Papers in archival journals

1. S. Nambully, P. Domingo, V. Moureau, L. Vervisch (in press) A Filtered-Laminar-Flame PDF sub-grid scale closure for LES of premixed turbulent flames. Part I: Formalism and application to a bluff-body burner with differential diffusion. Combust. Flame.

2. S. Nambully, P. Domingo, V. Moureau, L. Vervisch (in press) A Filtered-Laminar-Flame PDF sub-grid scale closure for LES of premixed turbulent flames: Part II: Application to a stratified bluff-body burner, Combust. Flame.

3. G. Ribert, L. Vervisch, P. Domingo, Y.-S. Niu (2014) Hybrid transported-tabulated strategy to downsize detailed chemistry for numerical simulation of premixed flames, FLow Turbulence and Combustion, 92(1/2), pp. 175-200.

4. F. Pecquery, V. Moureau, G. Lartigue, L. Vervisch A. Roux (2014) Modelling nitrogen oxide emissions in turbulent flames with air dilution: Application to LES of a non-premixed jet-flame, Combust. Flame, 161(2), pp. 496-509.

5. B. Farcy, A. Abou-Taouk, L. Vervisch, P. Domingo, N. Perret (2014) Two approaches of chemistry downsizing for simulating Selective Non Catalytic Reduction DeNOx Process, Fuel, 118, pp. 291-299.

6. Z. Pouransari, L. Vervisch, A. Johansson (2013) Heat release effects on mixing scales of non-premixed turbulent wall-jets: A direct numerical simulation study Int. J. Heat and Fluid Flow, 40(4), pp. 65-80.

7. Y. S. Niu, L. Vervisch, P. D. Tao (2013), An optimization-based approach to detailed chemistry tabulation: Automated progress variable definition Combust. Flame, 160(4), pp. 776-785.

8. C. Merlin, P. Domingo, L. Vervisch (2013) Immersed boundaries in Large Eddy Simulation of compressible flows, FLow Turbulence and Combustion, 90(1), pp. 29-68.

9. G. Lodier, C. Merlin, P. Domingo, L. Vervisch, F. Ravet (2012) Self-ignition scenarios after rapid compression of a turbulent mixture weakly-stratified in temperature, Combust. Flame, 159(11), pp. 3358-3371.

10. E. Albin, Y. D'Angelo, L. Vervisch (2012) Using staggered grids with characteristic boundary conditions when solving compressible reactive Navier-Stokes equations, Int. J. Numer. Meth. Fl., 68(5): 546-563.

11. N. Enjalbert, P. Domingo, L. Vervisch (2012) Mixing time-history effects in Large Eddy Simulation of non-premixed turbulent flames: Flow-Controlled Chemistry Tabulation Combust. Flame, 159(1), pp. 336-352.

12. G. Ribert, K. Wang, L. Vervisch (2012) A multi-zone self-similar chemistry tabulation with application to auto-ignition including cool-flames effects Fuel, 91(1): 87-92.

13. P. D Nguyen, V. Moureau, L. Vervisch and N. Perret (2012) A massively parallel solution strategy for efficient thermal radiation simulation Journal of Physics, 369:012017.

14. C. Merlin, P. Domingo, L. Vervisch (2012) Large Eddy Simulation of turbulent flames in a Trapped Vortex Combustor (TVC) - A flamelet presumed-pdf closure preserving laminar flame speed Comptes Rendus Mécanique, 340 (11/12), pp. 917-932.

15. E. Albin, Y. D'Angelo, L. Vervisch (2011) Flow streamline based Navier–Stokes Characteristic Boundary Conditions: modeling for transverse and corner outflows, Computer and Fluids, 51(1): 115-126.

16. G. Lodier, L. Vervisch, V. Moureau, P. Domingo (2011) Composition-space premixed flamelet solution with differential diffusion for in situ flamelet-generated manifolds Combust. Flame, 158(10): 2009-2016.

17. V. Moureau, P. Domingo, L. Vervisch (2011) From Large-Eddy Simulation to Direct Numerical Simulation of a lean premixed swirl flame: Filtered Laminar Flame-PDF modeling, Combust. Flame, 158(7): 1340-1357.

18. G. Lecocq, S. Richard, J.-B. Michel, L. Vervisch (2011) A new LES model coupling flame surface density and tabulated kinetics approaches to investigate knock and pre-ignition in piston engines, Proc. Combust. Inst., 33(2): 3105-3114.

19. G. Lecocq, S. Richard, O. Colin, L. Vervisch (2011) Hybrid presumed pdf and flame surface density approaches for Large-Eddy Simulation of premixed turbulent combustion Part 1: Formalism and simulation of a quasi-steady burner, Combust. Flame, 158(6): 1201-1214.

20. V. Moureau, P. Domingo, L. Vervisch (2011) Design of a massively parallel CFD code for complex geometries, Comptes Rendus Mécanique, 339 (2/3), pp. 141-148.

21. G. Lecocq, S. Richard, O. Colin, L. Vervisch (2011) Hybrid presumed pdf and flame surface density approaches for Large-Eddy Simulation of premixed turbulent combustion Part 2: Early flame development after sparking, Combust. Flame, 158(6): 1215-1226.

22. K. Wang, G. Ribert, P. Domingo, L. Vervisch (2010) Self-similar behavior and chemistry tabulation of burnt-gases diluted premixed flamelets including heat-loss, Combust. Theory and Modelling, 14(4): 541-570.

23. D. Veynante, G. Lodato, P. Domingo, L. Vervisch, E. R. Hawkes (2010) Estimation of three-dimensional flame surface densities from planar images in turbulent premixed combustion, Exp. in Fluids, 49: 267-278.

