

CURRICULUM VITAE – Laura Vergani

PERSONAL DATA

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| NATIONALITY: | Italian |
| AFFILIATION | Department of Mechanical Engineering, Politecnico di Milano |
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EDUCATION

Master of Science in Mechanical Engineering, Politecnico di Milano

WORK EXPERIENCES

- Research and Development Engineer, Worthington S.p.A., Milan, Italy
- Researcher, Mechanical Department, Politecnico di Milano (1983)
- Associate Professor, Mechanical Department, Politecnico di Milano (1998)
- Full Professor, Mechanical Department, Politecnico di Milano (2001)

ACADEMIC AND EDITORIAL ACTIVITIES, PROFESSIONAL MEMBERSHIPS

- President of AIAS (Italian Association of Experimental Mechanics) (2010-2015)
- President of Società Italiana di Progettazione Meccanica e Costruzione di Macchine (2015-2016)
- Executive Board of ASP (Alta Scuola Politecnica)
- Editorial Board of Journal of strain analysis for engineering design
- Member of IGF (Italian Association of Fracture Mechanics)

ORGANIZATION OF CONFERENCES

- Co-Chair of The 30th International Conference on Surface Modification Technologies (SMT30), Milano, June 29-July 1, 2016
- Co-Chair of the XVII International Colloquium “Mechanical Fatigue of Metals” (ICMFM17), Verbania, June 25-27, 2014.
- Co-chair of the International Conference on the mechanical behavior of Materials 11 (ICM 11),

Lake Como, June 5-9, 2011

- Chair of XXXIV Convegno AIAS (Italian Association of Experimental Mechanics), Milan, september 2005

RESEARCH TOPICS

- Composite Materials: behaviour in sour condition; fatigue damage of polymeric composites; experimental characterization; models of damage
- Biomimetic Materials: multiscale approach; experimental characterization
- Hydrogen embrittlement: experimental characterization of hydrogen pre-charged specimens; multi-scale models of embrittlement mechanisms, 18(8), pp. 1354-1363
- Surface treatment: numerical and analytical models, experimental fatigue investigation

BIBLIOMETRIC DATA

Google Scholar 01/03/2018:

Citations: 1196 by 180 documents

h-index: 18

MOST RELEVANT PUBLICATIONS

- MJ Mirzaali, S Janbaz, M Strano, L Vergani, AA Zadpoor, Shape-matching soft mechanical metamaterials, Scientific reports, Vol.8 (1), p.965, (2018)
- C. Colombo, M. Harhash, H. Palkowski, L. Vergani, Thermographic stepwise assessment of impact damage in sandwich panels, Vol. 184, pp. 279-287, (2018)
- A. E Vellwock, L. Vergani, F. Libonati, A multiscale XFEM approach to investigate the fracture behavior of bio-inspired composite materials, Composites Part B: Engineering, (2018)
- G. Gobbi, C.Colombo, S. Miccoli, L. Vergani, A weakly coupled implementation of hydrogen embrittlement in FE analysis, Finite Elements in Analysis and Design, Vol. 141, pp.17-25, (2018)
- F. Libonati, V.Cipriano, L. Vergani, M. J Buehler, Computational Framework to Predict Failure and Performance of Bone-Inspired Materials, ACS Biomaterials Science & Engineering, Vol. 3 (12), pp.3236- 3243, (2017)
- MJ Mirzaali, M Habibi, S Janbaz, L.Vergani, AA Zadpoor, Crumpling-based soft metamaterials: the effects of sheet pore size and porosity, Vol.7(1), p.13028, (2017)
- MJ Mirzaali, R Hedayati, P Vena, L Vergani, M Strano, AA Zadpoor, Rational design of soft mechanical metamaterials: Independent tailoring of elastic properties with randomness, Applied Physics Letters, Vol. 111(5), p. 051903, (2017)
- M. J Mirzaali, V. Mussi, P. Vena, F. Libonati, L.Vergani, M. Strano, Mimicking the loading adaptation of bone microstructure with aluminum foams, Materials & Design, Vol. 106, pp. 207-218, (2017)
- G.Gobbi, C. Colombo, L. Vergani, Sensitivity analysis of a 2D cohesive model for hydrogen embrittlement of AISI 4130, Engineering Fracture Mechanics, Vol. 167, pp.101-111
- F. Libonati, G.X. Gu, L. Vergani, M. Buehler, Bone-Inspired Materials by Design: Toughness Amplification Observed Using 3D Printing and Testing, Advanced Engineering materials,18 (8), pp. 1354-1363, (2016)

