

Michele Battistoni

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Education

Ph.D. in Mechanical Engineering, University of Perugia, Italy	2004
Laurea degree with Honors in Mechanical Engineering, University of Perugia, Italy	1999

Positions Held

Associate Professor <u>University of Perugia</u> , Dept. of Engineering, <u>Perugia</u> , Italy	2018–present
Visiting Professor <u>KAUST (King Abdullah University of Science and Technology)</u> , Clean Combustion Research Center, <u>Saudi Arabia</u>	2019, April–May
Visiting Scientist <u>Argonne National Laboratory</u> , Energy System Div., <u>Chicago (IL)</u> , USA	2018, June–Sept.
Assistant Professor, tenured <u>University of Perugia</u> , Dept. of Engineering, <u>Perugia</u> , Italy	2009–2018
Visiting Scientist <u>Argonne National Laboratory</u> , Energy System Div., <u>Chicago (IL)</u> , USA	2016, June–Sept.
Visiting Scientist <u>Argonne National Laboratory</u> , Energy System Div., <u>Chicago (IL)</u> , USA	2012–2014
Assistant Professor, tenure-track <u>University of Perugia</u> , Dept. of Engineering, <u>Perugia</u> , Italy	2006–2009
Research Associate <u>University of Perugia</u> , Dept. of Industrial Engineering, <u>Perugia</u> , Italy	2001–2006
Staff Design Engineer <u>FCA (former Fiat)</u> , Engine Design Technical Center, <u>Turin</u> , Italy	1999–2001

Honors and Awards

2020	Forest R. McFarland Award, for “his sustained outstanding contributions toward the work of the SAE Engineering Events in the planning, development, and dissemination of technical information through technical meetings, conferences, and professional development programs at SAE events”.
2014	SAE Excellence in Oral Presentation Award - for the presentation " <i>Effect of Off-Axis Needle Motion on Internal Nozzle and Near Exit Flow in a Multi-Hole Diesel Injector</i> ," <i>SAE Int. J. Fuels Lubr.</i> 7(1):167-182, 2014, at SAE World Congress, Detroit, MI (USA).
2010	SAE Excellence in Oral Presentation Award - for the presentation " <i>Evaluation of Diesel Spray Momentum Flux in Transient Flow Conditions</i> ", <i>SAE Paper 2010-01-2244</i> , at SAE Powertrains Fuels & Lubricants Meeting, San Diego, CA (USA).

Professional Membership

APS-DFD – American Physical Society - Division of Fluid Dynamics
ASME – American Society of Mechanical Engineers
ILASS – The Institute for Liquid Atomization and Spray Systems

SAE – Society of Automotive Engineers
ATI – Associazione Termotecnica Italiana

Competitive Computational Resource Allocations

- 2019-20 Cineca Italy, SCAI - SuperComputing Applications and Innovation, multiple Iscra-C allocations, awarded 3.2 M core-hours on Marconi supercomputer.
- 2017-18 Cineca, Italy, SCAI - SuperComputing Applications and Innovation, Iscra-B allocation, “Hi2flow - HIgh-fidelity multiphase FLOW simulation of efficient fuel injection”, awarded 3 M core-hours on Marconi supercomputer, KNL architecture.
- 2013-18 Argonne National Laboratory, United States, LCRC - Laboratory Computing Resource Center, allocations on Fusion, Blues and Bebop clusters for a total of over 5 M core-hours.
- 2017 Cineca Italy, SCAI - SuperComputing Applications and Innovation, Iscra-C allocation, “*Reef - massively parallel computing of highly RESolved two-phases Flows for energy conversion applications*”, awarded 1.2 M core-hours on Galileo cluster and Marconi supercomputer.
- 2016-17 Cineca Italy, SCAI - SuperComputing Applications and Innovation, Iscra-C allocation, “*Jetpack - JET Primary Atomization and Cavitation phase-change in a highly-resolved simulation framework*”, awarded 1.2 M core-hours on Galileo cluster and Fermi supercomputer.
- 2016 Cineca Italy, SCAI - SuperComputing Applications and Innovation, Iscra-C allocation, “*Involve - INnoVative gas dissOLution and caVitation modEL for fuel injection simulations*”, awarded 1 M core-hours on Galileo and Pico clusters.
- 2014 Cineca Italy, SCAI - SuperComputing Applications and Innovation, Iscra-C allocation, “*Illinois - hIgh fideLity fueL INjectiOn transient Simulations*”, awarded 1 M core-hours on Galileo and Fermi supercomputer.

