



## Curriculum Vitae

# José Xavier

J. Xavier is currently an Assistant Professor (Professor Auxiliar) at the Department of Mechanical and Industrial Engineering (DEMI) at NOVA School of Science and Technology (FCT NOVA) of NOVA University of Lisbon (FCT NOVA).

J. Xavier is an integrated researcher member at the Research and Development Unit for Mechanical and Industrial Engineering (UNIDEMI). UNIDEMI received by the FCT-MCTES the evaluation of "EXCELLENT". Besides, J. Xavier has been collaborating with other external institutions namely LAETA/INEGI/UP, CITAB/UTAD and ISISI/University of Minho. Since obtaining the PhD degree, J. Xavier has participated, as a researcher, in 10 projects with industry and 11 projects funded by national government agencies (e.g. FCT, Portugal2020, Ministerio de Economía y Competitividad, ES, EPSRC Fellowship, UK). He is currently a principal investigator in a FCT project with reference: PTDC/EMD-EMD/1230/2021. J. Xavier has published 85 papers in international peer-reviewed journals with an accumulated h-factor of 28(25) and with 2309(1883) total(independent) citations. Among them, 81 were published independently from the PhD supervisor and 29 were published as a senior (corresponding) author. Shorting the articles, 75 papers were published in top specialty peer-reviewed journals (quartile in category Q1/Q2). J. Xavier has published 4 book chapters and contributed with 1 didactic publications, among other (non published) academic resources for students. J. Xavier completed the supervision/co-supervision of 1/3 PhD (3rd cycle), 13/23 MSc students (2nd cycle) and 2 MSc ERASMUS student. Moreover, he is carrying out the supervision/co-supervision of 3/4 PhD and 2/3 MSc students. The PhD candidates are from NOVA SST, NOVA Medical School, Technical University of Madrid (ES), University of Aveiro, Universidade Federal Fluminense, Brasil.

He has been invited as member of juries of PhD and MSc thesis in Portugal, Europe (France, Spain, Italy) and Brazil. He has also been invited to international visits in the framework of research and projects. He is also a regular reviewer of international and national peer-reviewed journals. J. Xavier has been collaborating as membership of scientific, organizing committees and courses. He has been invited as chairman in section at different international and national conferences as well as figuring in scientific and organization committees. Moreover, he has been participating in COST Actions dealing with the wood, timber, wood-based products and X-ray computed tomography. Furthermore, efforts in transfer of technology from the research promoted or in which he has been involved were actively engaged.

Since his graduation in Mechanical Engineering, he had already started teaching as invited lecturer, namely by accumulating activities during MSc, PhD, post-doc (Ciência2018 FCT program) and as Invited Assistant Professor (Engineering Department of the School of Science and Technology in UTAD). In the meanwhile, as general duties and responsibilities in academia, he has been gaining experience in academic service and pointed as vice-director of the MSc course on Mechanical Engineering, ECT, UTAD (academic year 2018/19) and, more recently, as coordinator of the Master in Digital Advanced Manufacturing Engineering at NOVA SST.

## Identification

### Personal identification

Full name  
José Xavier

### Citation names

Xavier, José

### Author identifiers

Ciência ID  
4819-3BA8-9244  
ORCID iD  
0000-0002-7836-4598

## Knowledge fields

Engineering and Technology - Mechanical Engineering  
Engineering and Technology - Medical Engineering

## Languages

Language	Speaking	Reading	Writing	Listening	Peer-review
English	Advanced (C1)	Advanced (C1)	Advanced (C1)	Advanced (C1)	Advanced (C1)
French	Upper intermediate (B2)	Advanced (C1)	Elementary (A2)	Advanced (C1)	Upper intermediate (B2)
Italian	Intermediate (B1)	Upper intermediate (B2)	Beginner (A1)	Proficiency (C2)	Advanced (C1)

