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Contents

Personal Information

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Research Activities

- Numerical Modelling of turbulent reactive flows

Teaching Activities

- Direct and Large Eddy Simulation - INSA de Rouen (15 h)
- Modélisation de la turbulence - Master EFE, Université de Rouen (10 h)

Background

- 1991: PhD University of Rouen
- 1992: Post-Doc, Stanford Aeronautics and Astronautics department

Reviewing activities

- Combustion and Flame, Journal of Fluid Mechanics, Physics of Fluids, Combustion Theory and Modeling, Flow Turbulence and Combustion,

AIAA Journal , Fuel, Combustion Science and Technology

Publications

https://orcid.org/0000-0001-5658-0604 https://scholar.google.fr/citations?user=uCd9XpkAAAAJ&hl=fr

1. H. Olguin, P. Domingo, L. Vervisch, C. Hasse, A. Scholtissek (in press) On the closure of curvature in 2D flamelet theory, Combust. Flame.
2. N. Jaouen, H.-T. Nguyen, P. Domingo, L. Vervisch (2024) ORCh: A package to reduce and optimize chemical kinetics. Application to tetrafluoromethane oxidation, SoftwareX: 27, 101819.
3. Z. Nikolaou, P. Domingo, L. Vervisch (2024) Revisiting the modelling framework for the unresolved scalar variance, J. Fluid Mech. 983: A47.
4. H. Olguin, P. Domingo, L. Vervisch, C. Hasse, A. Scholtissek (2023) A self-consistent extension of flamelet theory for partially premixed combustion, Combust. Flame. 255: 112911.
5. Z. Nikolaou, L. Vervisch, P. Domingo (2023) An optimisation framework for the development of explicit discrete forward and inverse filters, Comput. Fluids. 255: 105840.
6. H.-T. Nguyen, C. Barnaud, P. Domingo, P.-D. Nguyen, L. Vervisch (2023) Large-Eddy Simulation of flameless combustion with neural-network driven chemistry, Application Energy Combust. Sci. 14:100126.
7. P. Domingo, L. Vervisch (2023) Recent developments in DNS of Turbulent Combustion, Proc. Combust. Inst. (39,4): 2055?2076.
8. B. Franzelli, L. Tardelli, M. Stöhr, K.P. Geigle, P Domingo (2023) Assessment of LES of intermittent soot production in an aero-engine model combustor using high-speed measurements, Proc. Combust. Ins.(39,4): 4821-4829.
9. E. Yhuel, G. Ribert, P. Domingo (2023) Numerical simulation of laminar premixed hydrogen-air flame/shock interaction in semi-closed channel, Proc. Combust. Inst. (39,3): 3021 - 3029.
10. L. Vervisch, G. Lodato, P. Domingo (2023) High-order polynomial approximations for solving non-inertial particle size density in flames, Proc. Combust. Inst. 39: 5385?5393.
11. Z. Nikolaou, L. Vervisch, P. Domingo (2022) Criteria to switch from tabulation to neural networks in computational combustion, Combust. Flame 246: 112425.
12. Y. Huang, C. Jiang, K. Wan, Z. Gao, L. Vervisch, P. Domingo, Y. He, Z. Wang, C. Lee (2022) Prediction of ignition delay times of jet A-1/hydrogen fuel mixture using machine learning, Aerospace Science and Technology. 127: 107675.
13. M. Leer, M. W. A. Pettit, J. T. Lipkowicz, P. Domingo, L. Vervisch, A. M. Kempf (2022) A conservative Euler-Lagrange decomposition principle for the solution of multi-scale flow problems at high Schmidt or Prandtl numbers, J. Comput. Phys. 464: 111216.
14. P.-D. Nguyen, H.-T. Nguyen, P. Domingo, L. Vervisch, G. Mosca, M. Gazdallah, P. Lybaert V. Feldheim (2022) Flameless combustion of low calorific value gases, experiments and simulations with advanced radiative heat transfer modeling, Phys. Fluids. 34:045123.
15. P. Domingo, L. Vervisch (2022) Revisiting the relation between premixed flame brush thickness and turbulent burning velocities from Ken Bray's notes, Combust. Flame. 239: 111706.
16. H.-T. Nguyen, P. Domingo, L. Vervisch, P.-D. Nguyen (2021) Machine learning for integrating combustion chemistry in numerical simulations, Energy & AI 5:100082.
17. K. Wan, C. Barnaud, L. Vervisch, P. Domingo (2021) Machine learning for detailed chemistry reduction in DNS of a syngas turbulent oxy-flame with side- wall effects, Proc. Combust. Inst, 38(2): 2825?2833.
18. A. Seltz, P. Domingo, L. Vervisch (2021) Solving the population balance equation for non-inertial particles dynamics using PDF and neural networks: Application to a sooting flame, Phys. Fluids. 33, 013311.
19. J. Ruan, G. Ribert, P. Domingo (2021) Stabilization and extinction mechanisms of flames in cavity flameholder scramjets *Combust. Theory Model.* (25,2): 193 - 207. DOI: 10.1080/13647830.2020.1845806 link.
20. J. Ruan, L. Bouheraoua, P. Domingo, G. Ribert (2021) Simulation of a Scramjet Combustor: A Priori Study of Thermochemistry Tabulation Techniques *Flow, Turbulence and Combustion* (106): 1241 - 1276. DOI: 10.1007/s10494-020-00184-4
