

Carlo Rosso

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Born: December 11, 1975—Savona, Italy
Nationality: Italian
Status: Married

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>.

- Bruzzone, 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>.
- Giorcelli, M., M. Bartoli, et al. "High-Temperature Annealed Biochar as a Conductive Filler for the Production of Piezoresistive Materials for Energy Conversion Application". In: *ACS Applied Electronic Materials* 3.2 (2021). cited By 17, pp. 838–844. DOI: 10.1021/acsaelm.0c00971. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85100318590&doi=10.1021%2facsaelm.0c00971&partnerID=40&md5=3b9e2df96b5102557c0901dca833c188>.
- 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/EXPRESSPOLYMLETT.2021.31. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85112464203&doi=10.3144%2fEXPRESSPOLYMLETT.2021.31&partnerID=40&md5=f75f21fc97ae66ceb072c7b316602e8e>.
- Bartoli, M., M.A. Nasir, et al. "Influence of pyrolytic thermal history on olive pruning biochar and related epoxy composites mechanical properties". In: *Journal of Composite Materials* 54.14 (2020). cited By 29, pp. 1863–1873. DOI: 10.1177/0021998319888734. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85075464968&doi=10.1177%2f0021998319888734&partnerID=40&md5=1f785e94031e8854b4fd02c709735fc5>.
- Bartoli, M., C. Rosso, et al. "Effect of incorporation of microstructured carbonized cellulose on surface and mechanical properties of epoxy composites". In: *Journal of Applied Polymer Science* 137.27 (2020). cited By 19. DOI: 10.1002/app.48896. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85083578974&doi=10.1002%2fapp.48896&partnerID=40&md5=70412f409e2988062a729eaf63a9d259>.
- Brusa, E. et al. "Health indicators construction for damage level assessment in bearing diagnostics: A proposal of an energetic approach based on envelope analysis". In: *Applied Sciences (Switzerland)* 10.22 (2020). cited By 9, pp. 1–24. DOI: 10.3390/app10228131. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85096085388&doi=10.3390%2fapp10228131&partnerID=40&md5=986c437a45ff3e147be57478e6b67f1f>.
- Bruzzone, F., C. Delprete, and C. Rosso. "Modelling Strategy and Parametric Study of Metal Gaskets for Automotive Applications". In: *CMES - Computer Modeling in Engineering and Sciences* 125.1 (2020). cited By 0, pp. 51–64. DOI: 10.32604/cmescs.2020.011023. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85091399227&doi=10.32604%2fcmescs.2020.011023&partnerID=40&md5=6f36b9cb1f002acf779e81acb6f61da7>.
- Bruzzone, F. and C. Rosso. "Sources of excitation and models for cylindrical gear dynamics: A review". In: *Machines* 8.3 (2020). cited By 4. DOI: 10.3390/MACHINES8030037. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85088310991&doi=10.3390%2fMACHINES8030037&partnerID=40&md5=074e1bb703163a5524ff04113ce41f56>.
- Delprete, C., E. Brusa, et al. "Bearing Health Monitoring Based on the Orthogonal Empirical Mode Decomposition". In: *Shock and Vibration* 2020 (2020). cited By 10. DOI: 10.1155/2020/8761278. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85077946159&doi=10.1155%2f2020%2f8761278&partnerID=40&md5=4313876a8afbbc0d86c94d1eea18fa41>.
- Razavykia, A. et al. "Functionality Analysis of Thermoplastic Composite Material to Design Engine Components". In: *SAE Technical Papers* 2020-April. April (2020). cited By 0. DOI: 10.4271/2020-01-0774. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85083839371&doi=10.4271%2f2020-01-0774&partnerID=40&md5=ef5b64b2f0ee8f9699cb645b3fafc0cc>.
- Rosso, C., F. Bruzzone, et al. "Influence of Micro Geometry Modification on Gear Dynamics". In: *SAE Technical Papers* 2020-April. April (2020). cited By 2. DOI: 10.4271/2020-01-1323. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85083853049&doi=10.4271%2f2020-01-1323&partnerID=40&md5=a362e9a17359e413a8b51f6275fc3de3>.

