

# 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

## 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

## 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

## Grants, honors & awards

2005-2008  
2008-2009

Grant recipient position for Thermo Mechanical Fatigue study, Politecnico di Torino  
PostDoc fellowship, Politecnico di Torino

## 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 and Vigevano.

## Publications & talks

### Journals

- 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 0, pp. 120-129. DOI: [10.1111/ffe.12481](https://doi.org/10.1111/ffe.12481). URL: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84973345834&doi=10.1111/ffe.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: *The International Journal of Advanced Manufacturing Technology* (2016), pp. 1-11. ISSN: 1433-3015. DOI: [10.1007/s00170-016-8755-5](https://doi.org/10.1007/s00170-016-8755-5). URL: <http://dx.doi.org/10.1007/s00170-016-8755-5>.
- Delprete, C., C. Rosso, C. Scarzella, et al. "Una microfabbrica nel biomedicale". In: *Il Progettista Industriale* Febbraio 2016 (2016), pp. 40-44.
- Rosso, C. and F. Bruzzone. "Benchmark of the rotordynamics capabilities of the most prominent finite element method software". In: *International Journal of Mechanics and Control* 2 (2016), pp. 11-18.
- 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 0, pp. 3-12. DOI: [10.1007/978-3-319-54660-5\\_1](https://doi.org/10.1007/978-3-319-54660-5_1). URL: [https://www.scopus.com/inward/record.uri?eid=2-s2.0-85015903166&doi=10.1007/978-3-319-54660-5\\_1&partnerID=40&md5=dfd850e4e4aa6b18032a32ef6b17aab3](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85015903166&doi=10.1007/978-3-319-54660-5_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". English. In: *Frattura ed Integrità Strutturale* 34 (in press) (2015), pp. 512-520. ISSN: 19718993. DOI: [10.3221/IGF-ESIS.34.57](https://doi.org/10.3221/IGF-ESIS.34.57).
- "Effect of rim and web interaction on crack propagation paths in gears by means of XFEM technique". English. In: *Fatigue and Fracture of Engineering Materials and Structures* (2015). cited By 0. ISSN: 8756758X. DOI: [10.1111/ffe.12308](https://doi.org/10.1111/ffe.12308). URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84927941853&partnerID=40&md5=83f5519be9163ed740d224ce8587c352>.
- "Investigation about crack propagation paths in thin rim gears". English. In: *Frattura ed Integrità Strutturale* 30 (2014), pp. 446-453. ISSN: 19718993. DOI: [10.3221/IGF-ESIS.30.54](https://doi.org/10.3221/IGF-ESIS.30.54). URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84907995117&partnerID=40&md5=3dea3b83210c7c149fb635a8407beea6>.

- Delprete, C., C. Rosso, and C. Scarzella. "New concept for micro-manipulation systems: a practical experience". English. In: *The International Journal of Advanced Manufacturing Technology* (2014). ISSN: 02683768. DOI: 10.1007/s00170-014-6044-8. URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84902707256&partnerID=40&md5=5e948a9e0052ee11e312733b91362e44>.
- Alotto, P. et al. "Classical physical problems". English. In: *Lecture Notes in Electrical Engineering* 230 (2013), pp. 49–90. ISSN: 18761100. DOI: 10.1007/978-3-642-36101-2-4. URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84874435516&partnerID=40&md5=d604119ba79c96046f14bf75137819a9>.
- "Constitutive equations". English. In: *Lecture Notes in Electrical Engineering* 230 (2013), pp. 21–47. ISSN: 18761100. DOI: 10.1007/978-3-642-36101-2-3. URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84874414745&partnerID=40&md5=02f2c9c7b4d9882f62e37862f10fda79>.
  - "Implementation". English. In: *Lecture Notes in Electrical Engineering* 230 (2013), pp. 115–129. ISSN: 18761100. DOI: 10.1007/978-3-642-36101-2-6. URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84874440768&partnerID=40&md5=4066af2ddac71f13013e33ddf1e0e533>.
  - "Multiphysics problems". English. In: *Lecture Notes in Electrical Engineering* 230 (2013), pp. 91–114. ISSN: 18761100. DOI: 10.1007/978-3-642-36101-2-5. URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84874431108&partnerID=40&md5=5c9a9eb97223236bac592fb6b2565e18>.
  - "Preface". English. In: *Lecture Notes in Electrical Engineering* 230 (2013), pp. VII–IX. ISSN: 18761100. URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84874419728&partnerID=40&md5=3b6742d5954cb4581ee5c0ab2ef1dd59>.
  - "Tonti diagrams". English. In: *Lecture Notes in Electrical Engineering* 230 (2013), pp. 1–9. ISSN: 18761100. DOI: 10.1007/978-3-642-36101-2-1. URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84874403564&partnerID=40&md5=5e1014240fd80459ae8c4182b51672ee>.
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- Curà, F., F. Gallo, and C. Rosso. "A study of fatigue in high speed gears". English. In: *International Journal of Mechanics and Control* 14.2 (2013), pp. 9–19. ISSN: 15908844. URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84890253869&partnerID=40&md5=c9a80610c020a1a70337fc525f45a529>.
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## Proceedings of Conference

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  - "Modellistica e simulazione di un sistema di accumulo inerziale a volano". Italian. In: *Associazione Italiana per l'Analisi delle Sollecitazioni, XXXI Congresso Nazionale*. Parma, IT, 21 Settembre 2002.

## Books

Alotto, P. et al. *The Cell Method for Electrical Engineering and Multiphysics Problems*. Vol. 230. Lecture Note in electrical Engineering DOI:10.1007/978-3-642-36101-2. Springer Berlin Heidelberg, 2013.

## Patents

Bianchi, P., C. Delprete, and C. Rosso. "Pistone migliorato per motori termici alternativi". 2016.

Prandi, M. and C. Rosso. "Dispositivo per aumentare il rendimento di turbine eoliche". 2016.

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Delprete, C. and C. Rosso. "Measuring Device for Load Acting on Rails". 2004.

## 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 140 Bachelor (57) and Master Theses (87).

TEACHING (ALL THE YEARS ARE REFERRED TO 2000)

04 - 17

Fundamentals of structural mechanics for graduation in AUTOMOTIVE ENGINEERING and MECHANICAL ENGINEERING

02 - 07; 10 - 16

Fundamentals of machine design for graduation in different engineering fields

14

Internal combustion engine fundamentals for master in ENERGY MANAGEMENT FOR POWER-TRAINS

11 - 17	Powertrain components design for graduation in AUTOMOTIVE ENGINEERING
14 and 16	Vehicle design for graduation in MECHANICAL ENGINEERING
15 and 17	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

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