## Education

	Degree	Classification
2007 Concluded	Mechanical Engineering (Doutoramento)  Arts et Métiers ParisTech - Campus de Châlons-en-Champagne, France <i>"Characterisation of the wood stiffness variability within the stem by the virtual fields method: application to P. pinaster in the LR plane" (THESIS/DISSERTATION)</i>	"trés honorable"
2003 Concluded	Engineering Technology (Mestrado)  Universidade de Trás-os-Montes e Alto Douro, Portugal <i>"Characterization of the shear behaviour of wood using the Iosipescu test" (THESIS/DISSERTATION)</i>	"aprovado com muito bom"
1999 Concluded	Mechanical Engineering (Licenciatura)  Universidade de Trás-os-Montes e Alto Douro, Portugal <i>"Trigeração a gás natural" (THESIS/DISSERTATION)</i>	15 out of 20

## Affiliation

**Science**

	Category Host institution/organization	Employer
2013 - 2013	Auxiliary Researcher (Research)	Instituto para a Sustentabilidade e Inovação em Engenharia Estrutural, Portugal

**Teaching in Higher Education**

	Category Host institution/organization	Employer
2018/09/10 - Current	Assistant Professor (University Teacher)	Universidade Nova de Lisboa Departamento de Engenharia Mecânica e Industrial, Portugal
2016 - 2017	Assistant Professor (University Teacher)	Universidade de Trás-os-Montes e Alto Douro Centro de Investigação e de Tecnologias Agro-Ambientais e Biológicas, Portugal

**Others**

	Category Host institution/organization	Employer
2015/02/23 - Current	Invited lecturer (Professor Auxiliar Convocado a Tempo Integral)	Universidade de Trás-os-Montes e Alto Douro Escola de Ciências e Tecnologia, Portugal
2014/04/14 - 2015/02/21	Post-Doc Research Assistant (Program RES2IN: RTI Biomechanics contributions to healthcare)	Instituto de Engenharia Mecânica e Gestão Industrial, Portugal
2009/06/21 - 2014/04/11	Post-Doc Research Assistants (program Ciência2008)	Universidade de Trás-os-Montes e Alto Douro Centro de Investigação e de Tecnologias Agro-Ambientais e Biológicas, Portugal
2008/01/01 - 2009/06/20	Researcher fellowship at INEGI in the research project: "Experimental assessment of moisture effects on aging and durability of thermosetting polymers" (FTC: PTDC/EME-PME/67791/2006).	Instituto de Engenharia Mecânica e Gestão Industrial, Portugal

2003/11/01 - 2007/11/30	- Ph.D. student at LMPF/Arts et Métiers Châlons-en-Champagne.   - Collaboration in the teaching service at Arts et Métiers Châlons-en-Champagne.	Arts et Métiers ParisTech - Campus de Châlons-en-Champagne, France
1999/09/01 - 2003/10/31	- Guest assistant lecture at the Engineering Department of UTAD; M.Sc. student at UTAD; Scholarship in the research project: "Non-linear mechanical behaviour of wood" (FCT: POCTI/36270/EME/2000)	Universidade de Trás-os-Montes e Alto Douro Escola de Ciências e Tecnologia, Portugal

## Projects

### Contract

	Designation	Funders
2021/12 - Current	Development of methods for the identification of mechanical properties in tissues of plant origin EXPL/EME-APL/0587/2021	Fundação para a Ciência e a Tecnologia, Portugal
2022/01/04 - 2025/01/03	Fluid-structure interaction for functional assessment of ascending aortic aneurysms: a biomechanical-based approach toward clinical practice PTDC/EMD-EMD/1230/2021  Principal investigator Universidade Nova de Lisboa Unidade de Investigação e Desenvolvimento em Engenharia Mecânica e Industrial, Portugal	Fundação para a Ciência e a Tecnologia, Portugal
2021/07/01 - 2024/08/31	Construction system for strained gridshells based on new high-performance timber products and digital fabrication EP/L026910/1 (ES)  Researcher Universidade Nova de Lisboa Unidade de Investigação e Desenvolvimento em Engenharia Mecânica e Industrial, Portugal	España Ministerio de Ciencia e Innovación, Spain
2019/01/02 - 2021/12/31	MAMTool - Machinability of Additive Manufactured Parts for Tooling Industry 02/SAICT/2017 - SAICT - 031895  Researcher Instituto de Engenharia Mecânica e Gestão Industrial, Portugal	Fundação para a Ciência e a Tecnologia, Portugal