Invited Talks

- 2019 Fifth China Engine Technology Summit, “Future Research Trends of IC Engines and Fuel Injection Technologies: a European View”, Shanghai, Jiao Tong University, (China), December 3-4th, 2019.
- 2019 Argonne National Laboratory 4th VERIFI workshop, “Advanced Spark and Corona Ignition systems: Optical Engine Experiments and Simulations”, Chicago, IL (USA), June 27-28, 2019.
- 2019 KAUST (Saudi Arabia), “Towards predictive two-phase flow simulations of fuel sprays in internal combustion engines” Mechanical Engineering Graduate Seminar, hosted by Prof. Hong Im, April 22nd, 2019.
- 2018 ECN6 – Engine Combustion Network, 6th workshop, “Primary Atomization (Near-Nozzle Mixing)”, topic leader, Valencia (Spain), September 10th, 2018.
- 2018 Converge User Conference meeting - Europe, “VOF-LES Simulations of Primary Atomization and Near-Nozzle Spray Structure”, Bologna (Italy), March 20th, 2018.
- 2017 Argonne National Laboratory 3rd VERIFI workshop, “Multi-Cycle Simulations Exploring Knock and Lean Conditions”, Chicago, IL (USA), November 7-8, 2017.
- 2017 ECN5 – Engine Combustion Network, 5th workshop, “Near nozzle flow and primary atomization”, topic leader, Detroit, MI (USA), March 31st, 2017.
- 2017 Converge User Conference meeting - Europe, “Evaluation of SI Combustion Models: Knock with EGR and Water Injection Effects”, Vienna (Austria), March 9th, 2017.
- 2017 Converge User Conference meeting - Europe, “Injector Flow and sprays Modeling”, Vienna (Austria), March 8th, 2017.
- 2016 KAUST, (Saudi Arabia) “Eulerian Spray Modeling and Simulation”, host Prof. Hong G. Im, March 18th, 2016.
- 2015 Argonne National Laboratory, “Advancements on Injector Flow Modeling”, Chicago, IL (USA), April 24th, 2015.
- 2014 IFPEN, Paris, “LES of Spray Transients: Start and End of Injection Phenomena”, LES for Internal combustion Engine Flows, Rueil-Malmaison (France), December 4-5, 2014.
- 2014 Sandia National Laboratories, “Recent Updates on Injector Flow and Spray Modeling”, Advanced Engine Combustion - AEC - Program Review Meeting, Livermore, CA (USA), February 11th, 2014.
- 2012 Siemens, “Acoustic study of injection molded air intake manifolds: effects of fiber distribution on structural and acoustic performance prediction”, LMS Vehicle Conference, Munich (Germany), April 2012.

