

Prof. BELINGARDI Giovanni

Curriculum vitae

Giovanni Belingardi was born in Torino in 1951, he got his Master degree in Mechanical Engineering at the Politecnico di Torino in 1975.

After a short experience with Politecnico di Torino as research fellow, from 1977 he joined the Technical Department of FIAT Auto where he had a number of different roles of increasing responsibility.

From 1983 he came back to Politecnico di Torino and joined the Mechanical Engineering Department as Assistant Professor. Here he developed his academic carrier up to his actual role of full Professor. During the academic year 1994-'95, having won the national selection and being called by that Engineering Faculty, he joined the Ancona University as full Professor.

In 1995 he was called back to the Politecnico di Torino by the second Faculty of Engineering, located in Vercelli, as Full Professor of Mechanical and machine design.

Within his research activity he has studied methodologies for numerical simulation and methodologies for experimental mechanics. Both methodologies are applied to the characterisation and modelling of the mechanical behaviour of materials submitted to fatigue, dynamic and impact loading. Moreover he is working on structural design and experimental testing in automotive engineering, with particular attention to passive safety of vehicle occupants and pedestrians.

In June 2003 he was elected member of the Academic Senate of the Politecnico di Torino.

He is author of more than 160 papers published in national and international scientific journals and in proceedings of national and international conferences.

At present he is in the Editorial Board of the International Journal Adhesives and Adhesion and of the International Journal of Impact Engineering, both of the Elsevier Publisher; furthermore he is usual referee for a number of international journals of the specific area and is member of the scientific committee of several national and international conferences.

Recently he has been the scientific coordinator of the Operative Unit of the Mechanical Engineering Department for four projects of the Vth framework program of the European Union.

At present he is the scientific coordinator of the Operative Unit of the Mechanical Engineering Department for the integrated projects APROSYS – Advanced PROtection SYStems – and SLC - Super Light Car - within the VIth framework program of the European Union and of the pilot project GAST – Green And Safe Transportation.

He has been the scientific coordinator of the Operative Unit of the Mechanical Engineering Department for several research projects funded by the national Ministry for University and Research (MIUR) and by the National Research Council (CNR), in particular it is worth of noticing the CNR finalised project "Special Materials for Advanced Technologies" and the national project "Criteria for strength and integrity of adhesive joints" funded by MIUR in 2000.

He has been the scientific coordinator of the Operative Unit of the Mechanical Engineering Department for several research projects funded by the Regione Piemonte, in particular it is worth of note the project "Fuel consumption reduction and road safety increase in ground transport by non-conventional heat treatment of light weight alloys", already concluded and the on going project "TREES - The 5 Stars of sustainable mobility"

He has developed an intense activity of scientific cooperation with European and American Universities and Centres and has good relationship with a number of researchers. He has been invited to give lectures in several Universities (Ohio State – US, Barcelona (E), Bremen and Kaiserslautern(D), Warsaw and Bielsko Biala (Poland)) and Research Centers (CERN Geneva (CH), JRC at Ispra (I), ATC at Helmond (NL)).

He has an intense activity of applied research cooperation with a number of Italian and European industries in the field of automotive and mechanical engineering.

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List of papers published in International Journals

