Decreto Rettore Università di Roma "La Sapienza" n 2824/2019 del 26/09/2019

Michele Pasquali Curriculum Vitae

Place : Rieti Date :13/11/2019

Part I – General Information

Full Name	Michele Pasquali

Part II – Education

Туре	Year	Institution	Notes (Degree, Experience,)
University graduation	2007	Università di Roma "La Sapienza", Facoltà di Ingegneria Civile e Industriale.	Bachelor of Science in Aerospace Engineering, cum laude.
Visiting student	2009	Clarkson University, Department of Mechanical and Aerospace Engineering (Clarkson, NY, USA).	Development of a nonlinear structural identification system aimed at detecting damages in composite aerospace components. Study carried out in the frame of the MSc thesis.
University graduation	2010	Università di Roma "La Sapienza", Facoltà di Ingegneria Civile e Industriale.	Master of Science in Aeronautical Engineering, cum laude, defending the thesis: "Geometrically exact models of thin plates towards nonlinear system identification via higher- order spectral approach".
Business Degree	2010	Federazione Nazionale dei Cavalieri del Lavoro, Collegio Universitario "Lamaro-Pozzani".	Diploma in "Cultura per l'Impresa".
Visiting scientist	2011	Los Alamos National Laboratory, Engineering Institute (Los Alamos, NM, USA).	Development of an innovative SHM system based on ultrasounds to monitor the structural integrity of composite aerospace components. Study carried out in the frame of the PhD thesis.
PhD	2014	Università di Roma "La Sapienza", Facoltà di Ingegneria Civile e Industriale.	Doctor of Philosophy in "Tecnologia Aeronautica e Spaziale" defending the thesis "A new ultrasonic SHM procedure for

composite structures: numerical analyses and experimental tests".	delamination	detection	in
numerical analyses and experimental tests".	composite	structur	res:
experimental tests".	numerical a	nalyses a	and
	experimental to	ests".	

Part III – Appointments

IIIA - Academic Appointments

Start	End	Institution	Position
2014	2015	Università di Roma "La Sapienza", Dipartimento di Ingegneria Meccanica e Aerospaziale.	Assegnista di ricerca categoria B) – Tipologia I, for the study entitled "Studio tecnico-numerico e sperimentale nel comportamento di strutture attive in materiale composito", held in the frame of SSD ING-IND/04.
2015	2016	Università di Roma "La Sapienza", Dipartimento di Ingegneria Meccanica e Aerospaziale.	Assegnista di ricerca categoria B) – Tipologia I, for the study entitled "Studio tecnico-numerico e sperimentale nel comportamento di strutture attive in materiale composito", held in the frame of SSD ING-IND/04.
2016	2017	Università di Roma "La Sapienza", Dipartimento di Ingegneria Meccanica e Aerospaziale.	Assegnista di ricerca categoria B) – Tipologia II, for the study entitled "Analysis of the damage-driven internal resonance effects to detect delaminations in composite laminated shells using ultrasonic waves", held in the frame of SSD ING-IND/04.
2018	2024	Ministero dell'Istruzione dell'Università e della Ricerca	Abilitazione scientifica nazionale alle funzioni di professore di seconda fascia di cui all'articolo 16 della legge 30 dicembre 2010, n. 240 per il Settore concorsuale 09/A1 conseguita in data 29/03/2018, nella tornata 2016-2018, quarto quadrimestre.

IIIB – Other Appointments

Start	End	Institution	n			Position					
2015	2016	National	Research	Council	(NRC),	Fellowshi	p a	dmini	istered	by	the
		USA.				National F	Resea	rch C	ouncil (NRC)	and
						sponsored	by	the	Federal	High	way
						Administr	ation	(FH	WA) to	carry	out
						ultrasound	l-base	ed	SHM	resea	arch
						activity	at	the	Turne	r-Fairt	ank

			research centre (Washington DC, USA).
2016	2019	European Organization for Nuclear Research (CERN), Switzerland.	COFUND fellowship administered by the European Organization for Nuclear Research (CERN) and sponsored by the Marie Sklodowska-Curie action under the European Commission's Horizon 2020 Programme to participate to the design of the High
			Luminosity Large Hadron Collider (HL-LHC) at CERN facilities.