21. K. Wan, L. Vervisch, Z. Gao, P. Domingo, C. Jiang, Z. Wang, J. Xia, Y. Liu, K. Cen (2020) Reduced chemical reaction mechanisms for simulating sodium emissions by solid-fuel combustion, Applications in Energy and Combustion Science.1-4: 100009.
22. K. Wan, L. Vervisch, C. Jianga, P. Domingo, Z. Gao, J. Xia, Z. Wang (2020) Development of reduced and optimized reaction mechanism for potassium emissions during biomass combustion based on genetic algorithms, Energy 211: 118565.
23. K. Wan, C. Barnaud, L. Vervisch, P. Domingo (2020) Chemistry reduction using machine learning trained from non-premixed micro-mixing modeling: Application to DNS of a syngas turbulent oxy-flame with side-wall effects, Combust. Flame 220: 119-129.
24. K. Wan, S. Hartl, L. Vervisch, P. Domingo, R. Barlow, C. Hasse (2020) Combustion regime identification from machine learning trained by Raman/Rayleigh line measurements, Combust. Flame 219: 268-274.
25. A. Scholtissek, S. Popp, S. Hartl, H. Olguin, P. Domingo, L. Vervisch, C. Hasse (2020) Derivation and analysis of two-dimensional composition space equations for multi-regime combustion using orthogonal coordinates, Combust. Flame 218: 205-217.
26. A. Bouaniche, J. Yon, P. Domingo and L. Vervisch (2020) Analysis of the soot particle size distribution in a laminar premixed flame: A hybrid stochastic/fixed-sectional approach, Flow Turbulence and Combust. 104:753-775.
27. L. J. Ruan, P. Domingo, G. Ribert (2020) Analysis of combustion modes in a cavity based scramjet. Combust. Flame.215: 228-251. link
28. A. Bouaniche, L. Vervisch, P. Domingo (2019) A hybrid stochastic/fixed-sectional method for solving the population balance equation, Chem. Eng. Sci. 209: 115198.
29. A. Seltz, P. Domingo, L. Vervisch, Z. M. Nikolaou (2019) Direct mapping from LES resolved scales to filtered-flame generated manifolds using convolutional neural networks, Combust. Flame. 210: 71-82. https://www.sciencedirect.com/science/article/pii/S0010218019303773?via%3Dihub
30. A. Scholtissek, P. Domingo, L. Vervisch, C. Hasse (2019) A self-contained composition space solution method for strained and curved premixed flamelets. Combust. Flame. 207: 342-355.
31. K. Wan, Z. Wang, J. Xia, L. Vervisch, P. Domingo, Y. Lv, Y. Liu, Y. He, K. Cen (2019) Numerical study of HCl and SO2 impact on potassium emissions in pulverized-biomass combustion, Fuel Processing Technology. 193:19-30.
32. A. Bouaniche, N. Jaouen, P. Domingo, L. Vervisch (2019) Vitiated high Karlovitz n-decane/air turbulent flames: Scaling laws and micro-mixing modeling analysis, Flow Turbulence and Combust., [1]
33. K. Wan, Z. Wang, J. Xia, L. Vervisch, P. Domingo, Y. Lv, Y. Liu, Y. He, K. Cen (2019) Numerical study of HCl and SO2 impact on sodium emissions in pulverized- coal flames, Fuel. 250: 315-326.
34. B. Duboc, G. Ribert, P. Domingo (2019) Hybrid transported-tabulated chemistry for partially premixed combustion, Computers Fluids (179): 206 - 227. DOI: 10.1016/j.compfluid.2018.10.019 link
35. A. Scholtissek, P. Domingo, L. Vervisch, C. Hasse (2019) A self-contained progress variable space solution method for thermochemical variables and flame speed in freely-propagating premixed flamelets, Proc. Combust. Inst. DOI: 10.1016/j.proci.2018.06.168
36. K. Wan, L. Vervisch, J. Xia, P. Domingo, Z. Wang, Y. Liu, K. Cen (2019) Alkali metal emissions in early stage of a pulverized-coal flame: DNS analysis of reacting layers and chemistry tabulation, Proc. Combust. Inst. DOI: 10.1016/j.proci.2018.06.119.
37. G. Ribert, P. Domingo, L. Vervisch (2019) Analysis of sub-grid scale modeling of the ideal-gas equation of state in hydrogen-oxygen premixed flames, *Proc. Combust. Inst. (37,2)*: 2345 - 2351. DOI: 10.1016/j.proci.2018.07.054 link.
38. B. Duboc, G. Ribert, P. Domingo (2019) Evaluation of chemistry models on methane/air edge flame simulation, *Proc. Combust. Inst.* **(37,2)**: 1691 - 1698. DOI: 10.1016/j.proci.2018.05.053 link.
39. C. Locci, L. Vervisch, B. Farcy, P. Domingo, N. Perret (2018) Selective Non-Catalytic Reduction (SNCR) of nitrogen oxide emissions: A perspective from numerical modeling, Flow Turbulence and Combust., 100(2): 301-340.
40. B. Duboc, G. Ribert, P. Domingo (2018) Description of kerosene / air combustion with hybrid transported-tabulated chemistry, *Fuel* **(233)**: 146 - 158. DOI: 10.1016/j.fuel.2018.06.014 link
41. F. Proch, P. Domingo, L. Vervisch, A. Kempf (2017) Flame resolved simulation of a turbulent premixed bluff-body burner experiment. Part I: Analysis of the reaction zone dynamics with tabulated chemistry, Combust. Flame, 180:321-339.

