Tommaso Lucchini performs research and teaching activities in the fields of fluid machines mainly focusing on internal combustion engines. He is currently in charge for Fluid Machines courses (BSc Mechanical Engineering and MSc Energy Engineering) and the course Computational Fluid Dynamics with Open-Source Software for the PhD school. His research is focused on CFD modeling of thermal and fluid dynamic processes of gas exchange, fuel air-mixing and combustion in Internal Combustion Engines. To this end, he develops and apply the Lib-ICE library which is based on the OpenFOAM technology. Currently his interests are related to the evolution of IC Engines in the context of energy transition: use of low-carbon fuels (hydrogen, methanol, ammonia, DME) and new high-efficiency concepts (free-piston linear generators, split-cycle engines). Within this context, the availability of accurate and predictive numerical models allows a fast and effective design and development of new, high-efficiency engines with reduced pollutant emissions. Tommaso Lucchini participates to National and European Research projects and his numerical approaches are adopted also in the context of industrial activities. He collaborates with different universities and research centers. Tommaso Lucchini authored more than 140 scientific publications and in 2017 he received the SAE John Johnson Award for Outstanding Research in Diesel Engines.