Part IV – Teaching experience

Year	Institution	Lecture/Course
2013	Università di Roma "La Sapienza", Dipartimento di Ingegneria Meccanica	Teaching support for the courses "Costruzioni Spaziali", Termoelasticita' e Strutture Intelligenti" and "Smart Composite
		Structures" held at Università di Roma "La Sapienza" - Facolta' di Ingegneria Civile e Industriale, in the frame of the master of science in Space Engineering.
2014	Università di Roma "La Sapienza", Dipartimento di Ingegneria Meccanica e Aerospaziale.	Teaching support for the courses "Costruzioni Spaziali", Termoelasticita' e Strutture Intelligenti" and "Smart Composite Structures" held at Università di Roma "La
		Sapienza" - Facolta' di Ingegneria Civile e Industriale, in the frame of the master of science in Space Engineering.
2015	Università di Roma "La Sapienza", Dipartimento di Ingegneria Meccanica e Aerospaziale.	Teaching support for the courses "Costruzioni Spaziali", Termoelasticita' e Strutture Intelligenti" and "Smart Composite
		Structures" held at Università di Roma "La Sapienza" - Facolta' di Ingegneria Civile e Industriale, in the frame of the master of science in Space Engineering.
2016	Università di Roma "La Sapienza", Dipartimento di Ingegneria Meccanica e Aerospaziale.	Teaching support for the courses "Costruzioni Spaziali", Termoelasticita' e Strutture Intelligenti" and "Smart Composite
		Structures" held at Università di Roma "La Sapienza" - Facolta' di Ingegneria Civile e Industriale, in the frame of the master of science in Space Engineering.

Part V - Society memberships, Awards and Honours

Year Title 2011 "Liviu Librescu" national prize for the best MS thesis in the field of aerospace structures delivered by Politecnico di Torino, Università di Roma "La Sapienza" and Università di Napoli "Federico II". 2017 Certificate of Outstanding Contribution in Reviewing, awarded on August 2017 by the Editors of the journal "Composite Structures" in recognition of the contributions made to the quality of the journal.

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2012	New ultrasonic methods for the health monitoring of aerospace structures	Progetti di Avvio alla Ricerca dell'Università di Roma "La Sapienza" per l'anno 2012	2.000,00 €
2012	Modellazione meccanica avanzata di nuovi materiali e nuove tecnologie per la soluzione delle sfide Europee del 2020	Progetti di Ricerca di Rilevante Interesse Nazionale (PRIN) per l'anno 2010-2011 Area 08 - Prot. 2010BFXRHS	819.000,00€
2015	Macchina per 3D additive manufacturing con polveri metalliche	Grandi Attrezzature scientifiche presso l'Università di Roma "La Sapienza" per l'anno 2015 - Prot. C26J15ENS7	500.000,00 €
2015	Monitoraggio dell'integrità di strutture CFRP con geometria a guscio soggette ad impatti a velocità variabile attraverso la generazione di onde elastiche P ed S ad alta frequenza con trasduttori piezoelettrici	Progetti di Avvio alla Ricerca dell'Università di Roma "La Sapienza" per l'anno 2016	2.000,00€
2016	New Materials and Processes for Small Internet-Delivery Satellites Production via Additive Manufacturing (AM-ID-SS)	Accordo Quadro n. 2015-1- Q.0 del 27 novembre 2015 fra l'ASI e Sapienza Università di Roma	147.983,00 €
2016	Definizione e sviluppo di una procedura di monitoraggio strutturale basata sull'uso di onde elastiche per l'identificazione di delaminazioni in laminati compositi	Horizon 2020 - CleanSky2 Airgreen2 (AG2): CUP E62I15001240006, autorizzato e finanaziato dal MIUR D.D. 10/7/2012 n° 404/Ric. Coordinamento e Sviluppo Ricerca - CIG 6761713615	65.000,00 €

Part VII – Research Activities

Keywords	Brief Description
Nonlinear structural mechanics	The intrinsic complexity of structural models for aerospace laminates, driven by their anisotropy and inhomogeneity, often leads to the adoption of
Geometrically-exact shell and plate models	linear formulation unable to describe mechanical states characterized by the presence of large displacements and strains. This and other considerations motivate the ddevelopment of geometrically nonlinear mechanical models of composite plate and shall structures for the corospace. The adoption of a
Absolute tensor	or composite plate and shen structures for the aerospace. The adoption of a

