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SHORT CURRICULUM VITAE OF THE LECTURER

Davide Paredi, PhD.
Thermal Engineer at Rimac Technology

Davide Paredi was born in Italy in 1990.
Fluent in Italian and English languages, he is an Energy Engineer with a Ph.D. Degree and more than 10 years of experience in performing Computational Fluid Dynamics (CFD) simulations.
Currently employed within the automotive industry at Rimac Technology R&D Model Based Engineering department, he is responsible for the management of Conjugate Heat Transfer (CHT) and multiphase CFD simulations related to cooling and lubrication of E-machines, electrothermal modeling of battery systems and cooling of electronic components.
He obtained a Ph.D. Degree with Honours in Energy and Nuclear Science and Technology at the Department of Energy of Politecnico di Milano by discussing the implementation into the OpenFOAM numerical framework of Lagrangian models aimed at improving the reproduction of atomization and breakup phenomena typical of internal combustion engine gasoline and diesel sprays.
With 11 international publications, during his academic period he collaborated with different industrial partners on multiple European Projects by performing CFD simulations aimed at the design and development of light-duty and heavy-duty internal combustion engines.
He has also been teaching assistant for “Macchine e Sistemi Energetici” Mechanical Engineering Bachelor’s Degree course of Politecnico di Milano during academic years 2017-2018, 2018-2019, 2019-2020 and 2020-2021.

List of publications:
• Zhou, Q., Lucchini, T., D’Errico, G., Paredi D., et al., "CFD Modeling of Impinging Sprays Under Large Two-Stroke Marine Engine-Like Conditions", SAE Technical Paper 2022-01-0493, 2022, https://doi.org/10.4271/2022-01-0493

• Pati A, Paredi D, Welch C, et al. Numerical and experimental investigations of the early injection process of Spray G in a constant volume chamber and an optically accessible DISI engine. International Journal of Engine Research. August 2021. doi:10.1177/14680874211039422
• Migliaccio, M., Montanaro, A., Lucchini, T., Allocca, L., Paredi, D., "Numerical Investigation on GDI Spray under High Injection Pressure up to 100 MPa" SAE Technical Paper 2020-01-2108, 2020
• Pati, A., Paredi, D., Lucchini, T., and Hasse, C., "CFD Modeling of Gas-Fuel Interaction and Mixture Formation in a Gasoline Direct-Injection Engine Coupled With the ECN Spray G Injector", SAE Technical Paper 2020-01-0327, 2020
• Paredi D, Lucchini T, D'Errico G, Onorati A, Pickett L, Lacey J., "Validation of a comprehensive computational fluid dynamics methodology to predict the direct injection process of gasoline sprays using Spray G experimental data." International Journal of Engine Research. 2020;21 (1):199-216. doi:10.1177/1468087419868020
• D. Paredi, T. Lucchini, G. D'Errico, A. Onorati, L. Pickett, J. Lacey, "CFD Modeling of Spray Evolution for Spark-Ignition, Direct Injection Engines", 74° ATI National Congress, AIP Conference Proceedings 2191(1):020125, December 2019
• Migliaccio, M., Montanaro, A., Paredi, D., Lucchini, T. et al., "CFD Modeling and Validation of the ECN Spray G Experiment under a Wide Range of Operating Conditions", SAE Technical Paper 2019-24-0130, 2019
• Lucchini, T., D'Errico, G., Paredi, D., Sforza, L. et al., "CFD Modeling of Gas Exchange, Fuel Fuel-Air Mixing and Combustion in Gasoline Direct-Injection Engines", SAE Technical Paper 2019-24-0095, 2019
• Stefano Golini and David D'Amato and Sergio Giordana and Paolo Grosso and Diego Iudice and Anton Arnberger and Gernot Hasenbichler and Davide Paredi and Peter Grabner, "Development and Testing of an Innovative Gas Engine for Heavy Duty Applications", AVL International Commercial Powertrain Conference, ICPC; Conference date: 21-05-2019 Through 23-05-2019
• Paredi, D., Lucchini, T., D'Errico, G., Onorati, A. et al., "Combined Experimental and Numerical Investigation of the ECN Spray G under Different Engine-Like Conditions", SAE Technical Paper 2018-01-0281, 2018
• Paredi, D., Lucchini, T., D'Errico, G., Onorati, A. et al., "Gas Exchange and Injection Modeling of an Advanced Natural Gas Engine