

PERSONAL
INFORMATION



Andrea Manes

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Sex: Male
Place of birth: La Spezia
Date of birth: 11/08/1976
Nationality: Italian

PERSONAL STATEMENT

I'm Associate Professor and I'm involved in both higher education and research. Main research topics are in the field of structural engineering, machine design and mechanical behaviour of materials, with focus on extreme loading conditions. I have direct expertise in testing and modelling components and complex systems made by metals, composites and ceramics and I collaborate to projects related to monitoring strategies (structural health monitoring). In the research activity my main aim is to solve challenging theoretical and/or applied problems using rigorous scientific approaches and innovative methodologies. I have actively participated to several EU, EDA (European Defence Agency), National, and industrial projects: proposal, research activity, scientific and quality manager, responsible for research unit. I've published more than 130 papers, *h*-index 21 (source Scopus) in referred international journals and congresses. Since 2019, I'm member of the Editorial Advisory Board of "International Journal of Impact Engineering".

I carry out my research activities in a large research team aimed to advanced engineering approaches for the structural integrity assessment and design of mechanical and aerospace components. I'm the scientific manager of the research line "Structural Integrity Under Extreme Load" and I coordinate a medium-size research team composed by more than 15 resources (Research fellow, PhD ad Master students).

WORK EXPERIENCE

Mar 2015–Present

Associate Professor

Department of Mechanical Engineering, Politecnico di Milano, Milan (Italy)

According to the 2019 edition of the QS World University Ranking by Subject, the Politecnico di Milano ranked 7th in Mechanical, Aeronautical & Manufacturing worldwide and 3rd in Europe.

Scientific-Disciplinary Sector: ING-IND/14 - Mechanical Design and Machine Building

Dec 2008–Feb 2015

Research Fellow - Assistant professor

Politecnico di Milano, Milan (Italy)

Teaching: Bachelor, Master, Second level Master/ Tutoring Master, PhD and Alta Scuola Politecnica Theses / Carrying out and leading research and applicative projects / Developing communications to enforce and share achieved results and promote industrial and scientific networking.

Sep 2013–Oct 2013

Visiting Professor at Tongji University

Tongji University, Shanghai (China)

Lecturer of "Machine Design I" inside POLITONG Fellowship.

Curriculum vitae ANDREA MANES

Aug 2008–Feb 2009 Visiting Scientist
N.T.N.U. - SIMLab, Trondheim (Norway)
Working inside SIMLab Centre for Research-based innovation: modelling of pipelines subjected to trawl gear impact.

Mar 2007–Dec 2008 Postdoctoral Research Fellow
Politecnico di Milano, Milan (Italy)

EDUCATION

2004–2007 Doctor of Philosophy (Ph.D.) in Mechanical Engineering Systems
Politecnico di Milano, Milan (Italy)

2002 Enabled to the profession of Engineer by passing the Italian State Exam

1994–2002 Master's Degree in Aerospace Engineering
Politecnico di Milano, Milan (Italy)

1989–1994 High School, Science
Primo Levi, San Donato Milanese (Italy)

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s) English / Proficient User

ADDITIONAL INFORMATION

Research Topic I'm the scientific manager of a research line "Structural Integrity Under Extreme Load". I coordinate a research team aimed to define advanced engineering approaches for the structural integrity assessment and design of mechanical and aerospace components and systems by means of integrated methodologies with focus on material properties, modelling techniques and experimental tests.

Research activities and topics concern with several aspects related to:

- assessment and optimization of components and systems under static, spectrum/fatigue and extreme loads (ballistic damage, low velocity impact, large deformation, crack propagations, delamination, fragmentation, explosions, corrosion, etc.);
- application of novel approaches in structural integrity design (damage-flaw tolerant, condition based, etc.);
- application of vulnerability/survivability approaches to complex systems;
- advanced numerical methods including meshless approaches (SPH, DEM, Peridynamics, etc);
- investigation in mechanical behaviour of materials (metals, composite-nanocomposite, ceramic, multilayer): definition and calibration of constitutive and damage material models;

Curriculum vitae ANDREA MANES

- monitoring, diagnosis and prognosis of critical structures under fatigue loads and impact loads;
- assessment of structure subjected to fatigue with focus on high cycles and contact fatigue.

