June 13, 2024

CURRICULUM VITAE
Julian Andrzej Domaradzki

Department of Aerospace and Mechanical Engineering
University of Southern California
Los Angeles, CA 90089-1191
tel: (213) 740-5357
FAX: (213) 740-7774
e-mail: jad@usc.edu
https://ame.usc.edu/directory/faculty/profile/?lname=Domaradzki&fname=Julian

Education

Ph.D.	1978	(papers 2,3)	University of Warsaw, Department of Physics, Institute of Theoretical Physics,
M.S.	1974	(paper 1)	Warsaw, Poland

Professional and Teaching Experience

1997-present	Professor, University of Southern California, Aerospace Engineering, Los Angeles, California
2021	Visiting Professor, Warsaw University of Technology, Poland
2013	Visiting Professor, Technical University, Münich, Germany
2006, 2013	Visiting Professor, Université Libre de Bruxelles, Brussels, Belgium
2004	Visiting Professor, Technical University, Dresden, Germany
2001	Visiting Professor, Eidgenössische Technische Hochschule (ETH), Zürich, Switzerland
2001	Visiting Professor, Tokyo Institute of Technology, Tokyo, Japan
1991-1997	Associate Professor, University of Southern California, Aerospace Engineering, Los Angeles, California
1993	Visiting Scientist, German Aerospace Establishment, Göttingen, Germany
1987-1991	Assistant Professor, University of Southern California, Aerospace Engineering, Los Angeles, California
1984-1986	Research Scientist, Flow Industries, Inc., Research and Technology Division, Kent, Washington
1983-1984	Postdoctoral Associate, Massachusetts Institute of

	Technology, Applied Mathematics, Cambridge, Massachusetts
1981-1983	Visiting Research Staff Member, Princeton University, Geophysical Fluid Dynamics Program, Princeton, New Jersey
1980-1981	Alexander von Humboldt Fellow, University of Essen, Department of Physics, Essen, Germany
1978-1980	Assistant Professor, University of Warsaw, Institute of Geophysics, Warsaw, Poland

Academic Honors

2013	Reinvitation by the Alexander von Humboldt Foundation for further research stay in Germany
2013	Chaire Internationale,Université Libre de Bruxelles
2011	Associate Fellow of the American Institute of Aeronautics and Astronautics
2008	Fellow of the American Physical Society
2006	Ouverture Internationale Award, Université Libre de Bruxelles
2000	Invitation Research Fellowship, Japan Society for the Promotion of Science
1992	Alexander von Humboldt Research Award for Senior U.S. Scientists
1991	Northrop Faculty Research Award
1980	Alexander von Humboldt Fellowship
1979	Award of the President of University of Warsaw for Ph.D. Thesis
1974	M.S., Cum Laude

Membership in Scientific Societies

- American Physical Society, Fellow
- American Institute of Aeronautics and Astronautics, Associate Fellow
- Society for Industrial and Applied Mathematics
- Sigma Xi

Reviewer

- Physical Review Fluids
- Journal of Fluid Mechanics
- Physics of Fluids
- Journal of Computational Physics

- Journal of Turbulence
- Flow, Turbulence, and Combustion
- AIAA Journal
- ASME Transactions
- ASME Journal of Fluids Engineering
- Journal of Physical Oceanography
- Journal of Fluids and Structures
- International Journal of Computational Fluid Dynamics
- International Journal for Numerical Methods in Fluids
- European Physics Letters
- Scholarpedia
- Fluid Dynamics Research
- National Science Foundation
- Israel National Foundation
- ETH Zürich
- Swiss National Science Foundation
- Polish Science Foundation
- Le Fonds de la Recherche Scientifique (FNRS), Belgium
- Natural Sciences and Engineering Research Council of Canada

Teaching - Selected Courses and Programs

- Introduction to Computational Methods
- Engineering Analysis
- Dynamics of Incompressible Fluids
- Compressible Gas Dynamics
- Introduction to Computational Fluid Mechanics
- Statistical Theories of Turbulence

- Advanced Methods for Turbulence Simulations and Modeling
- Hydrodynamic Stability
- Thermodynamics
- M.S. Program in Computational Fluid and Solid Mechanics (founder)
- Renormalization Group Theory in Turbulence - Graduate Seminar
- Spectral Methods in Fluid Mechanics - Graduate Seminar
- Several Directed Research Courses in Aerospace Engineering
- Turbulence Physics and Modeling, Warsaw University of Technology, Warsaw, Poland, October 11 - 21, 2021
- Introduction to Turbulence, Summer School on Upper Ocean Turbulence, Gdansk, Poland, July 25 - August 12, 2016
- Marie-Curie project FlowAirS, Course on LES, Munich, Germany, June 24-26, 2013
- The First ERCOFTAC Summer School on Direct and Large-Eddy Simulation, Gliwice, Poland, 06/1999

Ph.D. Theses Supervision

1. D. A. Siegel (Geophysics), "Large-Eddy Simulation of the Decay of a Small-Scale Oceanic Internal Gravity Wave Field", 1988 (co-Advisor with Dickey).
2. W. Liu (Aerospace Engineering), "Direct Numerical Simulations of Transition to Turbulence in Görtler Flow", 1991.
3. S. L. Christie (Aerospace Engineering), "Numerical Simulations of Thermal Turbulence", 1992.
4. D. Chan (Aerospace Engineering), "Effects of Rotation on Turbulent Convection: Direct Numerical Simulations Using Parallel Processors", 1996, (co-Advisor with Maxworthy).
5. D. J. Bogucki (Geophysics), "Scattering of Light by Turbulence", 1996, (co-Advisor with Dickey)
6. S. J. Kimmel (Aerospace Engineering), "Large Eddy Simulation of Turbulent Convection", 1998.
7. K. C. Loh (Aerospace Engineering), "The Subgrid Scale Estimation Procedure in the Physical Space Representation", 2000.

8. P. P. Yee (Aerospace Engineering), "A Velocity Estimation Model for Large Eddy Simulations of High Reynolds Number Homogeneous Isotropic Turbulence", 2000.

9. X. Yang (Aerospace Engineering), "Large Eddy Simulation of Freely Decaying Rotating Turbulence", 2003.

10. Y. Lin (Aerospace Engineering), "On the Simulations of Stratified Turbulent Flows", 2010 (co-advisor with Redekopp).

11. T. Tantikul (Aerospace Engineering), "Large Eddy Simulations Using Truncated Navier-Stokes Equations with the Automatic Filtering Criterion", 2011.

12. B. Anderson (Aerospace Engineering), "A Subgrid Scale Model for Large Eddy Simulation Based on the Physics of Interscale Energy Transfer in Turbulence", 2012.

13. T. Orr (Aerospace Engineering), "Numerical Simulation of Linearly Stratified Flow around a Sphere", 2014.

14. F. Cadiuex (Aerospace Engineering), "Large Eddy Simulations of Laminar Separation Bubble Flows", 2015.

15. G. Castiglioni (Aerospace Engineering), "Numerical Modeling of Separated Flows at Moderate Reynolds Numbers Appropriate for Turbine Blades and Unmanned Aero Vehicles ", 2015.

16. G. Sun (Aerospace Engineering), "Large Eddy Simulations of Turbulent Flows without Use of the Eddy Viscosity Concept", 2019.

