**IEA Energy Conservation and Emissions Reduction in Combustion**

**Technology Collaboration Program**

**571 Publications and Presentations**

**Master Summary July 2016**

**Belgium**

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| **Year** | **Task** | **Authors** | **Title** | **Journal or Conference** |
| 2012 | Chemistry | F. Contino, T. Lucchini, G. D'Errico, C. Duynslaegher, V. Dias, H. Jeamart | Simulations of advanced combustion modes using detailed chemistry combined with tabulation and mechanism reduction techniques | SAE International Journal of Engines |
| 2012 | Chemistry | V. Dias, C. Duynslaegher, F. Contino, J. Vandooren, H. Jeanmart | Experimental and modeling study of formaldehyde combustion in flames | Combustion and Flame |
| 2012 | Chemistry | V. Dias, H. Jeanmart | Effect of ethanol addition on a rich premixed benzene flame | Thirtieth-fourth International Symposium on Combustion |
| 2012 | Chemistry | D. Lupant, P.Lybaert | Validation of combustion models on a laboratory scale furnace operating in diluted combustion regime | 17th Member conference of the International Flame Research Foundation |
| 2012 | Chemistry | A. Gambale, D. Lupant, P. Lybaert | Application of chemiluminescence imaging of OH-radical to flameless combustion of hydrogen containing, low-calorific gases" | 7th International Symposium on Turbulence, Heat and Mass Transfer |
| 2012 | Chemistry | A. Gambale, D. Lupant, P. Lybaert | Experimental investigation on flameless combustion of Coke Oven Gas | 11th International Conference on Combustion and Energy Utilization |
| 2012 | Chemistry | L. Arias, S.Torres, D. Sbarbaro and Ph. Ngendakumana | On the spectral bands measurements for combustion monitoring | Combustion and Flame |
| 2012 | Chemistry | D. Makaire, J.-M. Fontaine, K. Sartor and Ph. Ngendakumana | Study of the feasibility of burning neat jatropha oil into a vaporizing burner for household applications | Submitted to Biomass and Bioenergy Journal |
| 2013 | Chemistry | K. Sartor, Y. Restivo, Ph. Ngendakumana and P. Dewallef | Optimization of the operating conditions of an existing biomass CHP plant with respect to pollutants levels | Twenty first Biomass Conference and Exhibition |
| 2013 | Chemistry | V. Dias, H. Mbuyi Katshiatshia, H. Jeanmart | Experimental and modeling studies of rich benzene/O2/Ar and benzene/ethanol/O2/argon flames at low pressure | Sixth European Combustion Symposium |
| 2013 | Chemistry | H. Jeanmart, M. Duponcheel, L. Bricteux, T. Duquesne, F. Contino, V. Dias | Simulation of wood logs combustion in a stove at peak pyrolysis conditions | Sixth European Combustion Symposium |
| 2013 | Chemistry | G. Mosca, D. Lupant, A. Gambale, P. Lybaert | Effect of the Air Preheating Temperature on Flameless Combustion of Low Calorific, Alternative Fuels | Sixth European Combustion Symposium |
| 2013 | Chemistry | S. Riahi, D.J.E.M. Roekaerts, D. Lupant | Numerical Comparative Study of Heat Transfer in Flameless and Conventional Combustion in a 30 kW Furnace | Sixth European Combustion Symposium |
| 2014 | Combustion Chemistry | V. Dias, H. Mbuyi Katshiatshia, H. Jeanmart | The influence of ethanol addition on a rich premixed flame at low pressure | Combustion and Flame |
| 2014 | Combustion Chemistry | H. Mbuyi Katshiatshia, V. Dias, H. Jeanmart | Experimental study of rich ethyl valerate flame at low pressure | Sixth International Seminar on Flame Structure |
| 2014 | Combustion Chemistry | H. Mbuyi Katshiatshia, V. Dias, H. Jeanmart | Experimental and modeling studies of ethyl valerate flames at low pressure | 35th International Symposium on Combustion |
| 2014 | Combustion Chemistry | V. Dias, J. Vandooren, H. Jeanmart | An experimental and modeling study of the addition of acetone to H2/O2/Ar flames at low pressure | Proceedings of the Combustion Institute |
| 2014 | Combustion Chemistry | A. Seydi, V. Dias, H. Jeanmart, J. Biet, J.L Delfau, C. Vovelle | Carbonyl compounds in lean premixed ethylene/O2/N2 flames at atmospheric pressure | Submitted to Combustion Science and Technology |