Organizer for Conference Sessions and Events

- 2020 Engine Combustion Network (ECN), Lead for “Primary atomization” – upcoming in April 2020

- 2020 SAE World Congress – Organizer for “Fuel Injection and Sprays” – upcoming in April 2020
- 2019 SAE World Congress – Organizer for “Fuel Injection and Sprays” session, Detroit (USA)
- 2019 SAE ICE2019 – Organizer for “Fuel Injection and Sprays: Modeling” session, Capri (Italy)
- 2018 Engine Combustion Network (ECN), Lead for “Primary atomization”, Valencia (Spain).
- 2018 SAE World Congress – Organizer for “Fuel Injection and Sprays” session, Detroit (USA)
- 2017 SAE World Congress – Organizer for “Fuel Injection and Sprays” session, Detroit (USA)
- 2017 SAE ICE2017 – Organizer for “Fuel Injection and Sprays: Modeling” session, Capri (Italy)
- 2017 SAE 2017 International Powertrains, Fuels and Lubricants Meeting – Organizer, Beijing, (China)
- 2016-17 Engine Combustion Network (ECN) topic Leader for “Primary atomization (near-nozzle flow)”
- 2016 SAE World Congress – Organizer and Chair for “Fuel Injection and Sprays” session, Detroit (USA)
- 2015 SAE ICE2015 – Organizer and Chair for “Fuel Injection and Sprays: Modeling” session, Capri (Italy)
- 2015 SAE World Congress – Organizer and Chair for “Fuel Injection and Sprays” session, Detroit (USA)
- 2014 SAE World Congress – Chair for “Fuel Injection and Sprays” session, Detroit (USA)
- 2006 “SAE The Sustainable Mobility Challenge” – Committee Member ATI Int. Conf., Perugia (Italy)
- 2006 61° Italian National Congress ATI – Co-Organizer and Committee Member, Perugia (Italy)

Journal Editor and Professional Service

Associate Editor for:

SAE International Journal of Fuels and Lubricants.

Journal Topic Board Editor for:

Energies

Journal Reviewing (list of major editors and journals):

ASME: Journal of Engineering for Gas Turbines and Power,
Journal of Energy Resources Technology.

BEGELL HOUSE: Atomization and Sprays.

ELSEVIER: Applied Energy,
Applied Mathematical Modeling,
Computer & Fluids,
Energy Conversion and Management,
Fuel,
Fuel Processing Technology,
Int. J. of Heat and Fluid Flow,
Int. J. of Multiphase Flow,
Int. J. of Thermal Sciences.

SAE: Int. J. of Engines,
Int. J. of Fuels and Lubricants.

SAGE: Institution of Mechanical Engineers, Part C, Part D, Part G.

International Conference Reviewing:

ASME Conferences
SAE Conferences

Teaching and Related Activities

Doctoral Committee Member (University of Perugia):

- doctoral program in Industrial Engineering, chair Prof. E. Cardelli, 2017-present
- doctoral program in Energy and Sustainability Engineering, chair Prof. F. Cotana, 2008-2012

Courses Taught:

- “Computational Fluid Dynamics”, Lecturer, graduate level, (2015–present)
- “Fluid Machines” Lecturer, undergraduate level, (2015–present)

- “Turbomachines” Lecturer, graduate level, (2017–present)
- “Internal Combustion Engines” guest lecturer, graduate (Prof. C. Grimaldi) (2004–present)
- “Thermodynamics and Energy Systems”, Lecturer, undergraduate level, (2014–15)
- “Renewable Energy Systems”, Lecturer, graduate level (2011–12)
- “Advanced Energy Conversion Systems”, Lecturer, graduate level (2006–11)
- “Fluid Machines” guest lecturer, (Prof. Bidini, Prof. Grimaldi), graduate level (2002–04, 2005, 2008)

Students Advised:

- Advisor of 5 PhD students and 40+ graduate students for their Master Thesis.
List of some recently advised students (and first position after graduation):
 - Faniry N.Z. Rahantamialisoa (PhD) – student, to graduate 2022
 - Zembi Jacopo (PhD) – student, to graduate 2021
 - Cruccolini Valentino (PhD) – student, to graduate 2020
 - Cimarello Alessandro (PhD), graduated 2018 – Wartsila
 - Risi Francesco (PhD), graduated April 2017 – Eles Semiconductor Equipment
 - Iolanda Stocchi (MS), graduated April 2018 – General Electric
 - Centini Maria Pia (MS), graduated April 2018 – General Motors Powertrain Europe
 - De Franciscis Michele (MS), graduated April 2017 – Terex
 - Pini Marco (MS), graduated October 2016 – General Motors Powertrain Europe
 - Battimazza Alessio (MS), graduated April 2016 – Fiat Chrysler Automobiles
 - Battista Federico (MS), graduated April 2016 – Philip Morris International
 - Poggiani Claudio (PhD), graduated January 2016 – Faurecia
 - Onorati Andrea (MS), graduated April 2015 – Philip Morris International
 - Langarelli Sellani Federico (MS), graduated in 2012 – Maserati
 - Pascolini Enrico (MS), graduated in 2009 – Ferrari
 - Tabarrini Simone (MS), graduated in 2009 – Ferrari
 - Listori Marco (MS), graduated in 2009 – General Electric
 - Monaldi Michelangelo (MS), graduated in 2007 – Rolls Royce

Publications (updated January 31st, 2020)

Citation report	h-index	citations	
Scopus:	18	937	https://www2.scopus.com/authid/detail.uri?authorId=36093861700
Google Scholar:	21	1311	https://scholar.google.it/citations?user=yVL2RyoAAAAJ&hl=en&oi=ao

Editorial collocation:

I have (co)authored more than 90 scientific papers, 30+ of which published on international journals with referees, 35+ presented at international congresses with referees, 2 book chapters, and the remaining presented at international or national conferences or symposia.

List of Publications

Journal Articles

- J30 Cruccolini V., Discepoli G., Cimarello A., Battistoni M., Mariani F., Grimaldi C. N., Dal Re M., (2020), “Lean combustion analysis using a corona discharge igniter in an optical engine fueled with methane and a hydrogen-methane blend”. *Fuel*, 259, 116290. doi: 10.1016/j.fuel.2019.116290.
- J29 Keser R., Vukčević V., Battistoni M., Im H., Jasak H., (2019), “Implicitly coupled phase fraction equations for the Eulerian multi-fluid model”, *Computers and Fluids*, 192,104277, 2019, doi.org/10.1016/j.compfluid.2019.104277.
- J28 Yue Z., Battistoni M., Som S., (2020), “Spray characterization for ECN Spray G injector using high-fidelity simulation with detailed injector geometry”, *International Journal of Engine Research*, 21:1, 2020, 226-238; doi.org/10.1177/1468087419872398.