Postdoctoral Associates Supervision

1. 1992-1993, W. Liu, Ph.D. (University of Southern California)

2. 1996-1997, E. Saiki, Ph.D. (University of Colorado)

3. 2000-2001, D. Bogucki, Ph.D. (University of Southern California)

4. 2001-2003, P. Diamessis, Ph.D. (University of California, San Diego)

Service

- RTPC Promotion committee member, 2023
- AME Merit Review Committee, Chair, 2023
- Chair, Aerospace and Mechanical Engineering, 2017 - 2020

- AME Merit Review Committee, Chair, 2016
- Member of the Advisory Committee, International Symposium on Turbulence and Shear Flow Phenomena (TSFP 9, 10, 11, 12), 2014 - 2022
- Associate Editor, Journal of Turbulence, 2013 - 2019
- Engineering Faculty Council, USC Viterbi School of Engineering, elected Webmaster, 2011-2013
- AIAA Region VI Student Conference Judge, 2011
- Fluid Dynamics Prize Selection Committee, American Physical Society, Division of Fluid Dynamics, member, 2011-2012
- Chair of the local organizing committee, 63th Annual Meeting of the American Physical Society's Division of Fluid Dynamics, Long Beach, California, 2010
- Program Committee, American Physical Society, Division of Fluid Dynamics, member, 2010
- Guest Editor, Annual Reviews of Fluid Mechanics, Vol. 45 (2013)
- Engineering Faculty Council, USC Viterbi School of Engineering, member, 2010-2012
- Associate Chair, Aerospace and Mechanical Engineering, 2005 - 2008
- USC High Performance Computing Center, Advisory Committee Member
- Coordinator, Aerospace and Mechanical Engineering Board of Advisors, 2008
- Aerospace Engineering Graduate Committee (chair)
- Aerospace Engineering Computer Committee (chair)
- Ad-hoc Committee on Scientific Misconduct (chair)
- Computational Engineering Faculty Search Committee (chair)
- Undergraduate and Graduate Advisor
- Master of Engineering Program Task Force
- University Numerical Computation Committee
- University Graduate and Professional Studies Committee
- Dean's Merit Fellowship Committee
- Appointments, Promotions, and Tenure Committee
- Reviewer for the USC Faculty Research and Innovation Fund

- Computer-Aided Design Committee
- Graduate Enrollment and Retention Committee
- Industrial Presentations (USC-Industrial Associates, Nissan, Silicon Graphics)

Research Areas

- Computational Fluid Dynamics: papers 7-27, 29-35, 39, 41-44, 48-50, 52, 53-56, 63-65.
- Transition to Turbulence: papers 8, 17.
- Theory of Turbulence: papers 6-7, 9-11, 13, 15, 19-20, 23-27, 46-49, 51, 53, 56.
- Turbulence Modeling: papers 22-24, 26, 27, 29-39, 41-42, 44, 53, 55, 57, 60-61, 64, 67-69, 73-76.
- Heat Transfer: papers 4, 10, 12, 18, 21, 31, 37, 59, 66.
- Hydrodynamic Stability: papers 5, 17.
- Numerical Methods for Differential and Integral Equations: papers 9, 14, 71.
- Fluid - Structure Interactions: papers 8 and 16.
- Geophysical Fluid Dynamics: papers 22, 45, 54, 58-59, 62, 72.
- Magnetohydrodynamics: papers 52, 56
- Acoustics: paper 16.
- Optics: paper 28, 40, 43, 70.
- Statistical Mechanics: papers 1-2.
- Kinetic Theory of Gases: paper 3.

SCIENTIFIC CONTRIBUTIONS

Papers published in refereed journals

1. J.A. Domaradzki and J. Piasecki, "Connection Between the Local Maxwell and Local Grand Canonical Distributions", *Phys. Lett.* **51** A, 196-199 (1975).
2. J.A. Domaradzki, "The Liouville Operator for the Step-Type Interparticle Interaction", *Physica* **86** A, 169-176 (1977).

3. J.A. Domaradzki, "Derivation of the Generalized Enskog Equation for a Gas of Hard Spheres with a Step Repulsive Barrier", *Physica* **101** A, 351-374 (1980).

4. J.A. Domaradzki and L.A. Turski, "The Bénard Effect", *Pos. Fiz.* **32** , 569-592 (1981).

5. R. Graham and J.A. Domaradzki, "Local Amplitude Equation of Taylor Vortices and its Boundary Conditions", *Phys. Rev.* **26** A, 1572-1579 (1982).

6. J.A. Domaradzki and G.L. Mellor, "A Simple Turbulence Closure Hypothesis for the Triple Velocity Correlation Functions", *J. Fluid Mech.* **140** , 45-61 (1984).

7. J.A. Domaradzki, R.W. Metcalfe, R.S. Rogallo and J.J. Riley, "Eddy Viscosity from Direct Numerical Simulations of Homogeneous, Isotropic Turbulence", *Phys. Rev. Lett.* **58** , 547-550 (1987).

8. J.A. Domaradzki and R.W. Metcalfe, "Stabilization of Laminar Boundary Layers by Compliant Membranes", *Phys. Fluids* **30** , 695-705 (1987).

9. J.A. Domaradzki and S.A. Orszag, "Numerical Solutions of the Direct Interaction Approximation for Anisotropic Turbulence", *J. Sci. Comput.* **2** , 227-248 (1987).

10. J.A. Domaradzki and R.W. Metcalfe, "Direct Numerical Simulations of the Effects of Shear on Turbulent Rayleigh-Bénard Convection", *J. Fluid Mech.* **193** , 499-531, (1988).

11. J.A. Domaradzki, "Analysis of Energy Transfer in Direct Numerical Simulations of Isotropic Turbulence", *Phys. Fluids* **31** , 2747-2749 (1988).

12. J.A. Domaradzki, "Heat Transfer Enhancement in Rayleigh-Bénard Convection", *Int. J. Heat & Mass Transf.* **32** , 2475-2483 (1989).

13. J.A. Domaradzki and R.S. Rogallo, "Local Energy Transfer and Nonlocal Interactions in Homogeneous, Isotropic Turbulence", *Phys. Fluids* A **2** , 413-426 (1990).

14. J.A. Domaradzki, "An Analytic Green's Functions Method in Pseudo-Spectral Navier-Stokes Solvers for Boundary Layer and Channel Flows", *J. Comput. Phys.* **88** , 232-242, (1990).

15. J.A. Domaradzki, "Nonlocal Triad Interactions and the Dissipation Range of Isotropic Turbulence", *Phys. Fluids* A**4** , 2037-2045 (1992).

16. J.A. Domaradzki, K. Shah, and D. G. Crighton, "Scattering of Hydrodynamic Pressure Pulses by Coating Inhomogeneities", *J. Acoust. Soc. Am.* **92** , 3302-3314 (1992).

17. W. Liu and J.A. Domaradzki, "Direct Numerical Simulation of Transition to Turbulence in Görtler Flow", *J. Fluid Mech.* **246** , 267-299 (1993).

18. S.L. Christie and J.A. Domaradzki, "Numerical Evidence for Nonuniversality of the Soft/Hard Turbulence Classification for Thermal Convection", *Phys. Fluids* A **5**, 412-422 (1993).

19. J.A. Domaradzki, W. Liu, and M.E. Brachet, "An Analysis of Subgrid-Scale Interactions in Numerically Simulated Isotropic Turbulence", *Phys. Fluids* A **5**, 1747-1759 (1993).

20. J.A. Domaradzki, W. Liu, C. Härtel, and L. Kleiser, "Energy Transfer in Numerically Simulated Wall-Bounded Turbulent Flows", *Phys. Fluids* A **6**, 1583-1599 (1994).

21. S.L. Christie and J.A. Domaradzki, "Scale Dependence of the Statistical Character of Turbulent Fluctuations in Thermal Convection", *Phys. Fluids* A **6**, 1848-1855 (1994).

22. D.A. Siegel and J.A. Domaradzki, "Large Eddy Simulation of Decaying Stratified Turbulence", *J. Phys. Oceangr.* **24**, 1353-1386 (1994).

23. J.A. Domaradzki and W. Liu, "Approximation of Subgrid-Scale Energy Transfer Based on the Dynamics of Resolved Scales of Turbulence", *Phys. Fluids* A **7**, 2025-2035 (1995).

24. R.M. Kerr, J.A. Domaradzki, and G. Barbier, "Small-Scale Properties of Nonlinear Interactions and Subgrid-Scale Energy Transfer in Isotropic Turbulence", *Phys. Fluids* A **8**, 197-208 (1996).

25. D. Bogucki, J.A. Domaradzki, and P.K. Yeung, "Direct Numerical Simulations of Passive Scalars with $Pr > 1$ Advected by Turbulent Flow", *J. Fluid Mech.* **343**, 111-130 (1997).

26. J.A. Domaradzki and E.M. Saiki, "A Subgrid-Scale Model Based on the Estimation of Unresolved Scales of Turbulence", *Phys. Fluids* **9**, 2148-2164 (1997).

27. J.A. Domaradzki, E.M. Saiki, "Backscatter Models for Large Eddy Simulations", *Theor. Computational Fluid Dyn.* **9**, 75-83 (1997).

28. D. Bogucki, J.A. Domaradzki, D. Stramski, and R. Zaneveld, "Comparison of Near-Forward Light Scattering on Oceanic Turbulence and Particles", *Appl. Optics* **37**, 4669-4677 (1998).

29. J.A. Domaradzki and K.C. Loh, "The Subgrid-Scale Estimation Model in the Physical Space Representation", *Phys. Fluids* **11**, 2330-2342 (1999).