Research activities are inside a larger research team SIGMALab (Structure Impact proGnosis Monitoring mAterial Laboratory) carried out inside the laboratories of Department of Mechanical Engineering, visit: <http://www.giglio.faculty.polimi.it>

Institutional Projects

- European Defence Agency Joint Investment Programme on Innovative Concepts and Emerging Technologies (JIP-ICET), Call N. 1, Ref. A-0779-RT-GC: "Monitoring and control", "Helicopter fuselage Crack moniToring and prognosis through on-board sensOR" - HECTOR, 2009-2011
- European Defence Agency Tendering procedure, Ad Hoc Research & Technology Project, No B 1288 ESM2 GP, "Aircraft fuSelage crack moniToring sYstem And progNosis through on-boArd eXpert sensor network" - ASTYANAX, 2012-2015
- Progetto del Ministero della Difesa (Italian MoD) all'interno del Piano Nazionale di Ricerca Militare 2011 "SvilUppo di un MOdello predittivo per l'impatto balistico" SUMO, "Development of a software for simulation of small caliber bullet impact against metallic armor" 2012-2013
- European Defence Agency Tendering procedure, Ad Hoc Research & Technology Project, No B 1190 ESM2 GP "Integrated Simulation of Non-Linear Aero-Structural Phenomena Arising On Combat Aircraft In Transonic Flight", ISSA 2013-2016
- Progetto del Ministero della Difesa (Italian MoD) all'interno del Piano Nazionale di Ricerca Militare " SvilUppo di una Metodologia analitica, numerica e sperimentale per la progettazione di protezioni balistiche cOmposite multistrato" SUMO2, "Development of a predictive model for multilayer protection 2017-2019
- European Defence Agency Tendering procedure, Ad Hoc Research & Technology Project, "SHM Application to UnManned Aircraft Systems", SAMAS 2017-2020

Publications

- More than 190 papers mainly in peer reviewed international Journals and Congresses.
- 132 documents registered in SCOPUS, *h*-index: 21
- ID orcid.org/0000-0001-7485-8980

Collaborations

- Industrial collaborations:
Leonardo, Finmeccanica, AgustaWestland, AleniaAermacchi, ENI, ALSTOM, Fiocchi, HBM, AMSA, RFI, Vitrociset, SAAB, KONE, SINTEF, Incico, etc
- Accademic and institutional collaborations:
N.T.N.U., SIMLab, M.I.T., K.T.H., A.G.H., University of Zilina, Università degli Studi di Cassino e del Lazio Meridionale, Tampere University of Technology, Universidade Federal do Rio Grande do Sul, University of Patras, Columbia University, Politecnico di Torino, GHENT University, E.D.A., Italian MoD, Air Force Institute of Technology, I.N.T.A., Regione Lombardia
- Reviewer: International Journal of Structural Integrity, Engineering Fracture Mechanics, Engineering Transactions, International Journal of Impact Engineering, International Journal of Material Forming, Composites Part B, Journal of Testing and Evaluation, Measurement, Composite Structures, Journal of Aerospace Engineering, etc
- Member of the Editorial Advisory Board of "International Journal of Impact Engineering "(since 2019)

