reacting flows with Arrhenius chemistry", *Comp. Math. with Applications*, Vol. 46(4), 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. 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 modeling 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.
- Métais, 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.

- Soetrismo, 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.

2. Chapters of Books:

- Riley, J. J. 2007. "Intermediate-scale dynamics of the upper troposphere and stratosphere", *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. 2003. "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.

3. 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

4. Additional

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

Other Scholarly Activities

1. Invited Seminars

Midwest Lecture Tour: Northwestern U., U. Notre Dame, Illinois
Institute of Technology, U. Illinois, Urbana-Champaign,
Purdue U., March, 2008
Washington St. U., November, 2007
Midwest Lecture Tour: U. Michigan, Michigan St. U., U. Wisconsin,
Iowa St. U., U. Minnesota, September, 2007
Institut de Mécanique des Fluides, Toulouse, July, 2006
Institut de Recherche sur les Phénomènes Hors Equilibre,
Marseille, 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, Australia, June, 2004
University of Western Australia, Perth, 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

2. Invited Presentations at Meetings/Workshops

Density Effects in Fluid Dynamics, Los Alamos National Laboratory,
December, 2007 (keynote address)

SIG 35 ERCOFTAC Workshop, March, 2007

International Workshop on Stable Atmospheric Boundary Layers,
November, 2006 (keynote address)

Geophysical Turbulence Workshop, National Center for Atmospheric
Research, July, 2005 (keynote address)

LES & DNS Modeling for Turbulent Mixing and Reactive Flows,
Caltech, December, 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 Française de Physique Congrès 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

3. Additional

Numerous other presentations at meetings, conferences, workshops
and symposia

4. Professional Society Memberships

American Physical Society
American Society of Mechanical Engineers
American Institute of Aeronautics and Astronautics
American Meteorological Society
American Association for the Advancement of Science
(British) Institute of Physics

5. Professional Society and Other Service

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
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
Associate Editor, *Journal of Fluid Mechanics*
Associate Editor, *Journal of Turbulence*, (British) Institute of Physics
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,
Chair, 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

Graduate Student Supervision

- Chair of Ph.D. advisory committees for 17 students who have completed their degrees.
- Currently the chair of the Ph.D. advisory committees for 3 students.
- Chair of M.S.M.E. advisory committees for 18 students who have completed their degrees.
- Has been a member of the Ph.D. advisory committees for about 90 students, about 75 of whom have completed their degrees. These committees involved students from Mechanical, Civil, and Chemical Engineering, Materials Science and Engineering, Aeronautics & Astronautics, Physics, Chemistry, Mathematics, Applied Mathematics, Astronomy, Oceanography, Atmospheric Sciences, and Space and Earth Sciences. Eight were at French universities (in Grenoble, Lyon, Paris and Toulouse) and two at an Australian university (in Perth).
- Has been the supervisor of six post-doctoral fellows.