2018/06/01 - 2021/05/31	<p>FiberBridge - Fatigue strengthening and assessment of railway metallic bridges using fiber-reinforced polymers 02/SAICT/2017 - SAICT - 030103</p> <p>Researcher Instituto de Engenharia Mecanica e Gestao Industrial, Portugal</p>	<p>Fundação para a Ciência e a Tecnologia, Portugal</p>
2008/01/02 - 2019/12/31	<p>Experimental assessment of moisture effects on aging and durability of thermosetting polymers PTDC/EME-PME/67791/2006</p> <p>Post-doc Fellow Instituto de Engenharia Mecanica e Gestao Industrial, Portugal</p>	<p>Fundação para a Ciência e a Tecnologia, Portugal</p>
2015/01/01 - 2019/10/31	<p>Innovative photomechanical approaches in identification of the dynamic mechanical behaviour of materials (Photodyn), EP/L026910/1</p> <p>Researcher Universidade de Trás-os-Montes e Alto Douro Centro de Investigação e de Tecnologias Agro-Ambientais e Biologicas, Portugal</p>	
2017/10/01 - 2017/12/22	<p>AIRNET Airbus RSC17020</p> <p>Researcher Instituto de Engenharia Mecanica e Gestao Industrial, Portugal</p>	
2016/01/02 - 2016/12/31	<p>Advanced identification of fracture properties of composite materials Daimler PO 1059247748</p> <p>Researcher Instituto de Engenharia Mecanica e Gestao Industrial, Portugal</p>	
2014/01/02 - 2015/12/31	<p>Stabilo Twin Arch Shoes (STAR Shoes) ROPAR - FABRICO DE CALÇADO ORTOPÉDICO, S.A.</p> <p>Researcher Instituto de Engenharia Mecanica e Gestao Industrial, Portugal</p>	
2014/01/02 - 2015/12/31	<p>Definição de critérios para a determinação da fadiga de um militar em contextos de emprego climáticos diversos ESE-INEGI-FEUP-LABIOMEPE-CPAE</p> <p>Researcher</p>	

2012/01/02 - 2015/12/31	<p>Fracture behaviour of cortical bone under mixed-mode I+II loading PTDC/EME-PME/119093/2010</p> <p>Researcher</p> <p>Universidade de Trás-os-Montes e Alto Douro Centro de Investigação e de Tecnologias Agro-Ambientais e Biológicas, Portugal</p>	<p>Fundação para a Ciência e a Tecnologia, Portugal</p>
2012/01/02 - 2015/12/31	<p>2genComp – second generation Composites Airbus PO 8202919946</p> <p>Researcher</p> <p>Instituto de Engenharia Mecânica e Gestão Industrial, Portugal</p>	
2011/01/02 - 2014/12/31	<p>Numerical and experimental study of cohesive laws in bonded wood joints PTDC/EME-PME/114443/2009</p> <p>Researcher</p> <p>Universidade de Trás-os-Montes e Alto Douro Centro de Investigação e de Tecnologias Agro-Ambientais e Biológicas, Portugal</p>	<p>Fundação para a Ciência e a Tecnologia, Portugal</p>
2013/01/02 - 2013/12/31	<p>High strain rate characterization of polymer composites - Project II Aernnova Aerospace S.A. UMEC-AERN-2012-11-24</p> <p>Researcher</p> <p>Instituto de Engenharia Mecânica e Gestão Industrial, Portugal</p>	
2012/01/02 - 2013/12/31	<p>Methods for the characterization of the translamellar fracture toughness of polymer composites. Daimler PO 1059203795</p> <p>Researcher</p> <p>Instituto de Engenharia Mecânica e Gestão Industrial, Portugal</p>	
2011/01/02 - 2012/12/31	<p>High strain rate effects on textile and unidirectional composites Aernnova AESI/11-052</p> <p>Researcher</p>	
2009/01/02 - 2012/12/31	<p>iComp- integrated method for structural design of Composite components. Airbus PO 2311292</p> <p>Researcher</p> <p>Instituto de Engenharia Mecânica e Gestão Industrial, Portugal</p>	