Curriculum vitae ANDREA MANES

- Teaching activities**
- Chair of “Affidabilità strutturale (dei sistemi meccanici)”, 2009/2010, 5 CFU, Master of Science, Italian Language
 - Chair of “Costruzione di macchine (mat)”, 2010/2011 - 2011/2012 - 2012/2013 - 2013/2014 – 2014/2015, 5 CFU, Master of Science, Italian Language
 - Chair of “Machine Design”, 2015/2016 – 2016/2017 – 2017/2018 – 2018/2019 – 2019/2020, 5 CFU, Master of Science, English language
 - Chair of “Costruzioni di Macchine 1”, 2015/2016 – 2016/2017 – 2017/2018 – 2018/2019 – 2019/2020 - 2020/2021, 10 CFU, Bachelor of Science – Italian Language
 - Chair of “Machine Design I”, 2013, 5 CFU, Master of Science, English language - Tongji University (Shanghai, Cina) Fellowship
 - Training Course (Monography): Piping & Long-distance Pipeline (2010, 2012) / Polimi/Agustawestland Master: Rotary Wing Technologies (2013, 2014)
 - Supervisor/Co-supervisor of 9 PhD Thesis - Supervisor/Co-supervisor of more than 70 Master Thesis
- Job related Skill**
- Communication:
 - "Communication Manger" of the research line "Machine and Vehicle Design", Department of Mechanical Engineering, Politecnico di Milano.
 - Member of the Editorial board of “Meccanica Magazine” aimed to the Communication activities of the whole Department of Mechanical Engineering, Politecnico di Milano.
 - Photography
Professional experience as a photographer and film maker.
- Honours and awards**
- Best paper award ESREL 2013: M. Corbetta, C. Sbarufatti, A. Manes, M. Giglio, "Fatigue crack growth in structures under random spectrum loading: Markov chain Monte Carlo methods for parameter identification" ESREL 2013, the 22nd Annual European Safety and Reliability Conference, Amsterdam
 - Award for publications (Mechanical Department, Politecnico di Milano) for the years: 2011, 2012, 2013
- Invited Presentations**
- Webinar entitled "*Ballistic Impact on Composite Materials: Experimental and Numerical Analysis*" at the I Ciclo de Seminários Internacionais em Materiais Compósitos, an on-line event sponsored by the Associação Brasileira de Polímeros - Regional Sul on 30 September 2020.
 - A. Manes, M. Giglio, S. Amiri, "Behavior of Current Collectors by Micro Indentation", MIT Program on Battery Safety and Crashworthiness, 24 Ottobre 2014, Boston, USA
 - Manes and M. Giglio, "Prediction of 3-D Fracture on the example of the Helicopter Rotor Hub" 8TH M.I.T. Workshop On Experimental And Computational Fracture Mechanics, M.I.T., 6-7 Ottobre 2011, Boston, USA
- Conferences Chairman**
- Chairman of the thematic session "Impact behaviour" at ICM11 (2011, Como).
 - Chairman of the thematic session "Processing and fabrication of advanced composite materials" al ECCM15 (15 European Conference on Composite Materials, Italia, Venezia, 2012)

Curriculum vitae ANDREA MANES

Other Member of an Assessment Committee for Doctoral Examination: NTNU 2016, NTNU 2019

Other Interest Practicing regular activities of mountaineering, free climbing, ski-mountaineering (Mezzalama 2015-2017-2019 finisher / Adamellokiraid 2015-2017 finisher / Tour du Rutor Finisher 2018) and SkyRunning (Kima 2014 finisher, VUT 2017, AMA 2019 finisher); instructor inside the Italian Alpine Club (CAI) with licenses: -National Instructor of ski Mountaineering (INSA, 2011) -National Instructor of Mountaineering (INA, 2007) -Instructor of Snowboard Mountaineering (ISBA, 2008) -Instructor of Free-climbing (IAL; 2004) -Director of several mountaineering and ski-mountaineering courses - Member of the committee for selection and training of the new instructors (2009 to 2017) -Deputy director of the CAI School for mountaineering and free climbing of Valmadrera (2011-2013) Member of the Italian Safety Commission for mountaineering (2010 to 2016), www.caimateriali.org, a leading no-profit Committee for the safety research in mountaineering equipment and technique