1 – ISI journals

1. Belingardi G., Genta G., Gola M.M. - "A study of the stress distribution in rotating orthotropic discs", *Composites*, aprile 1979.
2. Belingardi G., Leonti S. - "Modal analysis in the design of an automotive exhaust pipe", *Int. Journal of Vehicle Design*, 1987 n.4/5/6
3. Belingardi G., Calderale P.M., Cozzari G., Zingariello F.- "An approach to sheet metal forming using discretization techniques", *Engineering Computations*, n.4 dicembre 1988
4. Belingardi G., Calderale P.M., Rossetto M. - "Design of composite material drive shafts for vehicular application", *Int. J. of Vehicle Design*, n.6 dicembre 1990, pp.
5. Belingardi G., Chiara A., Fariello M. - "Considerations on the interaction between the press structure and the tool in the deep drawing simulation", *Journal de Physique IV*, novembre 1993
6. Avalle M., Belingardi G. - "A theoretical approach to the optimization of flexural stiffness of symmetric laminates", *Composite Structures* vol.31 (1995), pp.75-86
7. Audenino A., Belingardi G. - "Modelling the dynamic behaviour of a motorcycle damper", *Proc. Institution of Mechanical Engineers*, vol. 209, pp. 249-262, 1995
8. Audenino A., Belingardi G. - "Processing of simultaneous mechanical random response signals: integration, differentiation and phase shifts correction", *Mechanical Systems and Signal Processing*, vol. 10, 1996, pp. 277-291
9. Avalle M., Belingardi G. - "Experimental evaluation of the strain field history during plastic progressive folding of aluminium circular tubes", *Int. J. of Mechanical Science* vol. 39, n. 5 pp. 575-583, 1997
10. Belingardi G., Gugliotta A., Vadori R. - "Numerical simulation of fragmentation of composite material plates due to impact", *Int. J. Impact Engineering*, vol. 21, n.5, pp. 335-347, 1998
11. Avalle M., Belingardi G., Montanini R. – "Characterization of polymeric structural foams under compressive impact loading by means of energy-absorption diagram", *Int. Journal of Impact Engineering*, vol.25, pp. 455-472, 2001
12. Avalle M., Belingardi G., Cavatorta M., Doglione R. - "Static and fatigue strength of a die-cast aluminium alloy under different feeding conditions", *Proc. Instn Mech Engineers Vol. 216 part L - J. Materials: Design and Applications - 2002*, pp. 25-30
13. Avalle M., Belingardi G., Cavatorta M. - "Static and fatigue strength of a die cast aluminium alloy under different feeding conditions", *Metallurgical Science and Technology - 2002*, vol. 20, n. 2, pp. 9-13
14. Avalle M., Belingardi G., Cavatorta M., Doglione R. - "Casting defects and fatigue strength of a die casting aluminium alloy: a comparison between standard specimens and a production component", *Int. J. of Fatigue*, vol. 24, 2002, pp. 1-9
15. Avalle M., Belingardi G. - "Prediction of fold eccentricity in the axial axisymmetric plastic progressive collapse of circular tubes", *J. of Strain Analysis*, vol. 37, 2002, pp. 1-11
16. Belingardi G., Vadori R. - "Low velocity impact tests of laminate glass-fiber-epoxy matrix composite material plates", *Int. Journal of Impact Engineering*, 2002, vol. 27, pp. 213-229
17. Belingardi G., Goglio L., Tarditi A. - "Investigating the effect of spew and chamfer size on the stresses in metal/plastic adhesive joints", *Int. J. of Adhesion & Adhesives*, vol. 22, 2002, pp. 273-282

18. Avalle M., Chiandussi G., Belingardi G. - "Design optimization by response surface methodology: application to crashworthiness design of vehicle structures", *Int. J. Structural Multidisciplinary Optimisation*, 2002, n. 24, pp. 325-332
19. Belingardi G., Cavatorta M.P., Duella R. - "Material characterisation of a composite-foam sandwich for the front structure of a high speed train", *Composite Structures*, 2003, n. 61, pp. 13-25
20. Belingardi G., Vadori R. - "Influence of the laminate thickness in low velocity impact behavior of composite material plate", *Composite Structures*, 2003, n.61, pp. 27-38
21. Belingardi G., Chiandussi G. - "Stress flow in thin walled box beams obtained by adhesive bonding joining technology", *Int. J. of Adhesion & Adhesives*, vol. 24, 2004, pp. 423-439
22. Belingardi G., Goglio L., Rossetto M. - "Impact behaviour of bonded built-up beams: experimental results", *Int. J. of Adhesion & Adhesives*, vol. 25, 2005, pp. 173-180
23. Belingardi G., Cavatorta M.P., Frasca C. - "Bending fatigue behaviour of glass-carbon/epoxy hybrid composite", *Composites Science and Technology*, vol. 66, 2006, pp. 222-232
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25. Belingardi G., Martella P., Peroni L. – "Analysis of the coach rollover scenario", *Vehicle System Dynamics*, 2006, vol. 44, supplement, pp. 455-467
26. Ibba A., Avalle M., Delcroix F., Belingardi G., Kayvantash K. - "Sensitivity and stochastic analysis in a crash simulation environment", *Vehicle System Dynamics*, 2006, vol. 44, supplement, pp. 443-454
27. Avalle M., Belingardi G., Ibba A. – "Mechanical models of cellular solids: Parameters identification from experimental tests", *Int. J. of Impact Engineering*, 2007, vol. 34, pp. 3-27
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37. Belingardi G. - "On the lateral deflection of cylindrical helical springs", Wire, I parte n.3 May 1989, II parte n.4 July 1989, III parte n.5 September 1989
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