- Rovarino, D. et al. "Hardware and Virtual Test-Rigs for Automotive Steel Wheels Design". In: *SAE Technical Papers* 2020-April. April (2020). cited By 0. DOI: 10.4271/2020-01-1231. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85083861273&doi=10.4271%2f2020-01-1231&partnerID=40&md5=8082b7d62f04fab1f2f64b31b45c43d7>.
- Bartoli, M., M. Giorcelli, et al. "Influence of commercial biochar fillers on brittleness/ductility of epoxy resin composites". In: *Applied Sciences (Switzerland)* 9.15 (2019). cited By 33. DOI: 10.3390/app9153109. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85070704798&doi=10.3390%2fapp9153109&partnerID=40&md5=8dbb479ff47928632f943d3f8d893212>.
- Bonisolì, E., C. Rosso, S. Venturini, et al. "Improvements on Design and Validation of Automotive Steel Wheels". In: *Mechanisms and Machine Science* 73 (2019). cited By 5, pp. 1639–1649. DOI: 10.1007/978-3-030-20131-9_162. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85067573522&doi=10.1007%2f978-3-030-20131-9_162&partnerID=40&md5=a36842114b1f6e90ec7d61957b87d9dc.
- Giorcelli, M., A. Khan, et al. "Biochar as a cheap and environmental friendly filler able to improve polymer mechanical properties". In: *Biomass and Bioenergy* 120 (2019). cited By 54, pp. 219–223. DOI: 10.1016/j.biombioe.2018.11.036. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057243556&doi=10.1016%2fj.biombioe.2018.11.036&partnerID=40&md5=a4c970f74afdcdbe5c7b7a7a0689216>.
- Rosso, C., F. Bruzzone, et al. "A proposal for semi-analytical model of teeth contact with application to gear dynamics". In: *SAE Technical Papers* December (2019). cited By 4. DOI: 10.4271/2019-01-2269. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85082751607&doi=10.4271%2f2019-01-2269&partnerID=40&md5=0265493d0969dcf152131395a6e3a137>.
- Khan, A., P. Jagdale, M. Castellino, et al. "Innovative functionalized carbon fibers from waste: How to enhance polymer composites properties". In: *Composites Part B: Engineering* 139 (2018). cited By 18, pp. 31–39. DOI: 10.1016/j.compositesb.2017.11.064. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85036619035&doi=10.1016%2fj.compositesb.2017.11.064&partnerID=40&md5=c6210cd28db5896be2e1562295cc2db7>.
- Khan, A., P. Jagdale, M. Rovere, et al. "Carbon from waste source: An eco-friendly way for strengthening polymer composites". In: *Composites Part B: Engineering* 132 (2018). cited By 19, pp. 87–96. DOI: 10.1016/j.compositesb.2017.08.016. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85028942191&doi=10.1016%2fj.compositesb.2017.08.016&partnerID=40&md5=48abef6b7631af05abc66ff228581ae0>.
- Curà, F., A. Mura, and C. Rosso. "Influence of high speed on crack propagation path in thin rim gears". In: *Fatigue and Fracture of Engineering Materials and Structures* 40.1 (2017). cited By 7, pp. 120–129. DOI: 10.1111/ffe.12481. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84973345834&doi=10.1111%2fffe.12481&partnerID=40&md5=76262405d86741c0b79344fa586aaa94>.
- Delprete, C., C. Rosso, G. Savino, et al. "Advanced vision approach applied to non-contact micro-measurements: a practical application". In: *International Journal of Advanced Manufacturing Technology* 88.1-4 (2017). cited By 2, pp. 471–481. DOI: 10.1007/s00170-016-8755-5. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85009820858&doi=10.1007%2fs00170-016-8755-5&partnerID=40&md5=f6cc1c24e120cd02d63e786ed7ad27b2>.
- Khan, A., P. Savi, et al. "Low-cost carbon fillers to improve mechanical properties and conductivity of epoxy composites". In: *Polymers* 9.12 (2017). cited By 50. DOI: 10.3390/polym9120642. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85035015358&doi=10.3390%2fpolym9120642&partnerID=40&md5=3226008a05b5b7741262fe8830ef320f>.
- Bruzzone, F. and C. Rosso. "Benchmark of the rotordynamics capabilities of the most prominent finite element method software". In: *International Journal of Mechanics and Control* 17.2 (2016). cited By 2, pp. 11–18. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85026756381&partnerID=40&md5=f49f1ca2d93162038a845f9214664000>.
- Sauza-Bedolla, J. et al. "Industrial knowledge management tools applied to engineering education". In: *IFIP Advances in Information and Communication Technology* 492 (2016). cited By 2, pp. 3–12.