30. K.C. Loh and J.A. Domaradzki, "The Subgrid-Scale Estimation Model on Non-Uniform Grids", *Phys. Fluids* **11**, 3786-3792 (1999).

31. S.J. Kimmel and J.A. Domaradzki, "Large Eddy Simulations of Rayleigh-Bénard Convection Using Subgrid Scale Estimation Model", *Phys. Fluids* **12**, 169-184 (2000).

32. J.A. Domaradzki and P.P. Yee, "The Subgrid-Scale Estimation Model for High Reynolds Number Turbulence", *Phys. Fluids* **12**, 193-196 (2000).

33. J.A. Domaradzki and K. Horiuti, "Similarity Modeling on an Expanded Mesh Applied to Rotating Turbulence", *Phys. Fluids* **13**, 3510-3512 (2001).

34. T. Dubois and J.A. Domaradzki, A. Honein, "The Subgrid-Scale Estimation Model Applied to Large Eddy Simulations of Compressible Turbulence", *Phys. Fluids* **14**, 1781-1801 (2002).

35. J.A. Domaradzki, K.C. Loh, P.P. Yee, " Large Eddy Simulations Using the Subgrid-Scale Estimation Model and Truncated Navier-Stokes Equations", *Theor. Comput. Fluid Dyn.* **15**, 421-450 (2002).

36. J.A. Domaradzki and N.A. Adams, "Direct Modeling of Subgrid Scales of Turbulence in Large Eddy Simulations", invited review for *J. Turbulence* **3**, (2002).

37. J.A. Domaradzki and S. Radhakrishnan, "Subgrid-Scale Modeling of Turbulent Convection Using Truncated Navier-Stokes Dynamics", *ASME J. Fluids Eng.* **124**, 823–828 (2002).

38. J.A. Domaradzki, Z. Xiao, P.K. Smolarkiewicz "Effective eddy viscosities in implicit modeling of turbulent flows", Phys. Fluids **15**, 3890–3893 (2003).

39. X. Yang and J.A. Domaradzki, "Large Eddy Simulations of Decaying Rotating Turbulence", Phys. Fluids **16**, 4088-4104 (2004).

40. D.J. Bogucki, J.A. Domaradzki, R.E. Ecke, and C.R. Truman, "Light scattering on oceanic turbulence", Applied Optics **43**, 5662-5668 (2004).

41. P.J. Diamessis, J.A. Domaradzki, and J.S. Hesthaven, "A Spectral Multidomain Penalty Method Model for the Simulation of High Reynolds Number Localized Stratified Turbulence", J. Comput. Phys. **202**, 298-322 (2005).

42. J.A. Domaradzki and S. Radhakrishnan, "Effective eddy viscosities in implicit modeling of decaying high Reynolds number turbulence with and without rotation", Fluid Dyn. Res. **36**, 385–406 (2005).

43. D.J. Bogucki, J.A. Domaradzki, "A numerical study of light scattering by a boundary layer flow", Applied Optics **44**, 5286–5291 (2005).

44. S. Hickel, N.A. Adams, and J.A. Domaradzki, "An adaptive local deconvolution method for implicit LES", J. Comput. Phys. **213**, 413–436 (2006).

45. D.J. Bogucki, J.A. Domaradzki, C. Anderson, H.W. Wijesekera, R.J. Zaneveld, and C. Moore "An Optical Turbulence Sensor - experimental comparison with microstructure turbulence measurements", Optics Express **15**, 7224–7230 (2007).

46. J.A. Domaradzki and D. Carati, "A comparison of spectral sharp and smooth filters in the analysis of nonlinear interactions and energy transfer in turbulence", Phys. Fluids **19**, 085111 (2007).

47. J.A. Domaradzki and D. Carati, "An a analysis of the energy transfer and the locality of nonlinear interactions in turbulence", Phys. Fluids **19**, 085112 (2007).

48. P.J. Diamessis, Y.C. Lin, and J.A. Domaradzki "Effective numerical viscosity in spectral multidomain penalty method-based simulations of localized turbulence", J. Comput. Phys.**227**, 8145–8164 (2008).

49. J.A. Domaradzki, B. Teaca, and D. Carati, "Locality properties of the energy flux in turbulence", Phys. Fluids **21**, 025106 (2009).

50. S. Hickel, N.A. Adams, and J.A. Domaradzki, "Letter to the Editor: On the evolution of dissipation rate and resolved kinetic energy in ALDM simulations of the TaylorGreen flow", J. Comput. Phys. **229**, 2422–2423 (2010).

51. T. Tantikul and J.A. Domaradzki, "Large eddy simulations using truncated Navier-Stokes equations with the automatic filtering criterion", J. Turbulence **11**, No. 21, 1–24 (2010).

52. J.A. Domaradzki, B. Teaca, and D. Carati, "Locality properties of the energy flux in magnetohydrodynamic turbulence", Phys. Fluids **22**, 051702 (2010).

53. J.A. Domaradzki, "Large eddy simulations without explicit eddy viscosity models", Int. J. Comp. Fluid Dyn. **24**, No.10, 435-447 (2010).

54. P.J. Diamessis, G.R. Spedding, and J.A. Domaradzki "Similarity scaling and vorticity structure in high Reynolds number stably stratified turbulent wakes", J. Fluid Mech. **671**, 52-95 (2011).

55. T. Tantikul and J.A. Domaradzki, "Truncated Navier-Stokes Equations with the Automatic Filtering Criterion: Reynolds Stress and Energy Budgets", J. Turbulence **12**, No. 34, 1–25 (2011).

56. B. Teaca, D. Carati, and J.A. Domaradzki, "On the locality of MHD turbulence scale fluxes", Phys. Plasmas **18**, 112307 (2011).

57. B.W. Anderson and J.A. Domaradzki, "A subgrid-scale model for LES based on the physics of interscale energy transfer in turbulence", Phys. Fluids **24**, 065104 (2012).

58. D.J. Bogucki, H. Luo, and J.A. Domaradzki, "Experimental evidence of the Kraichnan scalar spectrum at high Reynolds numbers", J. Phys. Oceanogr. **42**, 1717–1728 (2012).

59. Wu-Shung Fu, Chung-Gang Li, Makoto Tsubokura, Yun Huang, and J. A. Domaradzki, "An Investigation of Compressible Turbulent Forced Convection by an Implicit Turbulence Model for Large Eddy Simulation", Num. Heat Transf., Part A, **64**, 858–878 (2013).

60. F. Cadieux, J.A.Domaradzki, T. Sayadi, S. Bose, "DNS and LES of Laminar Separation Bubbles at Moderate Reynolds Numbers", ASME J. Fluids Eng. **136**, 061102-1 (2014).

61. G. Castiglioni, J.A. Domaradzki, V. Pasquariello, S. Hickel, and M. Grilli, "Numerical simulations of separated flows at moderate Reynolds numbers appropriate for turbine blades and unmanned aero vehicles", Int. J. Heat Fluid Flow **49**, 91-99 (2014); DOI: 10.1016/j.ijheatfluidflow.2014.02.003 .

62. T.S. Orr, J.A.Domaradzki, G.R. Spedding, and G.S. Constantinescu, "Description of the near wake of a sphere moving in a steady, horizontal motion through a linearly stratified fluid at Re=1000", Phys. Fluids **27**, 035113 (2015); doi: 10.1063/1.4915139.

63. F. S. Schranner, J.A. Domaradzki, S. Hickel, N. A. Adams,"Assessing the numerical dissipation rate and viscosity in numerical simulations of fluid flows", Comput. Fluids **114**, 84–97 (2015).

64. F. Cadieux and J.A.Domaradzki, "Performance of Subgrid Scale Models in Coarse Large Eddy Simulations of a Laminar Separation Bubble Flow Over a Flat Plate", Phys. Fluids **27**, 045112 (2015); doi: 10.1063/1.4919336.

65. G. Castiglioni and J.A. Domaradzki, "A numerical dissipation rate and viscosity in flow simulations with realistic geometry using low-order compressible Navier-Stokes solvers", Comput. Fluids **119**, 37–46 (2015).

66. D.J. Bogucki and J.A. Domaradzki, "Temperature gradient spectra and temperature dissipation rate in a turbulent convective flow", J. Turbulence **16**, 1179–1198 (2015).