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| 2014 | Combustion Chemistry | V. Dias, J. Vandooren, H. Jeanmart | Flame structure studies of acetone | 23rd Journées d’Etude of the Belgian Section oft he Combustion Institute |
| 2014 | Combustion Chemistry | H. Mbuyi Katshiatshia, V. Dias, H. Jeanmart | Experimental characterization of ethyl pentanoate combustion in laminar premixed flames | 23rd Journées d’Etude of the Belgian Section oft he Combustion Institute |
| 2014 | Combustion Chemistry | S. Van Damme, H. Mbuyi Katshiatshia, V. Dias, H. Jeanmart, F. Contino | Kinetic modeling of ethyl pentanoate combustion in laminar premixed flames | Combura 2014 |
| 2014 | Alternative Fuels | Mosca Gabriele, Lupant Delphine | Diluted combustion of Low Calorific, Alternative fuels on a 30 kW furnace | 23rd Journées d’Etude of the Belgian Section oft he Combustion Institute |
| 2014 | Alternative Fuels | K. Sartor, Y. Restivo, Ph. Ngendakumana, P. Dewallef | Prediction of SOx and NOx emissions from a medium size biomass boiler | Biomass & Bioenergy Journal |
| 2015 | Combustion Chemistry | V. Dias, J. Vandooren, H. Jeanmart | An experimental and modeling study of the addition of acetone to H2/O2/Ar flames at low pressure | Proceedings of the Combustion Institute |
| 2015 | Combustion Chemistry | V. Dias, J. Vandooren, H. Jeanmart | Experimental study and kinetic model of propanal flames at low pressure | Ninth Mediterranean Combustion Symposium |
| 2015 | Combustion Chemistry | S. Van Damme, V. Dias, P. Bréquigny, H. Jeanmart, F. Contino | Comparison of different chemical kinetics modeling codes | 7th European Combustion Meeting |
| 2015 | Combustion Chemistry | H. Mbuyi Katshiatshia, E. Nilsson, V. Dias, H. Jeanmart, A. Konnov | Experimental studies and kinetic modeling of ethyl valerate: flat flame structures and laminar burning velocities | 7th European Combustion Meeting |
| 2015 | Alternative Fuels | Lupant Delphine, Lybaert Paul | Assessment of the EDC combustion model in MILD conditions with in-furnace experimental data | Applied Thermal Engineering  Journal |
| 2015 | Alternative Fuels | Mosca Gabriele, Lupant Delphine, Gambale Alessandro, Lybaert Paul | Diluted combustion of by-product gases on a 30kW lab-scale furnace: Effect of the Air preheating temperature | 10th european conference on industrial furnaces and boilers (INFUB-10) |
| 2015 | Alternative Fuels | Nguyen Phuc Danh, Ghazal Ghassan, Gambale Alessandro, Lupant Delphine, Mosca Gabriele | Combustion CFD of diluted combustion in pilot and industrial furnaces | 10th european conference on industrial furnaces and boilers (INFUB-10) |
| 2015 | Alternative Fuels | Fortunato Valentina, Mosca Gabriele, Lupant Delphine, Parente Alessandro, | Reduced NO Mechanisms Validation for a Coke Oven Gas Fed Flameless Furnace | 1st annual meeting of  the SMARTCATs COST action |
| 2016 | Alternative Fuels | D. Makaire, J.-M. Fontaine, K. Sartor, Ph. Ngendakumana | Feasibility study of burning neat jatropha oil into a vaporizing burner | 24th European Biomass Conference and Exhibition |
| 2016 | Combustion Chemistry | H. Mbuyi Katshiatshia, V. Dias, H. Jeanmart | Experimental and numerical study of ethyl valerate flat flames at low pressure | Submitted to Combustion and Flame |