- J27 Zembi J., Battistoni M., Grimaldi C. N., Ranuzzi F., Cavina N. and De Cesare M., (2019), “CFD Analysis of Port and Quasi-Direct Water Injection in a GDI Engine under Incipient Knock Conditions”, *Energies* 12(18),3409, 2019; doi.org/10.3390/en12183409.
- J26 Stocchi, I., Liu, J., Dumitrescu, C. E., Battistoni, M., & Grimaldi, C. N. (2019). “Effect of Piston Crevices on the Numerical Simulation of a Heavy-Duty Diesel Engine Retrofitted to Natural-Gas Spark-Ignition Operation”. *Journal of Energy Resources Technology*, 141(11), 112204. doi:10.1115/1.4043709.
- J25 Battistoni M., Som S., C.F. Powell, (2019) “Highly Resolved Eulerian Simulations of Fuel Spray Transients in Single and Multi-Hole injectors: nozzle flow and near-exit dynamics”, *Fuel* 251, 2019, 709–729. doi.org/10.1016/j.fuel.2019.04.07.
- J24 Battistoni M., Magnotti G.M., Genzale, C. L., Arienti M., Matusik K.E., Duke D.J., Giraldo J., Ilavsky J., Kastengren A.L., Powell C.F., Marti-Aldaravi P., (2018), "Experimental and Computational Investigation of Subcritical Near-Nozzle Spray Structure and Primary Atomization in the Engine Combustion Network Spray D," *SAE Int. J. Fuels Lubr.* 11(4):377-352, 2018, https://doi.org/10.4271/2018-01-0277.
- J23 Saha K., Som S. and Battistoni M., (2017), "Investigation of Homogeneous Relaxation Model Parameters and their Implications for Gasoline Injectors," *Atomization and Sprays* 27 (4), 345-365, doi:10.1615/AtomizSpr.2017016338.
- J22 Saha K., Som S., Battistoni M., Li Y., Pomraning E., Senecal P.K., (2016), "Numerical Investigation of Two-phase Flow Evolution of In- and Near-Nozzle Regions of a Gasoline Direct Injection Engine During Needle Transients," *SAE Int. J. Engines* 9(2):1230-1240, 2016, doi:10.4271/2016-01-0870.
- J21 Saha K., Som S., Battistoni M., Li Y., Quan, S., Senecal P.K., (2016), " Modeling of Internal and Near-Nozzle Flow for a Gasoline Direct Injection Fuel Injector," *Journal of Energy Resources Technology, ASME* 138 (5) 2016, 052208, doi:10.1115/1.4032979.
- J20 Battistoni M., Poggiani C., and Som S., (2015), "Prediction of the Nozzle Flow and Jet Characteristics at Start and End of Injection: Transient Behaviors," *SAE Int. J. Engines* 9(1):2016, doi:10.4271/2015-01-1850.
- J19 Battistoni M., Xue Q., Som S., (2016), “Large-Eddy Simulation (LES) of Spray Transients: Start and End of Injection Phenomena”, *Oil & Gas Science Technology*, published by IFP Energies Nouvelles, 2016, 71 (4), doi: 10.2516/ogst/2015024.
- J18 Battistoni M., Duke, J.D., A.L., Swantek, Tilocco, F.Z., Powell, C.F., Som, S., (2015), “Effects of Non-Condensable Gas on Cavitating Nozzles”, *Atomization and Sprays*, 25 (6), 453-483, doi: 10.1615/AtomizSpr.2015011076.
- J17 Xue Q., Battistoni M., Powell C.F., Longman D.E., Quan S., Pomraning E., Senecal P.K., Schmidt D.P., Som S., (2015), “An Eulerian CFD Model and X-ray Radiography for Coupled Nozzle Flow and Spray in Internal Combustion Engines”, *International Journal of Multi-phase Flows*, 70, 77-88.
- J16 Zhao, H., Quan, S., Dai, M., Pomraning, E., Senecal, P.K., Xue, Q., Battistoni, M., and Som, S., (2014), “Validation of a Three-Dimensional Internal Nozzle Flow Model Including Automatic Mesh Generation and Cavitation Effects”, *J. Eng. Gas Turbines Power, ASME* 136(9):092603-092603-10, GTP-14-1111.
- J15 Xue, Q., Battistoni, M., Som, S., Quan, S., Senecal, P.K., Pomraning, E., Schmidt, D., (2014), “Eulerian CFD Modeling of Coupled Nozzle Flow and Spray with Validation against X-ray Radiography Data”, *SAE Int. J. Engines* 7(2):2014, doi:10.4271/2014-01-1425.
- J14 Battistoni, M., Xue, Q., Som, S., and Pomraning, E., (2014), "Effect of Off-Axis Needle Motion on Internal Nozzle and Near Exit Flow in a Multi-Hole Diesel Injector," *SAE Int. J. Fuels Lubr.* 7(1):2014, doi:10.4271/2014-01-1426.
- J13 Battistoni, M., Som, S., Longman, D.E., (2014), “Comparison of Mixture and Multifluid Models for In-Nozzle Cavitation Prediction”, *J. Eng. Gas Turbines Power*, 136(6):061506-061506-12.