International journals

- [INT1] Scazzosi, R., Giglio, M., Manes, A. "FE coupled to SPH numerical model for the simulation of high-velocity impact on ceramic based ballistic shields" (2020) *Ceramics International*, 46 (15), pp. 23760-23772.
- [INT2] Manes, A., Cadini, F. "Assessment of the ultimate actual strength of rock-climbing protection devices: Extraction tests in the field and the human capability to predict the ultimate strength" (2020) *Muscles, Ligaments and Tendons Journal*, 10 (2), pp. 244-256.
- [INT3] da Silva, A.A.X., Souza, J.A., Manes, A., Amico, S.C. "In-plane Permeability and Mechanical Properties of R-Glass/Aramid Hybrid Composites" (2020) *Journal of Materials Engineering and Performance*, 29 (7), pp. 4484-4492.
- [INT4] Gilioli, A., Manes, A., Giglio, M. "Calibration of the material parameters of a CFRP laminate for numerical simulations" (2020) *Journal of Composite Materials*, 54 (17), pp. 2313-2326.
- [INT5] Esmaili, A., Ma, D., Manes, A., Oggioni, T., Jiménez-Suárez, A., Ureña, A., Hamouda, A.M.S., Sbarufatti, C. "An experimental and numerical investigation of highly strong and tough epoxy based nanocomposite by addition of MWCNTs: Tensile and mode I fracture tests", (2020) *Composite Structures*, 252, art. no. 112692,
- [INT6] A.Mardalizad, T. Saksala, A. Manes, M. Giglio, "Numerical modeling of the tool-rock penetration process using FEM coupled with SPH technique", (2020) *Journal of Petroleum Science and Engineering*, Volume 189,
- [INT7] D.Gregori, R.Scazzosi, S. Gonçalves Nunes, S.Campos Amico, M. Giglio, A. Manes, "Analytical and numerical modelling of high-velocity impact on multilayer alumina/aramid fiber composite ballistic shields: Improvement in modelling approaches", (2020) *Composites Part B: Engineering*, Volume 187
- [INT8] D. Ma, M. Giglio, A. Manes, "An investigation into mechanical properties of the nanocomposite with aligned CNT by means of electrical conductivity", (2020), *Composites Science and Technology*, Volume 188
- [INT9] A. Esmaili, C. Sbarufatti, D. Ma, A. Manes, A. Jiménez-Suárez, A. Ureña, D. Dellasega, A.M.S. Hamouda, "Strain and crack growth sensing capability of SWCNT reinforced epoxy in tensile and mode I fracture tests", (2020), *Composites Science and Technology*, Volume 186
- [INT10] M. Fossati, M. Pagani, M. Giglio, A. Manes, "Fatigue crack propagation in a helicopter component subjected to impact damage", (2020) accepted on *Defence Technology*
- [INT11] D.Ma, A. Esmaili, A. Manes, C. Sbarufatti, A. Jiménez-Suárez, Ma. Giglio, A. Magid Hamouda, "Numerical study of static and dynamic fracture behaviours of neat epoxy resin", (2020) *Mechanics of Materials*, Volume 140
- [INT12] R. Scazzosi, M. Giglio, A. Manes, "Numerical simulation of high-velocity impact on fiber-reinforced composites using MAT_162", *Material Design & Processing Communications*, (2020)
- [INT13] D. Ma, M. Giglio, A. Manes, "Analysis of mesoscale modelling strategies for woven composites", *Material Design & Processing Communications*, (2020)