**Finland**

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| **Year** | **Task** | **Authors** | **Title** | **Journal or Conference** |
| 2012 | Alternative fuels | *Imperato, Matteo; Sarjovaara, Teemu; Larmi, Martti; Tilli, Aki* | Hydrotreated Vegetable Oil and Miller Timing in a Medium-Speed CI Engine. | SAE Technical Paper Series, 2012. Nro 2012-01-0862 |
| 2012 | Spray | *Tirunagari, Santosh; Hulkkonen, Tuomo; Vuorinen, Ville; Kaario, Ossi; Larmi, Martti* | Proper Orthogonal Decomposition Analysis of Cross Sectional Fuel Spray Data. | ICLASS, Heidelberg, Germany, 3.-6.9.2012. 8. |
| 2012 | Spray | *Kaario, Ossi; Hulkkonen, Tuomo; Vuorinen, Ville; Wehrfritz, Armin; Keskinen, Karri; Larmi, Martti* | Numerical and Experimental Investigation of Fuel Spray Behaviour in Very High Density Environment Using LES. | ICLASS, Heidelberg, Germany, 3.-6.9.2012. 8. |
| 2012 | Spray | *Wehrfritz, Armin; Vuorinen, Ville; Kaario, Ossi; Larmi, Martti* | A High Resolution Study of Non-Reacting Fuel Sprays using Large-Eddy Simulations. | International Conference on Liquid Atomization and Spray Systems; Heidelberg, Germany; September 2-6, 2012. |
| 2012 | Alternative fuels | *Yu, Jingzhou; Vuorinen, Ville; Hillamo, Harri; Sarjovaara, Teemu; Kaario,Ossi; Larmi, Martti* | An experimental investigation on the flow structure and mixture formation of low pressure ratio wall-impinging jets by a natural gas injector. | Journal of Natural Gas Science and Engineering, 2012. Nro 9, 1-10. |
| 2012 | Alternative fuels | *Yu, Jingzhou; Vuorinen, Ville; Hillamo, Harri; Sarjovaara, Teemu; Kaario, Ossi; Larmi, Martti* | An Experimental Study on High Pressure Pulsed Jets for DI Gas Engine Using Planar Laser-Induced Fluorescence. | SAE International, 2012. Nro 2012-01-1655, 12. |
| 2012 | Alternative fuels | *Murtonen, Timo; Aakko-Saksa, Päivi; Koponen, Päivi; Lehto, Kalle; Sarjovaara, Teemu; Happonen, Matti; Heikkilä, Juha; Larmi, Martti; Keskinen, Jorma* | Exhaust emission reduction potential with paraffinic renewable diesel by optimizing engine settings or using oxygenate. | SAE Technical Paper Series, 2012. Nro 2012-01-1950, 16. |
| 2012 | Alternative fuels | *Heikkilä, Juha; Happonen, Matti; Murtonen, Timo; Lehto, Kalle; Sarjovaara, Teemu; Larmi, Martti; Keskinen, Jorma; Virtanen, Annele* | Study of Miller timing on exhaust emissions of a hydrotreated vegetable oil (HVO)-fueled diesel engine. | Journal of the Air & Waste Management Association, 2012. Vol. 62, nro 11, 1305-1312. |
| 2012 | Spray | *Keskinen, Karri; Kaario, Ossi; Tilli, Aki; Hulkkonen, Tuomo; Larmi, Martti* | Improving the Accuracy of 1-D Fuel Injection Modeling. | SAE Technical Paper Series, 2012. Nro 2012-01-1256, 12. |
| 2012 | Spray | *Vuorinen, Ville; Larmi, Martti; Schlatter, Philipp; Fuchs, Laszlo; Boersma, Bendiks* | A low-dissipative, scale-selective discretization scheme for the Navier-Stokes equations. | Computers & Fluids, 2012. Vol. 70, nro 30, 195-205. |
| 2012 | Alternative fuels | *Tirunagari, Santosh; Vuorinen, Ville; Kaario, Ossi; Larmi, Martti* | Analysis of Proper Orthogonal Decomposition and Dynamic Mode Decomposition on LES of Subsonic Jets. | CSI Journal of Computing, 2012. Vol. 1, nro 3, 46-50. |
| 2013 | Alternative fuels | *Happonen, Matti; Heikkilä, Juha; Aakko-Saksa, Päivi; Murtonen, Timo; Lehto, Kalle; Rostedt, Antti; Sarjovaara, Teemu; Larmi, Martti; Keskinen, Jorma; Virtanen, Annele* | Diesel exhaust emissions and particle hygroscopicity with HVO fuel-oxygenate blend. | Fuel, 2013. Vol. 103, nro 1, 380–386. |