24. G. Lecocq, S. Richard, O. Colin, L. Vervisch (2010) Gradient and counter-gradient modelling in premixed flames: theoretical study and application to the LES of a Lean premixed turbulent swirl-burner, Comb. Sci. Tech., 182(4-6):465-479.

25. L. Vervisch, P. Domingo, G. Lodato, D. Veynante (2010) Scalar energy fluctuations in Large-Eddy Simulation of turbulent flames: Statistical budgets and mesh quality criterion, Combust. Flame, 157(4), pp. 778-789.

26. V. Subramanian, P. Domingo, L. Vervisch (2010) Large-Eddy Simulation of forced ignition of an annular bluff-body burner, Combust. Flame, 157(3), pp. 579-601.

27. P.-D. Nguyen, L. Vervisch, V. Subramanian, P. Domingo (2010) Multi-dimensional flamelet-generated manifolds for partially premixed combustion, Combust. Flame, 157(1), pp. 43-61.

28. G. Lodato, L. Vervisch, P. Domingo (2009) A compressible wall-adapting similarity mixed model for large-eddy simulation of the impinging round jet, Phys. Fluids, Vol. 21, 035102.

29. G. Godel, P. Domingo, L. Vervisch (2009) Tabulation of NOx chemistry for Large-Eddy Simulation of non-premixed turbulent flames, Proc. Combust. Inst. Vol. 32, pp 1555-1551.

30. D. Veynante, B. Fiorina, P. Domingo L. Vervisch (2008) Using self-similar properties of turbulent premixed flames to downsize chemical tables in high-performance numerical simulations, Combust. Theory and Modeling, 12(6), pp 1055-1088.

31. J. Galpin, A. Naudin, L. Vervisch, C. Angelberger, O. Colin, P. Domingo (2008) Large-Eddy Simulation of a fuel lean premixed turbulent swirl burner, Combust. Flame, 155(1), pp 247-266.

32. G. Lodato, P. Domingo, L. Vervisch (2008) Three-dimensional boundary conditions for Direct and Large-Eddy Simulation of compressible flows, J. of Comp. Phys., 227(10), pp 5105-5143.

33. J. Galpin, C. Angelberger, A. Naudin, L. Vervisch (2008) Large-Eddy Simulation of H2-air auto-ignition using tabulated detailed chemistry, J. of Turbulence, 9(13), 2008.

34. P. Domingo, L. Vervisch, D. Veynante (2008) Large-Eddy Simulation of a lifted methane jet flame in a vitiated coflow Combust. Flame, 152(3), pp. 415-432.

35. G. Subramanian, R. Bounaceur, A. Pirez Da Cruz, L. Vervisch (2007) Chemical impact of CO and H2 addition on the auto-ignition delay of homogeneous n-heptane/air mixtures, Comb. Sci. Tech., 179(9), pp. 1937-1962.

36. P. Domingo, L. Vervisch (2007) DNS of partially premixed flame propagating in a turbulent rotating flow, Proc. Combust. Inst. Vol. 31, pp. 1657-1664.

37. X. Paubel, A. Cessou, D. Honoré, L. Vevisch, R. Rsiava (2007) A flame stability diagram for piloted non-premixed oxycombustion of low calorific residual gases, Proc. Combust. Inst. Vol. 31, pp 3385-3392.

38. C. Péra, J. Réveillon, L. Vervisch, P. Domingo (2006) Modeling subgrid scale mixture fraction variance in LES of evaporating spray, Combust. Flame, 146(4), pp. 635-648.

39. L. Vervisch (2006) Book review, T. Poinsot and D. Veynante, "Theoretical and Numerical Combustion" (second ed.), Edwards, USA, 2005, 520 pp. Combust. Flame, 144(1), pp 642-643.

40. L. Vervisch, P. Domingo (2006) Two recent developments in numerical simulation of premixed and partially premixed turbulent flame, Comptes Rendus Mécanique, 334 (8/9), pp. 523-530.

41. P. Domingo, L. Vervisch, S. Payet and R. Hauguel (2005) DNS of a Premixed Turbulent V-Flame and LES of a Ducted-Flame using a FSD-PDF subgrid scale closure with FPI tabulated chemistry, Combust. Flame, 143(4), pp. 566-586.

42. K.N.C. Bray, P. Domingo, L. Vervisch (2005) The role of progress variable in models for partially premixed turbulent combustion Combust. Flame, 141(4), pp. 431-437.

43. J. Réveillon, L. Vervisch (2005) Analysis of weakly turbulent diluted-spray flames and combustion regimes, J. Fluid Mech., 537, pp. 317-347.

44. P. Domingo, L. Vervisch, J. Réveillon (2005) DNS analysis of partially premixed combustion in spray and gaseous turbulent-flame bases stabilized in hot air Combust. Flame, 140(3), pp. 172-195.

45. R. Hauguel, L. Vervisch, P. Domingo (2005) DNS of premixed turbulent V-Flame: coupling spectral and finite difference methods, Comptes Rendus Mécanique, 333 (1), pp. 95-102.

46. B. Fiorina, O. Gicquel, L. Vervisch, S. Carpentier, N. Darabiha (2005) Approximating the chemical structure of partially-premixed and diffusion counter-flow flames using FPI flamelet tabulation Combust. Flame, 140(3), pp. 147-160.

47. B. Fiorina, O. Gicquel, L. Vervisch, S. Carpentier, N. Darabiha (2005) Premixed turbulent combustion modeling using tabulated detailed chemistry and PDF. Proc. Combust. Inst., 30(1), pp. 867-874.

48. L. Vervisch, P. Domingo, M. Rullaud, R. Hauguel (2004) Three facets of turbulent combustion modeling: DNS of Premixed V-flame, LES of lifted jet-flame, RANS of non-premixed jet-flame J. of Turbulence, 5(4), pp. 1-36.