67. F. Cadieux and J.A.Domaradzki, "Filtering as a subgrid-scale model for LES of laminar separation bubble flows", J. Turbulence (2016), http://dx.doi.org/10.1080/14685248.2016.1208825

68. F. Cadieux, G. Sun, and J.A. Domaradzki, "Effects of Numerical Dissipation on the Interpretation of Simulation Results in Computational Fluid Dynamics", Comput. Fluids **154**, 256–272(2017). https://doi.org/10.1016/j.compfluid.2017.06.009

69. G. Sun and J.A.Domaradzki, "Implicit LES using Adaptive Filtering", J. Comput. Phys. **359**, 380-408 (2018), https://doi.org/10.1016/j.jcp.2018.01.009

70. D.J. Bogucki, J.A. Domaradzki, and P. Von Allmen, "Polarimetric lidar measurements of aquatic turbulence - laboratory experiment", Optics Express **26**, (2018), https://doi.org/10.1364/OE.26.006806

71. G. Castiglioni, G. Sun and J.A.Domaradzki, " On the estimation of artificial dissipation and dispersion errors in a generic partial differential equation", J. Comput. Phys. **37**, 108843, (2019), https://doi.org/10.1016/j.jcp.2019.07.041.

72. D.J. Bogucki, B.K. Haus, M.Barzegar, M. Shao, and J.A. Domaradzki, "On the Nature of the Turbulent Energy Dissipation Beneath Nonbreaking Waves ", Geophysical Research Letters **47**, e2020GL090138 (2020), https://doi.org/10.1029/2020GL090138

73. J.A. Domaradzki, "Large eddy simulations of high Reynolds number turbulence based on interscale energy transfer among resolved scales", Phys. Rev. Fluids **6**, 044609,(2021), DOI: 10.1103/PhysRevFluids.6.044609.

74. J.A. Domaradzki, "Toward autonomous large eddy simulations of turbulence based on interscale energy transfer among resolved scales", Phys. Rev. Fluids **6**, 104606, (2021), DOI: 10.1103/PhysRevFluids.6.104606

75. J.A. Domaradzki, "Near-autonomous large eddy simulations of turbulence based on interscale energy transfer among resolved scales", Phys. Rev. Fluids **7**, 114601 (2022), DOI: 10.1103/PhysRevFluids.7.114601.

76. J.A. Domaradzki, "Autonomous large eddy simulations of turbulence using eddy viscosity derived from the subgrid scale similarity stress tensor", J. Fluid Mech. (2024), vol. 985, A48, doi:10.1017/jfm.2024.212.

Book Chapters, Conference Proceedings/Abstracts, and Reports

1. J.A. Domaradzki, "The Coefficient of Self-Diffusion in Case of Step-Type Interparticle Potential", Warsaw University Press, Institute of Theoretical Physics (1977).

2. J.A. Domaradzki and G.L. Mellor, "The Importance of Large Scale Turbulence on the Predictability of the Turbulent Energy Decay", AIP Conference Proceedings No. 106, Predictability of Fluid Motions, (G. Holloway and B.J. West, eds.), New York (1984).

3. J.A. Domaradzki and R.W. Metcalfe, "Numerical Simulations of Turbulent Heat Transfer in the Presence of Shear", Third Symposium on Energy Enginering Sciences, Penn State (1985).

4. J.A. Domaradzki and R.W. Metcalfe, "Numerical Simulations of Turbulent Heat Transfer in the Presence of Shear", Flow Technical Report No. 339, Flow Research Company, Kent, WA 98032 (1985).

5. R.W. Metcalfe and J.A. Domaradzki, "The Stabilization of Laminar Boundary Layers by Compliant Membranes", *Bull. Am. Phys. Soc.* **31**, 1706 (1986).

6. J. A. Domaradzki and R.W. Metcalfe, "Direct Numerical Simulations of Turbulent Convection in the Presence of Background Shear", *Bull. Am. Phys. Soc.* **31**, 1732 (1986).

7. J.A. Domaradzki and S.A. Orszag, "The Direct-Interaction Approximation for Anisotropic Turbulence", *Bull. Am. Phys. Soc.* **31**, 1740 (1986).

8. J.A. Domaradzki, R.W. Metcalfe, R.S. Rogallo and J.J. Riley, "An Analysis of Subgrid-Scale Eddy Viscosity Modelling Based on High Resolution Direct Numerical Simulations", *Bull. Am. Phys. Soc.* **31**, 1740 (1986).

9. J.A. Domaradzki, R.W. Metcalfe, R.S. Rogallo and J.J. Riley, "An Analysis of Eddy Viscosity Modelling from Direct Numerical Simulations of Homogeneous, Isotropic Decaying Turbulence", Flow Technical Report No. 377, Flow Research Company, Kent, WA 98032 (1986).

10. J.A. Domaradzki, "Heat Transfer Control in the Rayleigh-Bénard Convection", *Bull. Am. Phys. Soc.* **32**, 2047 (1987).

11. J.A. Domaradzki and R.S. Rogallo, "Local Energy Transfer and Nonlocal Interactions in Numerically Simulated Isotropic Turbulence", *Bull. Am. Phys. Soc.* **33**, 2263 (1988).

12. D.A. Siegel and J.A. Domaradzki, "Large Eddy Simulation of a Decaying Oceanic Internal Wave Field", *Bull. Am. Phys. Soc.* **33**, 2295 (1988).

13. D.A. Siegel and J.A. Domaradzki, "Large Eddy Simulation of a Decaying Oceanic Internal Wave Field",*Trans. of AGU, EOS* **69**, 1265 (1988).

14. J.A. Domaradzki and R.W. Metcalfe, "Direct Numerical Simulations of Turbulent Heat Transfer", Flow Technical Report No. 456, Flow Research Company, Kent, WA 98032 (1988).

15. J.A. Domaradzki and R.S. Rogallo, "Energy Transfer in Isotropic Turbulence at Low Reynolds Numbers", Proceedings of NASA Ames/Stanford Center for Turbulence Research, 1988 Summer Program, Report CTR-S88 (1988).

16. W. Liu and J.A. Domaradzki, "Transition to Turbulence in a Flow of Two Counter-Rotating Vortices", *Bull. Am. Phys. Soc.* **34**, 2290 (1989).

17. S.L. Christie and J.A. Domaradzki, "Direct Numerical Simulation of Convective Soft Turbulence", *Bull. Am. Phys. Soc.* **34**, 2338 (1989).

18. W. Liu and J.A. Domaradzki, "Direct Numerical Simulations of Transition to Turbulence in Görtler Flow", AIAA Paper No. 90-0114, (1990).

19. J.A. Domaradzki, R.S. Rogallo, and A.A. Wray, "Interscale Energy Transfer in Numerically Simulated Turbulence", Proceedings of NASA Ames/Stanford Center for Turbulence Research, 1990 Summer Program, (1990).

20. J.A. Domaradzki, K. Shah, and D.G. Crighton, "Scattering of Localized Boundary Layer Pressures by Coating Inhomogeneities", *Bull. Am. Phys. Soc.* **35**, 2263 (1990).

21. W. Liu and J.A. Domaradzki, "Numerical Study of Transition to Turbulence in a Flow over a Concave Wall", *Bull. Am. Phys. Soc.* **35**, 2268 (1990).

22. S.L. Christie and J.A. Domaradzki, "Direct Simulation of Convective Soft Turbulence", *Bull. Am. Phys. Soc.* **35**, 2274 (1990).

23. R.S. Rogallo, J.A. Domaradzki, and A.A. Wray, "Interscale Energy Transfer in Numerically Simulated Homogeneous Turbulence", *Bull. Am. Phys. Soc.* **35**, 2305 (1990).

24. W. Liu and J.A. Domaradzki, "Numerical Simulation of Transition in Görtler Flow", *Bull. Am. Phys. Soc.* **36**, 2615 (1991).

25. J.A. Domaradzki, "Energy Transfer in Dissipation Range", *Bull. Am. Phys. Soc.* **36**, 2649 (1991).

26. S.L. Christie and J.A. Domaradzki, "Direct Simulations of Turbulent Convection", *Bull. Am. Phys. Soc.* **36**, 2688 (1991).

27. M. Rossi, J.A. Domaradzki, and S. Tadepalli, "Finite Amplitude States in Boundary Layers",*Bull. Am. Phys. Soc.* **36**, 2700 (1991).

28. J.A. Domaradzki, R.S. Rogallo, and A.A. Wray, "Physical Space Representation of Spectral Energy Transfer in Homogeneous Turbulence", Proceedings of 13th World Congress on Computation and Applied Mathematics, Dublin, Ireland (1991).

