List of Publications, International Conferences and Seminars

International journals

[1] B. Fiorina, D. Veynante and S. Candel. Modeling Combustion Chemistry in Large Eddy Simulation of Turbulent Flames. Flow Turb. and Combustion. Vol 94, Issue 1, pp3-42 (2015).

[2] J. Caudal, B. Fiorina, B. Labegorre and O. Gicquel. Modeling interactions between chemistry and turbulence for simulations of partial oxidation processes. Fuel Proc. Technology. Vol 134, pp 213-242 (2015).

[3] R. Mercier, V. Moureau, D. Veynante and B. Fiorina. LES of turbulent combustion: on the consistency between flame and flow filter scales. Proc. Combust. Inst. Vol 35. Issue 2. pp 1359-1366. (2015).

[4] R. Mercier, T. Schmitt, D. Veynante and B. Fiorina. The influence of combustion SGS sub-models on the resolved flame propagation. Application to the LES of the Cambridge stratified flames. Proc. Combust. Inst. Vol 35. Issue 2. pp 1259-1267. (2015).

[5] A. Coussement, T. Schmitt and B. Fiorina. Filtered Tabulated Chemistry for non-premixed flames. Proc. Combust. Inst. Vol 35. Issue 2. pp1183-1190. (2015).

[6] J. Lamouroux, M. Ihme, B. Fiorina, O. Gicquel. Tabulated chemistry approach for diluted combustion regimes with internal recirculation and heat losses. Combustion and flame. Vol. 161 (8) pp 2120-2136 (2014).

[7] R. Mercier, P. Auzillon, N. Darabiha, O. Gicquel, D. Veynante, B. Fiorina, V. Moureau. LES modeling of the impact of heat losses and differential diffusion on turbulent stratified flame propagation: application to the TU Darmstadt stratified flame. Flow Turbulence and Combustion. Vol 93 (2) pp 349-381 (2014)

[8] Coussement, O. Gicquel, B. Fiorina, G. Degrez and N. Darabiha. Multicomponent real gas 3-D-NSCBC for direct numerical simulation of reactive compressible viscous flows. Journal of Computational Physics, Vol 245, pp 259-280 (2013)

[9] P Auzillon, E Riber, L.Y.M. Gicquel, O. Gicquel, N. Darabiha, D. Veynante, B. Fiorina. Numerical investigation of a helicopter combustion chamber using LES and tabulated chemistry. Comptes Rendus de Mécanique. Vol 341. 1-2. pp 257-265 (2013)

[10] T. Schmitt, A. Sadiki, B. Fiorina, D. Veynante. Impact of dynamic wrinkling model on the prediction accuracy using the F-TACLES combustion model in swirling premixed turbulent flames. Proc. Combust. Inst. Vol 34. Issue 1. pp 1261-1268 (2013).

[11] J. Caudal, B. Fiorina, M. Massot, B. Labégorre, N. Darabiha, O. Gicquel. Characteristic chemical time scales identification in reactive flows. Proc. Combust. Inst. Vol 34. Issue 1. pp 1357-1364 (2013).

[12] B. Franzelli, B. Fiorina, N. Darabiha. A tabulated chemistry method for spray combustion. Proc. Combust. Inst. Vol 34. Issue 1. pp 1659-1666 (2013).

[13] P. Auzillon, O. Gicquel, N. Darabiha, D. Veynante, B. Fiorina. A filtered tabulated chemistry model for LES of stratified flames. Combustion and flame. 159 pp 2704-2717 (2012).

[14] A. Coussement, O. Gicquel, J. Caudal, B. Fiorina, G. Degrez. Three-dimensional boundary conditions for numerical simulations of reactive compressible flows with complex thermochemistry. Journal of Computational Physics. Vol. 231 (17) pp 5571-5611 (2012).