| 2013 | Alternative fuels | *Vuorinen, Ville; Jingzhou, Yu; Tirunagari, Santosh; Kaario, Ossi; Larmi, Martti; Christophe, Duwig; Boersma, Bendiks* | Large-Eddy Simulation of Highly Underexpanded Transient Gas Jets. | Physics of Fluids , 2013. Vol. 25, nro 016101, 23. |
| 2013 | Spray | *Shrestha, Kendra; Kaario, Ossi; Imperato, Matteo; Sarjovaara, Teemu; Larmi, Martti* | Partially Premixed Combustion (PPC) for low load conditions in marine engine using computational and experimental techniques. | Finnish - Swedish Flame Days, Jyväskylä, Finland, 17.-18.4.2013. |
| 2013 | Spray | *Shrestha, Kendra; Kaario, Ossi; Imperato, Matteo; Sarjovaara, Teemu; Larmi, Martti* | Partially Premixed Combustion (PPC) for low load conditions in a marine engine using computational and experimental technique. Paper # 288. | Cimac, Shanghai, China, 13.-16.5.2013. |
| 2013 | Spray | *Kaario, Ossi; Vuorinen, Ville; Hulkkonen, Tuomo; Keskinen, Karri; Nuutinen, Mika; Larmi, Martti; Tanner, Franz Xavier* | Large Eddy Simulation of High Gas Density Effects in Fuel Sprays. | Atomization and Sprays, 2013. Vol. 23, nro 4, 297-325. |
| 2013 | Spray | *Wehrfritz, Armin; Vuorinen, Ville; Kaario, Ossi; Larmi, Martti* | LARGE EDDY SIMULATION OF HIGH-VELOCITY FUEL SPRAYS: STUDYING MESH RESOLUTION AND BREAKUP MODEL EFFECTS FOR SPRAY A. | Atomization and Sprays , 2013. Vol. 23, nro 5, 00-00. |
| 2013 | Alternative fuels | *Yu, Jingzhou; Vuorinen, Ville; Kaario, Ossi; Sarjovaara, Teemu; Larmi, Martti* | Characteristics of high pressure jets for direct injection gas engine. | Journal of Fuels and Lubricants, SAE International , 2013. Vol. 6, nro 1, 149-156. |
| 2013 | Alternative fuels | *Sarjovaara, Teemu; Alantie, Jussi; Larmi, Martti* | Ethanol dual-fuel combustion concept on heavy duty engine. | Energy, 2013. Vol. 63 , nro 15, 76-85. |
| 2013 | Spray | *Yu, Jingzhou; Vuorinen, Ville; Kaario, Ossi; Sarjovaara, Teemu; Larmi, Martti* | Visualization and analysis of the characteristics of transitional underexpanded jets. | International Journal of Heat and Fluid Flow, 2013. Vol. 44, nro 0, 140-154. |
| 2014 | Alternative fuels | *Kuensch, ZairaAline; Schlatter, Stephanie; Keskinen, Karri; Hulkkonen, Tuomo; Larmi, Martti; Boulouchos, Konstantinos* | Experimental Investigation on the Gas Jet Behavior for a Hollow Cone Piezoelectric Injector. | SAE Technical Paper Series, 2014. Nro 2014-01-2749, |
| 2015 | Alternative fuels | *Sarjovaara, Teemu; Larmi, Martti* | Dual fuel diesel combustion with an E85 ethanol/gasoline blend. | Fuel, 2015. Vol. 139, nro 1, 704-714. |
| 2015 | Alternative fuels | *Sarjovaara, Teemu; Larmi, Martti; Vuorinen, Ville* | Effect of charge air temperature on E85 dual-fuel diesel combustion. | Fuel, 2015 . Vol. 153, nro 153. |
| 2015 | Spray | *Hulkkonen, Tuomo; Sarjovaara, Teemu; Kaario, Ossi; Larmi, Martti; Hämäläinen, Ismo* | Experimental study of conical diesel nozzle orifice geometry. | Atomization and sprays, 2015. Vol. 25, nro 6, 519-538. |
| 2015 | Spray | *Keskinen, Jukka-Pekka; Vuorinen, Ville; Kaario, Ossi; Larmi, Martti* | Large eddy simulation of a piston–cylinder assembly: The sensitivity of the in-cylinder flow field for residual intake and in-cylinder velocity structures. | Computers & Fluids, 2015. Nro 122, pp. 123–135. |