49. L. Vervisch, B. Labégorre, J. Réveillon (2004) Hydrogen-sulphur oxy-flame analysis and single-step flame tabulated chemistry, Fuel, 83(4-5), pp. 605-614.

50. J. Boulanger, L. Vervisch, J. Réveillon, S. Ghosal (2003) Effects of heat release in laminar diffusion flames lifted on round jets, Combust. Flame, 134(4), pp. 355-368.

51. L. Blin, A. Hadjadj, L. Vervisch (2003) Large Eddy Simulation of turbulent flows in reversing systems, J. of Turbulence, 4(1), pp. 1-19.

52. O. Gicquel, L. Vervisch, G. Joncquet, B. Labegorre, N. Darabiha (2003) Combustion of residual steel gases: Laminar flame analysis and turbulent flamelet modeling, Fuel, 82(8), pp. 983 - 991.

53. P. Domingo, L. Vervisch, K.N.C. Bray (2002) Partially premixed flamelets in LES of nonpremixed turbulent combustion, Combust. Theory and Modelling, 6(4), pp. 529-551.

54. J. Boulanger, L. Vervisch (2002) Diffusion edge-flame: Approximation of the flame tip Damköhler number, Combust. Flame, 130(1/2), pp. 1-14.

55. D. Veynante, L. Vervisch (2002) Turbulent Combustion Modeling, Prog. Energ. Sci., 285(3), pp. 193-266.

56. V. Favier, L. Vervisch (2001) Edge flames and partially premixed combustion in diffusion flame quenching. Combust. Flame. 125 (1/2), pp. 788-803.

57. S. Ghosal, L. Vervisch (2001) Stability diagram for lift-off and blowout of a round jet laminar diffusion flame. Combust. Flame., 124(4), pp. 646-655, 2001.

58. L. Vervisch (2001) Book review, N. Peters, "Turbulent Combustion", Cambridge University Press, Cambridge, UK, 2000, 304 pp. Combust. Flame, 125(3), pp 1222-1223.

59. S. Ghosal, L. Vervisch (2000) Theoretical and numerical study of a symmetrical triple flame using the parabolic flame path approximation, J. Fluid Mech., 415, pp. 227-260.

60. J. Reveillon, L. Vervisch (2000) Accounting for spray vaporization in non-premixed turbulent combustion modeling: A Single Droplet Model (SDM), Combust. Flame, 121(1/2), pp. 75-90.

61. L. Vervisch, D. Veynante D. (2000) Interlinks between approaches for modeling turbulent flames, Proc. Combust. Inst. Vol 28, pp. 175-183.

62. L. Vervisch (2000) Using numerics to help understand nonpremixed turbulent flames. Proc. Combust. Inst. Vol 28, pp. 11-24.

63. L. Vervisch, T. Poinsot (1998) Direct numerical simulation of non-premixed turbulent combustion, Annu. Rev. Fluid Mech., 30, pp. 655-92.

64. J. Réveillon, L. Vervisch (1998) Subgrid-Scale Turbulent Micromixing: Dynamic Approach, AIAA Journal. 36 (3), pp. 336-341.

65. V. Favier, L. Vervisch (1998) Investigating the effects of Edge-flames in liftoff in non-premixed turbulent combustion. Proc. Combust. Inst., Vol. 26, pp. 1239-1245.

66. L. Vervisch, J. Réveillon (1996) Dynamics of iso-concentration surfaces in weak shock turbulent mixing interaction, AIAA Journal 34 (12), pp. 2539-2544.

67. J. Réveillon, L. Vervisch (1996) Response of the dynamic model to heat release induced effects, Phys. of Fluids 8 (8), pp. 2248-2250.

68. P. Domingo, L. Vervisch (1996) Triple flames and partially premixed combustion in autoignition of nonpremixed turbulent mixtures, Proc. Combust. Inst., Vol. 26, pp. 233-240.

69. L. Vervisch, J. Réveillon, L. Guichard (1996) Recent developments in turbulent combustion modeling, Journal Européen des Eléments Finis, 5 (2), pp. 161-196.

70. G. R. Ruetsch, L. Vervisch, A. Liñán (1995) Effects of heat release on triple flames, Phys. Fluids 7 (6), pp. 1447-1454.

71. S. Mahalingam, J.H. Chen, L. Vervisch (1995) Finite-rate chemistry and transient effects in direct numerical simulations of turbulent non-premixed flames, Combust. Flame 102 (3), pp. 285-297.

72. L. Vervisch, E. Bidaux, K.N.C. Bray, W. Kollmann (1995) Surface density function in premixed turbulent combustion modeling, similarities between probability density function and flame surface approaches, Phys. Fluids 7 (10), pp. 2496-2503.

73. L. Guichard, L. Vervisch, P. Domingo (1995) Two-dimensional weak-shock vortex interaction in a mixing zone, AIAA Journal 33 (10), pp. 2539-2544.

Invited keynotes at international conferences

1. Vervisch L. (2012) Combustion, flames and burner design: Challenges and computing tools Invited keynote lecture at COMBURA'12, Combustion Research and Application, Maastricht, The Netherlands 3-4 Oct.

2. Vervisch L. (2012) Challenges and progress in turbulent combustion modeling-Invited keynote lecture at 7th International Symposium on Turbulence, Heat and Mass Transfer, THMT, Palermo, Sicily, Italy 24-27 Sept.

3. Vervisch L., Moureau V., Domingo P. (2010) Turbulent combustion modeling: new approaches for highly refined simulations Invited keynote lecture at V European Conference on Computational Fluid Dynamics ECCOMAS CFD 2010 Lisbon, Portugal,14-17 June.