29. W. Liu and J.A. Domaradzki, "Transition to Turbulence in Görtler Flow", in NATO ASI Series B: Physics, Vol. 279, Ordered and Turbulent Patterns in Taylor-Couette Flow, (C.D. Andereck and F. Hayot, eds.), Plenum, New York (1992).

30. J.A. Domaradzki, W. Liu, and M. Brachet, "An Analysis of Subgrid-Scale Interactions in Numerically Simulated Isotropic Turbulence", *Bull. Am. Phys. Soc.* **37**, 1788 (1992).

31. S.L. Christie and J.A. Domaradzki, "Scale Dependence of Statistics in Turbulent Convection", *Bull. Am. Phys. Soc.* **38**, 2209 (1993).

32. R.M. Kerr and J.A. Domaradzki, "Subgrid-scale Transfer and Vorticity in Isotropic Turbulence", *Bull. Am. Phys. Soc.* **38**, 2244 (1993).

33. J.A. Domaradzki, W. Liu, C. Härtel, and L. Kleiser, "Interscale Energy Transfer in Wall Bounded Flows", *Bull. Am. Phys. Soc.* **38**, 2270 (1993).

34. D.C. Chan, T. Maxworthy, and J.A. Domaradzki, "A Least Square Spectral Element Method for Turbulent Convective Flow Simulations", *Bull. Am. Phys. Soc.* **38**, 2285 (1993).

35. D. Bogucki, T.D. Dickey, J.A. Domaradzki, and J.R. Zaneveld, "Light Scattering Induced by Turbulent Flow", International Conference on Ocean Optics XII, Society of Photo-Optical Instrumentation Engineers (SPIE), Proceedings Vol. 2258, Bergen, Norway (1994).

36. J.A. Domaradzki and W. Liu, "Approximation of Subgrid-Scale Energy Transfer Based on the Dynamics of Resolved Scales of Turbulence", *Bull. Am. Phys. Soc.* **39**, 1955 (1994).

37. D.C. Chan, J.A. Domaradzki, and T. Maxworthy, "Effects of Rotation on Turbulent Convection", *Bull. Am. Phys. Soc.* **39**, 1853 (1994).

38. J.A. Domaradzki, "Properties of Subgrid-Scale Nonlinear Interactions Obtained form Direct Numerical Simulations of Turbulence: Implications for LES Modeling", Proceedings of 6th International Symposium on CFD, pp. 244-245, Lake Tahoe, Nevada, (1995).

39. R. Zaneveld, D. Bogucki, J.A. Domaradzki, and T. Dickey, "Light Scattering Induced by Turbulent Flow", *Bull. Am. Phys. Soc.* **40**, 1945 (1995).

40. D. Bogucki and J.A. Domaradzki, "Observations of the Batchelor Spectrum for Passive Scalars in a Homogeneous, Isotropic Flow", *Bull. Am. Phys. Soc.* **40**, 1958 (1995).

41. D.C. Chan, J.A. Domaradzki, and T. Maxworthy, "Effects of Rotation on Turbulent Convection Generated by a Localized Source", *Bull. Am. Phys. Soc.* **40**, 1997 (1995).

42. J.A. Domaradzki, "Subgrid-Scale Modeling Based on Small-Scale Nonlinear Dynamics", *Bull. Am. Phys. Soc.* **40**, 1999 (1995).

43. D. Bogucki, J.A. Domaradzki, R. Zaneveld, and T. Dickey, "Light Scattering Induced by Turbulent Flow", 1996 Ocean Sciences Meeting, San Diego (1996).

44. D. Bogucki, J.A. Domaradzki, D. Stramski, and R. Zaneveld, "Light Scattering on Turbulence and on Particulates", International Conference on Ocean Optics XIII, Society of Photo-Optical Instrumentation Engineers (SPIE), Proceedings Vol. 2963, Halifax, Canada (1996).

45. J.A. Domaradzki and E.M. Saiki, "A Subgrid-Scale Model Based on the Estimation of Unresolved Scales of Turbulence", *Bull. Am. Phys. Soc.* **41**, 1691 (1996).

46. J.A. Domaradzki, P.K. Yeung, and Y. Zhou, "A Velocity Estimation Model for Large Eddy Simulations", in *Advances in DNS/LES*, (C. Liu and Z. Liu, L. Sakell, eds.), Greyden Press, Columbus, 349-356 (1997).

47. J.A. Domaradzki, "The Subgrid-Scale Estimation Model", *Bull. Am. Phys. Soc.* **42**, 2190 (1997).

48. D.J. Bogucki, R.E. Ecke, L.C. Truman, and J.A. Domaradzki, "Near-Forward Light Scattering on Oceanic Turbulence and Particulates: An Experimental Comparison", International Conference on Ocean Optics, Society of Photo-Optical Instrumentation Engineers (SPIE), Hawaii (1998).

49. D.J. Bogucki, R.E. Ecke, L.C. Truman, and J.A. Domaradzki, "Experimental Measurements of Near-Forward Light Scattering on Turbulence", *Bull. Am. Phys. Soc.* **43**, 1989 (1998).

50. K.C. Loh and J.A. Domaradzki, "The Subgrid-Scale Estimation Model in the Physical Space Representation",*Bull. Am. Phys. Soc.* **43**, 2032 (1998).

51. J.A. Domaradzki, T. Dubois, and A. Honein "The Subgrid-Scale Estimation Model for Compressible Turbulence", *Bull. Am. Phys. Soc.* **43**, 2032 (1998).

52. S.J. Kimmel and J.A. Domaradzki, "Large Eddy Simulations of Rayleigh-Bénard Convection Using Subgrid Scale Estimation Model", *Bull. Am. Phys. Soc.* **43**, 2073 (1998).

53. J.A. Domaradzki, T. Dubois, and A. Honein "The Subgrid-Scale Estimation Model Applied to Large Eddy Simulations of Compressible Turbulence", Proceedings of NASA Ames/Stanford Center for Turbulence Research, 1998 Summer Program, (1998).

54. J.A. Domaradzki, "The Subgrid-Scale Estimation Model", in *Recent Advances in DNS and LES*, (D. Knight and L. Sakell, eds.), Kluwer Academic Publishers, Dordrecht, 121-131 (1999).

55. D.J. Bogucki, R.E. Ecke, J.A. Domaradzki, R.C. Truman, "Optical measurement of temperature dissipation rates", *Bull. Am. Phys. Soc.* **44**, 56 (1999).

56. J.A. Domaradzki, P.P. Yee, "Large eddy simulation using the subgrid scale estimation model and truncated Navier-Stokes dynamics", *Bull. Am. Phys. Soc.* **44**, 153 (1999).

57. J.A. Domaradzki, K.-C. Loh, P.P. Yee, "Truncated Navier-Stokes dynamics as a tool for large eddy simulation", *Bull. Am. Phys. Soc.* **45**, 85 (2000).

58. P.P. Yee, J.A. Domaradzki, "LES of decaying turbulence using the estimation model and truncated Navier-Stokes dynamics", *Bull. Am. Phys. Soc.* **45**, 85 (2000).

59. D.D. Holm, J.A. Domaradzki, "Navier-Stokes alpha model: LES equations with nonlinear dispersion", *Bull. Am. Phys. Soc.* **45**, 85 (2000).

60. J.A. Domaradzki and D.D. Holm, "Navier-Stokes alpha model: LES equations with nonlinear dispersion", arXiv preprint nlin/0103036 (2001).

61. P.P. Yee and J.A. Domaradzki, "The Subgrid-Scale Estimation Model for Decaying Isotropic Turbulence", ERCOFTAC Bulletin No. 48, 13 (2001).

62. D.D. Holm, J.A. Domaradzki, "Navier-Stokes alpha model: LES equations with nonlinear dispersion", ERCOFTAC Bulletin No. 48, 22 (2001).

63. P.P. Yee, J.A. Domaradzki, "The subgrid-scale estimation model for decaying isotropic turbulence", in Modern Simulation strategies for Turbulent Flow, (B.J. Geurts, ed.), R.T. Edwards, Inc., Philadelphia, 2001.

64. D.D. Holm, J.A. Domaradzki, "Navier-Stokes alpha model: LES equations with nonlinear dispersion", in Modern Simulation strategies for Turbulent Flow, (B.J. Geurts, ed.), R.T. Edwards, Inc., Philadelphia, 2001.

