

CURRICULUM VITAE

OLEG V. VASILYEV

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EDUCATION

UNIVERSITY OF NOTRE DAME, Notre Dame, IN, U.S.A.

PH.D. Aerospace and Mechanical Engineering

May 1996, GPA 4.0/4.0

Dissertation Title: Multilevel Wavelet Collocation Methods for Solving Partial Differential Equations

M.S. Mechanical Engineering

January 1994, GPA 4.0/4.0

MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY (PHYSTECH), Moscow, Russia

M.S. Applied Mathematics and Physics

May 1991, GPA 5.0/5.0

PROFESSIONAL EXPERIENCE

POSITIONS HELD

<i>May 2011 – Present</i>	<i>Professor, Department of Mechanical Engineering, University of Colorado, Boulder, Colorado, U.S.A.</i>
<i>April 2005 – May 2011</i>	<i>Associate Professor, Department of Mechanical Engineering, University of Colorado, Boulder, Colorado, U.S.A.</i>
<i>August 2006 – August 2008</i>	<i>Graduate Program Chair, Department of Mechanical Engineering, University of Colorado, Boulder, Colorado, U.S.A.</i>
<i>November 2003 – Present</i>	<i>Affiliated Faculty, Department of Applied Mathematics, University of Colorado, Boulder, Colorado, U.S.A.</i>
<i>August 2002 – April 2005</i>	<i>Assistant Professor, Department of Mechanical Engineering, University of Colorado, Boulder, Colorado, U.S.A.</i>
<i>September 1998 – August 2002</i>	<i>Assistant Professor, Department of Mechanical and Aerospace Engineering, University of Missouri, Columbia, Missouri, U.S.A.</i>
<i>September 1996 – August 1998</i>	<i>Research Fellow, Center for Turbulence Research, Stanford University, Stanford, California, U.S.A.</i>
<i>June 1992 – May 1996</i>	<i>Research Assistant, Department of Aerospace and Mechanical Engineering, University of Notre Dame, Notre Dame, Indiana, U.S.A.</i>
<i>August 1991 – May 1992</i>	<i>Teaching Assistant, Department of Aerospace and Mechanical Engineering, University of Notre Dame, Notre Dame, Indiana, U.S.A.</i>
<i>September 1990 – May 1991</i>	<i>Research Assistant, Central Aero-Hydrodynamics Institute (TsAGI), Moscow, Russia</i>

VISITING SCIENTIST

<i>June 2009 – August 2009,</i> <i>June 2010 – July 2010</i>	<i>Visiting Professor, Institute for Numerical Mathematics, University of Ulm, Ulm, Germany</i>
<i>February 2009 – March 2009</i>	<i>Visiting Professor, CNRS et Universites d'Aix-Marseille and Universite de Provence (Aix-Marseille I), Marseille, France</i>
<i>May 2008 – January 2009</i>	<i>Visiting Professor, Institute of Computational Science, Swiss Federal Institute of Technology, Zurich, Switzerland</i>
<i>July 2004, July 2000,</i> <i>July 2004, July 2006</i>	<i>Summer Program, Center for Turbulence Research, Stanford University, Stanford, California, U.S.A.</i>
<i>June 2001 – August 2001</i>	<i>Visiting Scientist, Argonne National Laboratory, Argonne, Illinois, U.S.A.</i>
<i>June 1996 – August 1996</i>	<i>Visiting Scientist, Minnesota Supercomputing Institute, University of Minnesota, Minneapolis, Minnesota, U.S.A.</i>

GRADUATE AND POSTDOCTORAL ADVISORS

- Mikhail N. Kogan, Moscow Institute of Physics and Technology, Moscow, Russia
- Parviz Moin, Stanford University, California, U.S.A.
- Samuel Paolucci, University of Notre Dame, Indiana, U.S.A.

ACADEMIC HONORS

- Friedrich Wilhelm Bessel Research Award, Alexander Von Humboldt Foundation, Germany, 2008
- Mechanical Engineering Outstanding Research Award, University of Colorado at Boulder, USA, 2006
- Mechanical Engineering Distinguished Achievement Award, University of Colorado, Boulder, USA, 2005
- Faculty Early Career Development (CAREER) Award, National Science Foundation, USA, 2002
- Center for Turbulence Research Postdoctoral Fellowship, Stanford University, USA, 1996-1998
- Center of Applied Mathematics Fellowship, University of Notre Dame, USA, 1992-1994
- Department Scholarship for Best Student Performance, Department of Aerodynamics and Flight Engineering, Moscow Institute of Physics and Technology, Russia, 1986-1988, 1989-1991
- State Scholarship for Distinguished Students, Russia, 1988-1989

RESEARCH INTERESTS

- Computational Fluid Dynamics
- Wavelet Methods for Modeling and Simulation of Complex Multi-Scale Phenomena
- Theoretical and Numerical Studies in Turbulence
- Large Eddy Simulations of Turbulent Flows
- Turbulence Modeling
- Thermal Convection Flows
- Fluid Dynamics of Geological Processes

FUNDED RESEARCH

- The Use of Wavelets in Modeling of Geophysical Flows, (with Yuen, D. A.), Co-Principal Investigator, National Science Foundation Grant No EAR-9614763, \$104,000, 1997-1999.
- Large Eddy Simulation of Turbulent Flow in Poppet Valves, Principal Investigator (100%), Caterpillar Inc., \$49,970, 2000-2001.
- Explicit Filtering in Large Eddy Simulations, Principal Investigator (100%), University of Missouri Research Board, \$23,921, 2000-2001.
- Coherent Vortex Simulation Method for Modeling Turbulent Three-Dimensional Flows, Principal Investigator (100%), National Aeronautics and Space Administration Grant No NGT-1-52239, \$22,000, 2000-2001.
- Computational Fluid Dynamics Modeling of Two-Phase Flow in a BWR Fuel Assembly. Collaborative project with Argonne National Laboratory, General Electric Global Nuclear Fuel, AEA Technology, and Sarov Open Computing Center. Principal Investigator for the University of Missouri (100%). Department of Energy Grant No NCI-51-ANL-SA, subcontract from Argonne National Laboratory, \$6,410, 2001-2002.
- Analysis of Possible Causes of Piston Seizure in an Axial Piston Pump, Principal Investigator (100%), Caterpillar Inc., \$48,981, 2002-2003.
- Coherent Vortex Simulation Method for Modeling Turbulent Three-Dimensional Flows, Principal Investigator (100%), National Aeronautics and Space Administration Grant No NGT-1-01017, \$22,000, 2001-2002.
- Collaborative Research: Application of Wavelets in Modeling and Visualizing Multi-Scale Phenomena in Geophysics. Principal Investigator (100%), National Science Foundation Grant No EAR-0107086, \$150,004, 2001-2004.
- Computational Fluid Dynamics Analysis of Flow in Needle-Free Jet Injectors, Principal Investigator (100%), United States Industry Coalition - Department of Energy, \$25,000, 2001-2002.

FUNDED RESEARCH (Continued)

- Modeling and Numerical Simulation of Supersonic Fuel Sprays, Principal Investigator (100%), Argonne National Laboratory Grant No 2-RP50-P-00005-00, \$29,268, 2001-2002.
- Coherent Vortex Simulation Method for Modeling Turbulent Three-Dimensional Flows, Principal Investigator (100%), National Aeronautics and Space Administration Grant No NGT-1-02022, \$24,000, 2002-2003.
- Collaborative Research: Application of Wavelets in Modeling and Visualizing Multi-Scale Phenomena in Geophysics, Principal Investigator (100%), National Science Foundation Grant No EAR-0242591, \$117,828, 2002-2004.
- Airframe-Noise Modeling and Control, Principal Investigator (100%), National Aeronautics and Space Administration Grant No NAG-1-02116, \$232,669, 2002-2006.
- Dynamically Adaptive Wavelet-Based Algorithms for Numerical Simulations of Complex Multi-Scale Phenomena, Faculty Early Career Development (CAREER) Award, Principal Investigator (100%), National Science Foundation Grant No ACI-0242457, \$303,066, 2002-2007.
- Numerical Simulation of Supersonic Fuel Sprays, Principal Investigator (100%), Argonne National Laboratory Grant No 3B-00061, \$54,986, 2002-2003.
- Collaborative Research: CMG: Wavelet-Based Unified Approach for Physical Feature Extraction, Large-Scale Visualization, and Modeling of Multiscale Geological Processes, Principal Investigator (100%), National Science Foundation Grant No EAR-0327269, \$234,984, 2003-2006.
- Modeling and Numerical Simulation of Supersonic Fuel Sprays, Principal Investigator (100%), Argonne National Laboratory, Grant No 4B-00821, \$20,000, 2004.
- Modeling and Numerical Simulation of Supersonic Fuel Sprays, Principal Investigator (100%), Argonne National Laboratory, Grant No 5F-00462, \$30,000, 2005.
- Adaptive LES Methodology for Turbulent Flow Simulations, Principal Investigator (100%), U.S. Department of Energy, Grant No DE-FG02-05ER25667, \$443,666, 2005-2008.
- An Integrated Physics- and Numerics-Based Mesoscale Eddy Capturing Approach to Modeling and Simulation of Global Ocean Circulation, Principal Investigator (100%), Office of Science (BER), U.S. Department of Energy, Grant No DE-FG02-07ER64468, \$743,131, 2007-2011.
- Direct Numerical Simulations of Compressible Turbulent Mixing Using the Adaptive Wavelet Collocation Method, Principal Investigator (100%), Los Alamos National Laboratory, subcontract No 57206-001-07, \$174,000, 2007-2011.
- Integrated Variable Fidelity Eddy Capturing Approach for Turbulent Flow Simulations, Principal Investigator (100%), National Science Foundation Grant No CBET-0756046, \$240,011, 2008-2011.