- doi: 10.1007/978-3-319-54660-5_1. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85015903166&doi=10.1007%2f978-3-319-54660-5_1&partnerID=40&md5=dfd850e4e4aa6b18032a32ef6b17aab3.
- Curà, F., A. Mura, and C. Rosso. "Effect of centrifugal load on crack path in thin-rimmed and webbed gears". In: *Frattura ed Integrità Strutturale* 9.34 (2015). cited By 9, pp. 447–455. DOI: 10.3221/IGF-ESIS.34.50. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942802531&doi=10.3221%2fIGF-ESIS.34.50&partnerID=40&md5=c17186e691621e6ea92d82a497b817f4>.
- "Effect of rim and web interaction on crack propagation paths in gears by means of XFEM technique". In: *Fatigue and Fracture of Engineering Materials and Structures* 38.10 (2015). cited By 19, pp. 1237–1245. DOI: 10.1111/ffe.12308. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84940893670&doi=10.1111%2fffe.12308&partnerID=40&md5=alacd7ad60df77540e251537d2784af2>.
- "Investigation about crack propagation paths in thin rim gears". In: *Frattura ed Integrità Strutturale* 30 (2014). cited By 11, pp. 446–453. DOI: 10.3221/IGF-ESIS.30.54. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84907995117&doi=10.3221%2fIGF-ESIS.30.54&partnerID=40&md5=62f5561fe4cf9c7eff2dd32253d4829b>.
- Delprete, C., C. Rosso, and C. Scarzella. "New concept for micro-manipulation systems: A practical experience". In: *International Journal of Advanced Manufacturing Technology* 74.5-8 (2014). cited By 2, pp. 1077–1085. DOI: 10.1007/s00170-014-6044-8. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84920710769&doi=10.1007%2fs00170-014-6044-8&partnerID=40&md5=14cc1ef9058886664205deace4f26d7f>.
- Alotto, P. et al. "Classical physical problems". In: *Lecture Notes in Electrical Engineering* 230 (2013). cited By 0, pp. 49–90. DOI: 10.1007/978-3-642-36101-2_4. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84874435516&doi=10.1007%2f978-3-642-36101-2_4&partnerID=40&md5=29fc80ee3b38f2f9db06db297a146668.
- "Constitutive equations". In: *Lecture Notes in Electrical Engineering* 230 (2013). cited By 0, pp. 21–47. DOI: 10.1007/978-3-642-36101-2_3. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84874414745&doi=10.1007%2f978-3-642-36101-2_3&partnerID=40&md5=d38981f87d92f3d93019706f3ef23438.
- "Implementation". In: *Lecture Notes in Electrical Engineering* 230 (2013). cited By 0, pp. 115–129. DOI: 10.1007/978-3-642-36101-2_6. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84874440768&doi=10.1007%2f978-3-642-36101-2_6&partnerID=40&md5=7514b2e1b2a13b594143a5a000351ff5.
- "Multiphysics problems". In: *Lecture Notes in Electrical Engineering* 230 (2013). cited By 4, pp. 91–114. DOI: 10.1007/978-3-642-36101-2_5. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84874431108&doi=10.1007%2f978-3-642-36101-2_5&partnerID=40&md5=7499a493d099123176e7b71c3d55ef5f.
- "Preface". In: *Lecture Notes in Electrical Engineering* 230 (2013). cited By 0, pp. VII–IX. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84874419728&partnerID=40&md5=3b6742d5954cb4581ee5c0ab2ef1dd59>.
- "Tonti diagrams". In: *Lecture Notes in Electrical Engineering* 230 (2013). cited By 2, pp. 1–9. DOI: 10.1007/978-3-642-36101-2_1. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84874403564&doi=10.1007%2f978-3-642-36101-2_1&partnerID=40&md5=3665722d8f7746459f35b130429b6d08.
- "Topological equations". In: *Lecture Notes in Electrical Engineering* 230 (2013). cited By 3, pp. 11–20. DOI: 10.1007/978-3-642-36101-2_2. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84874425708&doi=10.1007%2f978-3-642-36101-2_2&partnerID=40&md5=5f6497f3b2bc0f70befe3812a6857b78.
- Curà, F., F. Gallo, and C. Rosso. "A study of fatigue in high speed gears". In: *International Journal of Mechanics and Control* 14.2 (2013). cited By 1, pp. 9–19. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84890253869&partnerID=40&md5=c9a80610c020a1a70337fc525f45a529>.