notation Composite laminates for aerospace	 geometrically-exact description of the kinematics through the Green-Lagrange strain tensor and the enforcement of equilibrium via Piola-Kirchhoff stress tensors enables the models to express large displacements/strains, enabling a more accurate and reliable prediction of their behavior. In addition to this, the adoption of an absolute tensor notation featuring Christoffel's symbols boosts the modelling capabilities of the proposed structural formulations. The expression of the so-derived governing equations, in fact, becomes independent of the geometrical nature of the domain to be modeled (which remains identified completely by the Christoffel's symbols themselves), this feature proving to be particularly suitable for numerical implementation in finite elements codes. Publications related to this research among those selected for the evaluation: Lacarbonara W, Pasquali M (2011). A geometrically exact formulation for thin multi-layered laminated composite plates: Theory and experiment. Composite Structures, vol 93 np. 1649-1663
	 Vol. 93, pp. 1049-1005. Pasquali M, Gaudenzi P (2017). A geometrically exact formulation of thin laminated composite shells. Composite Structures, vol. 180, pp. 542-549. Other related publications on peer-reviewed journals and participation to conferences: Pasquali M, Lacarbonara W, Marzocca P (2010). Geometrically exact plate models for system identification via Higher-Order Spectra extracted from nonlinear dynamic responses, Workshop on Structural Health Monitoring and Control, Amman, Jordan, from 20-06-2010 to 23-06-2010. Pasquali M, Gaudenzi P (2016). A geometrically exact formulation of thin laminated composite shells, Paper No. SEMC2016-395, 6th International Conference on Structural Engineering Mechanics and Computation, Cape Town, South Africa, from 05-09-2016 to 07-09-2016.
Nonlinear structural identification for the aerospace HOS Experimental testing Structural vibrations	The capability of accurately detect internal damages and defects featured by aerospace maintenance procedures is key to ensure the necessary level of safety and reliability of composite structural components. Form the modelling point of view, this requires the derivation of structural models which are rich enough to encompass the desired features without becoming cumbersome and hard to handle. A stream of research is thus dedicated to detect (via theoretical, numerical and experimental analyses) damage/defect-related nonlinearities from the vibration characterize their behaviour as well as to identify deviations from the expected response or the deterioration of their performance. One of the novel aspects of this work is the proposition nonlinearities appearing in the system response as effect of structural changes. A powerful application of such nonlinearity indices is to obtain reliable reduced-order models of plate nonlinear dynamics. By reducing the partial differential equations of motion by one of the variants of the method of weighted residuals hierarchies of reduced-order models with increasing number of trial functions can be derived. An accurate reduced-order model may be obtained when the computed HOS match the experiment-based HOS within a desired order and tolerance. The virtue of such an approach is that it relies on a geometrically-exact model, and consequently it overcomes the severe limitations associated with ad-hoc mechanical models in which various types of approximations and truncations are enforced at the outset.

 Pasquali M, Lacarbonara W, Marzocca P (2014). Detection of nonlinearities in plates via higher-order spectra: numerical and experimental studies. Journal of Vibrations and Acoustics, vol. 136, 041015.

Other related publications on peer-reviewed journals and participation to conferences:

- Pasquali M, Lacarbonara W, Marzocca P (2011). System identification of plates using higherorder spectra: numerical and experimental investigations, Paper No. 945175, 52nd AIAA/ASME/ ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Denver, CO, USA, from 04-04-2011 to 07-04-2011.
- Pasquali M, Lacarbonara W, Marzocca P (2011). Advanced system identification of plates using a higher-order spectral approach: theory and experiment, Paper No. DETC2011-47975, 2011 ASME DETC, Washington DC, USA from 28-08-2011 to 31-08-2011.

Analytical model High-velocity impact Ballistic limit Composite aerospace targets Principal curvatures

High-Velocity Impacts (HVI) can occur both in aeronautic and space applications (bird strikes, hail storms, impact of satellites with space debris, etc.) with dramatic consequences. The assessment of the capability of a structure to resist to such events can therefore be crucial. However, such evaluation often requires complex ad-hoc numerical studies which fail to deliver a general procedure to investigate the impact-induced behaviour of a structure. As part of the research stream on waves-based structural monitoring techniques, semi-analytical tools are developed to deliver a fast and accurate prediction of the impact response, ballistic resistance and damage extension of composite aerospace structures resorting to the geometrical and material properties of the projectile-target pair. Such physics-based numerical codes are rooted into the estimation of the different energy contributions associated to the various damage/deformation mechanisms which take place during the impact. Particularly innovative with respect to the associated literature is the capability of the proposed approach to encompass the effects of the curvature in determining the ballistic resistance of the impacted thin-walled components. This enables the developed methodology to feature a higher accuracy with respect to alternative procedures when compared to experimental measures.