- [INT14] Gilioli, A.; Abbiati, L.; Fossati, M.; Cadini, F.; Manes, A.; Giglio, M.; Carnelli, L.; Volpato, C.B.; Cardamone, S. Experimental Investigation on the Mechanical Behavior of an Innovative Parabolic Trough Collector. *Energies* 2019, 12, 4438.
- [INT15] Nunes, S.G., Scazzosi, R., Manes, A., Amico, S.C., de Amorim Júnior, W.F., Giglio, M." Influence of projectile and thickness on the ballistic behavior of aramid composites: Experimental and numerical study "(2019) *International Journal of Impact Engineering*, 132,
- [INT16] Scazzosi, R., Manes, A., Giglio, M." Analytical Model of High-Velocity Impact of a Deformable Projectile Against Textile-Based Composites "(2019) *Journal of Materials Engineering and Performance*, 28 (6), pp. 3247-3255.
- [INT17] Mardalizad, A., Caruso, M., Manes, A., Giglio, M. "Investigation of mechanical behaviour of a quasi-brittle material using Karagozian and Case concrete (KCC) model" (2019) *Journal of Rock Mechanics and Geotechnical Engineering*, DOI: 10.1016/j.jrmge.2019.01.005
- [INT18] D. Ma, A. Manes, S.C. Amico, M. Giglio, "Ballistic strain-rate-dependent material modelling of glass-fibre woven composite based on the prediction of a meso-heterogeneous approach "(2019) *Composite Structures*, 216, pp. 187-200.
- [INT19] S.G. Nunes, W.F. Jr. de Amorim, A. Manes, S.C. Amico, "The effect of thickness on vacuum infusion processing of aramid/epoxy composites for ballistic application" (2019) *Journal of Composite Materials*, 53 (3), pp. 383-391.
- [INT20] A. Gilioli, A. Manes, U. Ringertz, M. Giglio, "Investigation about the structural nonlinearities of an aircraft pylon" (2019) *Journal of Aircraft*, 56 (1), pp. 273-283.
- [INT21] L.M. Bresciani, A. Manes, M. Giglio, "An analytical model for ballistic impacts against ceramic tiles", *Ceramics International*, Volume 44, Issue 17, (2018), Pages 21249-21261,
- [INT22] M. Scapin, A. Manes, "Behaviour of Al6061-T6 alloy at different temperatures and strain-rates: Experimental characterization and material modelling", *Materials Science and Engineering: A*, Volume 734, 2018, Pages 318-328,
- [INT23] Salvetti, M., Gilioli, A., Sbarufatti, C., Manes, A., Giglio, M. "Analytical model of the dynamic behaviour of CFRP plates subjected to low-velocity impacts" (2018) *Composites Part B: Engineering*, 142, pp. 47-55.
- [INT24] Mardalizad, A., Scazzosi, R., Manes, A., Giglio, M. "Testing and numerical simulation of a medium strength rock material under unconfined compression loading" (2018) *Journal of Rock Mechanics and Geotechnical Engineering*. Volume 10, Issue 2, April 2018, Pages 197-211
- [INT25] Salvetti, M., Sbarufatti, C., Gilioli, A., Dziendzikowski, M., Dragan, K., Manes, A., Giglio, M. "On the mechanical response of CFRP composite with embedded optical fibre when subjected to low velocity impact and CAI tests" (2017) *Composite Structures*, 179, pp. 21-34.
- [INT26] Mardalizad, A., Scazzosi, R., Manes, A., Giglio, M. "Four-point bending test on a middle strength rock: Numerical and experimental investigations" (2017) *Frattura ed Integrità Strutturale*, 11 (41), pp. 504-523.