- F. Libonati, L. Vergani, Understanding the structure-property relationship in cortical bone to design a biomimetic composite, *Composite Structures*, 139, pp. 188-198, (2016)
- C. Colombo, L. Vergani, A micromechanical approach to evaluate the post-impact residual stiffness of woven composites, *Journal of Composite Materials*, 50 (7), pp. 971-984, (2016)
- C. Colombo, G. Fumagalli, F. Bolzoni, G. Gobbi, L. Vergani, Fatigue behaviour of hydrogen pre-charged low-alloy Cr-Mo steel, *International Journal of Fatigue*, Vol. 83, pp. 2-9 (2015)
- C. Colombo, A. Carradò, H. Palkowski, L. Vergani, Impact behaviour of 3-layered metal-polymer-metal sandwich panels, *Composite Structures*, Vol. 133, pp.140-147, (2015)
- F. Libonati, A. Nair, L. Vergani, M. Buehler, Mechanics of collagen-hydroxyapatite model nanocomposites, *Mechanics Research communications*, Vol. 58, pp. 17-23, (2014).
- F. Libonati, C. Colombo, L. Vergani, Design and characterization of a biomimetic composite inspired to human bone, *Fatigue and Fracture of Engineering Materials and Structures*, Vol. 37, Issue 7, pp. 772-781 (2014)
- C. Colombo, L. Vergani, Influence of delamination on fatigue properties of a fiberglass composite, *Composite Structures*, Vol. 107, Issue 1, pp. 325-333 (2014).
- P. Fassina, F. Brunella, L. Lazzari, G. Re, L. Vergani, A. Sciuccati, Effect of hydrogen and low temperature on fatigue crack growth of pipeline steels. *Engineering fracture mechanics*, vol. 103, p. 10-25, (2013).
- F. Libonati, L. Vergani, Damage assessment of composite materials by means of thermographic analyses, *Composites part B: Engineering*, Vol. 50, p. 82-90, (2013)
- F. Libonati, A. Nair, L. Vergani, M. Buehler, Fracture mechanics of hydroxyapatite single crystals under geometric confinement, *Journal of the Mechanical Behavior of Biomedical Materials*, Vol 20, p. 184-191 (2013)
- P. Fassina, F. Bolzoni, G. Fumagalli, L. Lazzari, L. Vergani, A. Sciuccati, Influence of hydrogen and low temperature on mechanical behaviour of two pipeline steels. *Engineering fracture mechanics*, vol. 81, p. 43-55, (2012).
- C. Colombo, L. Vergani, Multi-axial fatigue life estimation of unidirectional GFRP composite, *International Journal of Fatigue*, vol. 33, p. 1032-1039, (2011).
- C. Colombo, L. Vergani, M. Burman, Static and Fatigue Characterization of new fibre reinforced composites, *Composite Structures*, Vol. 94, Issue 3, pp. 1165-1174, (2012).
- C. Colombo, Y. Du, M.N. James, E. A. Patterson, L. Vergani, On crack tip shielding due to plasticity-induced closure during an overload, *Fatigue and fracture of Engineering Materials and Structures*, Vol.33, Issue 12, PP. 766-777, (2010)
- C. Colombo, L. Vergani, A numerical and experimental study of crack tip shielding in presence of overloads, *Engineering Fracture Mechanics*, Vol. 77, Issue 11, pp. 1644-1655, (2010).
- C. Colombo, L. Vergani, Experimental and Numerical Analysis of a bus component in composite material, *Composite Structures*, Vol. 92, Issue 7, pp.1706-1715, (2010).
- M. Guagliano, M. Sangirardi, L. Vergani, Experimental analysis of surface cracks in rails under rolling contact loading, *Wear*, Vol. 265, Issue 9-109, pp.1380-1386 (2008).
- C. Colombo, M. Guagliano, L. Vergani, a Numerical analysis of flat internal cracks under mixed mode loading, *Theoretical and Applied Fracture Mechanics*, Vol. 50, Issue 1, pp.66-73, (2008).
- M. Guagliano, L. Vergani, M. Vimercati, Sub-surface crack propagation analysis in hypoid gears, *Engineering Fracture Mechanics*, Vol. 75, Issue 3-4, pp. 417-426, (2008).
- M. Guagliano, L. Vergani, M. Vimercati, Determination of a stress intensity factors for three-dimensional subsurface cracks in hypoid gears, *Engineering Fracture Mechanics*, Vol.73, Issue 14, pp.1947-1958, (2006).
- M. Guagliano, M. Sangirardi, L. Vergani, Photoelastic methods to determine K_I , K_{II} and K_{III} of internal cracks subjected to mixed mode loading, *International Journal of Fatigue*, Vol. 28, Issue 5-6, pp.576-582 (2006).

- M.Guagliano, L. Vergani, Experimental and Numerical analysis of sub-surface cracks in railway wheels, Vol.72, Issue 2, pp. 255-269, (2005).
- M.Guagliano, L. Vergani, An approach for prediction of fatigue strength of shot peened components, Engineering Fracture Mechanics, Vol 71, Issue 4-6, pp 501-512, (2004)