EDUCATIONAL FUNDING

- Vertical Integration of MATLAB into Mechanical Engineering Curriculum, Principal Investigator (100%), Engineering Excellence Fund, University of Colorado at Boulder, \$5,000, 2006.
- U.S.-Switzerland Doctoral Dissertation Enhancement Project: An Adaptive Mesoscale Eddy Capturing Approach, Principal Investigator (100%), National Science Foundation Grant No OISE-0837948, \$12,400, 2008-2010.

PUBLICATIONS

INVITED, FEATURE, AND REVIEW ARTICLES

1. Vasilyev, O.V., Yuen, D.A., and Paolucci, S., "Solving PDEs Using Wavelets," *Computers in Physics*, **11**(5), pp. 429-435, 1997.
2. Vasilyev, O.V., "Solving Multi-Dimensional Evolution Problems with Localized Structures Using Second Generation Wavelets," *International Journal of Computational Fluid Dynamics*, Special issue on High-Resolution Methods in Computational Fluid Dynamics, **17**(2), pp. 151-168, 2003.
3. Schneider, K. and Vasilyev, O.V., "Wavelet Methods in Computational Fluid Dynamics," *Ann. Rev. Fluid Mech.*, **42**, pp. 473-503, 2010.

ARTICLES IN REFEREED JOURNALS

1. Vasilyev, O.V. and Paolucci, S., "Stability of Unstably Stratified Shear Flow in a Channel Under Non-Boussinesq Conditions," *ACTA Mechanica*, **112**, pp. 37-58, 1995.
2. Vasilyev, O.V., Paolucci, S., and Sen, M., "A Multilevel Wavelet Collocation Method for Solving Partial Differential Equations in a Finite Domain," *Journal of Computational Physics*, **120**, pp.33-47, 1995.
3. Vasilyev, O.V. and Paolucci, S., "A Dynamically Adaptive Multilevel Wavelet Collocation Method for Solving Partial Differential Equations in a Finite Domain." *Journal of Computational Physics*, **125**, pp. 498-512, 1996.
4. Vasilyev, O.V., and Paolucci, S., "A Fast Adaptive Wavelet Collocation Algorithm for Multi-Dimensional PDEs," *Journal of Computational Physics*, **138**, pp. 16-56, 1997.
5. Vasilyev, O.V., Yuen, D.A., and Podladchikov, Yu.Yu., "Applicability of Wavelet Algorithm for Geophysical Viscoelastic Flow," *Geophysical Research Letters*, **24**(23), pp. 3097-3100, 1997.
6. Morinishi, Y., Lund, T.S., Vasilyev, O.V., and Moin, P., "Fully Conservative Higher Order Finite Difference Schemes for Incompressible Flow," *Journal of Computational Physics*, **143**, pp. 90-124, 1998.
7. Vasilyev, O.V., Podladchikov, Yu.Yu., and Yuen, D.A., "Modeling of Compaction Driven Flow in Poro-Viscoelastic Medium Using Adaptive Wavelet Collocation Method," *Geophysical Research Letters*, **25**(17), pp. 3239-3242, 1998.
8. Vasilyev, O.V., Lund, T.S., and Moin, P., "A General Class of Commutative Filters for LES in Complex Geometries," *Journal of Computational Physic*, **146**, pp. 105-123, 1998.
9. Vasilyev, O.V. "High Order Finite Difference Schemes on Non-uniform Meshes with Good Conservation Properties," *Journal of Computational Physics*, **157**, pp. 746-761, 2000.
10. Kardashov, V.R., Eppelbaum, L.V., and Vasilyev, O.V., "The Role of Nonlinear Source Terms in Geophysics," *Geophysical Research Letters*, **27**(14), pp. 2069-2072, 2000.
11. Vasilyev, O.V. and Bowman, C., "Second Generation Wavelet Collocation Method for the Solution of Partial Differential Equations," *Journal of Computational Physics*, **165**, pp. 630-693, 2000.
12. Winckelmans, G.S., Wray, A.A., Vasilyev, O.V., and Jeanmart, H., "Explicit-filtering large-eddy simulation using the tensor-diffusivity model supplemented by a dynamic Smagorinsky Term," *Physics of Fluids*, **13**(5), pp. 1385-1403, 2001.

ARTICLES IN REFEREED JOURNALS (Continued)

13. Vasilyev, O.V., Podladchikov, Yu.Yu., and Yuen, D.A., "Modeling of Viscoelastic Plume-Lithosphere Interaction Using Adaptive Multilevel Wavelet Collocation Method," *Geophysical Journal International*, **147**(3), pp. 579-589, 2001.
14. Morinishi, Y. and Vasilyev, O.V., "A Recommended Modification to the Dynamic Two-parameter Mixed Subgrid Scale Model for Large Eddy Simulation of Turbulent Flow," *Physics of Fluids*, **13**(11), pp. 3400-3410, 2001.
15. Vasilyev, O.V., Ten, A.A., and Yuen, D.A., "Temperature-Dependent Viscous Gravity Currents with Shear Heating," *Physics of Fluids*, **13**(12), pp. 3664-3674, 2001.
16. De Stefano, G. and Vasilyev, O.V., "Sharp Cut-Off vs. Smooth Filtering in LES," *Physics of Fluids*, **14**(1), pp. 362-369, 2002.
17. Marsden, A., Vasilyev, O.V., and Moin, P., "Construction of Commutative Filters for LES on Unstructured Meshes," *Journal of Computational Physics*, **175**, pp. 584-603, 2002.
18. Morinishi, Y. and Vasilyev, O.V., "Vector Level Identity for Dynamic Subgrid Scale Modeling in Large Eddy Simulation," *Physics of Fluids*, **14**(10), pp. 3616-3623, 2002.
19. Vasilyev, O.V. and Kevlahan, N.K.-R., "Hybrid Wavelet Collocation – Brinkman Penalization Method for Complex Geometry Flows," *International Journal for Numerical Methods in Fluids*, **40**, pp. 531-538, 2002.
20. Haselbacher, A. and Vasilyev, O.V., "Commutative Discrete Filtering on Unstructured Grids Based on Least-Squares Techniques," *Journal of Computational Physics*, **187**(1), pp. 197-211, 2003.
21. Vasilyev, O.V. and Goldstein, D.E., "Local Spectrum of Commutation Error in Large Eddy Simulations," *Physics of Fluids*, **16**(2), pp. 470-473, 2004.
22. Goldstein, D.E. and Vasilyev, O.V., "Stochastic Coherent Adaptive Large Eddy Simulation Method," *Physics of Fluids*, **16**(7), pp. 2497-2513, 2004.
23. Morinishi, Y., Vasilyev, O.V., and Ogi, T., "Fully Conservative Finite Difference Scheme in Cylindrical Coordinates for Incompressible Flow Simulations," *Journal of Computational Physics*, **197**(2), pp. 686-710, 2004.
24. Vasilyev, O.V., Gerya, T.V., and Yuen, D.A., "The Application of Multidimensional Wavelets to Unveiling Multi-Phase Diagrams and in Situ Rock Physical Properties," *Earth and Planetary Science Letters*, **223**(1-2), pp. 49-64, 2004.
25. Yuen, D.A., Erlebacher, G., Vasilyev, O.V., Goldstein, D.E., and Fuentes, M., "Role of Wavelets in the Physical and Statistical Modeling of Complex Geological Processes," *Pure and Applied Geophysics*, **161**, pp., 2231-2244, 2004.
26. De Stefano, G. and Vasilyev, O.V., "Perfect Modeling Framework for Dynamic SGS Model Testing in Large Eddy Simulation," *Theoretical and Computational Fluid Dynamics*, **18**(1), pp., 27-41, 2004.
27. Kevlahan, N.K.-R. and Vasilyev, O.V., "An adaptive wavelet collocation method for fluid-structure interaction," *SIAM Journal on Scientific Computing*, **26**(6), pp. 1894-1915, 2005.
28. De Stefano, G., Goldstein, D.E., and Vasilyev, O.V., "On the role of sub-grid scale coherent modes in large eddy simulation," *Journal of Fluid Mechanics*, **525**, pp. 263-274, 2005.
29. Vasilyev, O.V. and Kevlahan, N.K.-R., "An Adaptive Multilevel Wavelet Collocation Method for Elliptic Problems," *Journal of Computational Physics*, **206**(2), pp. 412-431, 2005.