- Delprete, C., F. Freschi, et al. "A proposal of nonlinear formulation of cell method for thermo-Elastostatic problems". In: *CMES - Computer Modeling in Engineering and Sciences* 94.5 (2013). cited By 2, pp. 397–420. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84891606293&partnerID=40&md5=44f5083567316fce63f6e2a48d630483>.
- "Experimental validation of a numerical multiphysics technique for electro-thermo-mechanical problem". In: *COMPEL - The International Journal for Computation and Mathematics in Electrical and Electronic Engineering* 29.6 (2010). cited By 3, pp. 1642–1652. DOI: 10.1108/03321641011078706. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-78650377920&doi=10.1108%2f03321641011078706&partnerID=40&md5=47007df70565754d209e64c4a5886d89>.
- Delprete, C., C. Rosso, and A. Vercelli. "Thermo-mechanical analysis of a cast iron exhaust manifold: A comparison between the traditional and a new methodology". In: *SAE Technical Papers* (2010). cited By 1. DOI: 10.4271/2010-01-0498. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85072367519&doi=10.4271%2f2010-01-0498&partnerID=40&md5=53debe913f23a24624d4d996e835b4b8>.
- Bonisolì, E., C. Delprete, and C. Rosso. "Proposal of a modal-geometrical-based master nodes selection criterion in modal analysis". In: *Mechanical Systems and Signal Processing* 23.3 (2009). cited By 40, pp. 606–620. DOI: 10.1016/j.ymsp.2008.05.012. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-58049172351&doi=10.1016%2fj.ymsp.2008.05.012&partnerID=40&md5=ed9a1ce544c30e67c224701ca86b3d28>.
- Delprete, C., F. Pregno, and C. Rosso. "Internal combustion engine design: A practical computational methodology". In: *SAE International Journal of Engines* 2.1 (2009). cited By 6, pp. 263–270. DOI: 10.4271/2009-01-0477. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-77953149698&doi=10.4271%2f2009-01-0477&partnerID=40&md5=a8898d764a181b57801b587229b7b0a4>.
- "Internal combustion engine design: A practical computational methodology". In: *SAE Technical Papers* (2009). cited By 0. DOI: 10.4271/2009-01-0477. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85072364181&doi=10.4271%2f2009-01-0477&partnerID=40&md5=5ead3db4800fa3e2b1d9944fe9f3958e>.
- Delprete, C. and C. Rosso. "An easy instrument and a methodology for the monitoring and the diagnosis of a rail". In: *Mechanical Systems and Signal Processing* 23.3 (2009). cited By 37, pp. 940–956. DOI: 10.1016/j.ymsp.2008.06.004. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-58149132301&doi=10.1016%2fj.ymsp.2008.06.004&partnerID=40&md5=80d36e041f83d227b48b0257e4b6949c>.
- Delprete, C., C. Rosso, and R. Spadotto. "A strategy for quickly analyzing the brake disc mounting bell of racing cars". In: *SAE Technical Papers* (2008). cited By 0. DOI: 10.4271/2008-01-0864. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85072473133&doi=10.4271%2f2008-01-0864&partnerID=40&md5=86164252c8309063eff357c985a3b8b7>.
- Rosso, C. "An easy methodology for designing powertrain bottom protection in composite material of a rally car". In: *SAE Technical Papers* (2008). cited By 0. DOI: 10.4271/2008-01-0863. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85072474290&doi=10.4271%2f2008-01-0863&partnerID=40&md5=eeecc1cf40e4f485fb12a36fd3cfda2e>.
- Bonisolì, E., C. Rosso, and C. Delprete. "Numerical methodology for evaluating side impact effects in rally car". In: *SAE Technical Papers* (2007). cited By 0. DOI: 10.4271/2007-01-0950. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85072414502&doi=10.4271%2f2007-01-0950&partnerID=40&md5=93dcd25571d381e71cc4161f38131238>.
- Delprete, C., S. Fissore, and C. Rosso. "A Numerical Methodology for Evaluating Structural and Dynamic Behavior of a Shaft in Powertrain Application". In: *SAE Technical Papers* 2007-September (2007). cited By 0. DOI: 10.4271/2007-24-0135. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019192291&doi=10.4271%2f2007-24-0135&partnerID=40&md5=ec0f813c2318978d71c60a6f12a70709>.