Publications related to this research among those selected for the evaluation:

- Pasquali M, Terra C, Gaudenzi P (2015). Analytical modelling of high-velocity impacts on thin woven fabric composite targets. Composite Structures, vol. 131, pp. 951-965.
- Nardi D, Lampani L, Pasquali M, Gaudenzi P (2016). Detection of low-velocity impact-induced delaminations in composite laminates using Auto-Regressive models. Composite structures, vol. 151, pp. 108-113.
- Gaudenzi P, Nardi D, Chiappetta I, Atek S, Lampani L, Pasquali M, Sarasini F, Tirilló J, Valente T (2015). Sparse sensing detection of impact-induced delaminations in composite laminates. Composite Structures, vol. 133, pp. 1209-1219.
- Pasquali M, Gaudenzi P (2017). Effects of curvature on high-velocity impact resistance of thin woven fabric composite targets. Composites Structures, vol. 160, pp. 349-365.

Other related publications on peer-reviewed journals and participation to conferences:

- Pasquali M, Gaudenzi P (2015). High-velocity impacts on aerospace thin composite laminates, Paper no. SMART2015-123, 7th ECCOMAS Thematic Conference on Smart Structures and Materials, Ponta Delgada, Azores, from 03-06-2015 to 06-06-2015.
- Pasquali M, Gaudenzi P (2016). Numerical prediction of the ballistic limit for thin curved composite panels, Paper No. ICCS19-11916, 19th International Conference on Composite Structures, Porto, Portugal, from 05-09-2016 to 09-09-2016.
- Pasquali M, Gaudenzi P (2018). Analytical prediction of high-velocity impact resistance of plane and curved thin woven fabric composite targets, 15th European Conference on Spacecraft

Structures, materials and Environmental Testing, ESA-ESTEC, Noordwijk, The Netherlands from 28-05-2018 to 1-06-2018.

 Pasquali M, Gaudenzi P (2019). Analytical prediction of high-velocity impact resistance of plane and curved thin woven fabric composite targets, 25th International Congress of the Italian Association of Aeronautics and Astronautics, Rome, Italy, from 9-09-2019 to 12-09-2019.

SHM of aerospace
structures
NDE techniques
Ultrasounds
PZT transducers
Genetic Algorithms
High-frequency
elastic waves

Retrofitting ultrasounds-based NDE techniques with the of goal continuous/real-time and automated surveillance of the overall integrity of aerospace composite structures through consideration of working condition updates and structural ageing. Among the proposed approaches, the excitation/acquisition of high-frequency through-the-thickness elastic waves to detect interlayer delaminations constitutes an element of absolute novelty in the associated literature. In particular, the local nature of this NDE procedure allows the development of innovative pzt transducers reduced in size – whose design is optimized resorting to genetic algorithm to enhance their actuation/sensing capabilities – enabling the realization of a net of sensors which proves to be very effective in identifying structural damages in the most critical areas of aerospace structures. The promising nature of these research activities culminates in the initiation of a scientific partnership between the Department of Mechanical and Aerospace Engineering of "La Sapienza" University of Rome and the Engineering Institute of the Los Alamos National Laboratory, which took interest in this stream of research, actively collaborating to the experimental validation of various proposed NDE procedures.

Publications related to this research among those selected for the evaluation:

- Pasquali M, Lacarbonara W (2015). Delamination detection in composite laminates using high-frequency P- and S-waves - Part I: Theory and analysis. Composite Structures, vol. 134, pp. 1095-1108.
- Pasquali M, Lacarbonara W, Farrar CR (2015). Delamination detection in composite laminates using high-frequency P- and S-waves - Part II: Experimental validation. Composite Structures, vol. 134, pp. 1109-1117.
- Pasquali M, Stull CJ, Farrar CR (2012). Info-gap robustness of an input signal optimization algorithm for damage detection. Mechanical Systems and Signal Processing, vol. 50-51, pp. 1-10.