[15] A. Mazas, B. Fiorina, D. Lacoste, T. Schuller. *Effects of water vapor addition on the laminar burning velocity of oxygen-enriched methane flames,* Combustion and Flame, Vol. 158(2) (2011) 2428-2440

[16] P. Auzillon, B. Fiorina, R. Vicquelin, N. Darabiha, O. Gicquel, D. Veynante. *Modeling chemical flame structure and combustion dynamics in LES*. Proc. Combust. Inst. Vol 33(1) (2011) 1331-1338

[17] R. Vicquelin, B. Fiorina, S. Payet, N. Darabiha, O. Gicquel. *Coupling tabulated chemistry with compressible CFD solvers*. Proc. Combust. Inst. Vol 33(1) (2011) 1481-1488

[18] B. Fiorina, R. Vicquelin, P. Auzillon, N. Darabiha, O. Gicquel, D.Veynante. *A Filtered tabulated chemistry model for LES of premixed combustion*. Comb And Flame. Vol 157, Issue 3, pp 465-475 (2010)

[19] R. Vicquelin, B. Fiorina, N. Darabiha, O. Gicquel and D. Veynante. *Coupling tabulated chemistry with large eddy simulation of turbulent reactive flows*. Comptes Rendus de Mécanique. 2nd INCA Workshop, OCT 23-24, Vol 337, Issue 6-7, pp 329-339 (2009)

[20] V. Moureau, B. Fiorina, H. Pitsch. *A level set formulation for premixed combustion LES considering the turbulent flame structure*. Combustion and Flame, Volume 156(4), pp 801-812 (2009)

[21] B. Fiorina, O. Gicquel and D. Veynante. *Turbulent flame simulation taking advantage of tabulated chemistry self-similar properties*. Proc. Combust. Inst. Vol 32(2) pp 1687-1694 (2009)

[22] D. Veynante, B. Fiorina, P. Domingo and L. Vervisch. *Using self-similar properties of turbulent premixed flames to downsize chemical tables in high-performance numerical simulations*. Combust. Theory and Modeling. Vol 12 (6), pp1055-1088, (2008)

[23] B. Fiorina, S. K. Lele. *An artificial nonlinear diffusivity method for supersonic reacting flows with shocks*. Vol 222, Issue 1, March 2007, Journal of Computational Physics, (2007)

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

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

[26] B. Fiorina, O. Gicquel, S. Carpentier, N. Darabiha. *Validation of the FPI chemistry reduction method for diluted non-adiabatic premixed flames. Combustion Science and Technology*. Vol 176 (5-6) pp 785-797 (2004)

[27] B. Fiorina, R. Baron, O. Gicquel, D. Thévenin, S. Carpentier, N. Darabiha. *Modeling non-adiabatic partially-premixed flames using Flame Prolongation of ILDM*. Combust. Theory Modelling Vol. 7 pp 449-470 (2003)

International Conferences with publications

M. Castela, B. Fiorina, A. Coussement, O. Gicquel, N. Darabiha, C.O. Laux. Impact of nanosecond repetitively pulsed electric discharges on the ignition of methane-air mixture. 7st European Combustion Meeting, Budapest, Hongary. (2015)

R. Mercier, T. Guiberti, L. Zimmer, D. Durox, O. Gicquel, N. Darabiha, T. Schuller, B. Fiorina. Experimental and numerical studies of hydrogen enrichment impact on a non-adiabatic confined swirled flame. 7st European Combustion Meeting, Budapest, Hongary. (2015)

N. Darabiha, P. Scouflaire, M. Xia, B. Fiorina. Experimental and numerical studies of pulverized coal combustion in a strained flow configuration. 7st European Combustion Meeting, Budapest, Hongary. (2015)

B. Fiorina, D. Veynante and S. Candel. Keynote paper: modeling combustion chemistry in Large Eddy Simulation of turbulent flames. International Symposium on Turbulence and Shear Flow Phenomena, Poitiers, August (2013).

R. Mercier, B. Fiorina, F. Proch and A. Kempf. Numerical and modeling strategies for the simulation of the Cambridge Stratified Flame Series. International Symposium on Turbulence and Shear Flow Phenomena, Poitiers, August (2013).