ARTICLES IN REFEREED JOURNALS (Continued)

30. De Stefano, G., Vasilyev, O.V., and Goldstein, D.E., “A-priori dynamic test for deterministic/stochastic modeling in large-eddy simulation of turbulent flow,” *Computer Physics Communications*, **169**, pp. 210-213, 2005.
31. Goldstein, D.E., Vasilyev, O.V., and Kevlahan, N.K.-R., “CVS and SCALES simulation of 3D isotropic turbulence,” *Journal of Turbulence*, **6**(37), pp. 1-20, 2005.
32. Alam, J.M., Kevlahan, N.K.-R., and Vasilyev, O.V., “Simultaneous space--time adaptive wavelet solution of nonlinear partial differential equations,” *Journal of Computational Physics*, **214**(2), pp. 829-857, 2006.
33. Kevlahan, N.K.-R., Alam, J.M., and Vasilyev, O.V., “Scaling of space-time modes with Reynolds number in two-dimensional turbulence,” *Journal of Fluid Mechanics*, **570**, pp. 217 – 226, 2007.
34. Liu, Q. and Vasilyev, O.V., “Brinkman Penalization Method for Compressible Flows in Complex Geometries,” *Journal of Computational Physics*, **227**(2), pp. 946–966, 2007.
35. Vasilyev, O.V., De Stefano, G., Goldstein, D.E., and Kevlahan, N.K.-R., “Lagrangian dynamic SGS model for SCALES of isotropic turbulence,” *Journal of Turbulence*, **9**(11), pp. 1-14, 2008.
36. De Stefano, G., Vasilyev, O.V., and Goldstein, D.E., “Localized Dynamic Kinetic Energy-based Models for Stochastic Coherent Adaptive Large Eddy Simulation,” *Physics of Fluids*, **20**(4), pp. 045102.1-045102.14, 2008.
37. Regele, J.D. and Vasilyev, O.V., “An Adaptive Wavelet-Collocation Method for Shock Computations,” *International Journal of Computational Fluid Dynamics*, **23**(7), pp. 503-518, 2009.
38. Ma, J., Hussaini, M.Y., Vasilyev, O.V., and Le Dimet, F.-X., “Multiscale Geometric Analysis of Turbulence by Curvelets,” *Physics of Fluids*, **21**(7), pp. 075104.1-075104.19, 2009.
39. Fujinoki, K. and Vasilyev, O.V., “Triangular Wavelets: An Isotropic Image Representation with Hexagonal Symmetry,” *EURASIP Journal on Image and Video Processing*, Vol. **2009**, Article ID 248581, 16 pages, 2009.
40. Liu, Q. and Vasilyev, O.V., “Nonreflecting Boundary Conditions Based on Nonlinear Multidimensional Characteristics,” *Int. J. Num. Meth. Fluids*, **62**(1), pp. 24–55, 2010.
41. De Stefano, G. and Vasilyev, O.V., “Stochastic coherent adaptive large eddy simulation of forced isotropic turbulence,” *Journal of Fluid Mechanics*, **646**, pp. 453 – 470, 2010.
42. Reckinger, S.J., Livescu, D., and Vasilyev, O.V., “Adaptive wavelet collocation method simulations of Rayleigh–Taylor instability,” *Physica Scripta*, **T142**, 014064 (6pp), 2010.
43. Gazzola, M., Vasilyev, O.V., and Koumoutsakos, P., “Shape optimization for drag reduction in linked bodies using evolution strategies,” *Computers and Structures*, **89**, pp. 1224–1231, 2011.

INVITED CONFERENCE AND SYMPOSIUM PAPERS

1. Vasilyev, O.V., “Computational Constrains on Large Eddy Simulation of Inhomogeneous Turbulent Complex Geometry Flows,” In *Proceedings of Third AFOSR International Conference on DNS/LES*, Edited by C. Liu et al., Greyden Press, Columbus, pp. 93-104, 2001.

REFEREED CONFERENCE AND SYMPOSIUM PAPERS

1. Paolucci, S., Suslov S.A., and Vasilyev, O.V., “Stability of Mixed Convection Flow in a Differentially Heated Vertical Channel with Large Temperature Differences,” In *Fundamentals of Mixed Convection*, HTD-274, pp. 33-40, Edited by Chu, T.Y. and Chen, T.S., ASME, New York, 1994.

REFEREED CONFERENCE AND SYMPOSIUM PAPERS (Continued)

2. Vasilyev, O.V. and Paolucci, S., "Thermoacoustic Wave Propagation Modeling Using a Dynamically Adaptive Wavelet Collocation Method," In *Proceedings of the ASME Heat Transfer Division*, HTD-335, Volume 4, pp. 47-54, Edited by D.W. Pepper et al., ASME, 1996.
3. Vasilyev, O.V. and Kevlahan, N.K.-R., "Hybrid Wavelet Collocation – Brinkman Penalization Method for Complex Geometry Flows," In M.J. Baines, editor, *Numerical Methods for Fluid Dynamics VII*, ICFD, Oxford, University Computing Laboratory, pp. 509-515, 2001.
4. De Stefano, G. and Vasilyev, O.V., "A study of the effect of smooth filtering in LES," In *Proceedings of Third AFOSR International Conference on DNS/LES*, Edited by C. Liu et al., Greyden Press, Columbus, pp. 247-254, 2001.
5. Kevlahan, N.K.-R. and Vasilyev, O.V. "An adaptive wavelet method for fluid-structure interaction," In *Direct and Large-Eddy Simulation Workshop 4: University of Twente*, Edts. B. J. Geurts, R. Friedrich, and O. Metais, pp. 253-260, 2001.
6. Kevlahan, N.K.-R., Vasilyev, O.V., Goldstein, D.E., and Jay, A., "A three-dimensional adaptive wavelet method for fluid-structure interaction," In *Direct and Large-Eddy Simulation Workshop V*, Proceedings of the fifth international ERCOFTAC workshop on direct and large-eddy simulations, pp. 147-154, Edts. R. Friedrich, B. J. Geurts, and O. Metais, Kluwer Academic Publishers, 2004.
7. De Stefano, G., Vasilyev, O.V., Goldstein, D.E., "A-priori dynamic test for deterministic/stochastic modelling in LES of turbulent flow," In *Proceedings of Conference on Computational Physics*, Genoa, Italy, 2004.
8. Lagumbay, R.S., Vasilyev, O.V., Haselbacher, A., and Wang, J., "Numerical Simulation of a High Pressure Supersonic Multiphase Jet Flow Through a Gaseous Media," In *Proceedings of the 16th International Mechanical Engineering Congress and Exposition*, ASME, vol. 3, **IMECE2004-61008**, 2004.
9. De Stefano, G., Vasilyev, O.V., Goldstein, D.E., and Kevlahan, N.K.-R., "Towards Lagrangian dynamic SGS model for SCALES of isotropic turbulence," In *Direct and Large-Eddy Simulation Workshop VI*, Proceedings of the sixth international ERCOFTAC workshop on direct and large-eddy simulations, pp. 175-182, Edts. E. Lamballais, R. Friedrich, B. J. Geurts, and O. Metais, Springer, 2006.
10. Lagumbay, R.S., Vasilyev, O.V., Haselbacher, A., and Wang, J., "Numerical Simulation of a Supersonic Three-Phase Cavitating Jet Flow Through a Gaseous Medium in Injection Nozzle," In *Proceedings of 2005 ASME International Mechanical Engineering Congress and Exposition*, ASME, **IMECE2005-82948**, 2005.
11. Sakakibara, S. and Vasilyev, O.V., "Construction of Triangular Biorthogonal Wavelet Filters for Isotropic Image Processing," In *Proceedings of 14th European Signal Processing Conference*, Florence, Italy, 2006.
12. De Stefano, G. and Vasilyev, O.V., "Stochastic Coherent Adaptive Large Eddy Simulation of Forced Isotropic Turbulence," In *Direct and Large-Eddy Simulation VII*, Proceedings of the Seventh International ERCOFTAC Workshop on Direct and Large-Eddy Simulations, pp. 281-286, Edts. V. Armenio, B. Geurts, and J. Frohlich, Springer, 2010.
13. Vasilyev, O.V. and De Stefano, G., "Progress in the Development of Stochastic Coherent Adaptive LES Methodology," In *Direct and Large-Eddy Simulation VII*, Proceedings of the Seventh International ERCOFTAC Workshop on Direct and Large-Eddy Simulations, pp. 303-307, Edts. V. Armenio, B. Geurts, and J. Frohlich, Springer, 2010.

REFEREED CONFERENCE AND SYMPOSIUM PAPERS (Continued)

14. De Stefano, G. and Vasilyev, O.V., “Stochastic Coherent Adaptive Large Eddy Simulation of Forced Isotropic Turbulence,” In *Proceedings of the Workshop on Quality and Reliability of Large-Eddy Simulations II*, Pisa, Italy, 2009.
15. Nejadmalayeri, A.R., Vasilyev, O.V., A. Veizolainen, A., and De Stefano, G., “Spatially Variable Thresholding for Stochastic Coherent Adaptive LES,” In *Proceedings of the Eighth International ERCOFTAC Workshop on Direct and Large-Eddy Simulations*, Eindhoven, The Netherlands, 2010.
16. De Stefano, G. and Vasilyev, O.V., “Stochastic Coherent Adaptive LES with Time-Dependent Thresholding,” In *Proceedings of the Eighth International ERCOFTAC Workshop on Direct and Large-Eddy Simulations*, Eindhoven, The Netherlands, 2010.