42. F. Proch, P. Domingo, L. Vervisch, A. Kempf (2017) Flame resolved simulation of a turbulent premixed bluff-body burner experiment. Part II: A-priori and a-posteriori investigation of sub-grid scale wrinkling closures in the context of artificially thickened flame modeling, Combust. Flame, 180:340-350.
43. N. Jaouen, L. Vervisch, P. Domingo (2017) Auto-thermal reforming (ATR) of natural gas: An automated derivation of optimised reduced chemical schemes, Proc. Combust. Inst., 36(3): 3321-3330.
44. P. Domingo, L. Vervisch (2017) DNS and approximate deconvolution as a tool to analyse one-dimensional filtered flame sub-grid scale modeling, Combust. Flame, 177: 109-122.
45. L. Bouheraoua, P. Domingo, G. Ribert (2017) Large Eddy Simulation of a supersonic lifted jet flame: Analysis of the turbulent flame base, Combust. Flame, (179): 199 - 218. link
46. G. Ribert, X. Petit, P. Domingo (2017) High-pressure methane-oxygen flames. Analysis of sub-grid scale contributions in filtered equations of state, J. Supercritical Fluids, (121): 78 - 88. link
47. N. Jaouen, L. Vervisch, P. Domingo, G. Ribert (2017) Automatic reduction and optimisation of chemistry for turbulent combustion modeling: Impact of the canonical problem, Combust. Flame, (175): 60 - 79. link
48. B. Farcy, L. Vervisch, P. Domingo, N. Perret (2016) Reduced-order modeling for the control of selective non-catalytic reduction (SNCR) of nitrogen monoxide, AIChE Journal, 62(3): 928-938..
49. L. Cifuentes, C. Dopazo, J. Martin, C. Jimenez, P. Domingo, L. Vervisch (2016) Effects of the local flow topologies upon the structure of a premixed methane-air turbulent jet flame, Flow Turbulence and Combust., 96(2): 535-546.
50. B. Farcy, L. Vervisch, P. Domingo (2016) Large Eddy Simulation of selective non-catalytic reduction (SNCR): A downsizing procedure for simulating nitric-oxide reduction units, Chemical Engineering Science, 139:285-303.
51. A. Abou-Taouk, B. Farcy, P. Domingo, L. Vervisch, S. Sadasivuni, L.-E. Eriksson (2016) Optimized reduced chemistry and molecular transport for Large Eddy Simulation of partially premixed combustion in a gas turbine, Combust. Sci. Tech. 188(1): 21-39.
52. G. Lodier, P. Domingo, L. Vervisch (2015) Quantification of the pre-ignition front propagation in DNS of rapidly compressed mixture, Flow. Turbulence and Combustion, 94(1): 219-235.
53. L. Cifuentes, C. Dopazo, J. Martin, P. Domingo, L. Vervisch (2015) Local volumetric dilatation rate and scalar geometries in a premixed methane-air turbulent jet flame, Proc. Combust. Inst., 35(2): 1295-1303.
54. P. Domingo, L. Vervisch (2015) Large Eddy Simulation of premixed turbulent combustion using approximate deconvolution and explicit flame filtering, Proc. Combust. Inst., 35(2): 1349-1357.
55. X. Petit, G. Ribert, P. Domingo (2015) Framework for real-gas compressible reacting flows with tabulated thermochemistry, J. Supercritical Fluids (101).
56. 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: 291-299,
57. S. Nambully, P. Domingo, V. Moureau, L. Vervisch 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, 161(7): 1756-1774.
58. S. Nambully, P. Domingo, V. Moureau, L. Vervisch 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, 161(7): 1775-1791.
59. 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): 175-200. DOI 10.1007/s10494-013-9520-6.