**France (Joined Agreement 2014)**

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| **Year** | **Task** | **Authors** | **Title** | **Journal or Conference** |
| 2011 | HCCI | F. Contino, F. Foucher, C. Mounaïm-Rousselle, H. Jeanmart | Combustion characteristics of tri-component fuel blends of ethyl acetate, ethyl propionate and ethyl butanoate in HCCI | Energy and Fuel, 2011, ID: ef-2011-00193q. |
| 2012 | HCCI | Andre, M., Walter, B., Bruneaux, G., Foucher, F., & Mounaim-Rousselle, C | Exhaust gas recirculation stratification to control diesel homogeneous charge compression ignition combustion. | International Journal of Engine Research, 13(5),429–447.2012, doi:10.1177/1468087412438338 |
| 2012 | HCCI | F. Contino, B. Bergera, F. Foucher, J. –B. Masurier, S. S. Bhaduria, A. S. Bikac, H. Jeanmart | Analysis of a syngas HCCI engine for chp biomass gasification facilities | The 11th International Conference on Combustion and Energy Utilization, Coimbra, Portugal, May, 9-13, 2012 |
| 2013 | HCCI | F. Contino, P. Dagaut, G. Dayma, F. Halter, F. Foucher, C. Mounaïm-Rousselle | Combustion and emissions characteristics of Valeric biofuels in a compression ignition engine | Journal of Energy Engineering, [http://dx.doi.org/10.1061/(ASCE)EY.1943-7897.0000161](http://dx.doi.org/10.1061/(ASCE)EY.1943-7897.0000161" \t "_blank" \o "Opens new window), 2013 |
| 2013 | HCCI | J-B. Masurier, F. Foucher, G. Dayma, C. Mounaïm-Rousselle, P. Dagaut | Homogeneous Charge Compression Ignition Combustion of Primary Reference Fuels Influenced by Ozone Addition | Energy and Fuel, doi : 10.1021/ef401009x |
| 2013 | HCCI | F. Contino,F. Foucher, P. Dagaut, T. Lucchini, G. D’Erricod, C. Mounaïm-Rousselle | Experimental and numerical analysis of nitric oxide on the ignition of iso-octane in a single cylinder HCCI engine, | Combustion and Flame Volume 160, Issue 8, August 2013, Pages 1476–1483,2013,DOI 10.1016/j.combustflame.2013.02.028 |
| 2013 | HCCI | C.M. Mounaïm-Rousselle, F. Foucher, A. Labreche | Optimization of Gasoline Partially Premixed Combustion Mod | SAE Paper 2013-01-2532, 2013. |
| 2013 | HCCI | J.-B. Masurier, F. Foucher, G. Dayma, C. Mounaïm-Rousselle, P. Dagaut | Towards HCCI Control by Ozone Seeding | SAE Paper 2013-24-0049, 2013*.* |
| 2013 | HCCI | H. Belaid-Saleh, S. Jay, J. Kashdan, C. Ternel, C. Mounaïm-Rousselle | Numerical and Experimental Investigation of Combustion Regimes in a Dual Fuel Engine | SAE Paper 2013-24-0015, 2013 |
| 2013 | HCCI | J.-B. Masurier, F. Foucher, G. Dayma, C. Mounaim-Rousselle, P. Dagaut | [Experimental Study of the Control of HCCI Combustion by Ozone Addition](file:///E:\\ECM2013-root\\ECM2013_papers\\Poster%20session%203\\P3-33.pdf" \t "_blank) | 6th European Combustion Meeting, June 25-28, 2013, Lund, Sweden |
| 2013 | HCCI | A. Labreche, F. Foucher, C. Mounaim-Rousselle, O. Guezet, T. Tahtouh**,** | Mixture Preparation of Gasoline Partially Premixed Combustion Mode | 6th European Combustion Meeting, June 25-28, 2013, Lund, Sweden |
| 2013 | HCCI | H. Belaid-Saleh, C. Mounaïm-Rousselle, S. Jay, J. Kashdan, | H. Belaid-Saleh, C. Mounaïm-Rousselle, S. Jay, J. Kashdan, | 6th European Combustion Meeting, June 25-28, 2013, Lund, Sweden |
| 2014 | HCCI | J.-B. Masurier, F. Foucher, G. Dayma, P. Dagaut | A Study of HCCI Isooctane Combustion with Ozone under Various Intake Temperature | 23rd “Journées d’Etude” of the Belgian Section of the Combustion Institute, Brussels, May 27–28 2014 |
| 2014 | HCCI | Contino, F., Masurier, J.-B., Foucher, F., Lucchini, T., D’Errico, G., & Dagaut, P. | CFD simulations using the TDAC method to model iso-octane combustion for a large range of ozone seeding and temperature conditions in a single cylinder HCCI engine | Fuel, 137, 179-184 2014 |
| 2014 | HCC! | Labreche, A., Foucher, F., Mounaïm-Rousselle | Impact of the Second Injection Characteristics and Dilution Effect on Gasoline Partially Premixed Combustion. | SAE Paper 2014-01-2673 |
| 2014 | HCCI | Masurier, J., Foucher, F., Dayma, G., & Dagaut, P. | Effect of Additives on Combustion Characteristics of a Natural Gas Fueled HCCI Engine | SAE Paper 2014-01-2662 |
| 2014 | HCCI | Masurier, J.-B., Foucher, F., Dayma, G., & Dagaut, P | Investigation of iso-octane combustion in a homogeneous charge compression ignition engine seeded by ozone, nitric oxide and nitrogen dioxide | Proceedings of the Combustion Institute, 35(3), 3125–3132 |
| 2015 | HCCI | Masurier, J., Foucher, F., Dayma, G.,Mounaïm-Rousselle, C., & Dagaut, P. | Application of an Ozone Generator to Control the Homogeneous Charge Compression Ignition Combustion Process | SAE Paper 2015-24-2456. |
| 2015 | HCCI | Masurier, J.-B., Foucher, F., Dayma, G., & Dagaut, P. | Ozone Applied to the Homogeneous Charge Compression Ignition Engine to Control Alcohol Fuels Combustion. | Applied Energy. doi:10.1016/j.apenergy.2015.08.004 |
| 2015 | HCCI | Pinazzi, P. M., Masurier, J.-B., Dayma, G., Dagaut, P., & Foucher, F. | Towards Stoichiometric Combustion in HCCI Engines : Effect of Ozone Seeding and Dilution | AE Paper 2015-24-2450 |