65. J.A. Domaradzki, K.-C. Loh, P.P. Yee, "Large Eddy Simulations using the Subgrid-Scale Estimation Model and Truncated Navier-Stokes Dynamics", in Proceedings of *Direct and Large Eddy Simulation IV*, (B.J. Geurts, R. Friedrich, and O. Metais, eds.), ERCOFTAC Series **8**, Kluwer Academic Publishers, Dordrecht, 2001.

66. J.A. Domaradzki and K. Horiuti, "Similarity Modeling on an Expanded Mesh Applied to Rotating Turbulence", *Bull. Am. Phys. Soc.* **46**, 42 (2001).

67. D. Bogucki, X. Yang, S. Radhakrishnan, and J.A. Domaradzki, "Comparison of LES and DNS Simulations for the Late Stratified Wake", *Bull. Am. Phys. Soc.* **46**, 42 (2001).

68. J.A. Domaradzki and S. Radhakrishnan, "Subgrid-Scale Modeling Using Truncated Navier-Stokes Dynamics", AIAA paper No. 2002-0285 (2002).

69. X. Yang and J.A. Domaradzki, "Truncated Navier-Stokes Equations Applied to High Reynolds Number Turbulence", *Bull. Am. Phys. Soc.* **47**, 60 (2002).

70. J.A. Domaradzki, Z. Xiao, and P.K. Smolarkiewicz "Effective Eddy Viscosities in Implicit Modeling of High Reynolds Number Flows", *Bull. Am. Phys. Soc.* **47**, 60 (2002).

71. P. Diamessis and J.A. Domaradzki, "Large Eddy Simulation of the Stratified Turbulent Wake of a Towed Sphere", *Bull. Am. Phys. Soc.* **47**, 161 (2002).

72. J.A. Domaradzki, S. Radhakrishnan, Z. Xiao, and P.K. Smolarkiewicz , "Effective Eddy Viscosities in Implicit Modeling of High Reynolds Number Flows", AIAA paper No. 2003-4103 (2003).

73. J.A. Domaradzki and S. Radhakrishnan "Effective Eddy Viscosities in Implicit Modeling of High Reynolds Number Flows With and Without Rotation", *Bull. Am. Phys. Soc.* **48**, 125 (2003).

74. P. Diamessis and J.A. Domaradzki, "Large Eddy Simulation of the Stratified Turbulent Wake Using the Subgrid Scale Estimation Model and Spectral Multidomain Penalty Method ", *Bull. Am. Phys. Soc.* **48**, 174 (2003).

75. X. Yang and J.A. Domaradzki, "Large Eddy Simulation of Rotating Homogeneous Turbulence", *Bull. Am. Phys. Soc.* **48**, 195 (2003).

76. X. Yang and J.A. Domaradzki, "Large Eddy Simulation of Decaying Rotating Turbulence", in *ICTAM04 Abstract Book and CD-ROM Proceedings*, International Congress of Theoretical and Applied Mechanics, 15-21 August, 2004, Warsaw, Poland.

77. S. Hickel, N.A. Adams, and J.A. Domaradzki, "Physically Optimized Implicit LES", *Bull. Am. Phys. Soc.* **49**, 55 (2004).

78. P. Diamessis and J.A. Domaradzki, "Scaling Laws of Stratified Turbulent Wakes from Large Eddy Simulations", *Bull. Am. Phys. Soc.* **49**, 204 (2004).

79. P. Diamessis, J.A. Domaradzki, and G.R. Spedding, "Numerical Investigation of the Scaling and Structure of Stratified Turbulent Wakes", *Bull. Am. Phys. Soc.* **50**, (2005).

80. J.A. Domaradzki, D. Carati, "Interscale energy transfer for band decompositions using spectral sharp and smooth filters", *Bull. Am. Phys. Soc.* **51**, (2006).

81. N.Adams, S. Hickel, and J.A. Domaradzki, "Approximate Deconvolution", Chapter 6 in a book "Implicit Large Eddy Simulation - Computing Turbulent Fluid Dynamics", (F.F. Grinstein, L.G. Margolin, and W.J. Rider, eds.), Cambridge University Press, ISBN-13: 9780521869829, pp. 222–244(2007).

82. N.Adams, S. Hickel, T. Kempe, and J.A. Domaradzki, "On the Relation between Subgrid-Scale Modeling and Numerical Discretization in Large-Eddy Simulation", in "Complex Effects in Large Eddy Simulations", Lecture Notes in Computational Science and Engineering, Volume 56, 15-27 (2007).

83. Y.C. Lin, P. Diamessis and J.A. Domaradzki, "Effective Numerical Viscosity in Spectral Multidomain Penalty-Based Simulations of Turbulence", *Bull. Am. Phys. Soc.* **52**, 234 (2007).

84. J.A. Domaradzki, D. Carati, "An Analysis of the Energy Transfer and the Locality of Nonlinear Interactions in Turbulence", *Bull. Am. Phys. Soc.* **52**, 237 (2007).

85. T.Tantikul and J.A. Domaradzki, "Truncated Navier-Stokes Equations with Automatic Filtering Criterion", *Bull. Am. Phys. Soc.* **53**, 25 (2008).

86. J.A. Domaradzki, D. Carati, and B. Teaca "Quantifying the Locality of Nonlinear Interactions in Turbulence", *Bull. Am. Phys. Soc.* **53**, 138 (2008).

87. J.A. Domaradzki, B. Teaca, and D. Carati "Quantifying the Locality of Nonlinear Interactions in MHD Turbulence", *Bull. Am. Phys. Soc.* **54**, 143 (2009).

88. T.S. Orr, J.A. Domaradzki, and G.S. Contantinescu, "Detached Eddy Simulation of Separated Flow in the Near-Wake of a Sphere Moving Through a Stratified Fluid", *Bull. Am. Phys. Soc.* **54**, 208 (2009).

89. B.W. Anderson and J.A. Domaradzki, "Development of a Subgrid-Scale Similarity Model for LES Based on the Physics of Interscale Energy Transfer in Turbulence", *Bull. Am. Phys. Soc.* **55**, 30 (2010).

90. T.Tantikul and J.A. Domaradzki, "Truncated Navier-Stokes Equations with the Automatic Criterion", *Bull. Am. Phys. Soc.* **55**, 31 (2010).

91. C.G. Li, J.A. Domaradzki, and W. Fu, "Turbulent Modeling for Low Speed Compressible Flow", *Bull. Am. Phys. Soc.* **55**, 310 (2010).

92. T.S. Orr, J.A. Domaradzki, and G.S. Contantinescu, "Numerical Simulation of Flow Around a Sphere Moving Through a Stratified Fluid", *Bull. Am. Phys. Soc.* **55**, 402 (2010).

93. G. Castiglioni, J.A. Domaradzki, M. Grilli, and S. Hickel, "Numerical Modeling of Separated Flows at Moderate Reynolds Numbers Appropriate for Turbine Blades and Unmanned Aero Vehicles", *Proceedings of the Summer Program 2011*, Sonderforschungsbereich, Transregio 40, Munich, Germany (2011).

94. J.A. Domaradzki, B. Teaca, and D. Carati "Quantifying the Locality/Nonlocality of Nonlinear Interactions in MHD Turbulence", *Bull. Am. Phys. Soc.* **56**, 157 (2011).

95. B.W. Anderson and J.A. Domaradzki, "A Subgrid-Scale Similarity-Like Model for LES with Improved Subgrid-Scale Dissipation", *Bull. Am. Phys. Soc.* **56**, 206 (2011).

96. G. Castiglioni, J.A. Domaradzki, M. Grilli, and S. Hickel, "DNS and LES of Separated Flows over and Airfoil at Moderate Reynolds Numbers", *Bull. Am. Phys. Soc.* **57**, 57 (2012).

97. F. Cadieux, J.A. Domaradzki, T. Sayadi, and S. Bose, "LES of Separated Flows at Moderate Reynolds Numbers", *Bull. Am. Phys. Soc.* **57**, 57 (2012).

98. D. Buaria, P.K. Yeung, and J.A. Domaradzki, "Spectral Transfer and Scale Locality Characteristics in Turbulent Mixing over a Wide Range of Schmidt Numbers", *Bull. Am. Phys. Soc.* **57**, 340 (2012).

