ANTONIO ZIPPO

Professor Antonio Zippo is an Associate Professor at the “Enzo Ferrari” Department of Engineering, University of Modena and Reggio Emilia (UNIMORE), where he teaches Mechanism and Machine Theory, Applied Mechanics, Mechanical Vibrations, Multibody Dynamics, Vehicle Mechanics and testing, Predictive/Prognostic Maintenance, and Biomechanics. He holds a PhD in Advanced Mechanics and Vehicle Techniques and has over 15 years of experience combining analytical modeling, numerical simulation, and experimental testing to tackle real-world vibration and dynamics problems.

His research focuses on nonlinear dynamics and vibration analysis, including stability, bifurcations, and chaos, with applications ranging from thin-walled structures and active vibration control to electric powertrain dynamic coupling and NVH mitigation using compliant and metamaterial-inspired solutions. He also investigates fluid–structure interaction in non-Newtonian contexts and bioengineering themes, including upper-limb modeling and signal analysis of essential and Parkinsonian tremor, through the lens of nonlinear dynamical coupling.

Professor Zippo has led and contributed to major projects such as NATO’s CoMetA, THEORETIC, and REFIMAN, as well as grants including FAR2022 and CONSORZIO FUTURO IN RESEARCH, often centered on digital twins, predictive diagnostics, and sustainable technologies. He has published 93 papers (h-index 15; 538 citations) and achieved national qualification for Full Professor in 2023. He is part of UNIMORE’s Vibration, NVH, and Powertrain Laboratory and maintains active collaborations with industry and international partners.