4. Vervisch, L. (2009) Scalar scaling in LES of turbulent combustion, Invited keynote lecture at COCCFEA International Workshop on Combustion Simulation and Modelling, Imperial College London, 17-18 Sept., London, UK.

5. Vervisch, L., Moureau, V., Domingo, P., Lodato, G., Veynante, D., (2009) Scalar fields subgrid scale energy in Large-Eddy Simulation of turbulent flames: Mesh quality criterion. Invited introductory lecture at LESTAC09, Large-Eddy Simulation in Turbulence, Aeroacoustic and Combustion, Aug. 26-28, Marseille, France.

6. Vervisch, L., Domingo, P. (2008) Large-Eddy Simulation of turbulent combustion, comparing scalar variances with measurements, Invited keynote lecture at DNS and LES of Reactive Flows, Oct 22-24, Maastricht, Netherlands.

7. Vervisch, L., Domingo, P., Subramanian, V., Bonomeau, G., (2008) Chemistry in Large-Eddy Simulation of turbulent flame, Invited keynote lecture at The Combustion Institute, 20th Journes dEtudes of the Belgian Section, May 6-8, Gent, Belgium.

8. Vervisch, L., Domingo, P., (2008), Large-Eddy Simulation of turbulent flames, Invited keynote lecture at LES in Science and Technology, COST P20 Conference, 21-22 April, Poznan, Poland.

9. Vervisch, L., Lodato, G., Domingo, P. (2007), Reliability of Large-Eddy Simulation of turbulent flames, Invited keynote lecture at Quality and Reliabiity of Large-Eddy Simulation, 24-26 October, Leuven, Belgium.

10. Vervisch, L., Domingo, P. (2005) DNS and LES of turbulent premixed combustion: A FSD-PDF SGS closure, Invited plenary at DLES6, Direct and Large Eddy Simulation, ERCOFTAC, Poitiers, Sept. 12-14, France.

11. Vervisch, L., Domingo, P. (2005) DNS and LES of Turbulent Combustion, Invited plenary at Computational Fluid Dynamics in Chemical Reaction Engineering IV, Barga, June 19-24, Italy.

12. Vervisch, L. (2005), Quality assessment of DNS of reacting flows, Invited paper at the First Workshop on Quality Assessment of Unsteady Methods for Turbulent Combustion Prediction and Validation, Darmstadt - Seeheim, June 16-17, Germany.

13. Vervisch, L. (2004), Linking DNS, LES, RANS and experiments, Invited paper at the 7th Workshop on Turbulent Nonpremixed Flame, Chicago, 22-24 July, USA.

14. Vervisch, L. (2004), LES of turbulent combustion systems in the light of combustion theory, experiments and DNS, Invited paper at the International Workshop on Unsteady combustion, Transport Phenomena and Chemical Reaction in Technical Systems, Karlsruhe University, 8-9 July, Germany.

15. Vervisch, L., Domingo, P., Hauguel, R, (2003), Turbulent combustion in the light of direct and large eddy simulation, Invited plenary at Turbulent Shear Flow Phenomena-III, Sendai, 25-27 June, Japan.

16. Vervisch, L., Hauguel, R., Domingo, P., (2003), Direct Numerical Simulation (DNS) of a premixed turbulent V-Flame, 39th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Invited paper at "Future of Combustion Simulation Panel Session", Huntsville, 20-23 July 2003, USA.

17. Vervisch, L., Domingo, L. (2002) Challenges in partially premixed turbulent combustion modeling, Invited plenary at 2002 GAMM Conference (Gesellschaft für Angewandte Mathematik un Mechanik) in Augsburg, 25-28 March, Germany.

18. Vervisch, L., Domingo, P. (2001) Large Eddy Simulation of partially premixed turbulent combustion. Invited plenary at Symposium on turbulent mixing and combustion. IUTAM. Kingston, June 3-6, Canada.

19. Vervisch, L. (2001) Challenges in turbulent combustion modeling. Invited plenary at 2001 Joint International Combustion Symposium, Kauai, Sept. 10-12, USA.

20. Vervisch, L., (2000) Using numerics to help understand nonpremixed turbulent flames. Invited Topical Review at Twenty-Eighth Symposium (International) on combustion, Eidinburg, UK.

21. Vervisch, L. (1999) DNS and LES of non-premixed turbulent combustion, Invited paper at AICHE Annual Meeting, Oct. 31 - Nov. 5, Dallas, TX, USA.

22. Vervisch, L. (1999) Numerical models for non-premixed turbulent combustion, Invited plenary at 17th International Colloquium on the Dynamics of Explosions and Reactive Systems, July 25-30, Heidelberg, Germany.

23. Vervisch, L. (1999) DNS to help understanding of non-premixed turbulent flames, Invited plenary at Second AFOSR International Conference on DNS and LES, New Brunswick, N.J., June 7-9, USA.

24. Vervisch, L. (1995) DNS for analysis of ignition of non premixed mixtures, Invited paper at The combustion institute, Sezione Italiana, Naples, July 28, Italy.

Book chapters

1. Merlin, C., Domingo, P., Vervisch L. (2011) Immersed Boundaries in Large-Eddy Simulation of a transonic cavity flow, Direct and Large-Eddy Simulation-VIII, H. Kuerten, B. Geurts, V. Armenio, J. Frhlich (Eds), 454 pages, pp. 119-124. ISBN-978-94-007-2481-5

2. Vervisch, L., Moureau V., Domingo P., Veynante D. (2011) Flame surface density and field equation, Turbulent Premixed Flames, N. Swaminathan and K.N.C. Bray (Eds), pp. 60-74 Cambridge University Press, ISBN 978-0-521-76961-7.