60. M. Belhi, P. Domingo, P. Vervisch (2013) Modeling of the Effect of DC and AC Electric Fields on the Stability of a Lifted Diffusion Methane/Air Flame, Combustion Theory and Modelling, 17(4), pp. 749-787(39)http://dx.doi.org/10.1080/13647830.2013.802415
61. X. Petit, G. Ribert, P. Domingo, G. Lartigue (2013) Large-eddy simulation of supercritical fluid injection, *J. Supercritical Fluids* **(84)**: 61 - 73. doi:10.1016/j.supflu.2013.09.011 link.
62. C. Merlin, P. Domingo, L. Vervisch (2013) Immersed boundaries in Large Eddy Simulation of compressible flows, FLow Turbulence and Combustion, 90(1): 29-68 [2]
63. 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): 917-932. [3]
64. 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. [4]
65. 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. 336-352.2012 [5]
66. 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. [6]
67. 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 [7]
68. V. Moureau, P. Domingo, L. Vervisch (2011) Design of a massively parallel CFD code for complex geometries C.R. Mecanique 339(2/3): 141-148.
69. 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.
70. M. Belhi, P. Domingo, P. Vervisch (2010) Direct numerical simulation of the effect of an electric field on flame stability , Combustion and Flame, 157(12): 2286-2297
71. 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.
72. 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): 778-789.
73. V. Subramanian, P. Domingo, L. Vervisch (2010) Large-Eddy Simulation of forced ignition of an annular bluff-body burner Combust. Flame 157(3): 579-601.
74. P.-D. Nguyen, L. Vervisch, V. Subramanian, P. Domingo (2010) Multi-dimensional flamelet-generated manifolds for partially premixed combustion Combust. Flame 157(1): 43-61.
75. 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 21:035102.
76. G. Godel, P. Domingo, L. Vervisch (2009) Tabulation of NOx chemistry for Large-Eddy Simulation of non-premixed turbulent flames Proc. Combust. Inst. 32: 1555-1551.
77. 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): 1055-1088.
78. 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): 247 266.
79. 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): 5105-5143.
80. P. Domingo, L. Vervisch, D. Veynante (2008) Large-Eddy Simulation of a lifted methane jet flame in a vitiated coflow Combust. Flame 152(3): 415-432.
81. P. Domingo, L. Vervisch (2007) DNS of partially premixed flame propagating in a turbulent rotating flow, Proceedings of the Combustion Institute, Vol. 31, pp 1657-1664.
82. L. Vervisch, P. Domingo (2006) Two recent developments in numerical simulation of premixed and partially premixed turbulent flame, C. R. Mecanique, 334 (8/9), pp. 523-530.
83. C. Péra, J. Réveillon, L. Vervisch, P. Domingo (2006) Modeling subgrid scale mixture fraction variance in LES of evaporating spray, Combustion and Flame, Vol.146(4).
84. 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, Combustion and Flame}, 143(4), pp. 566-586.
85. K.N.C. Bray, P. Domingo, L. Vervisch, (2005) The role of progress variable in models for partially premixed turbulent combustion, Combustion and Flame, 141(4), pp. 431-437.
86. P. Domingo, L. Vervisch, J. Réveillon, (2005) DNS analysis of partially premixed combustion in spray and gaseous turbulent-flame bases stabilized in hot air, Combustion and Flame, 140(3), pp. 172-195.