99. F. Cadieux, J.A. Domaradzki, T. Sayadi, S. Bose, and F. Duchaine, "DNS and LES of separated flows at moderate Reynolds numbers", *Proceedings of Summer Program 2012*, Center for Turbulence Research, Stanford University, 77-86 (2012)

100. F. Cadieux, G. Castiglioni, J.A. Domaradzki, T. Sayadi, S. Bose, S. Hickel, and M. Grilli, "LES of Separated Flows at Moderate Reynolds Numbers Appropriate for Turbine Blades and Unmanned Aero Vehicles", paper AER2E, *Proceedings of the International Symposium on Turbulence and Shear Flow Phenomena TSFP-8*, Poitiers, France (2013).

101. G. Castiglioni, J.A. Domaradzki, V. Pasquariello, S. Hickel, and M. Grilli, "Numerical Modeling of Separated Flows at Moderate Reynolds Numbers Appropriate for Turbine Blades and Unmanned Aero Vehicles", *Proceedings of the Summer Program 2013*, Sonderforschungsbereich, Transregio 40, Munich, Germany (2013).

102. F. Cadieux and J.A. Domaradzki, "Numerical Dissipation and Subgrid-Scale Modeling for Separated Flows at Moderate Reynolds Numbers", *Bull. Am. Phys. Soc.* **59**, 254 (2014).

103. F.S. Schranner, J.A. Domaradzki, S. Hickel, and N.A. Adams "Assessing the Numerical Dissipation Rate and Viscosity in CFD Simulations of Fluids Flows", *Bull. Am. Phys. Soc.* **59**, 421 (2014).

104. G. Castiglioni and J.A. Domaradzki, "Quantifying Numerical Dissipation Rate in a Commercial CFD Code", *Bull. Am. Phys. Soc.* **59**, 421 (2014).

105. G. Castiglioni and J.A. Domaradzki, "On the Evaluation of Numerical Dissipation Rate and Viscosity in a Commercial CFD Code", paper 7B-1, *Proceedings of the International Symposium on Turbulence and Shear Flow Phenomena TSFP-9*, Melbourne, Australia (2015).

106. F. Cadieux and J.A. Domaradzki, "Numerical dissipation and SGS modeling in LES of laminar separation bubble flows", paper 9D-2, *Proceedings of the International Symposium on Turbulence and Shear Flow Phenomena TSFP-9*, Melbourne, Australia (2015).

107. J.A. Domaradzki, G. Castiglioni, F.S. Schranner, N. Krais, A. Beck, and C-D. Munz, "Quantifying Numerical Dissipation Rate for Discontinuous Galerkin Methods", *Bull. Am. Phys. Soc.* **60**, 417 (2015).

108. F. Cadieux and J.A. Domaradzki, "Quantifying Numerical Dissipation due to Filtering in Implicit LES", *Bull. Am. Phys. Soc.* **60**, 565 (2015).

109. G. Castiglioni, J.A. Domaradzki, N. Krais, A. Beck, C-D. Munz, and F.S. Schranner, "Characterization of Numerical Dissipation Rates in Simulations Performed Using Discontinuous Galerkin Methods", *Proceedings of the Summer Program 2015*, pp. 1–14, Sonderforschungsbereich, Transregio 40, Munich, Germany (2015).

110. J.A. Domaradzki, G. Sun, X. Xiang, and K. Chen, "Assessment of accuracy of CFD simulations through quantification of a numerical dissipation rate", *Bull. Am. Phys. Soc.* **61**, 412 (2016).

111. G. Sun, J.A. Domaradzki, X. Xiang, and K. Chen, "Assessing accuracy of CFD simulations through quantification of a numerical dissipation rate", paper 167, *Proceedings of the International Symposium on Turbulence and Shear Flow Phenomena TSFP-10*, Chicago, USA (2017).

112. J.A. Domaradzki, "Turbulence - ubiquitous but unsolved problem of classical physics", Limits of Knowledge, Lecture F1.3, *Proceedings of International Scientific Conference Humboldt -Kolleg*, Cracow, Poland (2017).

113. J.A. Domaradzki, G. Sun, X. Xiang, and K. Chen, "Implicit LES using Adaptive Filtering", *Bull. Am. Phys. Soc.* **62** (2017).

114. J.A. Domaradzki, G. Sun, and G. Castiglioni, "On the quantification of numerical dissipation and dispersion in CFD", 71st Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, GA (2018).

115. J.A. Domaradzki, G. Sun, "SGS Model Based on Removal of Small-Scale Energy Production through Nonlinear Interactions", 72nd Annual Meeting of the APS Division of Fluid Dynamics, Seattle, WA (2019).

116. J.A. Domaradzki, "Toward autonomous large eddy simulations of turbulence based on interscale energy transfer among resolved scales", 74th Annual Meeting of the APS Division of Fluid Dynamics, Phoenix, AZ (2021).

117. Lena Caban, Artur Tyliszczak, Bernard Geurts, J. Andrzej Domaradzki, "Auto-ignition modelling in a forced homogenous isotropic turbulence using LES-ADM", 18th International Conference on Numerical Combustion San Diego, California, May 08 - May 11, 2022.

118. J.A. Domaradzki, "Near-autonomous large eddy simulations of turbulence based on interscale energy transfer among resolved scales", paper 54, *Proceedings of the International Symposium on Turbulence and Shear Flow Phenomena TSFP-12, July 19-22, 2022*, Osaka, Japan (2022).

119. G. Sun, J.A. Domaradzki, "Large eddy simulations of turbulent channel flow based on interscale energy transfer", arXiv:2210.14987 [physics.flu-dyn]; https://doi.org/10.48550/arXiv.2210.14987 (2022).

120. Lena Caban, Artur Tyliszczak, Bernard Geurts, J. Andrzej Domaradzki, "Optimal LES Filtering for Approximate Deconvolution in LES with dissipative and non-dissipative discretization methods", ID 162, 18th European Turbulence Conference, 4-8 Sept., Valencia, Spain (2023).

121. Lena Caban, Artur Tyliszczak, J. Andrzej Domaradzki, Bernard Geurts, "Accuracy assessment of LES-ADM modelling of auto-ignition in a temporally evolving jet", ETMM14, 14th International ERCOFTAC Symposium on Engineering Turbulence Modelling and Measurements, 6 - 8 Sept., Barcelona, Spain (2023).

122. J.A. Domaradzki, "An autonomous LES method using eddy viscosity derived from the subgrid scale similarity model", 76th Annual Meeting of the APS Division of Fluid Dynamics, Washington, DC (2023).

123. L. Caban, A. Tyliszczak, S. Abide, J.A. Domaradzki, "A very high-order compact difference method for wall bounded flows", International Conference of Numerical Analysis and Applied Mathematics, AIP Conf. Proc. 3094, 500008 (2024); https://doi.org/10.1063/5.0210442.

124. J.A. Domaradzki "Autonomous Large Eddy Simulations of turbulence using eddy viscosity derived from the subgrid scale similarity stress tensor", 13th International Symposium on Turbulence and Shear Flow Phenomena (TSFP13), Montreal, Canada, June 2528, 2024.

Invited Seminars and Conference Talks without Proceedings

1. 08/1988 Levich Institute, City College of New York, New York
2. 04/1989 University of Houston, Houston, Texas
3. 05/1989 National Center for Atmospheric Research, Boulder, Colorado
4. 05/1989 National Center for Atmospheric Research, Boulder,Colorado
5. 05/1989 California Institute of Technology, Pasadena, California
6. 06/1989 University of Rome "La Sapienza", Rome, Italy

7. 06/1989 International Conference on Spectral and High Order Methods for Partial Differential Equations, Como, Italy
8. 01/1990 Brown University, Providence, Rhode Island
9. 06/1990 University of California Los Angeles, Los Angeles, California
10. 06/1990 EUROMECH 261, Colloquium on Görtler Vortex Flows, Nantes, France
11. 09/1990 University of Southern California, Mechanical Engineering, Los Angeles, California
12. 12/1991 University of Kentucky, Lexington, Kentucky
13. 05/1992 University of Maryland, College Park, Maryland
14. 07/1992 National Center for Atmospheric Research, Boulder, Colorado
15. 03/1993 German Aerospace Establishment (DLR), Göttingen, Germany
16. 03/1993 University of Bayreuth, Bayreuth, Germany
17. 03/1993 Conference on Multiscale Processes, Cambridge, England
18. 05/1993 École Polytechnique, Paris, France
19. 05/1993 Université Pierre et Marie Curie, Paris, France
20. 06/1993 École Normale Supérieure, Paris, France
21. 06/1993 École Polytechnique, Lausanne, Switzerland
22. 06/1993 University of Rome "La Sapienza", Rome, Italy
23. 06/1993 German Aerospace Establishment, Oberpfaffenhofen, Germany
24. 06/1993 Center for Nonlinear Dynamics at University of Göttingen, Göttingen, Germany
25. 11/1994 Department of Applied Mechanics and Engineering Science, University of California, San Diego, California
26. 02/1995 Department of Mechanical and Aerospace Engineering, University of California, Irvine, California
27. 06/1996 Institute for Computer Applications in Science and Engineering, NASA Langley Research Center, Hampton, Virginia
28. 12/1996 Graduate Aeronautics Laboratory, California Institute of Technology, Pasadena, California
29. 05/1997 Lawrence Livermore National Laboratory, Livermore, California