- Delprete, C. and C. Rosso. "Design and numerical simulation of an optic fibre sensor for damage assessment of structures". In: *Key Engineering Materials* 347 (2007). cited By 0, pp. 393–398. DOI: 10.4028/0-87849-444-8.393. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-34250829611&doi=10.4028%2f0-87849-444-8.393&partnerID=40&md5=fa2308feeb959065a638298d9956e1e8>.
- Baldissera, P., C. Delprete, and C. Rosso. "Numerical and experimental analysis of exhaust manifold gasket". In: *SAE Technical Papers* (2006). cited By 3. DOI: 10.4271/2006-01-1210. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85072436591&doi=10.4271%2f2006-01-1210&partnerID=40&md5=7b557ec276de9fb81b0a8b230273a9a3>.
- Bonisoli, E., C. Delprete, and C. Rosso. "Comparison between dynamic condensation techniques in automotive application". In: *SAE Technical Papers* (2006). cited By 4. DOI: 10.4271/2006-01-1093. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85072441722&doi=10.4271%2f2006-01-1093&partnerID=40&md5=30391c63f61d80926517078cd1130415>.
- Delprete, C., M. Milanese, and C. Rosso. "Rolling bearings monitoring and damage detection methodology". In: *Applied Mechanics and Materials* 3-4 (2005). cited By 3, pp. 293–302. DOI: 10.4028/www.scientific.net/AMM.3-4.293. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-33745128423&doi=10.4028%2fwww.scientific.net%2fAMM.3-4.293&partnerID=40&md5=70bac6550924282f741b11be4dba36cc>.

Proceedings of Conference

- Venturini, S. et al. "Modal Analyses and Meta-Models for Fatigue Assessment of Automotive Steel Wheels". In: cited By 4. 2020, pp. 155–163. DOI: 10.1007/978-3-030-47638-0_17. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85115006915&doi=10.1007%2f978-3-030-47638-0_17&partnerID=40&md5=fc66722ac6234c37aa01ae5ce311142a.
- Bruzzone, F., C. Delprete, and C. Rosso. "A proposal of a unique formula for computing compliance in bolted joints". In: vol. 24. cited By 1. 2019, pp. 167–177. DOI: 10.1016/j.prostr.2020.02.089. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85082738649&doi=10.1016%2fj.prostr.2020.02.089&partnerID=40&md5=119be2f1c58b70c9199d59d391b88912>.
- Bruzzone, F., T. Maggi, C. Marcellini, C. Rosso, and C. Delprete. "Proposal of a novel approach for 3D tooth contact analysis and calculation of the static transmission error in loaded gears". In: vol. 24. cited By 4. 2019, pp. 178–189. DOI: 10.1016/j.prostr.2020.02.015. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85082739146&doi=10.1016%2fj.prostr.2020.02.015&partnerID=40&md5=7622a973d354498b2b4e4d4353f8d133>.
- Fiorentini, F. et al. "Study of two alternative cooling systems of a mold insert used in die casting process of light alloy components". In: vol. 24. cited By 10. 2019, pp. 569–582. DOI: 10.1016/j.prostr.2020.02.050. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85082742580&doi=10.1016%2fj.prostr.2020.02.050&partnerID=40&md5=dc8f5b3a9558a7548e8d3e00c749a7fa>.
- Rosso, C., E. Bonisoli, and F. Bruzzone. "On the Implementation of Metastructures in Rotordynamics". In: cited By 1. 2019, pp. 43–51. DOI: 10.1007/978-3-319-74693-7_5. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85060712264&doi=10.1007%2f978-3-319-74693-7_5&partnerID=40&md5=0d34bc5e8222db40c7d7023cc48abf2e.
- "On the veering phenomenon potential in high speed gears design". In: cited By 0. 2019, pp. 135–142. DOI: 10.1007/978-3-319-74700-2_14. URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061360094&doi=10.1007%2f978-3-319-74700-2_14&partnerID=40&md5=c7ccf2b732d29976c433fca1a6b5a735.