Other related publications on peer-reviewed journals and participation to conferences:

- Pasquali M, Lacarbonara W, Stull CJ, Farrar CR (2012). On assessing the robustness of an input signal optimization algorithm for damage detection: the Info-Gap Decision Theory approach, Paper No. CSNDD2012-01003, International Conference on Structural Nonlinear Dynamics and Diagnosis, Marrakech, Morocco, from 30-04-2012 to 02-05-2012.
- Pasquali M, Lacarbonara W, Farrar CR (2012). A new ultrasonic waves-based SHM procedure for delamination detection in composite structures, Paper no. ICMNMM2012-509, International Conference of Nano, Micro and Macro Composite Structures, Torino, Italy, from 18-06-2012 to 20-06-2012.
- Pasquali M, Lacarbonara W, Gaudenzi P, Farrar CR (2012). A new ultrasonic waves-based SHM procedure for delamination detection in composite structures, Paper no. ASHMCS2012-154, The 1st International Conference on Advances in Structural Health Management and Composite Structures, Jeonbuk, South Korea, from 29-08-2012 to 31-08-2012.
- Pasquali M, Lacarbonara W, Farrar CR (2014). A local ultrasonic approach to delamination detection in composite structures, International Design & Engineering Technical Conferences and Computers & Information in Engineering Conference, Buffalo, New York, from 17-08-2014 to 20-08-2014.

Multi-physics continua	Many formulations available in literature fail to deliver a consistent description of the mechanical and electrical behaviour of the structure as
Piezoelectricity	they rely on an assumed linear dependence of the electric potential on the
Complete electro- mechanical coupling	transducer's thickness that is proved not to be adequate to represent the potential electric energy. This leads to the development of nonlinear
mechanical coupling PZT transducers	 structural formulations able to fully encompass a complete coupling between the electrical/thermal and the mechanical part of multi-physics transducers, in view of achieving enhanced performances in terms of actuation, sensing and energy harvesting capabilities. The nonlinear nature of the electric potential's variation across the thickness which typically characterizes the mechanical state of piezoelectric transducers leads, via constitutive equations, to a higher-order description of the structure's kinematics. The virtual work theorem is then enforced to derive the balance equations. A major element of novelty of such approach is that it allows an easy derivation of ad-hoc multi-physics structural formulations which feature the degree of nonlinearity required to accurately describe the electro-mechanical state experienced by structural components as a consequence of their particular shape and application. Publications related to this research among those selected for the evaluation: Pasquali M, Gaudenzi P (2012). A nonlinear formulation of piezoelectric plates. Journal of Intelligent Material Systems and Structures, vol. 23, pp. 1713-1723. Pasquali M, Gaudenzi P (2015). A nonlinear formulation of piezoelectric shells with complete electro-mechanical coupling. Meccanica, vol. 50, pp. 2471-2486, ISSN: 1572-9648. Pasquali M, Gaudenzi P (2016). A nonlinear piezoelectric shell model: Theoretical and numerical considerations. Journal of Intelligent Material Systems and Structures, vol. 27, pp. 724-742.
	 Other related publications on peer-reviewed journals and participation to conferences: Memmolo V, Elahi H, Eugeni M, Monaco E, Ricci F, Pasquali M, Gaudenzi P (2019). Experimental and Numerical Investigation of PZT Response in Composite Structures with Variable Degradation Levels. Journal of Materials Engineering and Performance, vol 28, pp. 3239-3246. Pasquali M, Gaudenzi P (2012). Numerical effects of piezoelectricity within a 2D beam model: a numerical study, Paper no. ICAST2011-017, 22nd International Conference on Adaptive Structures and Technologies, Corfu, Greece, from 10-10-2011 to 12-10-2011. Pasquali M, Gaudenzi P (2014). A nonlinear formulation of piezoelectric shells with complete electro-mechanical coupling, Paper no. ICAST2014-060, 25th International Conference on Adaptive Structures and Technologies, The Hague, The Netherlands, from 06-10-2014 to 08-10-2014.

Additive manufacturing	Investigation of AM-induced evolution of the design process for small satellites, posing particular attention in identifying the optimal design
3D metal printing	strategies to propose an innovative structural configuration for the CubeSat
SLM	class of satellites able to minimize the system complexity via parts
Topology optimization Design for additive manufacturing Small satellites	reduction and the integration of subsystems through an innovative assembly configuration. The study encompasses the optimization of the design of
	distortions. The research is carried out in the frame of the collaboration between the Department of Mechanical and Aerospace Engineering of "La
	Sapienza" University of Rome and the Mechanical Materials and
Beam-interacting	Engineering (MME) Group of CERN's Engineering Department, in which I