- [INT27] Bresciani, L.M., Manes, A., Romano, T.A., Iavarone, P., Giglio, M. "Numerical modelling to reproduce fragmentation of a tungsten heavy alloy projectile impacting a ceramic tile: Adaptive solid mesh to the SPH technique and the cohesive law" (2016) *International Journal of Impact Engineering*, 87, pp. 3-13.
- [INT28] L.M. Bresciani, A. Manes, A. Ruggiero, G. Iannitti, M. Giglio, "Experimental tests and numerical modelling of ballistic impacts against Kevlar 29 plain-woven fabrics with an epoxy matrix: Macro-homogeneous and Meso-heterogeneous approaches" *Composites Part B: Engineering*, Volume 88, 1 March 2016, Pages 114-130
- [INT29] S. Amiri, X. Chen, A. Manes, M. Giglio, "Investigation of the mechanical behaviour of lithium-ion batteries by an indentation technique" *International Journal of Mechanical Sciences*, Volume 105, 1 January 2016, Pages 1-10
- [INT30] C. Sbarufatti, M. Corbetta, A. Manes, M. Giglio, "Sequential Monte-Carlo sampling based on a committee of artificial neural networks for posterior state estimation and residual lifetime prediction" *International Journal of Fatigue*, Volume 83, Part 1, February 2016, Pages 2–9
- [INT31] M. Corbetta, C. Sbarufatti, A. Manes, M. Giglio, "Real-time prognosis of random loaded structures via Bayesian filtering: A preliminary discussion" *Engineering Fracture Mechanics*, Volume 145, August 01, 2015, Pages 143-160
- [INT32] M. Corbetta, C. Sbarufatti, A. Manes, M. Giglio, "Real-time prognosis of crack growth evolution using Sequential Monte Carlo methods and statistical model parameters" *IEEE -753TRANSACTIONS ON RELIABILITY*, VOL. 64, NO. 2, JUNE 2015, 736
- [INT33] L. M. Bresciani, A. Manes, M. Giglio, "An analytical model for ballistic impacts against plain-woven fabrics with a polymeric matrix" *International Journal of Impact Engineering*, 78 (2015) 138- 149
- [INT34] Nima Allahverdizadeh, Andrea Gilioli, Andrea Manes, Marco Giglio, "An experimental and numerical study for the damage characterization of a Ti-6Al-4V titanium alloy", *International Journal of Mechanical Sciences* 93 (2015) 32–47
- [INT35] A. Gilioli, A. Manes, M. Giglio, T. Wierzbicki, "Predicting ballistic impact failure of aluminium 6061-T6 with the rate-independent Bao-Wierzbicki fracture model " *International Journal of Impact Engineering*, Volume 76, February 2015, Pages 207–220
- [INT36] A. Gilioli, C. Sbarufatti, A. Manes, M. Giglio, "Compression after impact test (CAI) on nomex™ honeycomb sandwich panels with thin aluminium skins " *Composites: Part B*, 6 (2014), 313–325
- [INT37] A. Manes, M. Pagani, M. Saponara, D. Mombelli, C. Mapelli, M. Giglio, "Metallographic characterisation of Al6061-T6 aluminium plates subjected to ballistic impact" *Materials Science & Engineering A*, 608 (2014) 207–220
- [INT38] C. Sbarufatti, A. Manes, M. Giglio, "Application of Sensor Technologies for Local and Distributed Structural Health Monitoring", *Structural Control and Health Monitoring*, Volume 21, Issue 7, pages 1057–1083, July 2014
- [INT39] S. Amiri; N. Lecis; A. Manes; M. Giglio, "A study of a micro-indentation technique for estimating the fracture toughness of Al6061-T6" *Mechanics Research Communications*, 58 (2014), pages 10-16