3. Vervisch, L., Domingo P., Lodato, P., Veynante D., (2011) Scalar sub-grid energy in Large-Eddy Simulation of turbulent flames: mesh quality criterion. Quality and Reliability of Large-Eddy Simulations, Maria Vittoria Salvetti, Bernard J. Geurts, Johan Meyers and P. Sagaut (Eds), pp. 201-210 Springer Netherlands, ISBN 978-94-007-0230-1.

4. Subramanian, V., Domingo, P., Vervisch, L., (2008) Turbulent flame spreading mechanisms after spark ignition. in LES and DNS of ignition process and complex structure flames with local extinction, A. Boguslawski, C. Lacor, B. Geurts (Eds), 158 pages, pp. 68-89, American Institute of Physics, ISBN 978-0-7354-0726-8

5. Vervisch, L., Lodato, G., Domingo, P. (2008), Reliability of Large-Eddy Simulation of Nonpremixed Turbulent Flames: Scalar Dissipation Rate Modeling and 3D-Boundary Conditions. Quality and Reliability of Large-Eddy Simulations, Johan Meyers, Bernard J. Geurts and P. Sagaut (Eds), pp. 227-237, Springer Netherlands, ISBN-978-1-4020-8577-2.

6. Vervisch, L., Domingo, P. (2006), Large Eddy simulation of premixed turbulent combustion: FSD-PDF modeling. Direct and Large-Eddy Simulation-VI, Eric Lamballais,Rainer Friedrich, Bernard J. Geurts and Olivier Mtais (Eds), ISBN-10 1-4020-4090.

7. Hilbert, R., Thevenin, D., Vervisch, L. (2001) Partially-premixed combustion during auto-ignition of a turbulent nonpremixed flame. Direct and Large-Eddy Simulation-IV, Bernard J. Geurts,Rainer Friedrich andOlivier Mtais (Eds), ISBN1-4020-0177-0, November 2001

8. Vervisch, L., Domingo. P., LES of partially premixed combustion, in Fluids Mechanics and Its Applications: Turbulent Mixing and Combustion, Chapter 19, pp. 235–250. A. Pollard and S. Candel (Eds.), Kluwer, ISBN 1-4020-0747-7, 2000.

9. Boulanger, J., Vervisch. L., Diffusion edge-flame quenching, in Fluids Mechanics and Its Applications: Turbulent Mixing and Combustion, Chapter 13, pp. 161-168 A. Pollard and S. Candel (Eds.), Kluwer, ISBN 1-4020-0747-7, 2000.

10. Bensler, H. P., Buehren F. B., Vervisch, L., 3-D CFD Analysis of the Combustion Process in a DI Diesel Engine using a Flamelet Model, in Multi-Dimensional Engine Modeling (SAE), ISBN 0-7680-0562-0, 2000. (Selected from SAE 2000 World Congree, March 2000, Detroit, MI, USA, Session: Multi-Dimensional Engine Modelling Part C).

11. Herrmann, M., Chen, M., Binninger, B., Peters, N., Favier, V., Réveillon, R., Vervisch, L. (2001) Modeling partially premixed turbulent combustion. in Numerical Flow Simulation II, Notes on Numerical Fluid Mechanics, Vol. 75, pp. 161 – 180, E. H. Hirschel (ed.), ISBN 3-540-41608-0. Springer Verlarg.

12. Vervisch, L. (1999) DNS to help understanding of non-premixed turbulent flames, Second AFOSR International Conference on DNS and LES, June 7-9. New Brunswick NJ., Kluwer Academic Publishers, Recent Advances in DNS and LES, pages. 49-59, ISBN 0-7923-6004-4, 1999.

13. Hauguel, R., Reveillon, J, Vervisch, L. (1999) DNS and modeling of spray turbulent combustion, Second AFOSR International Conference on DNS and LES, June 7-9, New Brunswick NJ., Kluwer Academic Publishers, Recent Advances in DNS and LES, pages. 167-177, ISBN 0-7923-6004-4, 1999.

14. Favier, V., Vervisch, L., Herrmann, M., Terhoeven, P., Binninger, B., Peters, N. (1998) Numerical Simulation of Combustion in Partially Premixed Turbulent Flows, Numerical Flow Simulation I, E. H. Hirschel (ed.), Vieweg Verlag, pp. 203-221.

15. Domingo, P., Vervisch, L. (1997) Autoignition of turbulent nonpremixed mixtures, partially premixed combustion, in "Direct and Large Eddy Simulation II", (Eds J.P. Chollet, P. R. Voke, L. Kleiser) Kluwer Academic Publishers, ISBN 0-7923-4687-4, pp. 331-341.

16. Réveillon, J., Vervisch, L. (1997) Dynamic subgrid PDF modeling for nonpremixed turbulent combustion, in "Direct and Large Eddy Simulation II", (Eds J.P. Chollet, P. R. Voke, L. Kleiser) Kluwer Academic Publishers, ISBN 0-7923-4687-4, pp. 311-320.

17. Vervisch, L., Réveillon, J., Melen, S., Vandromme, D. (1994) Turbulent combustion with complex chemistry on SIMD architecture, in "Notes on Numerical Fluid Mechanics", vol.50, (Eds S. Wagner) Vieweg Verlag, ISBN 3-531-07650-X, pp. 188-197.

18. Borghi, R., Vervisch, L., Garréton D. (1991) The calculation of local fluctuations in non-premixed turbulent flames, (Eds Carvalho M.G., Lockwood, F., Taine, J.), Springer Verlag, pp. 83-113.

Center for Turbulence Research - Stanford reports

1. Ribert, G., Domingo, P., Vervisch, L., (2013) Hybrid transported-tabulated strategy to downsize detailed chemistry for Large Eddy Simulation in "Studying turbulence by using numerical simulation databases XIV", (Eds Center for Turbulence Research) Stanford, pp. 429-438.