devices	act in the role of Additive Manufacturing Ambassador. In fact, the reduction of mass via topology optimization enabled by 3D printing technologies is a desirable feature for both aerospace structures, where the need for lightweight components is a well-know requirement, and for particles beam intercepting devices, as mass is proportional to the thermomechanical loads associated to radiation exposure. The study also delivers a substantial insight in the design of parts and of their supports to reduce heat-induced residual stresses and distortions that often undermine the
	in the particle accelerators field.
	 Publications related to this research among those selected for the evaluation: Gaudenzi P, Atek S, Cardini V, Eugeni M, Graterol Nisi G, Lampani L, Pasquali M, Pollice L (2018). Revisiting the configuration of small satellites structures in the framework of 3D Additive Manufacturing (2018). Acta Astronautica, vol. 146, pp. 249-258.
	 Other related publications on peer-reviewed journals and participation to conferences: Graterol Nisi G, Eugeni M, Cardini V et Al. (2018). Realization of smart components with embedded electronics by using fused filament fabrication, 15th European Conference on Spacecraft Structures, materials and Environmental Testing, ESA-ESTEC, Noordwijk, The Netherlands, from 28-05-2018 to 1-06-2018.

Dynamic	material
characteriza	ation
Thermo-me	echanical
stresses	
Composite	materials
Isocoric he	ating
Experiment	tal tests
Particle	beam
impacts	
Shock wav	es
Spallation	
EOS	
Tomograph	ıy

Assessment of the dynamic response of material samples exposed to particle beam impacts. This stream of research sees my participation (in the frame of the collaboration between the Department of Mechanical and Aerospace Engineering of "La Sapienza" University of Rome and the Mechanical Materials and Engineering (MME) Group of CERN's Engineering Department) as Scientific Secretary of the MultiMat experiment (also known as HRMT-36), a two million euros project partially funded by the European Union's Horizon 2020 Research and Innovation programme under the Grant Agreement No. 730871. The main goal of the experiment is to derive and extend the constitutive models of the tested materials by benchmarking experimental data - collected online by an extensive acquisition system and by non-destructive post-mortem examination - against numerical simulations. The insight gained in the constitutive behaviour of the analysed materials is envisioned to be used to improve the design and performances of all devices interacting with particle beams. At the same time, such knowledge is of great interest also for space applications, as similar extreme phenomena (like shock waves, changes of phase, spallation, micro jetting, etc...) can also characterize hyper-velocity impacts occurring between space debris and space structures (satellites, space crafts, etc...). The role of Scientific Secretary sees the participation to the experiment design, implementation and data post-processing, the latter being characterized by the supervision of numerous Master and PhD students.

Publications related to this research among those selected for the evaluation:

Pasquali M, Bertarelli A, Accettura C et Al. (2019). Dynamic Response of Advanced Materials Impacted by Particle Beams: The MultiMat Experiment. Journal of Dynamic Behavior of Materials, vol. 5, pp. 266-295.

Other related publications on peer-reviewed journals and participation to conferences:

Abada A, Abbrescia M, Abdus Salam SS et Al. (2019). FCC Physics Opportunities:
Future Circular Collider Conceptual Design Report Volume 1. European Physical Journal C, vol. 79, 474.