R. Mercier, P. Auzillon, N. Darabiha, O. Gicquel, D. Veynante, B. Fiorina, V. Moureau. Modeling flame stabilization by heat losses using Filtered Tabulated Chemistry for LES. International Symposium on Turbulence and Shear Flow Phenomena, Poitiers, August (2013).

B. Franzelli, B. Fiorina, N. Darabiha, "Modeling the chemical structure of spray flames using tabulated chemistry method", ICLASS Conference, Heidelberg (2012).

B. Franzelli, B. Fiorina, N. Darabiha, "A multi-regime flamelet method for premixed and non- premixed combustion in spray flames", ICTAM Conference, Beijing (2012).

R. Vicquelin, O. Gicquel, B. Fiorina. A Turbulent Combustion Model for Jet Flames Issuing in a Vitiated Coflow. 23th ICDERS, Irvine, USA (2011).

P. Auzillon, D. Veynante, O. Gicquel, N. Darabiha, B. Fiorina. A filtered tabulated chemistry model for LES of partially-premixed flames. 23th ICDERS, Irvine, USA (2011).

D. Tudorache, P. Auzillon, O. Gicquel, N. Darabiha, B. Fiorina, L. Thobois, R. Vicquelin, Development of a chemical kinetics tabulation method for the prediction of Diesel engine pollutants. 23th ICDERS, Irvine, USA (2011).

D. Tudorache, P. Auzillon, L. Thobois, N. Darabiha, R. Vicquelin, O. Gicquel, B. Fiorina. *Development of a chemical kinetics tabulation method for the prediction of Diesel engine pollutants* LES4ICE Meeting, IFPEN, Rueil Malmaison, France, 2010

P. Auzillon, N. Darabiha, O. Gicquel, D.Veynante and B. Fiorina. *A filtered tabulated chemistry model for LES : influence of the mesh conditions*. ETMM Meeting, Marseille, 2010

P. Auzillon, N. Darabiha, O. Gicquel, D.Veynante and B. Fiorina. *A Filtered Tabulated Chemistry Model for Large Eddy Simulation of Reactive Flows*. 48th AIAA Aerospace Sciences Meeting Including the New Horizons Forum and Aerospace Exposition, Orlando, Florida, Jan. 4-7, 2010. AIAA paper 205 (2010)

O. Esnault, M. Boileau, R. Vicquelin , B. Fiorina and O. Gicquel.*A Method To Accelerate LES Explicit Solvers Using Local Time-Stepping.* 48th AIAA Aerospace Sciences Meeting Including the New Horizons Forum and Aerospace Exposition, Orlando, Florida, Jan. 4-7, 2010. AIAA paper 2010-123 (2010)

O. Esnault, R. Vicquelin, M. Boileau, B. Fiorina and O. Gicquel. *Optimization of DNS/LES explicit solvers for combustor simulations using local time-stepping.* 4th European Combustion Meeting, Vienna, Austria. (2009)

A. Mazas, D. Lacoste, B. Fiorina and T. Schuller. *Effects of water vapor addition on the laminar burning velocity of methane oxygen-enhanced flames at atmospheric pressure*. 4th European Combustion Meeting, Vienna, Austria. (2009)

E. Betbeder-rey, P.Scouflaire, P. Desgroux, A. El Bakali, G. Vanhove, B. Fiorina, O. Gicquel, G. Moréac and N. Darabiha. *Experimental and Numerical study of the structure of n-decane counterflow diffusion flames: Effect of Carbon Dioxide as an Additive*. 4th European Combustion Meeting, Vienna, Austria. (2009)

D. Veynante, B. Fiorina, P. Domingo and L. Vervisch. Using self-similar properties of turbulent premixed flames to downsize chemical tables in high performance numerical simulations. 21th ICDERS, Poitiers, France (2007).

R. Vicquelin, B. Fiorina, O. Gicquel, G. Lartigue et T. Poinsot. Large Eddy Simulations of Mild Combustion. 21th ICDERS, Poitiers, France (2007).