87. R. Hauguel, L. Vervisch, P. Domingo (2005) DNS of premixed turbulent V-Flame: coupling spectral and finite difference methods, C. R. Mecanique , 333 (1), pp.~95-102.
88. L. Vervisch, R. Hauguel, P. Domingo, M. Rullaud (2004) Three facets of turbulent combustion modeling: DNS of premixed V-flame, LES of lifted nonpremixed flames and RANS of jet-flame, Journal of turbulence, 5(4), pp. 1-36.
89. P. Domingo, L. Vervisch, K. N. C. Bray (2002) Partially premixed flamelets in LES of nonpremixed turbulent combustion, Combustion Theory and Modelling, 6(4), pp. 529-551.
90. P. Domingo, K. N. C. Bray (2000) Laminar Flamelet expressions for pressure fluctuation terms in second moment models of premixed turbulent combustion, Combustion and Flame, Vol 121, pp 555-74.
91. P. Domingo, T. Benazzouz (2000) Direct numerical simulation and modeling of a nonequilibrium turbulent plasma, AIAA Journal, Vol. 38, No. 1, pp. 73-78.
92. A. Bourdon, A. Leroux, P. Domingo, P. Vervisch (1999) Experiment-modeling comparison in a nonequilibrium supersonic air nozzle flow, Journal of Thermophysics and Heat Tranfer, Vol. 13, No. 1, pp. 68-75.
93. P. Domingo, L. Vervisch (1996) Triple flames and partially premixed combustion in autoignition of nonpremixed turbulent mixtures, Proceedings of the Combustion Institute}, pp. 223-240.
94. L. Guichard, L. Vervisch, P. Domingo (1995) Two-dimensional weak-shock vortex interaction in a mixing zone, AIAA Journal, Vol 33, No 10, pp. 1797-802.
95. P. Domingo, A. Bourdon, P. Vervisch (1995) Study of a low pressure nitrogen plasma jet", Physics of Plasmas, Vol. 2, no 7, pp. 2853-62.
96. P. Domingo, D. Vandromme, P. Vervisch (1992) Modeling of an argon plasma in a boundary layer flow, Journal of thermophysics and heat transfer, Vol 6, No 2, pp. 217-23.