2001/01/02 - 2003/12/31 Non-linear mechanical behaviour of wood  
POCTI/36270/EME/2000  
Research Fellow

Fundação para a  
Ciência e a  
Tecnologia,  
Portugal

## Outputs

### Publications

- |                  |   |  |
|------------------|---|--|
| Book             | 1 | Arteiro, A.; Catalanotti, G.; Xavier, J.; Camanho, P.P.. <i>A finite fracture mechanics model for the prediction of the notched response and large damage capability of composite laminates</i> . 2015.<br>10.4028/www.scientific.net/KEM.627.13                             |
|                  | 2 | Guedes, R.M.; Xavier, J.. <i>Understanding and predicting stiffness in advanced fibre-reinforced polymer (FRP) composites for structural applications</i> . 2013.<br>10.1533/9780857098641.3.298   |
| Conference paper | 1 | Xavier, José. "On the inverse identification of DP600- steel constitutive parameters by a synthetic image approach based on digital image correlation". Paper presented in <i>41th International Deep Drawing Research Group Conference 2022</i> , 2022.                     |
|                  | 2 | Xavier, José. "Architected and additively manufactured double-negative index metamaterials". Paper presented in <i>8th European Congress on Computational Methods in Applied Sciences and Engineering ECCOMAS</i> , 2022.  |
|                  | 3 | Xavier, José. "Identification of Swift law and Yld2000- 2s parameters using FEMU by a synthetic image approach based on digital image correlation". Paper presented in <i>25th International Conference in Material Forming (ESAFORM 2022)</i> , 2022.                       |
|                  | 4 | Xavier, José. "Numerical modeling of the ascending thoracic aorta: a systematic review on computational approaches and challenges towards the clinical practices". Paper presented in <i>9th International Conference on Computational Bioengineering (ICCB2022)</i> , 2022. |
|                  | 5 | Xavier, José. "Numerical modeling of the ascending thoracic aorta: a systematic review on computational approaches and challenges towards the clinical practices". Paper presented in <i>9th International Conference on Computational Bioengineering (ICCB2022)</i> , 2022. |
|                  | 6 | Xavier, José. "A study on the computational fluid dynamics and fluid structure interaction models for the hemodynamic of ascending thoracic aorta aneurysm". Paper presented in <i>9th International Conference on Computational Bioengineering (ICCB2022)</i> , 2022.       |