2. Moureau, V., Domingo, P., Vervisch, L., Veynante, D., (2011) DNS analysis of a Re = 40,000 swirl burner, In "Studying turbulence by using numerical simulation databases XIII", (Eds Center for Turbulence Research) Stanford, pp. 289-298.

3. Lodato, G., Domingo, P., Vervisch, L., Veynante, D., (2009) Scalar variances: LES against measurements and mesh optimization criterion; scalar gradient: a three-dimensional estimation from planar measurements using DNS. In "Studying turbulence by using numerical simulation databases XII", (Eds Center for Turbulence Research) Stanford, pp. 387-398.

4. Vicquelin, R., Fiorina, B., Darabiha, N., Veynante, D., Moureau, V., Vervisch, L. (2009) Coupling tabulated chemistry with large-eddy simulation of turbulent

reactive flows In "Studying turbulence by using numerical simulation databases XII", (Eds Center for Turbulence Research) Stanford, pp. 237-249.

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6. Naudin, A., Fiorina, B., Paubel, X., Veynante, D., Vervisch, L., (2006) Self-similar behavior of chemistry tabulation in laminar and turbulent multi-fuel injection combustion systems. In "Studying turbulence by using numerical simulation databases XI", (Eds Center for Turbulence Research) Stanford, pp. 349-360.

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1. Vervisch, L. (2006) Réalité modèle et théorie de la combustion turbulente appliquée à la production d'énergie, Journées Scientifiques de l'Institut Universitaire de France, 30-31 Mars, Strasbourg.

2. Réveillon, J., Massot, M., Vervisch, L., (2001) Direct numerical simulation of turbulent sprays. In Proceedings of the workshop: Trends in Numerical and Physical Modeling for Industrial Multiphase Flows.

3. Favier, V., Vervisch, L. (1999) Stabilization of non-premixed turbulent combustion, Japanese & French Conference on DNS and LES, Cargese 6-8 Oct.

4. Ghosal, S., Vervisch, L. (1998) Triple flames: the effects of heat release, 51st Annual Meeting of the Division of Fluid Dynamics, American Physical Society, APS-DFG, Nov. 22-24, Philadelphia

5. Ghosal, S., Vervisch, L. (1997) Asymptotic theory of triple-flame, 50st Annual Meeting of the Division of Fluid Dynamics, American Physical Society, APS-DFG, San-Francisco, Nov 3.

6. Vervisch, L., Domingo, P. (1997) Dynamics of edge-flames in non-premixed turbulent combustion, Invited pleanary at 4th French-Russian-Italian-Uzbeck Workshop on experimentation, numerical methods and modeling, Marseilles, France, June 30-July 4.

7. Vervisch, L. (1996) Shock-turbulent mixing interaction, Invited paper at ECCOMAS Conference, Computational Methods in Applied Sciences 96, Paris, Sept. 9-13.

8. Ruetsch, G., Veynante, D., Vervisch, L., Poinsot, T., Liñan, A. (1994) Triple flame structure and diffusion flame stabilization, 47th Annual meeting Fluid Dynamics division of the American Physical Society, New Mexico, Nov.

9. Lebret, Y. Nabarra, M, Vervisch, L., Escaig, Y., Vandromme, D. (1993) Parallel computation in France West Ercoftac bulletin, Sept.

10. Chen, J.H., Mahalingam, S., Puri, I., Vervisch, L. (1992) Structure of turbulent non-premixed flame modeled with one step chemistry, 45th Annual Meeting Fluid Dynamics division of the American Physical Society, paper BD1, Tallahassee, Nov. 22-24.

11. Chen, J.H., Mahalingam, S., Puri, I., Vervisch, L. (1992) Structure of turbulent non-premixed flames modelled with two-steps chemistry, 45th Annual meeting Fluid Dynamics division of the American Physical Society, paper BD2, Tallahassee, Nov 22-24.

12. Borghi, R. Garréton, D., Vandromme, D., Vervisch, L., Viollet, P.-L. (1991) Development of an eulerian-lagrangian peul model for modelling the kinetics effects in turbulent reactive flows, Ercoftac, Lausane, June 1991.

Lectures with notes

1. Vervisch, L., Veynante, D. (2013) Turbulent Combustion, Von Karman Institute, 13-17 May (Co-director of the courses.) Turbulent Combustion Modeling.

2. Vervisch, L. (2011) Backgrounds and challenges in turbulent combustion modeling & Established and emerging tools for burner design. ERCOFTAC course on Flame stabilisation for Industrial burner 26-27 Sept. GE Global research center, Munich, Germany,

3. Vervisch, L., Veynante, D. (2011) Turbulent Combustion, Von Karman Institute, 21-25 March (Co-director of the courses.) Turbulent Combustion Modeling.

4. Vervisch, L., Veynante, D. (2009) Turbulent Combustion, Von Karman Institute, 25-29 May (Co-director of the courses.) Turbulent Combustion Modeling.

5. L., Vervisch (2008) Modélisation de la Combustion Turbulente, 25-30 Mai, Ecole de Combution CNRS, Fréjus.

6. Vervisch, L., Veynante, D. (2007) Turbulent Combustion, Von Karman Institute, 4-8 June (Co-director of the courses.) Turbulent Combustion Modeling.

7. Vervisch, L., Veynante, D. (2005) Turbulent Combustion, Von Karman Institute, 7-11 March (Co-director of the courses.) Turbulent Combustion Modeling.

8. Vervisch, L. (2004) Advance LES of turbulent flames, ERCOFTAC, LES of Reacting Flows, Aristotle University of Thessaloniki, 5-11 June.

9. Vervisch, L. (2004) Turbulent combustion modeling in the light of flame theory, experiments and direct numerical simulation, CECOST, KTH, Royal Institute of Technology, Stockholm Sweden, 14-17 June.