CONFERENCE AND SYMPOSIUM PAPERS (Based on Review of Abstract)

1. Kevlahan, N.K.-R., Vasilyev, O.V., and Cherhabili, A., “An Adaptive Wavelet Method for Turbulence in Complex Geometries,” In *Proceedings of the 16th IMACS World Congress 2000*, Edited by M. Deville and R. Owens, IMACS, **411-39.pdf**, 2000.
2. Goldstein, D.E., Vasilyev, O.V., and Kevlahan, N.K.-R., “Feasibility Study of an Adaptive Large Eddy Simulation Method,” AIAA Paper 2003-3551, 2003.
3. Liu, Q. and Vasilyev, O.V., “Hybrid Adaptive Wavelet Collocation-Brinkman Penalization Method for DNS and URANS Simulations of Compressible Flow around Bluff Bodies,” AIAA Paper 2006-3206, 2006.
4. Kassoy, D., Regele, J. and Vasilyev, O.V., “Detonation Initiation on the Microsecond Time Scale: Comparative One and Two Dimensional DDT Results Obtained from Adaptive Wavelet-Collocation Numerical Methods,” AIAA Paper 2007-986, 2007.
5. Regele, J.D., Kassoy, D., and Vasilyev, O.V., “Numerical Modeling of Acoustic Timescale Detonation Initiation,” AIAA Paper 2008-1037, 2008.
6. De Stefano, G. and Vasilyev, O.V., “Towards Wavelet-based Adaptive Numerical Simulation of Turbulent Flow past Bluff-Bodies”. In: *Proceedings of the 5th International Conference on Vortex Flow and Vortex Methods*, Caserta, Italy, ISBN/ISSN: 978-88-905218-6-7, 2010.

NON-REFEREED ARTICLES

1. Vasilyev, O.V., “The Weak Condensation of the Nitrogen in Laminar Two-Dimensional and Axisymmetrical flows,” Central Aero-Hydrodynamic Institute, Moscow, Preprint 32, 1991.
2. Vasilyev, O.V. and Lund, T.S., “A General Theory of Discrete Filtering for LES in Complex Geometry,” In *Annual Research Briefs*, Center for Turbulence Research, NASA Ames/Stanford Univ., pp. 67-82, 1997.
3. Winckelmans, G.S., Wray, A.A., and Vasilyev, O.V., “Testing of a New Mixed Model for LES: the Leonard Model Supplemented by a Dynamic Smagorinsky Term,” In *Proceedings of the 1998 Summer Program*, Center for Turbulence Research, NASA Ames/Stanford Univ., pp. 367-388, 1998.
4. Cottet, G.-H. and Vasilyev, O.V., “Comparison of Dynamic Smagorinsky and Anisotropic Subgrid-Scale Models,” In *Proceedings of the 1998 Summer Program*, Center for Turbulence Research, NASA Ames/Stanford Univ., pp. 389-397, 1998.
5. Vasilyev, O.V. and Bushe, W.K., “On the use of a Dynamically Adaptive Wavelet Collocation Algorithm in DNS of Non-Premixed Turbulent Combustion,” In *Annual Research Briefs*, Center for Turbulence Research, NASA Ames/Stanford Univ., pp. 65-81, 1998.

NON-REFEREED ARTICLES (Continued)

6. Morinishi, Y. and Vasilyev, O.V., "Subgrid Scale Modeling Taking the Numerical Error into Consideration," In *Annual Research Briefs*, Center for Turbulence Research, NASA Ames/Stanford Univ., pp. 237-253, 1998.
7. Vasilyev, O.V., "On the Construction of High Order Finite Difference Schemes On Non-Uniform Meshes with Good Conservation Properties," In *Annual Research Briefs*, Center for Turbulence Research, NASA Ames/Stanford Univ., pp. 311-324, 1998.
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1. Vasilyev, O.V. and Paolucci, S., "Stability of Unstably Stratified Shear Flow in a Channel Under Non-Boussinesq Conditions," *Bulletin of the American Physical Society*, **37**(8), p. 1794, 1992.
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61. De Stefano, G. and Vasilyev, O.V., "Fully Adaptive LES of Homogeneous Turbulent Flows," *Bulletin of the American Physical Society*, **55**(16), p. 264, 2010.
62. Vasilyev, O.V., Gazzola, M., and Koumoutsakos, P., "Shape Optimization for Drag Reduction in Linked Bodies using Evolution Strategies and the Hybrid Wavelet Collocation - Brinkman Penalization Method," *Bulletin of the American Physical Society*, **55**(16), p. 75, 2010.

PRESENTATIONS**KEYNOTE SPEAKER IN MAJOR CONFERENCES**

1. “Computational Constrains on Large Eddy Simulation of Inhomogeneous Turbulent Complex Geometry Flows,” Third AFOSR International Conference on Direct Numerical Simulation and Large Eddy Simulation, Arlington, Texas, August 5-9, 2001.
2. “Adaptive Wavelet Collocation Method for the Solution of Partial Differential Equations,” IMACS Workshop on Adaptive Methods for Partial Differential Equations, Toronto, Canada, August 6-9, 2002.

INVITED SPEAKER IN MAJOR CONFERENCES

1. “On the Use of the Adaptive Wavelet Collocation Method in the Direct Numerical Simulation of Reacting Flows,” Minisymposium on Adaptive and Wavelet Methods Applied to Numerical Combustion, Eight International Conference on Numerical Combustion, Amelia Island, March 5-8, 2000.
2. “Stochastic Coherent Adaptive Large Eddy Simulation (SCALES) Methodology,” Workshop on Fluid Turbulence: “Cascade Dynamics: Fundamentals and Modeling,” Santa Fe, New Mexico, August 16-20, 2004.
3. “Recent Progress in Modeling and Simulation of Multi-Scale Phenomena Using Wavelets,” International Kyoto Workshop: Wavelet Analysis and Scientific Computation, Kyoto, Japan, May 19-20, 2005.
4. “Recent progress in development of adaptive wavelet collocation methodology,” International Conference on Scientific Computation and Differential Equations (SciCADE05), Nagoya, Japan, May 23-27, 2005.
5. “Stochastic Coherent Adaptive Large Eddy Simulation (SCALES) Method,” Symposium on Modeling and Simulation of Variable Density and Compressible Turbulent Mixing, Los Alamos National Laboratory, New Mexico, August 3-5, 2005.

INVITED LECTURES AND SEMINARS

1. “Adaptive Multilevel Wavelet Collocation Method for solving PDEs in Multiple Dimensions,” Minnesota Supercomputer Institute, University of Minnesota, July 24, 1996.
2. “Adaptive Multilevel Wavelet Collocation Algorithm for the Solution of Partial Differential Equations in Multiple Dimensions,” Scientific Computing and Computational Mathematics Seminar, Stanford University, November 25, 1996.
3. “Wavelet Based Numerical Algorithms as an Alternative Approach to Solving Partial Differential Equations,” Center for Turbulence Research, Stanford University, February 7, 1997.
4. “Wavelets: An Alternative Approach to Solving Problems with Localized Structures,” Department of Mechanical and Aerospace Engineering, University of Missouri-Columbia, March 17, 1998.
5. “Wavelets: An Alternative Approach to Solving Partial Differential Equations,” Department of Computer Science and Applied Mathematics, Illinois Institute of Technology, April 14, 1998.
6. “Modeling Physical Systems with Wide Range of Spatial Scales,” Applied Mathematics Seminar, University of Missouri-Columbia, January 21 & 28, 2000.
7. “DNS, LES, and CVS Approaches in Computational Fluid Dynamics,” Department of Civil and Environmental Engineering, University of Missouri-Columbia, February 29, 2000.