•	Abada A, Abbrescia M, Abdus Salam SS et Al. (2019). FCC-ee: The Lepton Collider:
	Future Circular Collider Conceptual Design Report Volume 2. European Physical
	Journal: Special Topics, vol. 228, pp. 261-623.
•	Abada A, Abbrescia M, Abdus Salam SS et Al. (2019). FCC-hh: The Hadron Collider:
	Future Circular Collider Conceptual Design Report Volume 3. European Physical
	Journal: Special Topics, vol. 228, pp. 755-1107.
•	Abada A, Abbrescia M, Abdus Salam SS et Al. (2019). HE-LHC: The High-Energy
	Large Hadron Collider: Future Circular Collider Conceptual Design Report Volume 4.
_	European Physical Journal: Special Topics, vol. 228, pp. 1109-1382.
	Numerical and experimental banchmarking of the dynamic response of SiC and TZM
	speciments in the MultiMat experiment. Mechanics of Materials, vol. 138, 103169
	Pasquali M Bartaralli A Dallocchio A et Al (2017) The HRMT 36 Experiment (MultiMat)
-	1 asquait W, Betatelli A, Daloccillo A et Al. (2017). The TheW1-50 Experiment (Waldward,
	1st workshop of ARIES wP1/ PowerMat, 1urin, Italy, from 27-11-2017 to 28-11-2017.
•	Pasquali M (2018). Dynamic testing and characterization of advanced materials in the Multimat
	experiment at HiRadMat, 1st ARIES annual meeting, Riga, Latvia, from 22-05-2018 to 25-05-
	2018.
•	Pasquali M (2018). Update on the MultiMat experiment: status, outcome and perspectives, 1st
	Annual Meeting of the ARIES WP17, Valletta, Malta, from 28-10-2018 to 30-10-2018.
	Bertarelli A Accettura C Berthomé F et Al (2018) Dynamic testing and characterization of
	advanced meterials in a new superiment at CEDN HiDedMat facility. Denor No. IDAC2019
	advanced materials in a new experiment at CERN Hiradiviat facility, raper No. IFAC2018-
	wEPIVIFU/1, 9th International particle accelerator Conference, Vancouver, BC, Canada, from
	29-04-2018 to 4-05-2018.
•	Carra F, Bertarelli A, Gobbi G at Al. (2019). Mechanical robustness of HI-LHC Collimator
	Designs, Paper No. IPAC2019-MOPTS091, 10th International particle accelerator Conference,
	Melbourne, Australia, from 19-05-2019 to 24-05-2019.
-	Pasquali M, Bertarelli A, Accettura C, et Al. (2019). Dynamic response of advanced materials
	impacted by particles beams: the Multimat experiment 24th DVMAT Technical Meeting -
	Tomporture dependence of material behaviour at high strain rate Strass Hely, from 0.00 2010
	11 on 2010
	to 11-09-2019.

Activity as reviewer	Acting as reviewer for the following international peer-reviewed journals:				
y	 Aerospace Science and Technology, ISSN: 1270-9638 				
	 Journal of Aircraft, ISSN: 1533-3868 				
	 AIAA Journal, ISSN: 1533-385X 				
	 Computers & Structures, ISSN: 0045-7949 				
	 Composite Structures, ISSN: 0263-8223 				
	 Journal of Computational and Applied Research in Mechanical 				
	Engineering, ISSN: 2228-7922				
	 Journal of Intelligent Material System and Structures, ISSN: 1045-389X 				
	 Journal of Material Engineering and Performance, ISSN: 1544-1024 				
	 Journal of Sound and Vibration, ISSN: 0022-460X 				
	 Journal of Vibration and Control, ISSN: 1077-5463 				
	Journal of Nondestructive Evaluation, Diagnostics and Prognostics of				
	Engineering Systems, ISSN: 2572-3901				
	 Smart Material and Structures, ISSN: 0964-1726 				
	 Journal of Vibration and Acoustics, ISSN: 1048-9002 				
	Acting as reviewer for the following books:				
	 Z Wang Y Wang Z Wu Structural Health Monitoring. Illtrasonic 				
	Guided Waves, Elsevier S&T Books, pp. 512, 2014. (Not published)				

Product type	Number	Data Base	Start	End
Papers [international]	29	SCOPUS	2011	2019

Total Impact factor	64.99
Total Citations	175
Average Citations per Product	6.03
Hirsch (H) index	8
Normalized H index*	0.89

*H index divided by the academic seniority.

Part IX- Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

#	Title	Authors	Reference data	IF	Citations
1	A geometrically exact formulation for thin multi-layered laminated composite plates: Theory and experiment	Lacarbonara W, Pasquali M	COMPOSITE STRUCTURES (2011), vol. 93, pp. 1649-1663, ISSN: 0263-8223, doi: 10.1016/j.compstruct.2010.1 2.005	2.68	8
2	A nonlinear formulation of piezoelectric plates	Pasquali M, Gaudenzi P	JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES (2012), vol. 23, pp. 1713- 1723, ISSN: 1045-389X, doi: 10.1177/1045389x12447292	1.87	9
3	Detection of nonlinearities in plates via higher- order spectra: numerical and experimental studies	Pasquali M, Lacarbonara W, Marzocca P	JOURNAL OF VIBRATION AND ACOUSTICS (2014), vol. 136, 041015, ISSN: 1048- 9002, doi: 10.1115/1.4027625	1.42	7
4	Info-gap robustness of an input signal optimization algorithm for damage detection	Pasquali M, Stull CJ, Farrar CR	MECHANICAL SYSTEMS AND SIGNAL PROCESSING (2012), vol. 50-51, pp. 1-10, ISSN: 0888- 3270, doi: 10.1016/j.ymssp.2014.05.03 8	3.12	0
5	A nonlinear formulation of piezoelectric	Pasquali M, Gaudenzi P	MECCANICA (2015), vol. 50, pp. 2471-2486, ISSN: 1572-9648, doi:	1.81	6

