



UNIMORE
UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA

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C.V. di Sara Mantovani

Sara Mantovani is Associate Professor in the field of Machine Design (IIND-03/A) at the "Enzo Ferrari" Department of Engineering (DIEF), of the University of Modena and Reggio-Emilia (UNIMORE) in Modena from December 2021.

From December 2018 to December 2021, she served as Fixed-Term Researcher Letter B (Law 240/10 - T. Det. Type B), while from May 2017 to December 2018 she was Fixed-Term Researcher Letter A (Law 240/10 - T. Det. Type A).

Education

Born in Bologna, 03/16/1984, she obtained a three-year degree in Materials Engineering at the Faculty of Engineering of the University of Modena on the 25/10/2007 with a 103/110 final mark and subsequently at the same institution she obtained the Master Degree in Design and Development of New Materials on the 05/11/2009 with a 108/110 final mark presenting the thesis entitled: "Analysis of problems relating to the calculation of structures made with composite materials".

She finally earned her PhD in March 2013 at the School of High Mechanics and Automotive Design - XXV Cycle at the UNIMORE with the thesis entitled: "Design problems for structural components made of composite: the importance of the material, optimization algorithms and calculation methodologies, the technological process".

Research activities

Her research activity has developed in the fields of structural analysis of traditional metallic components such as shaft-hub fittings, engine parts, connecting-rod and piston pin. Further areas of research have concerned the analysis of structural components in composite material both for automotive light- and for off-highway vehicles. More recently, she deals with issues related to the design of automotive chassis for sports cars for evaluating their static, dynamic and crash performance *e.g.* bumpers, headlights, engine compartment covers, multi-material front absorbers, using Finite Element modelling techniques or simplified analytical models' representative of the problem under scrutiny.

She has been co-supervisor of several Bachelor theses in Mechanical Engineering and of Master theses in Mechanical Engineering and Vehicle Engineering in the field of Machine Design in UNIMORE. She has participated as a speaker and/or co-author in recognized scientific conferences at national and international level. From April 2017 to today, she has reviewer for several international journals such as Mathematical Problems in Engineering, Engineering Failure Analysis ASME, Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, Journal of Sandwich Structures and Materials, Metals, Materials, Applied Sciences.

Sara Mantovani is member of the editorial committee for Engineering Failure Analysis (EFA), and she is the national representative for Italy in the European working group of this editorial committee.

EFA (ISSN: 1350-6307, 2-year Impact Factor (2024): 5.7) is indexed in SCOPUS, and published by Elsevier, and journal covers the two following research areas: Engineering and Materials Science, in which the failure modes of structures are critically discussed and preventive solutions to avoid new failures are provided. According to the Scopus database for the Year 2024, the Journal is placed in the Q1 quartile and 90-th percentile of the General Engineering sub-category.

Institutional positions

Since December 2018, she has held the role of scientific head of the [MilleChili](#) research laboratory located at the DIEF, of which since May 2017 she has held the role of technical coordinator. Since May 2024, she has also managed the activities of the [MilleChili Materiali](#) research laboratory as a technical contact.

Since March 2019, she has been a member of the Teaching Board of the "Enzo Ferrari" Doctoral Course in Industrial and Territorial Engineering, and since March 2024 he has been a member of the Teaching Board of the Doctoral Course in Mechanical and Vehicle Engineering.

She obtained the National Scientific Qualification for becoming a Full Professor on the 09/IIND-03, Industrial Design, Mechanical Constructions and Metallurgy in December, 2023.

Since 2016, she has continuously taught at the Higher Institute of Mechanics, Mechatronics, Motor Engineering and Packaging of Emilia-Romagna (ITS Makers), of the Innovation, Learning and Work system of Emilia-Romagna (IAL) and of the Master in Vehicle Engineering (Level II University Master), promoted, among others, by the "Enzo Ferrari" Department of Engineering of the University of Modena and Reggio-Emilia.

As expert for the virtual delivery of automotive chassis, she held several cycles of lectures and seminars at the Politecnico of Bari and the University of Trento - Industrial Engineering Department (Level II University Master in Autonomous Driving and Enabling Technologies).

Since September 2025, she has served as Communication and Social Media Officer for the "Enzo Ferrari" Department of Engineering (DIEF) at the University of Modena and Reggio Emilia, overseeing the department's communication activities and social media presence. Since November 2024, she has also been a member of the DIEF Executive Board and act as the Departmental Delegate for Relations with Student Representatives, PhD Programmes, and Non-Tenured Research Staff, fostering dialogue and collaboration among these key stakeholders within the department.

Academic courses

Since 2009, she has supported the educational activities of the Machine Design Group at DIEF, *e.g.* member of the examination commission for courses on the design of machine and chassis components both in mechanical and vehicle engineering degree.

From the A.Y. 2017-2018 to today, she holds the Vehicle Chassis Design course (CFU: 6), subsequently increased to 9 CFU, for the Master's Degree Course in Vehicle Engineering.

From the A.Y. 2018-2019 to today, she participates as a co-teacher in the course called Computer aided design and analysis of machine elements (CFU: 9), now updated and called Structural Modeling

of Mechanical Components (CFU: 9), relating to the Master's Degree Course in Mechanical Engineering.

From the A.Y. 2022-2023 to today, she participated as a co-teacher in the course called Machine Design (CFU: 9) for the Bachelor's Degree Course in Vehicle Engineering.

For the A.Y. 2018-2019 only, she participated as a co-teacher in the course called Structural Engine Design (CFU: 6), for the Master's Degree Course in Vehicle Engineering.

Publications and Bibliometric Performance

The contributions published in international journals and conference proceedings can be accessed in the [Elsevier Scopus](#) database; the most relevant bibliometric indicators are reported below:

- Articles in the last 10 years: 49
- Citations in the last 15 years: 591
- H-index calculated through the last 15 years: 14

Funded competitive projects/grants

Sara Mantovani as a Type B Fixed-Term Researcher then, and now as an Associate Professor, belonging to DIEF, has worked in the following competitive research projects:

1. National

a) Research Projects of Significant National Interest (PRIN) for the proposal entitled "Green Optimizations by Additive-manufactured Lightweight Structures (GOALS). Sara Mantovani, is CO-PI of the proposal and was identified among the project participants as Scientific Manager of WP3 called: Automotive Case Study.

b) Regional project REGIONAL LAW N.14/2014 APPLICATION FOR CONTRIBUTION FOR ACCESS TO THE REGIONAL SETTLEMENT AND DEVELOPMENT AGREEMENT - IN IMPLEMENTATION OF ART. 6 LR 14/2014 - NOTICE 2019 - Entitled Prototype of hydrogen fuelling and control system set up on a Fuel Cells demonstrator vehicle, from January 01, 2020, to December 31, 2022.

2. European

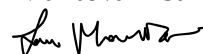
a) H2020-MSCA-RISE-2019 Project, OWHEEL - Benchmarking of Wheel Corner Concepts Towards Optimal Comfort by Automated Driving from January 01, 2020, to December 31, 2024.

Funded projects/grants

During her career, she has worked or held research collaborations with around twenty competitive and non-competitive research projects. The financing bodies include the Emilia-Romagna Region (PROMATEC Project), Fondazione Cassa di Risparmio di Modena, Ferrari Sports Cars and Scuderia Ferrari, Maserati, Bucci Composites, Zephir, Vaccari and Bosi, EMS Group, C-CON GmbH, Cytec Solvay.

Modena, June 17, 2026

Mantovani Sara



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