10. Vervisch, L., Veynante, D. (2003) Turbulent Combustion, Von Karman Institute, 17-21 March (Co-director of the courses.) Turbulent Combustion Modeling.

11. Vervisch, L., Veynante, D. (2001) Turbulent Combustion, Von Karman Institute, 19-23 March (Co-director of the courses.) Turbulent Combustion Modeling.

12. Vervisch, L., Veynante, D. (1999) Turbulent Combustion, Von Karman Institute, 22-26 March (Co-director of the courses.) Turbulent Combustion Modeling.

13. Vervisch, L., Veynante, D. (1998) Turbulent combustion, Ecole de Combustion CNRS, Oleron, Mai 1998.

14. Vervisch, L. (1997) Studying non-premixed turbulent combustion using direct numerical simulation, Ercoftac Summer School on Turbulent Combustion: Modelling and Diagnostics, Aachen Sept. 15th - 19th.

15. Vervisch, L. (1997) Dynamic large eddy simulation of non-premixed turbulent combustion, Ercoftac Summer School on Turbulent Combustion: Modelling and Diagnostics, Aachen Sept. 15th - 19th.

16. Vervisch, L. (1996) Pdf modelling and Dynamics of Iso-concentration surfaces in premixed turbulent flames, Von Karman Institute, Combustion and turbulence in two-phase flows, Jan. 26 - Feb. 2.

17. Vervisch, L. (1996) Modelling of finite rate chemistry in non-premixed and partially premixed turbulent flames, Von Karman Institute, Combustion and turbulence in two-phase flows, Jan. 26 - Feb. 2.

18. Vervisch, L. (1994) PDF transport modelling, Modelling of combustion and turbulence, CNRS, Von Karman Institute, CSAMI, CRIHAN, Aussois, March 14-18.

19. Vervisch, L. (1994) Structure of turbulent non-premixed flames, Modelling of combustion and turbulence, CNRS, Von Karman Institute, CSAMI, CRIHAN, Aussois, March 14-18.

20. Vervisch, L. (1994) PDF transport modelling, Quatrième Ecole de Combustion, Collonges la Rouge, 26 Mai, 4 Juin.

21. Vervisch, L. (1994) Structure of nonpremixed turbulent flames, Quatrième Ecole de Combustion, Collonges la Rouge, 26 Mai, 4 Juin.

22. Vervisch, L. (1993) Applications of turbulent combustion to real flames calculations, Modelling of combustion and turbulence, CNRS, Von Karman Institute, CSAMI, CRIHAN, Aussois, January 10-14.

23. Vervisch, L. (1993) Effects of finite-rate chemistry in turbulent non-premixed flames, Modelling of combustion and turbulence, CNRS, Von Karman Institute, CSAMI, CRIHAN, Aussois, January 10-14.

24. Vervisch, L. (1992) Applications of the pdf method to real flames calculations, Modelling of combustion and turbulence, Von Karman Institute, March, Published in "Lecture notes on turbulent combustion modelling, VKI".

Invited seminars

1. Vervisch, L. (2013) Large Eddy Simulation of turbulent flames: Automated tabulated chemistry - Flame filtering challenges. Combustion Physics Dept. Lund University, Sweden, 13 June.

2. Vervisch, L. (2012) Large Eddy Simulation of turbulent flames, KTH, Royal Institute of Technology, Stockholm Sweden, 22 November.

3. Vervisch, L. (2012) Filtering and SGS modeling: Some unanswered questions, Eleventh International Workshop on Measurement and Computation of Turbulent Non-Premixed Flames, Darmstadt, 26-28 July.

4. Vervisch, L. (2011) Turbulent combustion modeling and mixing time-history effects in Large Eddy Simulation, NUMECA International's 7th Meeting, Brussels, Belgium, 15 November.

5. Vervisch, L. (2009) Chemistry tabulation and DNS of real combustion systems, Keynote lecture at Turbulent Combustion Today and Tomorrow, Cambridge, UK, 15 December.

6. Vervisch, L. (2009) Sub-grid scale energy decomposition of the scalar variance, quality mesh criterion, RWTH, Aachen, 06 April.

7. Vervisch, L. (2004) Large Eddy Simulation in nonpremixed turbulent combustion, Meeting of the British Section of the Combustion Institute in celebration of Ken Bray's 75th Birthday, Cranfield University, 17 September.

8. Vervisch, L. (2004) DNS of Gaseous and Spray combustion, Invited paper at "A Combustion DNS theme day", Consortium on Computational Combustion for Engineering Applications (COCCCFEA), Imperial College, London, UK, 15 April.

9. Vervisch, L. (2003) Large Eddy Simulation of spray evaporation, Invited paper at Workshop on LES & SGS modeling for turbulent mixing and reactive flows, CALTECH, USA, 8-9 December.

10. Vervisch, L. (2003) Edge-flame quenching, an asymptotic solution for quenching of two-dimensional planar diffusion flames. University of California, San Diego, USA, Dec. 11.

11. Vervisch, L. (2003) Direct Numerical Simulation of a turbulent V-shape premixed flames and Reynolds Average Navier Stokes modeling of jet flame with detailed chemistry. SANDIA National Lab, Livermore, USA, Dec. 12.

12. Vervisch, L. (2001) Partially premixed combustion and triple flames, ETH, Zurich, Dec. 4.

13. Vervisch, L. (1998) The challenge of non-premixed turbulent combustion modeling Fluid-Mechanics Seminar at Dept. of Mech. Eng., Nov. 11, Stanford, USA.

14. Vervisch, L. (1998) Turbulent Combustion Modeling: from RANS to LES via DNS, Tutorial at the Summer Program of the Center for Turbulence Research, Stanford-NASA AMES, July 24th.