INVITED LECTURES AND SEMINARS (Continued)

8. "Modeling Physical Systems with Wide Range of Spatial Scales Using Wavelets," Institute of Geology, Swiss Federal Institute of Technology Zurich, Switzerland, March 5, 2001.
9. "Computational Constraints on Large Eddy Simulation of Inhomogeneous Turbulent Complex Geometry Flows," Center for Simulation of Advanced Rockets, University of Illinois at Urbana-Champaign, April 18, 2001.
10. "A Novel Approach for Modeling and Simulation of Complex Multi-Scale Aero-Fluid Dynamics Problems," Department of Aerospace Engineering Sciences, University of Colorado at Boulder, May 3, 2001.
11. "On the Use of Wavelets for Modeling and Simulation of Complex Multi-Scale Aero-Fluid Dynamics Problems," NASA Langley Research Center, July 24, 2001.
12. "The Use of Wavelets for Modeling and Simulation of Complex Multi-Scale Phenomena," Mathematics and Computer Science Division, Argonne National Laboratory, August 16, 2001.
13. "The Use of Wavelets for Modeling and Simulation of Complex Multi-Scale Phenomena," Department of Mechanical and Aerospace Engineering, Rutgers University - The State University of New Jersey, March 11, 2002.
14. "The Use of Wavelets for Modeling and Simulation of Complex Multi-Scale Phenomena," Department of Mechanical Engineering, Washington University in St. Louis, March 14, 2002.
15. "The Use of Wavelets for Modeling and Simulation of Complex Multi-Scale Phenomena," Department of Mechanical Engineering, University of Colorado at Boulder, March 19, 2002.
16. "The Use of Wavelets for Modeling and Simulation of Complex Multi-Scale Phenomena," Department of Mechanical Engineering, The Ohio State University, April 18, 2002.
17. "Use of Wavelets for Modeling and Simulation of Multi-Scale Phenomena," Department of Physics and Nuclear Technology, AGH University of Science and Technology, Krakow, Poland, May 30, 2003.
18. "Modeling and Simulation of Multi-Scale Phenomena Using Wavelets," Center for the Physics of Geological Processes, University of Oslo, Oslo, Norway, June 12, 2003.
19. "Modeling and Simulation of Multi-Scale Phenomena Using Wavelets," Department of Mathematics and Computing, University of Southern Queensland, Toowoomba, Australia, June 30, 2003.
20. "Stochastic Coherent Adaptive Large Eddy Simulation (SCALES) Method," Department of Mechanical Engineering, Nagoya Institute of Technology, Nagoya, Japan, July 16, 2003.
21. "Stochastic Coherent Adaptive Large Eddy Simulation (SCALES) Method," Department of Applied Mathematics, University of Colorado at Boulder, September 19, 2003.
22. "Stochastic Coherent Adaptive Large Eddy Simulation (SCALES) Method," National Center for Atmospheric Research (NCAR), November 5, 2003.
23. "Modeling and Simulation of Multi-Scale Phenomena Using Wavelets," Institute of Geophysics, Swiss Institute of Technology - Zurich, Switzerland, January 12, 2006.
24. "Stochastic Coherent Adaptive Large Eddy Simulation (SCALES)," Department of Mechanical Engineering, California Institute of Technology, Pasadena, California, February 28, 2006.
25. "Adaptive Wavelet Collocation Method for Solution of Multi-Scale Problems," Mechanical & Aerospace Engineering Department, University of California at Los Angeles, Los Angeles, California, March 3, 2006.

INVITED LECTURES AND SEMINARS (Continued)

26. "An Adaptive Multi-Scale Modeling, Simulation, and Visualization Framework for Solution of Complex Multi-Physics Flows," Los Alamos National Laboratory, Los Alamos, New Mexico, August 21, 2006.
27. "An Adaptive Multi-Scale Modeling, Simulation, and Visualization Framework for Solution of Complex Multi-Physics Problems," Institute of Geophysics, Swiss Institute of Technology - Zurich, Zurich, Switzerland, January 9, 2007.
28. "Adaptive Wavelet Collocation Method for Solution of Multi-Scale Problems," Institute of Computational Science, Swiss Institute of Technology - Zurich, Zurich, Switzerland, January 10, 2007.
29. "Adaptive Wavelet Collocation Method for Solution of Multi-Scale Problems," Cornell Fluid Dynamics Seminar, Cornell University, Ithaca, New York, April 10, 2007.
30. "Stochastic Coherent Adaptive Large Eddy Simulation (SCALES) Methodology," Mechanical and Aerospace Engineering Colloquium, Cornell University, Ithaca, New York, April 10, 2007.
31. "Adaptive Wavelet Collocation Method for Solution of Multi-Scale Problems," Institute of Analysis and Scientific Computing, Swiss Institute of Technology - Lausanne, Lausanne, Switzerland, July 16, 2008.
32. "Adaptive Wavelet Collocation Method for Modeling and Simulation of Complex Multi-Scale Fluid Dynamics Problems," Thermo and Fluid Dynamics Colloquium, Institute of Fluid Dynamics, Swiss Institute of Technology - Zurich, Zurich, Switzerland, August 20, 2008.
33. "An Adaptive Multiscale Wavelet Framework for Modeling and Simulation of Fluid Dynamics Flows," Institute of Fluid Mechanics, Technical University of Dresden, Dresden, Germany, January 13, 2009.
34. "An Adaptive Multiscale Wavelet Framework for Modeling and Simulation of Fluid Dynamics Flows," DLR Colloquium, German Aerospace Center (DLR), Goettingen, Germany, January 15, 2009.
35. "Adaptive Wavelet Collocation Methods for Partial Differential Equations," Mathematics Colloquium, Institute for Numerical Mathematics, University of Ulm, Ulm, Germany, June 30, 2009.
36. "Wavelet Methods in Computational Fluid Dynamics," Department of Mechanical Engineering, University of Colorado, October 22, 2009.
37. "Wavelet Methods in Computational Fluid Dynamics," Fluid Mechanics Seminar, Stanford University, October 27, 2009.
38. "Wavelet Methods in Computational Fluid Dynamics," Methods in Mathematical Physics Seminar, Dorodnicyn Computing Centre of the Russian Academy of Science, Moscow, Russia, June 22, 2010.
39. "Wavelet Methods in Computational Fluid Dynamics," Department of Mathematics Colloquium, Central Michigan University, October 7, 2010.

MEETING PRESENTATIONS

1. "Stability of Unstably Stratified Shear Flow in a Channel under Non-Boussinesq Conditions," Forty-Fifth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Tallahassee, November 22-24, 1992.
2. "A Dynamically Adaptive Multilevel Wavelet Collocation Method for Solving Partial Differential Equations in a Finite Domain," Forty-Seventh Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Atlanta, November 20-22, 1994.

MEETING PRESENTATIONS (Continued)

3. "Fast Multilevel Wavelet Collocation Method for the Solution of PDEs in Multiple Dimensions," Forty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Irvine, November 19-21, 1995.
4. "Adaptive Multilevel Wavelet Collocation Method for Solving Partial Differential Equations in Multiple Dimensions," Conference on Wavelets, Relations with Operators and Applications, University of North Carolina, Charlotte, July 24-28, 1996.
5. "Thermoacoustic Wave Propagation Modeling Using a Dynamically Adaptive Wavelet Collocation Method," International Mechanical Engineering Congress and Exposition, Atlanta, November 17-22, 1996.
6. "Solution of Elliptic Problems by an Adaptive Wavelet Collocation Algorithm," Forty-Ninth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Syracuse, November 24-26, 1996. (Presented by S. Paolucci)
7. "Calculation of Viscoelastic Flow with High Viscosity Contrast Using an Adaptive Wavelet Collocation Method," Annual American Geophysical Union Meeting, San Francisco, December 15-19, 1996.
8. "Construction of Commutative Filters for LES in Complex Geometries," Fiftieth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, San Francisco, November 23-25, 1997.
9. "Wavelet Solution of Compaction Driven Molten Flow in Visco-Elastic Media," Annual American Geophysical Union Meeting, San Francisco, December 8-12, 1997.
10. "Adaptive Wavelet Collocation Method for Combustion Problems," Thirteenth U.S. National Congress of Applied Mechanics, June 21-26, 1998. (Presented by S. Paolucci)
11. "Conservation Properties of High Order Finite Difference Schemes on Non-Uniform Meshes," Fifty-First Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Philadelphia, November 22-24, 1998.
12. "Dynamic LES Using a Mixed Leonard-Smagorinsky Model," Fifty-First Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Philadelphia, November 22-24, 1998. (Presented by G.S. Winckelmans)
13. "On the Use of the Dynamically Adaptive Wavelet Collocation Method in Combustion Simulations," Fifty-Second Annual Meeting of the American Physical Society, Division of Fluid Dynamics, New Orleans, November 21-23, 1999.
14. "A Recommended Modification to the Dynamic Two-Parameter Mixed Subgrid Scale Model," Fifty-Second Annual Meeting of the American Physical Society, Division of Fluid Dynamics, New Orleans, November 21-23, 1999. (Presented by Y. Morinishi)
15. "Explicit Filtering LES Using the Tensor Diffusivity Model Supplemented by a Dynamic Smagorinsky Term," Fifty-Second Annual Meeting of the American Physical Society, Division of Fluid Dynamics, New Orleans, November 21-23, 1999. (Presented by G.S. Winckelmans)
16. "Gravity Current Model with Temperature-Dependent Rheology and Viscous Heating," Annual American Geophysical Union Meeting, San Francisco, December 13-17, 1999.
17. "An Adaptive Wavelet Method for Turbulence in Complex Geometries," Sixteenth IMACS World Congress on Scientific Computation, Applied Mathematics and Simulation, Lausanne, Switzerland, August 21-25, 2000. (Presented by N.K.-R. Kevlahan)

MEETING PRESENTATIONS (Continued)