Invited talks

1. P. Domingo, G. Ribert, E. Yhuel, N. Chaumeix, A. Roque-Ccaya (2023) "Laminar premixed hydrogen-air flames in interaction with a shock in a semi-closed channel", Thematic workshop Recent advances in flame acceleration, detonation onset and detonation propagation, European Combustion Meeting, Rouen, France.
2. P. Domingo, L. Vervisch (2022) "Recent development in DNS of turbulent combustion", Topical review, International Symposium on Combustion, Vancouver, Canada.
3. P. Domingo, G. Ribert, L. Vervisch (2022) "Impact of wall thermal condition in combustion high fidelity si- mulations : from narrow channels to industrial furnaces", 3rd International Workshop on Near-Wall Reactive Flows, Darmstadt, Allemagne.
4. P. Domingo (2022) "Combustion in supersonics flows", UK Consortium on turbulent reactive flows, New- castle, England.
5. . L. Vervisch, P. Domingo, G. Lodato (2022) "Novel findings in turbulent flame brush thickness dynamics and in the application of machine learning to solve for soot," UK Consortium on turbulent reactive flows, Newcastle, England.
6. P. Domingo, G. Ribert, J. L. Ruan (2019) "High Fidelity Simulations of Supersonic Combustion". Sixteenth International Conference on Flow Dynamics, Sendai, Japon.
7. P. Domingo (2017) "Introduction of detailed chemistry in LES. Validation process based on experimental results". Gordon Conference, Laser diagnostics in combustion. Mount Snow, USA. 6-11 aout, 2017.
8. L. Vervisch, P. Domingo (2012) "Filtering and SGS modeling : Some unanswered questions" Eleventh In- ternational Workshop on Measurement and Computation of Turbulent Non-Premixed Flames, Darmstadt, Germany, 26-28 July 2012
9. L. Vervisch, P. Domingo (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, Marseille, France, June 13-15, 2012
10. L. Vervisch, V. Moureau, P. Domingo (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.
11. L. Vervisch, P. Domingo, V. Subramanian, G. Bonomeau, (2008), "Chemistry in Large-Eddy Simulation of turbulent flame", Invited keynote lecture at The Combustion Institute, 20th Journées d?Etudes of the Belgian Section, May 6-8, Gent, Belgium.
12. L. Vervisch and P. Domingo, (2008) "Large-Eddy Simulation of Turbulent Reacting Flows", DNS and LES of Reacting Flows, October 22-24, Technische Universiteit, Eindhoven, The Netherlands.
13. L. Vervisch, P. Domingo, (2008), "Large-Eddy Simulation of turbulent flames", Invited keynote lecture at LES in Science and Technology, COST P20 Conference, 21-22 April, Poznan, Poland
14. V. Subramanian, P. Domingo, L. Vervisch, (2008), "Large-Eddy Simulation of turbulent flames", Invited keynote lecture at LES and DNS of ignition process and complex structure flames with local extinction Czéstochowa, Nov. 20-21, 2008
15. L. Vervisch, P. Domingo, (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.
16. L. Vervisch, P. Domingo, (2005) "DNS and LES of Turbulent Combustion", Invited plenary at Computa- tional Fluid Dynamics in Chemical Reaction Engineering IV, Barga, June 19-24, Italy.
17. L. Vervisch, P. Domingo, R. Hauguel (2003) "Turbulent Combustion in the light of Direct and Large Eddy Simulation", Invited pleanary at the TSFP3 meeting, Sendai, Japon, 15-20 june
18. L. Vervisch, R. Hauguel, P. Domingo, (2003), "Direct Numerical Simulation (DNS) of a premixed turbulent V-Flame", 39th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Invited paper at the "Future of Combustion Simulation Panel Session", Huntsville, USA, 20-23 July.
19. L. Vervisch, P. Domingo (2002) "Large Eddy Simulation of partially premixed turbulent combustion", GAMM conference in Augsburg, Germany, 25-28 March.
20. L. Vervisch, P. Domingo (2001) "Large Eddy Simulation of partially premixed turbulent combustion", Sym- posium on turbulent mixing and combustion, IUTAM, Kingston, Canada, June 3-6.
21. L. Vervisch, P. Domingo (1997) "Dynamics of edge-flames in non-premixed turbulent combustion", 4th French-Russian-Italian-Uzbeck Workshop on experimentation, numerical methods and modeling, Marseille, France, June 30-July 4.

