

Carlo Rosso

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Current position

Associate Professor, Department of Mechanical and Aerospace Engineering - Politecnico di Torino

Areas of specialization

Machine Design - Powertrain Component Design - Gears - Metal replacement

Appointments held

2004-2009	Grant recipient, Politecnico di Torino
2010	Professional experience, freelance
2011-2016	Assistant professor, Politecnico di Torino, Department of Mechanical and Aerospace Engineering
2016-now	Associate professor, Politecnico di Torino, Department of Mechanical and Aerospace Engineering

Education

2001	MSc in Mechanical Engineering, Politecnico di Torino
2001	ENG Professional qualification, Minister of Instruction and Research, Italian Government
2005	PhD in Machine Design and Construction, Politecnico di Torino

Academic activities

2019-today	Member of the Department council
2019-today	Member of the steering committee of the Technology Transfer Laboratory
2004-today	Reviewer for some of the main journals in Mechanical science
2021	Academic editor of Journal Shock and Vibration

Public activities

1999-2009	Member of the city council of Monesiglio
2009-2013	Mayor of Monesiglio
1999-2013	Member of the council of the local Comunità Montana
2020-today	President of the board of directors of GAL Langhe e Roero
2020-today	President of the board of directors of Pruno s.r.l.
2022-today	President of the board of directors of GeDy TrAss s.r.l.

Grants, honors & awards

2005-2008	Grant recipient position for Thermo Mechanical Fatigue study, Politecnico di Torino
2008-2009	PostDoc fellowship, Politecnico di Torino
2018	Grant for the construction of a test bench for measuring static transmission error in gears
2019	GeDy TrAss company, founded by Carlo Rosso, is awarded of the Politecnico di Torino spinoff honor

Scientific activity

Carlo Rosso's research topics are principally related to the static and dynamic analysis, to the design and the experimental validation of mechanical structures and components. He is in particular involved in life assessment and dynamic behaviour of components both from numerical and experimental points of view. These kinds of activities, deeply linked to industrial needs, allow Carlo Rosso to collaborate with several industrial and academic researchers in the automotive, food and aerospace fields. He is active member of the SAE International since 2005. He is also technical advisor of the Public Prosecutor's Offices of Torino, Mondovì, Ivrea and Vigevano.

Publications & talks

Journals

Bruzzone, F. and C. Rosso. "Effect of Web Flexibility in Gear Engagement: A Proposal of Analysis Strategy". In: *Vibration* 5,2 (2022). cited By 0, pp. 200–212. DOI: [10.3390/vibration5020013](https://doi.org/10.3390/vibration5020013). URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85133417791&doi=10.3390%2fvibration5020013&partnerID=40&md5=900241a989b09f9fb57571d2e4d4d20f>.

- Bruzzzone, F., T. Maggi, C. Marcellini, and C. Rosso. "2D nonlinear and non-Hertzian gear teeth deflection model for static transmission error calculation". In: *Mechanism and Machine Theory* 166 (2021). cited By 7. DOI: 10.1016/j.mechmachtheory.2021.104471. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85115387091&doi=10.1016%2fj.mechmachtheory.2021.104471&partnerID=40&md5=f34444a84ede4767dd344560cf3dc44a>.
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- Khan, A., D. Dragatogiannis, et al. "Novel carbon fibers synthesis, plasma functionalization, and application to polymer composites". In: *Express Polymer Letters* 15.4 (2021). cited By 7, pp. 361–374. DOI: 10.3144/EXPRESSPOLYMLET.2021.31. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85112464203&doi=10.3144%2fEXPRESSPOLYMLET.2021.31&partnerID=40&md5=f75f21fc97ae66ceb072c7b316602e8e>.
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Bruzzzone, F., C. Rosso, and Favaro F. "Macchina Eolica". 2019.

Avagnina, D., C. Rosso, and Revelli L. "Braccio telescopico e veicolo semovente provvisto di tale braccio". 2018.

Educational activity

Carlo Rosso gives lectures in the field of mechanical design at Politecnico di Torino since 2002, as assistant and examination commission member for graduate courses. He is also involved in lectures for a Master course (Structural Aspects in Diesel Engine Design and Energy Management for Powertrain) and for Ph.D. courses. He is tutor of more than 160 Bachelor (65) and Master Theses (95).

TEACHING (ALL THE YEARS ARE REFERRED TO 2000)

04 - 22	Fundamentals of structural mechanics for graduation in AUTOMOTIVE ENGINEERING and MECHANICAL ENGINEERING
02 - 07; 10 - 16; 22	Fundamentals of machine design for graduation in different engineering fields
14	Internal combustion engine fundamentals for master in ENERGY MANAGEMENT FOR POWER-TRAINS
11 - 22	Powertrain components design for graduation in AUTOMOTIVE ENGINEERING
14 and 16	Vehicle design for graduation in MECHANICAL ENGINEERING

15, 17, 19

Application of cell method in multiphysics analysis for Ph.D. in ELECTRICAL, ELECTRONICS AND COMMUNICATIONS ENGINEERING and MECHANICAL ENGINEERING

15 and 16

Dynamic design of gears for Ph.D in MECHANICAL ENGINEERING

Service to the profession

Reviewer for Scientific Journals:

- Mechanical Systems and Signal Processing
- Meccanica
- Journal of Process Mechanical Engineering
- ASME congress Turbo Expo
- SAE Technical Paper Series
- Smart Science
- Engineering Science and Technology
- Journal of Advanced Manufacturing Technology
- Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science
- Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering
- Mechanics Based Design of Structures and Machines
- Sensors
- Energies
- Applied Sciences
- Machines
- Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications

Torino, December 22, 2022

Carlo Rosso