- Curà, F., A. Mura, and C. Rosso. "Investigation of crack propagation path in tube gears". In: vol. 7. cited By 2. 2017, pp. 476–483. DOI: [10.1016/j.prostr.2017.11.115](https://doi.org/10.1016/j.prostr.2017.11.115). URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85065985915&doi=10.1016%2fj.prostr.2017.11.115&partnerID=40&md5=4540abff434a02b229c4c212688f367c>.
- Oliveri, L., C. Rosso, and S. Zucca. "Influence of actual static transmission error and contact ratio on gear engagement dynamics". In: vol. 1. cited By 2. 2017, pp. 143–154. DOI: [10.1007/978-3-319-54404-5_15](https://doi.org/10.1007/978-3-319-54404-5_15). URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85019267217&doi=10.1007%2f978-3-319-54404-5_15&partnerID=40&md5=d50d92ac8e6b7842d7aea71172f3d00ac.
- Rosso, C., E. Bonisoli, and F. Bruzzone. "Could the veering phenomenon be a mechanical design instrument?" In: vol. 10B. cited By 2. 2017, pp. 85–95. DOI: [10.1007/978-3-319-54810-4_10](https://doi.org/10.1007/978-3-319-54810-4_10). URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85035098483&doi=10.1007%2f978-3-319-54810-4_10&partnerID=40&md5=a28e659a3aeb6f0f40e41d6e80765eca.
- Curà, F., A. Mura, and C. Rosso. "Crack propagation behavior in planet gears". In: vol. 2. cited By 9. 2016, pp. 3610–3616. DOI: [10.1016/j.prostr.2016.06.450](https://doi.org/10.1016/j.prostr.2016.06.450). URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84988724889&doi=10.1016%2fj.prostr.2016.06.450&partnerID=40&md5=5273894aa587508805f2a078b5ea6e98>.
- Rosso, C. and E. Bonisoli. "An unified framework for studying gear dynamics through model reduction techniques". In: vol. 6. cited By 4. 2016, pp. 233–242. DOI: [10.1007/978-3-319-29910-5_24](https://doi.org/10.1007/978-3-319-29910-5_24). URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84978766142&doi=10.1007%2f978-3-319-29910-5_24&partnerID=40&md5=2922db5fa6308988a69153714c1dc818.
- Delprete, C. and C. Rosso. "Residual life estimation under low-cycle and thermo-mechanical fatigue conditions: Proposal of a dedicated numerical code". In: vol. 1. cited By 3. 2014. DOI: [10.1115/ESDA2014-20458](https://doi.org/10.1115/ESDA2014-20458). URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84916622987&doi=10.1115%2fESDA2014-20458&partnerID=40&md5=23f09bbb6f8b5fc4a3e399f56f4746a8>.
- Bonisoli, E., G. Marcuccio, and C. Rosso. "Crossing and veering phenomena in crank mechanism dynamics". In: vol. 5. cited By 8. 2013, pp. 175–187. DOI: [10.1007/978-1-4614-6564-5_18](https://doi.org/10.1007/978-1-4614-6564-5_18). URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84880566940&doi=10.1007%2f978-1-4614-6564-5_18&partnerID=40&md5=6f0291a0d0ed951e36b02fd576fab3e.
- Curà, F. and C. Rosso. "Modelling of gear meshing: A numerical approach for dynamic behavior estimation of thin gears". In: vol. 1. cited By 1. 2013, pp. 319–333. DOI: [10.1007/978-1-4614-6570-6_29](https://doi.org/10.1007/978-1-4614-6570-6_29). URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84880542102&doi=10.1007%2f978-1-4614-6570-6_29&partnerID=40&md5=dd9daa395ff1e787bc591a5f13e19444.
- Bonisoli, E., C. Rosso, C. Delprete, and F. Stratta. "Inverse eigensensitivity approach in model updating of avionic components". In: vol. 4. cited By 1. 2012, pp. 149–165. DOI: [10.1007/978-1-4614-2431-4_16](https://doi.org/10.1007/978-1-4614-2431-4_16). URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84861751151&doi=10.1007%2f978-1-4614-2431-4_16&partnerID=40&md5=f5eb2765cca855ea4df57cb9d198eddf.
- Bonisoli, E., C. Rosso, and F. Di Monaco. "Nonlinear testing and models comparison of magneto-mechanical energy scavengers". In: vol. 6. cited By 1. 2012, pp. 63–69. DOI: [10.1007/978-1-4614-2419-2_7](https://doi.org/10.1007/978-1-4614-2419-2_7). URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-84863993423&doi=10.1007%2f978-1-4614-2419-2_7&partnerID=40&md5=67bab9ca5e05cdb199dadcb7d82bfe05.
- Bonisoli, E., C. Delprete, and C. Rosso. "A modal-geometrical selection criterion for master nodes: Numerical and experimental testing". In: vol. 2. cited By 1. 2011, pp. 281–295. DOI: [10.1007/978-1-4419-9305-2_20](https://doi.org/10.1007/978-1-4419-9305-2_20). URL: https://www.scopus.com/inward/record.uri?eid=2-s2.0-79958084624&doi=10.1007%2f978-1-4419-9305-2_20&partnerID=40&md5=a862bda4b116235736eee76e4942cb91.
- Rosso, C., E. Bonisoli, and C. Delprete. "A Modal-Geometrical Selection Criterion for master nodes applied to engine components". In: cited By 0. 2011. DOI: [10.4271/2011-01-0498](https://doi.org/10.4271/2011-01-0498). URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-79959825726&doi=10.4271%2f2011-01-0498&partnerID=40&md5=00dad6254720861045da0f2cc4363f36>.