- J12 Mariani, F., Grimaldi, C.N., Battistoni, M., (2013), “Diesel engine NOx emissions control: An advanced method for the O2 evaluation in the intake flow”, *Applied Energy* 113, 576–5888, Elsevier.
- J11 Postrioti, L.; Mariani, F.; Battistoni, M.; (2012), “Experimental and numerical momentum flux evaluation of high pressure Diesel spray”, *Fuel*, 98 149-163, Elsevier.
- J10 Battistoni, M.; Grimaldi, C.N.; (2012), “Numerical analysis of injector flow and spray characteristics from diesel injectors using fossil and biodiesel fuels”, *Applied Energy*, 97 656-666, Elsevier.
- J9 Postrioti, L., Battistoni, M., Ungaro, C., and Mariani, A., (2011) "Analysis of Diesel Spray Momentum Flux Spatial Distribution," *SAE Int. J. Engines* 4(1):720-736, 2011, doi:10.4271/2011-01-0682.
- J8 Battistoni, M. and Grimaldi, C., (2010), "Analysis of Transient Cavitating Flows in Diesel Injectors Using Diesel and Biodiesel Fuels," *SAE Int. J. Fuels Lubr.* 3(2):879-900, 2010, doi:10.4271/2010-01-2245.
- J7 Postrioti, L., Mariani, F., Battistoni, M., and Mariani, A., (2009), "Experimental and Numerical Evaluation of Diesel Spray Momentum Flux," *SAE Int. J. Engines* 2(2):287-299, 2010, doi:10.4271/2009-01-2772.
- J6 Battistoni, M., Mariani, F., Foschini, L., and Cristiani, M., (2008), "A Parametric Optimization Study of a Hydraulic Valve Actuation System," *SAE Int. J. Engines* 1(1):970-984, 2009, doi:10.4271/2008-01-1356.
- J5 Battistoni, M.; Mariani, F.; Postrioti, L.; Grimaldi, C.N.; Cristiani, M.; Petrone, M.; Petrecchia, S.; (2007), “Numerical Analysis of a New Concept Variable Valve Actuation System”, *SAE 2006 Transactions – Part 3 – Journal of Engines*, ISSN: 0096-736X, SAE Paper 2006-01-3008, Vol. 115, No. 3, pp. 812-823, March 2007, SAE International, Warrendale, PA, USA.
- J4 Battistoni, M.; Pispola, G.; Grimaldi, C.N.; Mattogno, G.; Bellato, N.; (2007), “Dependence of NVH Performance of Plastic Air Intake Manifolds on the Structural Design”, *SAE 2006 Transactions – Part 6 – Journal of Passenger Cars: Mechanical Systems*, ISSN: 0096-736X, SAE Paper 2006-01-0705, Vol. 115, No. 6, pp. 612-623, March 2007, SAE International, Warrendale, PA, USA.
- J3 Grimaldi, C.N.; Battistoni, M.; Uccellani, M.; (2005), “Dependence of Flow Characteristics of a High Performance S.I. Engine Intake System on Test Pressure and Tumble Generation Conditions - Part 1: Experimental Analysis”, *SAE 2004 Transactions – Part 3 – Journal of Engines*, ISSN: 0096-736X, SAE Paper 2004-01-1530, Vol. 113, No.3, pp. 1044-1056, June 2005, SAE International, Warrendale, PA, USA.
- J2 Postrioti, L.; Battistoni, M.; Grimaldi, C.N.; Millo, F.; (2004), “Injection Strategies Tuning for the use of Bio-Derived Fuels in a Common Rail HSDI Diesel Engine”, *SAE 2003 Transactions – Part 4 – Journal of Fuels and Lubricants*, ISSN: 0096-736X, SAE Paper 2003-01-0768, Vol. 112, No. 4, pp. 420-430, September 2004, SAE International, Warrendale, PA, USA.
- J1 Grimaldi, C.N.; Postrioti, L.; Battistoni, M.; Millo, F.; (2003), “Common Rail HSDI Diesel Engine Combustion and Emissions with Fossil/Bio-Derived Fuel Blends”, *SAE 2002 Transactions – Part 3 – Journal of Engines*, ISSN: 0096-736X, SAE Paper 2002-01-0865, Vol. 111, No. 3, pp. 1453-1461, September 2003, SAE International, Warrendale, PA, USA.