18. "Evaluation of the Use of Second Generation Wavelets in the Coherent Vortex Simulation Approach," Fifty-Third Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Washington, D.C., November 19-21, 2000. (Presented by D. Goldstein)
19. "Construction of Commutative Filters for LES on Unstructured Meshes," Fifty-Third Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Washington, D.C., November 19-21, 2000. (Presented by A. Marsden)
20. "On the Use of Second Generation Adaptive Wavelet Collocation Method in Fluid Mechanics", ICFD Conference on Numerical Methods for Fluid Dynamics, Oxford, England, March 26-29, 2001.
21. "An Adaptive Wavelet Method for Fluid-Structure Interaction," Fourth Workshop on Direct and Large-Eddy Simulation (DLES4), Enschede, Netherlands, July 18-20, 2001. (Presented by N.K.-R. Kevlahan)
22. "A Study of the Effect of Smooth Filtering in LES," Third AFOSR International Conference on Direct Numerical Simulation and Large Eddy Simulation, Arlington, August 5-9, 2001. (Presented by G. De Stefano)
23. "Effect of the Filter Shape in LES with Explicit Filtering," Fifteenth AIMETA Congress of Theoretical and Applied Mechanics, Taormina, Italy, September 26-29, 2001. (Presented by G. De Stefano)
24. "Toward the Modeling of Coherent Subgrid Structures," Fifty-Fourth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, San Diego, November 18-20, 2001.
25. "Local Spectrum of Commutation Error for LES of Inhomogeneous Turbulent Flows," Fifty-Fourth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, San Diego, November 18-20, 2001.
26. "Role of Wavelets in the Physical and Statistical Modeling and Visualization of Complex Geological Processes," Third International ACES Meeting, Maui, Hawaii, May 5-10, 2002. (Presented by D.A. Yuen)
27. "An Adaptive Wavelet Collocation Method for Complex Geometry Flows," Airframe Noise Workshop, NASA Langley, October 22-23, 2002.
28. "Stochastic Coherent Adaptive Large Eddy Simulation Method," Fifty-Fifth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Dallas, November 24-26, 2002. (Presented by D.E. Goldstein)
29. "New Insights into Consistent Modeling for LES," Fifty-Fifth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Dallas, November 24-26, 2002. (Presented by G. De Stefano)
30. "An Adaptive Wavelet Collocation Method for Fluid-Structure Interaction - Part I," Fifty-Fifth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Dallas, November 24-26, 2002.
31. "An Adaptive Wavelet Collocation Method for Fluid-Structure Interaction - Part II," Fifty-Fifth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Dallas, November 24-26, 2002. (Presented by N.K.-R. Kevlahan)
32. "Gravity Identification of 3-D Mantle Plumes and the Relative Contributions of the Surface Heat Flow by Wavelet Thresholding," Annual American Geophysical Union Meeting, San Francisco, December 6-10, 2002. (Presented by D.A. Yuen)

MEETING PRESENTATIONS (Continued)

33. "Feasibility Study of an Adaptive Large Eddy Simulation Method," 16th AIAA Computational Fluid Dynamics Conference, Orlando, Florida, June 23-26, 2003. (Presented by D.E. Goldstein)
34. "Dynamically Adaptive Wavelet Collocation Method for the Solution of Partial Differential Equations," 5th International Congress on Industrial and Applied Mathematics, Sydney, Australia, July 7-11, 2003.
35. "Multi-Resolution Projection vs. Low Pass Filtering in Large Eddy Simulation," Minisymposium on Numerical Methods and Modeling in Turbulence Simulation, Seventh U.S. National Congress on Computational Mechanics, Albuquerque, New Mexico, July 28-30, 2003.
36. "A Three-Dimensional Adaptive Wavelet Method for Fluid-Structure Interaction," Fifth international ERCOFTAC workshop on direct and large-eddy simulations (DLES5), Munich, Germany, August 27-29, 2003. (Presented by N.K.-R. Kevlahan)
37. "Three-Dimensional Simulations Using an Adaptive Wavelet Collocation Method – Part I: Theory and Application to Fluid-Bluff Body Interaction," Fifty-Sixth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, East Rutherford, New Jersey, November 23-25, 2003.
38. "Three-Dimensional Simulations Using an Adaptive Wavelet Collocation Method – Part II: Application to 3D Homogeneous Turbulence," Fifty-Sixth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, East Rutherford, New Jersey, November 23-25, 2003. (Presented by D.E. Goldstein)
39. "A-Priori Dynamic Testing of Stochastic/Coherent Modeling for Large Eddy Simulation," Fifty-Sixth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, East Rutherford, New Jersey, November 23-25, 2003. (Presented by G. De Stefano)
40. "Wavelet and Statistical Thresholding of convection plumes in High-Rayleigh number flows," Annual American Geophysical Union Meeting, San Francisco, December 8-12, 2003. (Presented by G. Erlebacher)
41. "Adaptive Multilevel Second-Generation Wavelet Collocation Elliptic Solver: A Cure for High Viscosity Contrasts," Annual American Geophysical Union Meeting, San Francisco, December 8-12, 2003.
42. "Application of Multidimensional Wavelets to Unveiling Multi-Phase Diagrams and in Situ Rock Physical Properties," Annual American Geophysical Union Meeting, San Francisco, December 8-12, 2003.
43. "An Adaptive Wavelet Collocation Solver for Time-Accurate Complex-Geometry Flow Simulations and Far-Field Acoustic Prediction," Airframe Noise Workshop, NASA Langley, February 10-11, 2004.
44. "An Adaptive Wavelet Collocation Method for Turbulence Calculations", Large Eddy Simulation, Coherent Vortex Simulation and Vortex Methods for Turbulent Flows, Euromech Colloquium 454, Marseilles, France, April 14-16, 2004. (Presented by D.E. Goldstein)
45. "Adaptive Wavelet Simulation of Fluid Structure Interaction in 2D and 3D", Large Eddy Simulation, Coherent Vortex Simulation and Vortex Methods for Turbulent Flows, Euromech Colloquium 454, Marseilles, France, April 14-16, 2004. (Presented by N.K.-R. Kevlahan)
46. "Identification of Mantle Plumes Using Second Generation Wavelets", 25th IUGG Conference on Mathematical Geophysics, Columbia University, New York, June 16-18, 2004. (Presented by D.A. Yuen)

MEETING PRESENTATIONS (Continued)

47. "Numerical Simulation of a High Pressure Supersonic Multiphase Jet Flow through a Gaseous Media", ASME International Mechanical Engineering Congress and Exposition (IMECE2004), Anaheim, November 13–19, 2004.
48. "A-priori Dynamic Study of Subgrid-Scale Energy Transfer In Large Eddy Simulation," Fifty-Seventh Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Seattle, Washington, November 21-23, 2004. (Presented by G. De Stefano)
49. "Characterization of Discrete Commutative Filters on Unstructured Grids," Fifty-Seventh Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Seattle, Washington, November 21-23, 2004. (Presented by A. Haselbacher)
50. "Numerical Simulation of a High Pressure Supersonic Multiphase Jet Flow through a Gaseous Media," Fifty-Seventh Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Seattle, Washington, November 21-23, 2004. (Presented by R.S. Lagumbay)
51. "Adaptive LES of Decaying 3D Homogeneous Isotropic Turbulence," Fifty-Seventh Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Seattle, Washington, November 21-23, 2004. (Presented by D. E. Goldstein)
52. "Simultaneous Space-Time Adaptive Wavelet Solution of Turbulence," Fifty-Seventh Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Seattle, Washington, November 21-23, 2004. (Presented by J. Alam)
53. "Towards Lagrangian dynamic SGS model for SCALES of isotropic turbulence," Sixth international ERCOFTAC workshop on direct and large-eddy simulations (DLES6), Poitiers, France, September 12-14, 2005. (Presented by D.E. Goldstein)
54. "Numerical Simulation of a Supersonic Three-Phase Cavitating Jet Flow Through a Gaseous Medium in Injection Nozzle", ASME International Mechanical Engineering Congress and Exposition (IMECE2005), Orlando, Florida, November 5–11, 2005. (Presented by R.S. Lagumbay)
55. "Hybrid Adaptive Wavelet Collocation -- Brinkman Penalization -- Ffowcs Williams and Hawkings Method for Compressible Flow Simulation and Far-Field Acoustics Prediction," Fifty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Chicago, Illinois, November 20-22, 2005. (Presented by Q. Liu)
56. "Numerical Modeling and Simulation of an Underwater Explosion Bubble," Fifty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Chicago, Illinois, November 20-22, 2005. (Presented by R.S. Lagumbay)
57. "Progress in Dynamic SGS Modeling for the SCALES Methodology - Part I," Fifty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Chicago, Illinois, November 20-22, 2005. (Presented by D. E. Goldstein)
58. "Progress in Dynamic SGS Modeling for the SCALES Methodology - Part II," Fifty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Chicago, Illinois, November 20-22, 2005. (Presented by G. De Stefano)
59. "Multiscale space-time adaptive simulation of 2D incompressible turbulence," Fifty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Chicago, Illinois, November 20-22, 2005. (Presented by N.K.-R. Kevlahan)
60. "Characterization of discrete commutative filters," Fifty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Chicago, Illinois, November 20-22, 2005. (Presented by A. Haselbacher)