Chapter of Book (peer-reviewed)

1. L. Vervisch, P. Domingo, J. Bell., Numerical treatment of turbulent reacting flows (pp: 501-539), Numerical Methods in Turbulence Simulation, R. Moser (Ed), Elsevier, ISBN 978-03-239-1144-3, (2022).
2. Domingo, P., Nikolaou Z., Seltz, A., Vervisch, L., From discrete and iterative deconvolution operators to machine learning for premixed turbulent combustion modeling (pp: 215-232), Data analysis for direct numerical simulation of turbulent combustion, H. Pitsch, A. Attili (Eds), 292 pages, Springer, ISBN 978-3-030-44718-2, (2020).
3. G. Ribert, P. Domingo, X. Petit, N. Vallée, J.-B. Blaisot, Modelling and simulations of high-pressure practical flows (pp: 629-676), *AIAA Book Series*: High-Pressure Flows for Propulsion Applications (J. Bellan), Print ISBN 978-1-62410-580-7, (2020).
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Ph.D. Graduates

- (*) indicates Ph.D. with co-advisor

- Huu-Tri Nguyen*, ?Numerical modeling and simulation of steel gases under flameless combustion", 2022.
- Camille Barnaud*, ?Méthode avancée de prototypage virtuel pour le dimensionnement d?un ensemble lance-tuyère avec prise en compte des transferts thermiques", 2022.
- Andréa Seltz*, ?Application of deep learning to turbulent combustion modeling of real jet fuel for the numerical prediction of particulate emissions", 2020.
- Loïc Ruan*, ?Simulation aux grandes échelles de la combustion dans les scramjets?, 2019.
- Alexandre Bouaniche*,"A hybrid stochastic-sectional method for the simulation of soot particle size distributions", 2019.

- Bastien Duboc*, «Modélisation hybride de la chimie pour la simulation numérique de la combustion», 2017.
- Nicolas Jaouen*, «An automated approach to derive and optimise reduced chemical mechanisms for turbulent combustion», 2017.
- Dorian Midou*, «Optimisation d'une lance de charbon pulvérisé», 2017.
- Benjamin Farcy* «Analyse des mécanismes de destruction non catalytique des oxydes d'azote (DENOX) et application aux incinérateurs », 2015.
- Lisa Bouhearouha* «Simulation aux grandes échelles de la combustion supersonique », 2014.
- Xavier Petit* «Analyse de l?interaction cinétique chimique/turbulence dans une flamme cryotechnique LOX/CH4 », 2014.
- Guillaume Lodier*, « Analyse de l'initiation et du développement de l'auto-inflammation après compression rapide d'un mélange turbulent réactif - Application au contexte CAI/HCCI », 2013.
- Suresh Kumar Nambully*, "Accounting for differential diffusion effects in LES of turbulent combustion using a filtered laminar flame PDF approach. Application to stratified burners", 2013.
- Memdouh Belhi « Simulation Numérique de l?Effet de Champ Electrique sur la Stabilité des Flammes de Diffusion », 2012.
- Cindy Merlin*, « Simulation numérique de la combustion turbulente : Méthode de frontières immergées pour les écoulements compressibles, application à la combustion en aval d?une cavité », 2011.
- Nicolas Enjalbert*, « Modélisation avancée de la combustion turbulente diphasique en régime de forte dilution par les gaz brûlés », 2011.
- Guillaume Godel*, « Modélisation de sous-maille de la combustion turbulente Développement d?outils pour la prédiction de la pollution dans une chambre aéronautique », 2010.
- Vallinayagam Pillai Subramanian*, « Numerical simulation of forced ignition using LES coupled with a tabulated detailed chemistry approach », 2010.
- Guido Lodato*, « Conditions aux limites tridimensionnelles pour la simulation directe et aux grandes échelles des écoulements turbulents. Modélisation de sous-maille pour la turbulence en région de proche paroi », 2008.
- Alexandre Naudin*, « Simulation des grandes échelles de la combustion turbulente avec chimie détaillée tabulée », 2008.
- Sandra Payet* « Analyse de l?oxy-combustion en régime dilué par simulation des grandes échelles », 2007.
- Raphaël Hauguel* « Flamme en V turbulente, Simulation numérique directe et modélisation de la combustion turbulente prémélangée », 2003.
- Tewfik Benazzouz «Modélisation numérique de plasmas en écoulement turbulent, application au cas de l'argon » 1999.
- Alain Leroux « Modélisation d'écoulements supersoniques hors-équilibre chimique et thermique », 1997.
- Anne Bourdon* « Les modélisations physiques d'un écoulement supersonique de plasma d'azote basse pression », 1995.