- Delprete, C., C. Rosso, and R. Sesana. "Damage criterions in thermo-mechanical fatigue models". In: vol. 2006. cited By 2. 2006. DOI: [10.1115/esda2006-95470](https://doi.org/10.1115/esda2006-95470). URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-33845806503&doi=10.1115%2fesda2006-95470&partnerID=40&md5=90104c141513ada7955a4cc07afa9900>.
- Delprete, C. and C. Rosso. "Multi-purpose transducer for railway applications". In: cited By 1. 2005. URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84861544383&partnerID=40&md5=e7ae43e4d23bf806b848b24b48023a28>.

Books

- Tagliaferro, A., M. Giorcelli, and C. Rosso. *Biochar Emerging applications*. IOP, 2020. ISBN: 9780750326605. DOI: [10.1088/978-0-7503-2660-5](https://doi.org/10.1088/978-0-7503-2660-5). URL: <https://iopscience.iop.org/book/978-0-7503-2660-5>.
- Jagdale, P. et al. *Multiwalled carbon nanotube – Strength to polymer composite*. cited By 3. 2016, pp. 1–22. DOI: [10.1515/9783110339727-003](https://doi.org/10.1515/9783110339727-003). URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84979172128&doi=10.1515%2f9783110339727-003&partnerID=40&md5=f25995b14a61b3a58e4174ae3779ba60>.
- Piergiorgio, Alotto et al. *The Cell Method for Electrical Engineering and Multiphysics Problems*. Vol. 230. Springer, 2013. ISBN: 9783642361012. DOI: [10.1007/978-3-642-36101-2](https://doi.org/10.1007/978-3-642-36101-2). URL: <http://www.springer.com/engineering/computational+intelligence+and+complexity/book/978-3-642-36100-5>.

Patents

- Bruzzone, F., C. Marcellini, et al. "Metodo per determinare le deformazioni dei denti, preferibilmente per l'errore statico di trasmissione di ruote dentate". 2019.
- Bruzzone, 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