- [INT40] A. Gilioli, A. Manes, M. Giglio, "Numerical simulation of a fracture toughness test of an Al6061-T6 aluminium alloy using a ductile criterion", *Mechanics Research Communications*, 58 (2014) 2–9
- [INT41] A. Manes, F. Serpellini, M. Pagani, M. Saponara; M. Giglio, "Perforation and penetration of aluminium target plates by armour piercing bullets", *International Journal of Impact Engineering* 69 (2014) 39- 54
- [INT42] M. Corbetta, C. Sbarufatti, A. Manes, M. Giglio, "On Dynamic State-Space Models for Fatigue-Induced Structural Degradation" *International Journal of Fatigue*, 61 (2014) 202–219
- [INT43] C. Mapelli, A. Manes, M. Giglio, D. Mombelli, "Structural Effect of ballistic impact on a shaft by means of crystallographic investigation" *SDHM Structural Durability and Health Monitoring*, Vol. 9, Issue 2, 2013, pp. 181-199
- [INT44] M. Giglio, M. Fossati, D. Lumassi, A. Manes, "Use of numerical simulations in damage assessment due to high velocity impacts", *Int. J. Materials and Structural Integrity*, Vol. 7, No. 4, 2013, pp. 215-230
- [INT45] M. Giglio, A. Manes, C. Mapelli, D. Mombelli, "Relation between ductile fracture locus and deformation of phases in Ti-6Al-4V alloy", *ISIJ International*, Vol. 53, 2013, No. 12, pp. 2250–2258
- [INT46] C. Sbarufatti, A. Manes, M. Giglio, "Performance optimization of a diagnostic system based upon a simulated strain field for fatigue damage characterization" *Mechanical Systems and Signal Processing* 40, 2013, 667–690
- [INT47] A. Manes, A. Gilioli, C. Sbarufatti, M. Giglio, "Experimental and numerical investigations of low velocity impact on sandwich panels" *Composite Structures*, 99, pp. 8-18, 2013
- [INT48] G. Vallone, A. Manes, C. Sbarufatti, M. Giglio, "Helicopter Harsh Landing Events: a Computational Hybrid Methodology to estimate Fuselage Damage", *Journal Of Aircraft*, Vol. 50, No. 6, November–December 2013, pp.1896-1907
- [INT49] A. Manes, D. Lumassi, L. Giudici, M. Giglio, "An experimental-numerical investigation on aluminium tubes subjected to ballistic impact with soft core 7.62 ball projectiles" *Thin-Walled Structures* 73, 2013, 68-80
- [INT50] V. Bedogni, A. Manes "An experimental investigation of the effect of the placement angle on the collapse of ice screw anchors" *Engineering Failure Analysis* 26 (2012) 139–150
- [INT51] N. Allahverdizadeh, A. Manes, M. Giglio, "Identification of damage parameters for Ti-6Al-4v titanium alloy using continuum damage mechanics" *Materialwissenschaft und Werkstofftechnik*, 2012, 43, No. 5, pp. 435-440.
- [INT52] M. Giglio, A. Gilioli, A. Manes "Numerical Investigation Of A Three Point Bending Test On Sandwich Panels With Aluminum Skins And Nomex™ Honeycomb Core" *Computational Materials Science* 56, 2012, 69–78
- [INT53] C. Mapelli, A. Manes, M. Giglio, D. Mombelli, L. Giudici, C. Baldizzone, A. Gruttadauria, "Survey about the effects of shot peening technique on the fatigue performances of Ti-6Al-4V mechanical specimens featured by different cross-section geometries", *Materials Science and Technology*, Volume 28, Number 5, May 2012, pp. 543-548(6)