**Germany**

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| **Year** | **Task** | **Authors** | **Title** | **Journal or Conference** |
| 2012 | Solid Fuel Combustion | G. J. G. GLUTH, W. ZHANG, M. GAGGL, B. HILLEMEIER, F. BEHRENDT | Multicomponent gas diffusion in hardened cement paste at temperatures up to 350 °C | Cement and Concrete Research |
| 2012 | Alternative Fuels | N. Hempel, I. Petrick, F. Behrendt | Biomass productivity and productivity of fatty acids and amino acids of screened microalgae strains as key characteristics of suitability for biodiesel production | Journal of Applied Phycology |
| 2012 | Alternative Fuels | A. ANCA-COUCE, N. ZOBEL, A. BERGER, F. BEHRENDT | Smouldering of pine wood: Kinetics and reaction heat | Combustion and Flame |
| 2012 | Solid Fuel Combustion | N. ZOBEL, T. EPPINGER, F. BEHRENDT, M. KRAUME | Influence of the wall structure on the void fraction distribution in packed beds | Chemical Engineering Science |
| 2012 | Alternative Fuels / Solid Fuel Combustion | R. EHRIG, F. BEHRENDT | Co-firing of imported wood pellets - An option to efficiently save CO2 emissions in Europe? | Energy Policy |
| 2012 | Solid Fuel Combustion | Y. Neubauer, A. Kölling, P. Schröder, F. Behrendt, U. Hellwig, N. Sachno, H. Liu, W. Zhang, I. Ul HaI, S. B. Riffat, H. Oldenburg | Gas Treatment of Fuel Gases From Biomass Gasification with Structured Tube Gas: Cooling, Quench, Electrostatic Precipitator and Mop Fan Filter (EMF) Effectiveness and Viability of Components Developed in ERA-NET Bioenergy Project | 20th European Biomass Conference & Exhibition, Milan, Italy |
| 2012 | Solid Fuel Combustion | A. DIEGUEZ ALONSO, A. ANCA COUCE, N. ZOBEL, F. BEHRENDT | Technical Scale Fixed-Bed Pyrolysis of Several Biomass Species: Deep Characterization of Solid Bio-Char | 20th European Biomass Conference & Exhibition, Milan, Italy |