MEETING PRESENTATIONS (Continued)

61. "Dynamically Adaptive Wavelet Collocation Method for Shock Computations," Fifty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Chicago, Illinois, November 20-22, 2005. (Presented by J. Regele)
62. "Hybrid Adaptive Wavelet Collocation-Brinkman Penalization Method for DNS and URANS Simulations of Compressible Flow around Bluff Bodies," 36th AIAA Fluid Dynamics Conference and Exhibit, San Francisco, California, June 5-8, 2006.
63. "Construction of Triangular Biorthogonal Wavelet Filters for Isotropic Image Processing," 14th European Signal Processing Conference, Florence, Italy, September 4-8, 2006. (Presented by S. Sakakibara)
64. "A New Formulation of Brinkman Penalization Method for Compressible Flow Simulations in Complex Geometries," Fifty-Ninth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Tampa, Florida, November 19-21, 2006. (Presented by Q. Liu)
65. "An Adaptive Wavelet Shock Capturing Scheme for Compressible Inert and Reactive Flows," Fifty-Ninth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Tampa, Florida, November 19-21, 2006. (Presented by J. Regele)
66. "Coherent Vortex Simulations of 3D isotropic turbulence," Fifty-Ninth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Tampa, Florida, November 19-21, 2006.
67. "Lagrangian dynamic SGS model for Stochastic Coherent Adaptive Large Eddy Simulation," Fifty-Ninth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Tampa, Florida, November 19-21, 2006.
68. "SGS kinetic energy based dynamic models for Stochastic Coherent Adaptive Large Eddy Simulation," Fifty-Ninth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Tampa, Florida, November 19-21, 2006. (Presented by G. De Stefano)
69. "Detonation Initiation on the Microsecond Time Scale: One and Two Dimensional Results Obtained from Adaptive Wavelet-Collocation Numerical Methods," 45th AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, January 8-11, 2007 (Presented by D. Kassoy)
70. "Nonreflecting Boundary Conditions Based on Nonlinear Multidimensional Characteristics," Sixtieth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Salt Lake City, Utah, November 18-20, 2007. (Presented by Q. Liu)
71. "Numerical Modeling of Detonation Initiation Using Acoustic Time Scale Heat Deposition," Sixtieth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Salt Lake City, Utah, November 18-20, 2007. (Presented by J. Regele)
72. "Stochastic Coherent Adaptive Large Eddy Simulation of linearly forced homogeneous turbulence," Sixtieth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Salt Lake City, Utah, November 18-20, 2007. (Presented by G. De Stefano)
73. "Coherent Vortex Simulations of linearly forced homogeneous turbulence," Sixtieth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Salt Lake City, Utah, November 18-20, 2007.
74. "Numerical Modeling of Acoustic Timescale Detonation Initiation," 46th AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, January 7-10, 2008 (Presented by D. Kassoy)
75. "The method for efficient calculation of phase diagrams and in situ rock properties based on 3D adaptive wavelet approach," European Geosciences Union General Assembly, Vienna, Austria, April 13-18. (Presented by Y. Mishin)

MEETING PRESENTATIONS (Continued)

76. "Application of adaptive wavelets in geodynamics," 33rd International Geological Congress, Oslo, Norway, August 6-14, 2008. (Presented by Y. Mishin)
77. "Stochastic Coherent Adaptive Large Eddy Simulation of Forced Isotropic Turbulence," Seventh international ERCOFTAC workshop on direct and large-eddy simulations (DLES7), Trieste, Italy, September 8-10, 2008. (Presented by G. De Stefano)
78. "Stochastic Coherent Adaptive Large Eddy Simulation with Variable Thresholding Strategy," Seventh international ERCOFTAC workshop on direct and large-eddy simulations (DLES7), Trieste, Italy, September 8-10, 2008.
79. "Stochastic Coherent Adaptive Large Eddy Simulation (SCALES)," Seventh EUROMECH Fluid Mechanics Conference, Manchester, England, September 14-18, 2008.
80. "Stochastic Coherent Adaptive Large Eddy Simulation of forced isotropic turbulence with variable thresholding," 61st Annual Meeting of the American Physical Society, Division of Fluid Dynamics, San Antonio, Texas, November 23-25, 2008.
81. "Numerical Modeling of Multi-dimensional Acoustic Timescale Detonation Initiation," 61st Annual Meeting of the American Physical Society, Division of Fluid Dynamics, San Antonio, Texas, November 23-25, 2008.
82. "Adaptive Wavelet-Based Simulations of Variable Density Flows," Turbulent Mixing and Beyond Conference, Trieste, Italy, 27 July - 7 August, 2009. (Presented by S.J. Reckinger)
83. "Stochastic Coherent Adaptive Large-Eddy Simulation with explicit filtering," Workshop on Quality and Reliability of Large-Eddy Simulations II, Pisa, Italy, September 9-11, 2009. (Presented by G. De Stefano)
84. "Feasibility of using Hybrid Wavelet Collocation - Brinkman Penalization Method for Shape and Topology Optimization," 62nd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Minneapolis, Minnesota, November 22-24, 2009.
85. "Explicit Wavelet Filtering in Stochastic Coherent Adaptive Large Eddy Simulation," 62nd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Minneapolis, Minnesota, November 22-24, 2009. (Presented by G. De Stefano)
86. "Extension of Brinkman Penalization for Ocean Circulation Modeling using Adaptive Wavelet Collocation Method," 62nd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Minneapolis, Minnesota, November 22-24, 2009. (Presented by S. Reckinger)
87. "Wavelet-Based Simulations of Single-Mode Rayleigh-Taylor Instability," 62nd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Minneapolis, Minnesota, November 22-24, 2009. (Presented by S.J. Reckinger)
88. "Spatial Variable Thresholding for SCALES," 62nd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Minneapolis, Minnesota, November 22-24, 2009. (Presented by A.R. Nejadmalayeri)
89. "Spatially Variable Thresholding for Stochastic Coherent Adaptive LES," Eighth international ERCOFTAC workshop on direct and large-eddy simulations (DLES8), Eindhoven, The Netherlands, July 7-9, 2010. (Presented by A.R. Nejadmalayeri)
90. "Stochastic Coherent Adaptive LES with Time-Dependent Thresholding," Eighth international ERCOFTAC workshop on direct and large-eddy simulations (DLES8), Eindhoven, The Netherlands, July 7-9, 2010.
91. "Ocean Circulation Modeling Using Adaptive Wavelet Collocation Method," 9th International workshop on Multiscale (Un)-structured mesh numerical Modeling for coastal, shelf, and global ocean dynamics, Cambridge, MA, USA August 17-20, 2010. (Presented by S. Reckinger)

MEETING PRESENTATIONS (Continued)

92. “Towards Wavelet-based Adaptive Numerical Simulation of Turbulent Flow past Bluff-Bodies”. In: *Proceedings of the 5th International Conference on Vortex Flow and Vortex Methods*. Caserta, 8-10 November, 2010. (Presented by G. De Stefano)
93. “Ocean Circulation Modeling Using Adaptive Wavelet Collocation Method,” 63rd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Long Beach, California, November 21–23, 2010. (Presented by S. Reckinger)
94. “Wavelet-Based Simulations of Rayleigh-Taylor Instability,” 63rd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Long Beach, California, November 21–23, 2010. (Presented by S.J. Reckinger)
95. “Fully Adaptive LES of Homogeneous Turbulent Flows,” 63rd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Long Beach, California, November 21–23, 2010. (Presented by G. De Stefano)
96. “Shape Optimization for Drag Reduction in Linked Bodies using Evolution Strategies and the Hybrid Wavelet Collocation - Brinkman Penalization Method,” 63rd Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Long Beach, California, November 21–23, 2010.

PROFESSIONAL ACTIVITIES**PROFESSIONAL SOCIETIES MEMBERSHIP**

- American Institute of Aeronautics and Astronautics (AIAA), 1996-Present
- American Physical Society (APS), 1994-Present
- American Society of Mechanical Engineers (ASME), 1994-Present
- Society of Industrial and Applied Mathematics (SIAM), 1996-Present

EDITOR

- Editorial board, Theoretical and Computational Fluid Dynamics. 2010-present.

REVIEWER

- Applied and Computational Harmonic Analysis
- Applied Mechanics Reviews
- Applied Numerical Mathematics
- ASME Journal of Heat Transfer
- Computational Mechanics
- Computers and Fluids
- Journal of Applied Mathematics and Physics
- Journal of Applied Numerical Mathematics
- Journal of Computational Physics
- Journal of Engineering Mathematics
- Journal of Fluids Engineering
- Journal of Fluid Mechanics
- Journal of Geophysical Research - Solid Earth
- Journal on Scientific Computing
- Journal of Turbulence
- International Journal for Numerical Methods in Fluids
- Multiscale Modeling and Simulation
- National Science Foundation
- Numerical Heat Transfer
- Numerical Methods for Partial Differential Equations
- Ocean Modelling
- Physical Review E
- Physics of Fluids
- Physics Letters A
- SIAM Journal on Scientific Computing

PANELIST ON REVIEW COMMITTEES

- Scientific Computing Panel for medium size grants, National Science Foundation, Information Technology Research Program, February 12, 2002.
- Scientific Computing Panel for medium size grants, National Science Foundation, Information Technology Research Program, April 24-25, 2003.
- U.S. Department of Energy INCITE 2008 Review, October 17, 2007.
- Turbulence Panel, National Science Foundation, Fluid Dynamics Program, December 9, 2008.
- Numerical Methods, National Science Foundation, Division of Mathematical Sciences, MARCH 8-9, 2010.