- [INT54] M. Giglio, A. Manes, F. Viganò " Numerical simulation of the slant fracture of a helicopter's rotor hub with ductile damage failure criteria " *Fatigue and Fracture of Engineering Materials and Structures*, Volume 35, Issue 4, April 2012, pages 317–327
- [INT55] M. Giglio, A. Manes, F. Viganò " Ductile fracture locus of Ti-6Al-4V titanium alloy" *International Journal of Mechanical science* 54, 2012, 121–135
- [INT56] M. Giglio, A. Manes, A. Gilioli, "Investigations on sandwich core properties through an experimental–numerical approach " *Composites Part B: Engineering*, 43, 2012, 361–374
- [INT57] A. Manes, R. Porcaro, H. Iltad, E. Levoldd, M. Langseth and T. Børvik, "The behaviour of an offshore steel pipeline subjected to bending and stretching" *Ships and Offshore Structures*, pages 371-387 Volume 7, Issue 4, 2012
- [INT58] A. Manes, M. Giglio, F. Viganò "Effect of riveting process parameters on the local stress field of a T-joint" *International Journal of Mechanical Sciences* Volume 53, Issue 12, December 2011, Pages 1039-1049
- [INT59] M. Giglio, A. Manes " Terminal ballistic effect on the crack growth assessment of a helicopter rotor drive" *Engineering Fracture Mechanics* Volume 78, Issue 8, May 2011, Pages 1542-1554
- [INT60] M. Fossati, D. Colombo, A. Manes, M. Giglio "Numerical modelling of crack growth profiles in integral skin-stringer panels" *Engineering Fracture Mechanics* Volume 78, Issue 7, May 2011, Pages 1341-1352
- [INT61] F. Viganò, A. Manes, M. Giglio " Investigation on the Fatigue Life of an Al 8090 Helicopter Riveted T-Joint" *Journal Of Aircraft* Volume 48, Issue 1, January 2011, Pages 315-323
- [INT62] F. Viganò, A. Manes, M. Giglio, U. Mariani "Failure analysis of a composite main rotor helicopter hub" *Engineering Failure Analysis* Volume 18, Issue 1, January 2011, Pages 97-109
- [INT63] T. Pulecchi, A. Manes, M. Lisignoli, M. Giglio "Digital filtering of acceleration data acquired during the intervention of a lift safety gears" *Measurement* 43, 2010, pages 455–468
- [INT64] M. Giglio, A. Manes, M. Fossati, U. Mariani, C. Giani " Comparison of fatigue crack propagation behaviour of Al 2024 and Al - Li 8090 Helicopter fuselage panels" *Journal of Testing and evaluation*, Vol 38, No 1, 2010, Page 73-82
- [INT65] M. Giglio, A. Manes, "Experimental and numerical damage evaluation of a lift safety gear", *Int. J. Materials and Structural Integrity*, Vol. 2, No. 3, 2008, pages 291- 317
- [INT66] M. Giglio, A. Manes, "Crack propagation on helicopter panel: Experimental test and analysis", *Engineering Fracture Mechanics* 75, 2008, pages 866–879
- [INT67] D. Colombo, M. Giglio, A. Manes "3D fatigue crack propagation analysis of a helicopter component" *International Journal of Materials & Product Technology* 30 1/2/3, 2007, pages 107-123
- [INT68] M. Giglio, A. Manes "Crack propagation on aluminum nomex panels: experimental and numerical approach" *Arabian Journal for Science and Engineering* 31 2C, 2006, 1-16.
- [INT69] M. Giglio, A. Manes "Life prediction of a wire rope subjected to axial and bending loads" *Engineering Failure Analysis* 12, 2004, pages 549-568
- [INT70] M. Giglio, A. Manes "Bending fatigue tests on a metallic wire rope for aircraft rescue hoist" *Engineering Failure Analysis* 10, 2003, pages 223-235

Chapter in books

- [CL1] M. Giglio, A. Gilioli, A. Manes, "Mechanical behaviour of Al 6061-T6 aluminium alloy Under large strain and failure" *Numerical Modeling of Materials Under Extreme Conditions, Advanced Structured Materials*, 35, pp. 143-171, DOI: 10.1007/978-3-642-54258-9_7, Springer-Verlag Berlin Heidelberg 2014
- [CL2] M. Giglio, A. Manes and C. Sbarufatti "MEMS for structural health monitoring in aircrafts", *MEMS for automotive and aerospace applications*, Woodhead publishing 2013 Editors: Michael Kraft and Neil M White, Southampton University, UK ISBN-13: 978 0 85709 118 5 doi:10.1533/9780857096487.2.220
- [CL3] M. Giglio, A. Manes " Effect of Flight Spectrum Loads on the Damage Tolerance Evaluation of a Helicopter Frame" *Materials with Complex Behaviour, Advanced Structured Materials*, 2010, Volume 3, Part 3, 311-329, DOI: 10.1007/978-3-642-12667-3

Italian Scientific journal

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International congresses

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