Book Chapters

- B2 Saha K., Battistoni M., Som S., Li X. (2019), “Modeling of Cavitation in Fuel Injectors with Single- and Two-Fluid Approaches”. In: Saha K., Agarwal A. K., Ghosh K., Som S. (eds), *Two-Phase Flow for Automotive and Power Generation Sectors. Energy, Environment, and Sustainability*. Springer Nature Singapore Pte Ltd. 2019. doi.org/10.1007/978-981-13-3256-2_7.
- B1 Saha K., Battistoni M., Som S. (2018), “Modeling of Flash Boiling Phenomenon in Internal and Near-Nozzle Flow of Fuel Injectors”. In: Basu S., Agarwal A., Mukhopadhyay A., Patel C. (eds) *Droplets and*

Sprays - Applications for Combustion and Propulsion. Energy, Environment, and Sustainability. Springer, Singapore. doi:10.1007/978-981-10-7449-3_7.

Peer-Reviewed Conference Proceedings

- C38 Pandal A., Rahantamialisoa F., Ningegowda B., Battistoni M., "An Enhanced Σ -Y Spray Atomization Model Accounting for Diffusion Due to Drift-Flux Velocities," SAE Technical Paper 2020-01-0832, 2020.
- C37 Ningegowda B.M., Rahantamialisoa F., Zembi J., Pandal A., Im H.G., Battistoni M., "Large Eddy Simulations of Supercritical and Transcritical Jet Flows using Real Fluid Thermophysical Properties", SAE Technical Paper 2020-01-1153.
- C36 Vukcevic, V., Keser, R., Jasak, H., Battistoni, M. et al., "Development of a CFD Solver For Primary Diesel Jet Atomization in FOAM-Extend," SAE Technical Paper 2019-24-0128, 2019.
- C35 Zembi, J., Mariani, F., and Battistoni, M., "Large Eddy Simulation of Ignition and Combustion Stability in a Lean SI Optical Access Engine," SAE Technical Paper 2019-24-0087, 2019.
- C34 Ambrogi, L., Liu, J., Battistoni, M., Dumitrescu, C. et al., "CFD Investigation of the Effects of Gas' Methane Number on the Performance of a Heavy-Duty Natural-Gas Spark-Ignition Engine," SAE Technical Paper 2019-24-0008, 2019.
- C33 Gasbarro, L., Liu, J., Dumitrescu, C., Ulishney, C. et al., "Heavy-Duty Compression-Ignition Engines Retrofitted to Spark-Ignition Operation Fueled with Natural Gas," SAE Technical Paper 2019-24-0030, 2019.
- C32 F. Ricci, J. Zembi, M. Battistoni, C. N. Grimaldi, G. Discepoli, L. Petrucci, "Numerical Simulation of the Early Flame Development Produced by an Advanced Radio Frequency Ignition System in an Optical Access Engine", SAE Technical Paper 2019-24-0231, 2019.
- C31 Magnotti, G. M., Battistoni, M., Saha, K., & Som, S. (2019). Influence of Turbulence and Thermophysical Fluid Properties on Cavitation Erosion Predictions in Channel Flow Geometries. SAE Technical Paper Series. doi:10.4271/2019-01-0290.
- C30 J. Zembi, M. Battistoni, F. Ranuzzi, N. Cavina and M. De Cesare, CFD Simulations of Port Water Injection Benefits in a GDI Engine un-der Knock-Limited Conditions. THIESEL 2018 Conference on Thermo- and Fluid Dynamic Processes in Direct Injection Engines, Valencia, 2018.
- C29 Stocchi, I., Liu, J., Dumitrescu, C. E., Battistoni, M., & Grimaldi, C. N. (2018). Effect of Piston Crevices on 3D Simulation of a Heavy-Duty Diesel Engine Retrofitted to Natural Gas Spark Ignition. Volume 6A: Energy. doi:10.1115/imece2018-87783.
- C28 Cruccolini, V., Discepoli, G., Zembi, J., Battistoni, M., Mariani, F., & Grimaldi, C. (2018). Experimental Assessment of a Pressure Wave Charger for Motorcycle Engines. Energy Procedia, 148, 1254-1261. doi:10.1016/j.egypro.2018.08.002.
- C27 Discepoli, G., Cruccolini, V., Re, M. D., Zembi, J., Battistoni, M., Mariani, F., & Grimaldi, C. (2018). Experimental assessment of spark and corona igniters energy release. Energy Procedia, 148, 1262-1269. doi:10.1016/j.egypro.2018.08.001.
- C26 Cimarello, A., Cruccolini, V., Discepoli, G., Battistoni, M. et al., "Combustion Behavior of an RF Corona Ignition System with Different Control Strategies," SAE Technical Paper 2018-01-1132, 2018, doi:10.4271/2018-01-1132.
- C25 Battistoni, M., Grimaldi, C., Cruccolini, V., Discepoli, G., De Cesare, M., "Assessment of Port Water Injection Strategies to Control Knock in a GDI Engine through Multi-Cycle CFD Simulations," SAE Technical Paper 2017-24-0034, 2017.