-					
	shells with		10.1007/s11012-015-0144-x		
	complete electro-				
	mechanical				
	Analytical	Pasquali M. Torra	COMPOSITE		
	modelling of high-	C Gaudenzi P	STRUCTURES (2015) vol		
	velocity impacts	e, Guudenzi i	131 pp 951-965 ISSN [•]		_
6	on thin woven		0263-8223. doi:	4.25	7
	fabric composite		10.1016/j.compstruct.2015.0		
	targets		6.078		
	Sparse sensing	Gaudenzi P,	COMPOSITE		
	detection of	Nardi D,	STRUCTURES (2015), vol.		
	impact-induced	Chiappetta I,	133, pp.		
7	delaminations in	Atek S, Lampani	1209-1219, ISSN: 0263-	4.25	19
	composite	L, Pasquali M,	8223, doi:		
	laminates	Sarasini F, Tirilló	10.1016/j.compstruct.2015.0		
	D1 : .:	J, Valente T	8.052		
	Delamination	Pasquali M,	COMPOSITE STRUCTURES (2015) real		
		Lacardonara w	124 pp 1005 1108 ISSN		
	laminates using		0263-8223 doi:		
8	high-frequency P-		10 1016/i compstruct 2015 0	4.25	8
	and S-wayes - Part		5 019		
	I: Theory				
	and analysis				
	Delamination	Pasquali M,	COMPOSITE		
	detection in	Lacarbonara W,	STRUCTURES (2015),		
	composite	Farrar CR	vol. 134, pp. 1109-1117,		
	laminates using		ISSN: 0263-8223, doi:		
9	high-frequency P-		10.1016/j.compstruct.2015.0	4.25	3
	and Supervise Don't II.		5.042		
	S-waves - Part II:				
	validation				
	A nonlinear	Pasquali M	IOURNAL OF		
	niezoelectric shell	Gaudenzi P	INTELLIGENT		
	model:		MATERIAL SYSTEMS		
10	Theoretical and		AND STRUCTURES	2.02	8
	numerical		(2016), vol. 27, pp.724-742,		
	considerations		ISSN: 1530-8138, doi:		
			10.1177/1045389X15575087		
	Detection of low-	Nardi D, Lampani	COMPOSITE		
	velocity impact-	L, Pasquali M,	STRUCTURES (2016), vol.		
	induced	Gaudenzi P	151, pp. 108-113, ISSN:		
11	delaminations in		0263-8223, doi:	4.45	22
	composite		10.1016/j.compstruct.2016.0		
	Auto-Regressive		2.003		
	models				
	Effects of	Pasquali M.	COMPOSITE		
12	curvature on	Gaudenzi P	STRUCTURES (2017), vol.	4.52	6

	high-velocity		160, pp. 349-365, ISSN: 0263-8223 doi:		
	of thin woven		10 1016/i compstruct 2016 1		
	fabric composite		0.069		
	targets				
	A geometrically	Pasquali M,	COMPOSITE		
	exact formulation	Gaudenzi P	STRUCTURES (2017), vol.		
	of thin		180, pp.		
13	laminated		542-549, ISSN: 0263-8223,	4.52	0
	composite shells		doi:		
	_		10.1016/j.compstruct.2017.0		
			8.035		
	Dynamic Response	Pasquali M,	JOURNAL OF DYNAMIC		
	of Advanced	Bertarelli A,	BEHAVIOR OF		
1.4	Materials Impacted	Accettura C et Al.	MATERIALS (2019), vol. 5,	2.16	1
14	by Particle Beams:		pp. 266-295, ISSN: 2199-	2.16	1
	The MultiMat Exp		7454, doi: 10.1007/s40870-		
	eriment.		019-00210-1		
	Revisiting the	Gaudenzi P, Atek	ACTA ASTRONAUTICA		
	configuration of	S, Cardini V,	(2018), vol. 146, pp. 249-		
15	small satellites	Eugeni M,	258, ISSN: 0094-5765, doi:		
	structures in the	Graterol Nisi G,	10.1016/j.actaastro.2018.01.	2.99	5
	framework of 3D	Lampani L,	036		
	Additive	Pasquali M,			
	Manufacturing	Pollice L			

Signature

(ai sensi degli artt. 46 e 47 del D.P.R. 445/200)

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