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| 2013 | Alternative Fuels | F. R. SULTANOV, Y. TILEURBERDI, K. ONGARBAYEV, Z. A. MANSUROV, K A. KHASSEINOV, B. K. TULEUTAEV, F. BEHRENDT | Study of Asphaltene Structure Precipitated from Oil Sands | Eurasian Chemico-Technological Journal |
| 2013 | Solid Fuel Combustion | W. ZHANG, M. GAGGL, G. J. G. GLUTH, F. BEHRENDT | Gas separation using porous cement membrane | Journal of Environmental Science |
| 2013 | Solid Fuel Combustion | M. JALILI, A. ANCA COUCE, N. ZOBEL, F. BEHRENDT | Calculation of Evaporation Rate in Drying Section of Fixed-Bed Gasifiers | 21st European Biomass Conference & Exhibition, Copenhagen, Denmark |
| 2013 | Solid Fuel Combustion | A. DIEGUEZ ALONSO, A. GARCIA RUEDA, A. ANCA COUCE, N. ZOBEL, F. BEHRENDT | A set of physical and chemical properties for biochar characterization in terms of soil application | 21st European Biomass Conference & Exhibition, Copenhagen, Denmark |
| 2014 | Solid Fuel Combustion | A. DIÉGUEZ ALONSO, A. ANCA COUCE,, F. BEHRENDT | Characterizaton of Thermochemical Conversion Processesin a Technical-Scale Fixed-Bed Reactor: Pyrolysis and Gasification | Eurasian Chemico-Technological Journal |
| 2014 | Solid Fuel Combustion | Y. TILEURBERDI, Y. ONGARBAEV, B. K. TULEUTAEV, Z. A. MANSUROV, F. BEHRENDT | Extraction and Thermal Processing of Beke Oil Sands | Eurasian Chemico-Technological Journal |
| 2014 | Solid Fuel Combustion | N. ZOBEL, A. ANCA COUCE, F. BEHRENDT | Investigations on the Exothermicity of Wood Pyrolysis with Laser-Induced Fluorescence | 22nd European Biomass Conference & Exhibition, Hamburg, Germany |
| 2015 | Solid Fuel Combustion | A. DIÉGUEZ ALONSO, A. ANCA COUCE, N. ZOBEL, F. BEHRENDT | Understanding the primary and secondary slow pyrolysis mechanisms of holocellulose, lignin and wood with laser-induced fluorescence | Fuel |

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| 2011 | Combustion Chemistry | [K.A. Heufer](https://www.researchgate.net/researcher/77822652_KA_Heufer) · R.X. Fernandes · [H. Olivier](https://www.researchgate.net/researcher/72827035_H_Olivier) · [J. Beeckmann](https://www.researchgate.net/researcher/2038719374_J_Beeckmann) · [O. Röhl](https://www.researchgate.net/researcher/2036618985_O_Roehl) · [N. Peters](https://www.researchgate.net/researcher/73024025_N_Peters) | [Shock tube investigations of ignition delays of n-butanol at elevated pressures between 770 and 1250K](https://www.researchgate.net/publication/232413922_Shock_tube_investigations_of_ignition_delays_of_n-butanol_at_elevated_pressures_between_770_and_1250K) | Proceedings of the Combustion Institute, 33, 359, 2011 |
| 2011 | Combustion Chemistry | C.[Lee](https://www.researchgate.net/researcher/2001573432_Lee_C)  · S. [Vranckx](https://www.researchgate.net/researcher/2028651889_Vranckx_S)  · K.A [Heufer](https://www.researchgate.net/researcher/77822652_Heufer_KA)  · H. [Olivier](https://www.researchgate.net/researcher/72827035_Olivier_H) · R.X Fernandes | [Low and intermediate temperature oxidation of butyl formate at elevated pressures.](https://www.researchgate.net/publication/280802685_Low_and_intermediate_temperature_oxidation_of_butyl_formate_at_elevated_pressures) | 5th European Combustion Meeting (ECM), Cardiff, UK |
| 2011 | Combustion Chemistry | S. [Vranckx](https://www.researchgate.net/researcher/2028651889_Vranckx_S)  · R.X Fernandes | [Validated kinetic model for the auto-ignition of n-butanol.](https://www.researchgate.net/publication/280802869_Validated_kinetic_model_for_the_auto-ignition_of_n-butanol) | 5th European Combustion Meeting (ECM), Cardiff, UK |
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**Korea**