- C24 Saha K., Quan S., Battistoni M., Som S., Senecal P.K., Pomraning E. “Coupled Eulerian Internal Nozzle Flow and Lagrangian Spray Simulations for GDI Systems”, SAE Technical Paper 2017-01-0834, 2017, doi:10.4271/2017-01-0834, 2017 SAE World Congress, Detroit, MI (USA).
- C23 Cimarello A., Grimaldi C.N., Mariani F., Battistoni M., Dal Re M., “Analysis of RF Corona Ignition on an Optical Access Engine in Lean Operating Conditions”, SAE Technical Paper 2017-01-0673, 2017, doi:10.4271/2017-01-0673, 2017 SAE World Congress, Detroit, MI (USA).
- C22 Westlye F.R., Battistoni, M., Skeen S., Manin J., Pickett L.M., Ivarsson A., (2016), " Penetration and Combustion Characterization of Cavitating and Non-Cavitating Fuel Injectors," SAE Paper 2016-01-0860, doi:10.4271/2016-01-0860, 2016 SAE World Congress, Detroit, MI (USA).
- C21 Poggiani C., Cimarello A., Battistoni M., Grimaldi C.N., Dal Re M., De Cesare M., (2016), “Optical Investigation on a Multiple Spark Ignition System for Lean Engine Operation”, SAE Technical Paper 2016-01-0711, 2016, doi:10.4271/2016-01-0711, 2016 SAE World Congress, Detroit, MI (USA).
- C20 Battistoni, M., Mariani F., Risi F., Poggiani C., (2015), "Combustion CFD Modeling of a Spark Ignited Optical Access Engine Fueled with Gasoline and Ethanol", *Energy Procedia*, 82, 424-431, Elsevier.
- C19 Poggiani C., Battistoni, M., Grimaldi C.N., Magherini A., (2015), "Experimental Characterization of a Multiple Spark Ignition System," *Energy Procedia*, 82, 89-95, Elsevier.
- C18 Battistoni, M.; Poggiani, C.; Grimaldi, C.N.; (2013), “Experimental Investigation of a Port Fuel Injected Spark Ignition Engine Fuelled with Variable Mixtures of Hydrogen and Methane”, SAE Paper 2013-01-0226, 2013 SAE World Congress, Detroit, MI (USA).
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