SESSION CHAIR

- Chairman of Stratified Flows and Large Eddy Simulations sessions at Fifty-Second Annual Meeting of the American Physical Society, Division of Fluid Dynamics, New Orleans, November 21-23, 1999.
- Chairman of Computational Fluid Dynamics session at Fifty-Eighth Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Chicago, November 20-22, 2005.
- Chairman of Turbulence Modeling session at Sixty-Second Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Minneapolis, November 22-24, 2009.
- Chairman of Turbulence Modeling session at Sixty-Third Annual Meeting of the American Physical Society, Division of Fluid Dynamics, Long Beach, November 21-23, 2010.

COURSE INSTRUCTION AND DEVELOPMENT AT THE UNIVERSITY OF COLORADO**Fluid Mechanics (MCEN 3021)**

Semesters: Fall 2002, Fall 2003

Text: B.R. Munson, D. F. Young, and T. H. Okishi, *Fundamentals of Fluid Mechanics*, John Wiley & Sons, Inc., New York, 4th Edition (2002).**Computational Methods (MCEN 3030)**

Semesters: Fall 2007, Fall 2009

Text: A. Gilat and V. Subramaniam, *Numerical Methods for Engineers and Scientists: An Introduction with Applications Using MATLAB*, Wiley, 2007.**Computational Methods (MCEN 3030)**

Semesters: Spring 2004, Spring 2005, Spring 2007

Text: S. C. Chapra and R. P. Canale, *Numerical methods for Engineers*, McGraw-Hill Companies, Inc., New York, 5th Edition (2005).**Methods of Engineering Analysis (MCEN 5020)**

Semesters: Fall 2009, Fall 2010

Text: Michael Greenberg, *Advanced Engineering Mathematics*, Prentice Hall, 2nd Edition (1998).**Introduction to Fluid Dynamics (MCEN 5021)**

Semesters: Fall 2004

Text: I.G. Currie, *Fundamental Mechanics of Fluids*, Marcel Dekker, Inc., New York, 3rd Edition (2003).**Introduction to Research (MCEN 5208)**

Semesters: Fall 2004, Spring 2005, Fall 2005, Spring 2006, Fall 2006, Spring 2007

Text: Course Notes

Numerical Methods in Engineering and Science (MCEN 6228)

Semesters: Spring 2003, Fall 2005, Spring 2007, Spring 2009

Text: Course Notes

Turbulence (MCEN 6228)

Semesters: Spring 2008

Text: Stephen B. Pope, *Turbulent Flows*, Cambridge University Press, 2000.**ADVISING AND SERVICE AT THE UNIVERSITY OF COLORADO****POSTDOCTORAL ADVISOR**

- Daniel E. Goldstein, June 2004-September 2004, July 2005-December 2005.
- Qianlong Liu, January 2008-March 2008.
- Alexei Vezolainen, September 2004-Present.

PRINCIPAL DISSERTATION/THESIS ADVISOR

- Christopher Michael Bonilha, University of Colorado, (M.S., December 2009), 2007-2009.
- Eric Brown-Dymkoski, University of Colorado, (M.S., expected 2012), 2010-Present.
- Daniel E. Goldstein, University of Colorado, (Ph.D., May 2004), 2002-2004.
- Nurlybek Kasimov, University of Colorado, (Ph.D., expected 2015), 2010-Present.
- Randy S. Lagumbay, University of Colorado, (Ph.D., December 2006), 2002-2006.
- Qianlong Liu, University of Colorado, (Ph.D., December 2007), 2003-2007.
- AliReza Nejadmalayeri, University of Colorado, (Ph.D., expected 2012), 2007-Present.
- Mikael Pryor, University of Colorado, (Ph.D., expected 2012), 2007-Present.
- Scott Reckinger, University of Colorado, (Ph.D., expected 2011), 2006-Present.
- Shanon Reckinger, University of Colorado, (Ph.D., expected 2011), 2006-Present.
- Jonathan Regele, University of Colorado, (Ph.D., February 2008), 2003-2008.

UNDERGRADUATE RESEARCH ADVISOR

- Mikael I. Pryor, University of Colorado, 2004-2006.

MEMBER OF DISSERTATION/THESIS COMMITTEE

- Georg Pingen, University of Colorado, (Ph.D.), 2005-2008.
- Joseph P. Kubitschek, University of Colorado, (Ph.D.), 2003-2006.
- Dave Makhija, University of Colorado, (Ph.D.), 2008-Present.
- Eric Paulson, University of Colorado, (Ph.D.), 2008-Present.
- Fan Wang, University of Colorado, (M.S.), 2009-2010.

OTHER EDUCATION RELATED ACTIVITIES

- Developed and implemented coordinated graduate curriculum between the Department of Mechanical Engineering and the Department of Aerospace Engineering Sciences in Fluid Mechanics and Simulation Based Engineering Sciences.
- Introduced “Simulation Based Mechanical Engineering Sciences” track for MS in Mechanical Engineering degree.
- Organized the Graduate Engineering Annual Research Symposium (GEARS).
- Developed a series of World Wide Web based MATLAB tutorials for vertical integration of MATLAB into Mechanical Engineering undergraduate curriculum.

COMMITTEES

- Bio-MEMS/Design Search Committee, 2002-2003.
- Department of Mechanical Engineering Computing and Technology Committee, 2003-2006.
- Department of Mechanical Engineering Computing and Software Committee, 2003-2006.
- Department of Mechanical Engineering Graduate Studies Committee, 2003-2006.
- Chairman of the ad hoc committee on the integration of computing throughout the undergraduate curriculum, 2004-2008.
- Department of Mechanical Engineering Web-Redesign Committee, 2006-2007
- Department of Mechanical Engineering Executive Committee, 2006-2008.
- College of Engineering and Applied Science Graduate Education Council, 2006-2008.
- Chair of the Department of Mechanical Engineering Graduate Studies Committee, 2006-2008.
- Department of Mechanical Engineering Graduate Program Chair, 2006-2008.
- Thermo/Fluid Search Committee, 2007-2008.
- Department of Mechanical Engineering Graduate Studies Committee, 2009-present.

COURSE INSTRUCTION AND DEVELOPMENT AT THE UNIVERSITY OF MISSOURI**Fluid Mechanics (MAE 251)**

Semesters: Fall 1998, Winter 1999, Fall 1999, Winter 2000, Fall 2000, Winter 2001, Fall 2001, Winter 2002

Text: B.R. Munson, D. F. Young, and T. H. Okishi, *Fundamentals of Fluid Mechanics*, John Wiley & Sons, Inc., New York, 4th Edition (2002).

Computational Methods (MAE 401)

Semesters: Fall 1999

Text: Course Notes

Wavelet Theory and Applications (MAE 401)

Semesters: Winter 2000

Text: G. Strang and T.Q. Nguyen, *Wavelets and Filter Banks*, Wellesley-Cambridge Press, 2nd Edition (1997).

Intermediate Fluid Mechanics (MAE 341)

Semesters: Fall 2000, Fall 2001

Text: G.K. Batchelor, *Introduction to Fluid Dynamics*, Cambridge University Press, (1998).

Combustion Fundamentals (MAE 391)

Semesters: Winter 2002

Text: J. Warnatz, U. Maas, and R.W. Dibble, *Combustion*, Springer-Verlag, 3rd Edition (2001).

ADVISING AND SERVICE AT THE UNIVERSITY OF MISSOURI**PRINCIPAL DISSERTATION/THESIS ADVISOR**

- Daniel E. Goldstein, University of Missouri-Columbia, (Ph.D.), 1999-2002.
- Maxim I. Belov, University of Missouri-Columbia, (M.S., 2003), 1999-2003.

MEMBER OF DISSERTATION/THESIS COMMITTEE

- Choon Hwa Tay, University of Missouri-Columbia, (M.S., 2000), 1999-2000.

COMMITTEES

- Appointed Member of the Thermal Science Search Committee, 1998-1999.
- Member of the Research Support Computing Advisory Committee, 1998-2002.
- Appointed member of the Department of Mechanical and Aerospace Engineering Thermal/Fluid Sciences Area Committee, 1998-2002.
- Appointed member of the Department of Mechanical and Aerospace Engineering Graduate Studies Committee, 1999-2002.
- Appointed member of the University of Missouri-Columbia Computer Policy and Strategies Committee, 1999-2000.
- Chairman of the Thermal Science Search Committee, 2000-2001.
- Selected member of the College of Engineering Computer Users Committee, 2001-2002.

REVIEWER

- University of Missouri Research Board Proposals