E. Betbeder-rey, B. Fiorina, O. Gicquel and N. Darabiha. *Chemical effects of diluents on Hydrocarbon emissions in diffusion flames*. 3rd European Combustion Meeting, Chania, Crete, Greece. (2007)

B. Fiorina et S. K. Lele. *Numerical Investigations of Transverse Jet in Supersonic Crossflows using Large Eddy Simulations.* 36th AIAA Fluid Dynamics Conference and Exhibit. AIAA paper. 2006-3712 (2006).

B. Fiorina, O. Gicquel, L. Vervisch, S. Carpentier, N. Darabiha. *Approximating the chemical structure of diffusion and partially-premixed laminar counterflow flames FPI (Flame Prolongation of ILDM).* 19th ICDERS, Hakone, Japan (2003).

B. Fiorina, O. Gicquel, S. Carpentier, N. Darabiha. *Validation of the FPI chemistry reduction method for diluted non-adiabatic premixed flames. 3rd Méditer.* Combust. Sympos., Marrakech, Morocco (2003).

Seminars

B. Fiorina. *A Filtered Tabulated Chemistry Model for LES of premixed and stratified flames.* Seminar Lecture at the Duisburg-Essen University. May 16, (2012*)*

B. Fiorina. *A Filtered Tabulated Chemistry Technique for LES* . Seminar Lecture at the Technical University of Darmstadt. February 7, (2011*)*

B. Fiorina. *Turbulent combustion modeling using a tabulated chemistry method. Invited lecture.* CTR, Stanford University, USA. February 25, (2005*)*

B. Fiorina. *Modeling chemical flame structure with a tabulated chemistry method. Invited lecture. SANDIA National Laboratories, Livermore, USA. (2004).*

Invited conferences

B. Fiorina. Toward plasma-assisted combustion modeling: LES simulations of turbulent flames with detailed chemistry. 5th EUCASS Aerospace Thematic Workshop: Fundamentals of Aerodynamic Flow and Combustion Control by Plasmas. Les Houches, France (2015)

B. Fiorina. LES of turbulent swirled premixed flames submitted to heat losses: sensitivity to the flame speed modeling. 2nd Laminar Burning Velocity Workshop, CORIA Rouen.(2015*)*

B. Fiorina and M. Ihme. Enclosed flames and unsteady combustion. Turbulent (non) premixed flame Workshop. Pleasanton, California, USA, July (2014)

B. Fiorina and A. Kempf. Turbulent stratified flames and model comparisons. Turbulent (non) premixed flame Workshop. Pleasanton, California, USA, July (2014)

B. Fiorina and A. Kempf. Turbulent stratified flames and model comparisons. Turbulent (non) premixed flame Workshop. Darmstadt, Germany, July (2012)

B. Fiorina and N. Darabiha. *Modeling flame propagation in Large Eddy Simulations.* Invited lecture at the First Laminar Burning Velocity Workshop, CORIA Rouen. May 21-22, (2012*)*

B. Fiorina*. A modeling stratedy for LES of stratified flame.* Invited lecture at the Workshop on Stratified combustion, CORIA Rouen. May 27, (2011*)*

Other contributions

R. Vicquelin, B. Fiorina, N. Darabiha, D. Veynante, V. Moureau and L. Vervisch*. Coupling tabulated chemistry with large eddy simulation of turbulent reactive flows. Proceedings of the 2008 Summer Program. Center For Turbulence Research*, Stanford University.

B. Fiorina, S. K. Lele. *An artificial nonlinear diffusivity method for supersonic reacting flows with shocks*. CTR Annual Research Brief*,* pp 57-70 (2006).

A. Naudin, B. Fiorina, X. Paubel, D. Veynante and L. Vervisch*. Self-similar behavior of chemistry tabulation in laminar and turbulent multi-fuel injection combustion systems. Proceedings of the 2006 Summer Program. Center For Turbulence Research*, Stanford University.