30. 06/1997 Workshop "Turbulence Transport and Numerical Modeling", Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, New Mexico

31. 10/1997 University of California Los Angeles, Los Angeles, California

32. 11/1997 Lawrence Livermore National Laboratory, Livermore, California

33. 05/1998 Workshop "Turbulence: Challenges for the 21st Century", Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, New Mexico

34. 06/1998 IUTAM/IUGG Symposium on Developments in Geophysical Turbulence, National Center for Atmospheric Research, Boulder, Colorado

35. 11/1998 General Electric Corporate Research and Development Laboratory, Schenectady, New York

36. 03/1999 Swiss Federal Institute of Technology (ETH), Institute of Fluid Mechanics, Zürich, Switzerland

37. 03/1999 École Polytechnique Fédérale de Lausanne, Department of Mechanical Engineering, Lausanne, Switzerland

38. 06/1999 The First ERCOFTAC Summer School on Direct and Large-Eddy Simulations, Silesian Technical University, Gliwice, Poland (three lectures)

39. 06/1999 University of Warsaw, Institute of Geophysics, Warsaw, Poland

40. 10/1999 Munich Technical University, Institute of Fluid Mechanics, Munich, Germany

41. 05/2000 Institute for Theoretical Physics, University of California, Santa Barbara, California

42. 10/2000 Applied Mathematics, University of Southern California, Los Angeles, California

43. 02/2001 Mini-Symposium on Large Eddy Simulation, Tokyo Institute of Technology, Tokyo, Japan

44. 02/2001 Nagoya University, Department of Computational Science and Engineering, Nagoya, Japan

45. 02/2001 University of Tokyo, Department of Earth and Planetary Science, Tokyo, Japan

46. 04/2001 Eidgenössische Technische Hochschule (ETH), Interdepartmental Seminar in Thermo-Fluid Dynamics, Zürich, Switzerland

47. 05/2001 Institut National Polytechnique de Grenoble, Laboratory of Geophysical and Industrial Fluid Flows, Grenoble, France

48. 03/2002 Workshop on Progress in Statistical Hydrodynamics, Center for Nonlinear Studies, Los Alamos National Laboratory, held in Santa Fe, New Mexico

49. 08/2002 Workshop on New Developments in Sub-Filter Scale Closures, National Center for Atmospheric Research, Boulder, Colorado

50. 11/2002 The Johns Hopkins University, Department of Mechanical Engineering, Baltimore, Maryland

51. 12/2002 University of California, Department of Mechanical and Aerospace Engineering, San Diego, California

52. 06/2003 University of Miami, Rosenstiel School of Marine and Atmospheric Science, Division of Applied Marine Physics, Miami, Florida

53. 07/2003 Workshop on Subgrid Scale Methods for Geodynamo Simulations, Institute of Geophysics and Planetary Physics, University of California, Los Angeles, California

54. 04/2004 2004 Spring Western Sectional Meeting of American Mathematical Society, Los Angeles, California

55. 07/2004 Eidgenössische Technische Hochschule (ETH), Interdepartmental Seminar in Thermo-Fluid Dynamics, Zürich, Switzerland

56. 07/2004 Munich Technical University, Institute of Fluid Mechanics, Munich, Germany

57. 07/2004 Dresden Technical University, Institute of Fluid Mechanics, Dresden, Germany

58. 11/2004 Workshop on Implicit LES, Los Alamos National Laboratory, Los Alamos, New Mexico

59. 07/2005 CNLS Workshop on Multiscale Interactions in Turbulent Flows Santa Fe, New Mexico

60. 10/2005 EUROMECH Colloquium 469 on Large-Eddy Simulation of Complex Flows Dresden, Germany

61. 06/2006 Imperial College, Department of Aeronautics and Institute for Mathematical Sciences, London, U.K.

62. 06/2006 University of Southampton, Aerospace Engineering, Southampton, U.K.

63. 06/2006 Warwick Turbulence Symposium 2005-2006, University of Warwick, Mathematics Research Centre, Coventry, U.K.

64. 09/2006 XVII National Congress of Fluid Dynamics, Belchatow, Poland

65. 10/2006 Munich Technical University, Institute of Fluid Mechanics, Munich, Germany

66. 11/2006 Instituto Superior Tecnico, Fluid Mechanics, Lisbon, Portugal

67. 01/2007 3rd Richard B. Pelz Memorial Lecture, Rutgers University, Mechanical And Aerospace Engineering, Piscataway, New Jersey

68. 04/2008 San Diego State University, Department of Aerospace Engineering, San Diego, California

69. 04/2008 2nd Southern California Symposium on Flow Physics, University of California, Los Angeles, California (with Orr, Tollmachoff, Sheen, and Wang)

70. 09/2008 Workshop on Inertial-Range Dynamics and Mixing, Isaac Newton Institute for Mathematical Sciences, Cambridge University, Cambridge, U.K.

71. Sept 21-25, 2009, International Symposium on Turbulence, Peking University, Beijing, China

72. 04/2010 4th Southern California Symposium on Flow Physics, University of California, Irvine (three presentations with Orr, Tantikul, and Anderson)

73. 08/2011 1st Summer Research Program, Collaborative Research Center TRR40, Münich,Germany

74. 09/2011 Turbulence Colloquium Marseille 2011 (TCM2011), An International Colloquium on "Fundamental Problems of Turbulence: 50 years after the Turbulence Colloquium Marseille 1961", Centre International de Rencontres Mathematiques, Marseille, France (two presentations)

75. 10/2011 Mechanical and Aerospace Engineering, University of California, San Diego

76. 07/2013 2nd Summer Research Program, Collaborative Research Center TRR40, Munich, Germany

77. 07/2013 Short Course on LES, Marie-Curie-project FlowAirS, Munich, Germany (four lectures)

78. 09/2013 European Turbulence Conference ETC14, Lyon, France

79. 10/2013 Institute of Fluid Dynamics, ETH, Zürich, Switzerland

80. 11/2013 Munich Technical University, Institute of Fluid Mechanics, Munich, Germany

81. 11/2013 Department of Aerospace Engineering, Universität der Bundeswehr, Munich, Germany

82. 11/2013 GE Global Research Center, Garching, Germany

83. 11/2013 Institute for Aerodynamics and Gasdynamics, Universität Stuttgart, Stuttgart, Germany

84. 11/2013 Department of Aeronautics, Imperial College, London, U.K.

85. 12/2013 Institut Jean Le Rond d'Alembert, Université Pierre et Marie Curie, Paris, France

86. 12/2013 Ecole Centrale de Lyon, LMFA, Lyon, France

87. 03/2014 Department of Mechanical Engineering, University of California, Santa Barbara, California

88. 03/2014 Department of Mechanical Engineering, University of Houston, Houston, Texas

89. 05/2015 Department of Mechanical Engineering, University of California, Los Angels, California

90. 09/2015 4th International Conference on Mathematical Theory of Turbulence via Harmonic Analysis and Computational Fluid Dynamics, Nara, Japan

91. 03/2019 2nd Honolulu Symposium on International Joint Researches of Kobe University, Honolulu, Hawaii

92. 10/2021 Czestochowa Technical University, Department of Mechanical Engineering and Information Technology, Czestochowa, Poland

93. 10/2021 Warsaw University of Technology, Faculty of Power and Aeronautical Engineering, Warsaw, Poland

94. 04/2023 University of California, San Diego, Mechanical and Aerospace Engineering, San Diego, California

95. 05/2023 Stanford University, Department of Mechanical Engineering, Palo Alto, California

96. 04/2024 Czestochowa Technical University, Department of Mechanical Engineering and Information Technology, Czestochowa, Poland

97. 05/2024 Technical University Delft, Aerospace Engineering, Delft, Netherlands

98. 05/2024 Technical University Munich, School of Engineering and Design, Munich, Germany