15. Vervisch, L. (1997) Partially premixed combustion and triple flames, Imperial College, London, Feb. 20.

16. Vervisch, L. (1996) Partially premixed combustion, triple flames, RWTH AACHEN, Feb. 12.

17. Vervisch, L. (1995) Turbulent combustion modelling, Curso de doctorado, Zaragoza University, June 20 - 21.

18. Vervisch, L. (1995) Turbulent combustion modelling and triple flames, ETH Zürich, March 23.

19. Vervisch, L. (1995) Overview of Turbulent combustion modelling, non-premixed flames, Second ASCF Workshop, ETH Zürich, March 24.

20. Vervisch, L. (1995) Probability density function and dynamics of iso-concentration surfaces in turbulent premixed flames, Euroconference, "Premixed Turbulent Combustion: Introduction to the State of the Art", RWTH AACHEN, June. 8-9.

21. Vervisch, L. (1994) Pdf approach for turbulent combustion modelling, Technische Universität München, Dec. 19.

Invited seminars in France

22. Vervisch, L. (2013) Combustion Numérique : Récents développements, conférence invitée à Turbulence Compressibilité Combustion et Flames, Journée Michel Champion, Oct. 21, ENSMA, CNRS Pprime.

23. Vervisch, L. (2012) Challenges in optimization of turbulent combustion systems, confrence invite à l'UPMC, Dec 13, Paris, France.

24. Vervisch, L. (2012) Spatially filtered flame simulation and chemistry reduction using optimization tools, confrence invite au Workshop de l'ANR Tyche, Institut Curie, Dec 6, Paris, France.

25. Vervisch, L. (2012) Optimization-based detailed chemistry tabulation and mixing time history effects in rapid compression machine, Out-of-Equilibrium Dynamics, Colloquium in honor of Paul Clavin, June 13-15, Marseille, France.

26. Vervisch, L. (2011) Âge et temps de séjour, des outils pour la modélisation de la combustion turbulente ?, Conférence invitée à 'Défis de la combustion, de l'aéronautique à l'énergie', Colloque en l'honneur de Sébastien Candel, Ecole Centrale Paris, 17-18 juin.

27. Vervisch, L. (2010) Turbulent combustion: New approaches for highly refined simulations, Lecture at MUSAF Colloquium, Multiphysics and Unsteady Simulations for Aeronautical Flows, Toulouse, 27-29 September.

28. Vervisch, L. (2007) La combustion dans les systèmes de propulsion et de production d'énergie, Université de Tous les Savoirs, St Valéry, 12 Octobre.

29. Vervisch, L. (2006) Conception avance des systèmes énergétiques et simulation numérique de la combustion turbulente, Ecole Centrale de Lyon, 30 Janvier.

30. Vervisch, L. (2005) SND and SGE des flammes turbulentes, Groupement Scientifique et Technique "Mécanique des Fluides et Turbulence", AFM, Paris, 27 Mai.

31. Vervisch, L. (2005) DNS and Physics of two phase flow turbulent flames, Workshop "Large Eddy Simulation and Acoustic Analysis Tools for Unsteady Combustion", FP6 Marie Curie Research & Training Network FLUISTCOM, CERFACS, Toulouse, May 9-12.

32. Vervisch, L. (2005) Modélisation de sous-maille pour la simulation des grandes échelles de la combustion turbulente, Journée "Combustion et Modélisation", Maison de la Recherche, Paris, 23 Mars 2005.

33. Vervisch, L. (2005) Simulation de la combustion en régime partiellement prémélangée, séminaire invité à "Observer, analyser, modéliser, dans les milieux fluides complexes", Colloque organisé par l'EGIM en l'honneur de Roland Borghi à l'occasion de ses 60 ans, Marseille, 31 janvier et 1 février 2005.

34. Vervisch, L. (2004) Simulation de la combustion turbulente, séminaire invité "Quelques problmes rencontrs en chimie numrique: Hydrologie - combustion - atmosphre", INRIA, 16 décembre.

35. Vervisch, L. (2004) Combustion en écoulement turbulent, séminaire invité au Deuxième atelier sur la physique des supernovae thermonucléaires, Chatelallion, 22-26 Novembre.

36. Vervisch, L. (2004) Modélisation de la combustion turbulente, séminaire invité à la journée 'Mécanique des fluides numérique pour les réacteurs', Société Franąise de Génie des Procédés, Groupe de travail Réacteurs, Paris La Défense, 28 Septembre.

37. Vervisch, L. (2004) Simulation de la combustion et des flammes turbulentes, séminaire invité au Sixime Colloque Le CEA et ses partenaires dans le monde du calcul scientifique, Laboratoire de Physique Subatomique et de Cosmologie, UJF Grenoble, 4 Juin.

38. Vervisch, L. (2002) Combustion partiellement prémélangée, $14^{\text{ème}}$ Séminaire de Mécanique des Fluides Numérique, CEA Saclay, 29-31 Janvier.

39. Vervisch, L. (2001) Partially premixed combustion, Ecole de printemps de mécanique des fluides numérique, Aussois, 13-19 Mai.

40. Vervisch, L. (1999) Further discussions on characteristic scales in nonpremixed turbulent combustion, Modeling of Reaction Front I, Lyon, April 19-21.

41. Vervisch, L. (1999) Turbulent non-premixed flames, Applied Math. Dept., Lyon, March 15.

42. Vervisch, L. (1999) Numerical Combustion Modeling, IMF-CNRS, Toulouse, Jan. 14.

43. Vervisch, L. (1999) Scales in non-premixed turbulent combustion, Université de Bordeaux, Applied Math. Dept., Jan. 28.

44. Vervisch, L. (1996) Les besoins expérimentaux du calcul numérique, 5ème Congrès français de vélocimétrie laser, Rouen, Sept.