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| 2012 | Low Temperature Combustion | S. W. Han, C. S. Bae & S. B. Choi | Effects of Operating Parameters on Mode Transition between Low Temperature Combustion and Conventional Combustion in a Light Duty Diesel Engine | International journal of Engine Research, Vol.13, 2012 |
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| 2013 | Sprays | K. H. Kim, C. S. Bae & Bengt Johansson | Spray and Combustion Visualization of Gasoline and Diesel under Different Ambient Conditions in a Constant Volume Chamber | SAE 2013 International Powertrains, Fuels & Lubricants Meeting, SAE Technical Paper 2013-01-2547 |
| 2014 | Alternative Fuels | J. S. Hwang, D. H. Qi, Y. J. Jung & C. S. Bae | Effect of Injection Parameters on the Combustion and Emission Characteristics in a Common-rail Direct Injection Diesel Engine Fueled with Waste Cooking Oil Biodiesel | Renewable Energy, Vol.63, pp.9-17, 2014 |
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**Norway**

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| 2013 | Nanoparticle Diagnostics | M. Ditaranto, C. Meraner, N. E. L. Haugen & I. Saanum | Influence of long pulse duration on time resolved laser-induced incandescence | Applied Physics B |

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**Spain (Joined Agreement 2014)**

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| 2012 |  | Collazo, J., Porteiro, J., Patiño, D., Granada, E. | Numerical modeling of the combustion of densified wood under fixed-bed conditions | Fuel |
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| 2012 |  | Míguez, J.L., Morán, J.C., Granada, E., Porteiro, J. | Review of technology in small-scale biomass combustion systems in the European market | Renewable and Sustainable Energy Reviews |
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| 2015 |  | Gómez, M.A., Porteiro, J., de la Cuesta, D., Patiño, D., Míguez, J.L. | Numerical simulation of the combustion process of a pellet-drop-feed boiler | Fuel |
| 2015 |  | Gómez, M.A., Porteiro, J., Patiño, D., Míguez, J.L. | Fast-solving thermally thick model of biomass particles embedded in a CFD code for the simulation of fixed-bed burners | Energy Conversion and Management |
| 2015 |  | Gómez, M.A., Porteiro, J., Patiño, D., Míguez, J.L. | Eulerian CFD modelling for biomass combustion. Transient simulation of an underfeed pellet boiler | Energy Conversion and Management |
| 2015 |  | Morán, J.C., Míguez, J.L., Porteiro, J., Patiño, D., Granada, E. | Low-quality fuels for small-scale combustion boilers: An experimental study | Energy and Fuels |
| 2015 |  | Casal, J.M., Porteiro, J., Míguez, J.L., Vázquez, A. | New methodology for CFD three-dimensional simulation of a walking beam type reheating furnace in steady state | Applied Thermal Engineering |

**Sweden**

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| **Year** | **Task** | **Authors** | **Title** | **Journal or Conference** |
| 2013 | Low Temperature Combustion | M. Jangi, T. Lucchini, G. D’Errico, X.S. Bai | Effects of EGR on the structure and emissions of diesel combustion | 2013/01, Proc. Combust. Inst. |
| 2013 | Low Temperature Combustion | R. Solsjö, M. Jangi, C. Chartier, Ö. Andersson, X.S. Bai | Lift-off and stabilization of n-heptane combustion in a diesel engine with a multiple-nozzle injection | 2013/01 vol. 34, pp. 3031-3038 Proc. Combust. Inst. |
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| 2013 | Low Temperature Combustion | Borgqvist, P., Tunestal, P., and Johansson, B. | Comparison of Negative Valve Overlap (NVO) and Rebreathing Valve Strategies on a Gasoline PPC Engine at Low Load and Idle Operating Conditions | SAE Int. J. Engines 6(1):366-378, 2013, doi:10.4271/2013-01-0902. |
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