- 7 Xavier, José. "Identification of orthotropic elastic properties of wood by digital image correlation and finite element model updating techniques". Paper presented in *Photomechanics-iDICs 2021*, 2021.  
<https://doi.org/10.1016/j.prostr.2022.02.047>
- 8 Xavier, José. "On material identification of *Pinus pinaster* Ait. at high strain rate loading by the image-based inertial impact test". Paper presented in *4th International Conference on Structural Integrity (ICSI2021)*, 2021.
- 9 Xavier, José. "Impact of moisture content on tropical wood under opening mode". Paper presented in *4th International Conference on Structural Integrity (ICSI2021)*, 2021.
- 10 Xavier, José. "Direct evaluation of Mode I cohesive law of *Eucalyptus globulus* L. bonded joints". Paper presented in *4th International Conference on Structural Integrity (ICSI2021)*, 2021.
- 11 Xavier, José. "In situ monitoring of wire and arc additive manufacturing by digital image correlation: a case study". Paper presented in *4th International Conference on Structural Integrity (ICSI2021)*, 2021.  
<https://doi.org/10.1016/j.prostr.2022.01.056>
- 12 Xavier, José. "Identification of orthotropic elastic properties of wood by digital image correlation and finite element model updating techniques". Paper presented in *4th International Conference on Structural Integrity (ICSI2021)*, 2021.  
<https://doi.org/10.1016/j.prostr.2022.02.047>
- 13 Xavier, José. "Minisample tensile-compression testing for sheet metal mechanical characterization". Paper presented in *3rd International Conference on Materials Design and Applications (MDA 2020)*, 2020.
- 14 Xavier, José. "Intralaminar fracture toughness and crack resistance curves for FRPs under high rate loading". Paper presented in *3rd International Conference on Structural Integrity (ICSI2019)*, 2019.
- 15 Xavier, José. "High strain rate compressive behaviour of wood on the transverse plane". Paper presented in *3rd International Conference on Structural Integrity (ICSI2019)*, 2019.  
<https://doi.org/10.1016/j.prostr.2019.08.120>
- 16 Xavier, José. "Identification of high strain rate behaviour of wood based on an inertial impact test". Paper presented in *3rd International Conference on Structural Integrity (ICSI2019)*, 2019.
- 17 Xavier, José. "Experimental characterization of FFF printed parts under tensile, shear and mixed loads via Arcan-based test". Paper presented in *EUROMAT2019*, 2019.
- 18 Xavier, José. "Intralaminar fracture toughness of UD glass fiber composite under high rate fiber tension and fiber compression loading". Paper presented in *12th International DYMAT Conference*, 2018.  
[10.1051/epjconf/201818302018](https://doi.org/10.1051/epjconf/201818302018)



- 19 Xavier, José. "Methodology for ULCF data reduction using local boundary conditions provided by digital image correlation". Paper presented in *19 th Inter- national Colloquium on Mechanical Fatigue of Metals (ICMFM XIX)*, 2018.
- 20 Xavier, José. "Applicability of critical distances theory to extreme-low-cycle fatigue". Paper presented in *19 th International Colloquium on Mechanical Fatigue of Metals (ICMFM XIX)*, 2018.
- 21 Xavier, José. "Splitting capacity of eucalyptus globulus connections loaded perpendicular to the grain". Paper presented in *2018 World Conference on Timber Engineering*, 2018.
- 22 Xavier, José. "AlSi9Cu3 cast alloy mechanical characterization using Astakhov test specimens". Paper presented in *8 th International Conference on Engineering Failure Analysisg*, 2018.
- 23 Xavier, José. "Improving intralaminar fracture toughness of composite laminates by changing the orientation of the mid-plane clustered plies". Paper presented in *International Conference on Composite Materials Science and Technology (ICCMST 2018)*, 2018.
- 24 Xavier, José. "Measuring wood bending stiffness components by the virtual fields method: an integrated image-based approach". Paper presented in *2 nd International Conference on Structural Integrity (ICSI)*, 2017.
- 25 Xavier, José. "Efficiency of approximation methods for obtaining the strain fields from digital image correlation". Paper presented in *2 nd International Conference on Structural Integrity (ICSI)*, 2017.
- 26 Xavier, José. "Characterization of the tensile mechanical behavior of wooden construction on materials from historic building". Paper presented in *2 nd International Conference on Structural Integrity (ICSI)*, 2017.  
<https://doi.org/10.1016/j.prostr.2017.07.083>
- 27 Xavier, José. "Application of digital image correlation and high speed photography to determine the fiber failure fracture toughness of composites under high rate loading". Paper presented in *12 th International Conference on Advances in Experimental Mechanics (BSSM)*, 2017.
- 28 Xavier, José. "Durability of bond between near-surface-mounted CFRP strips and concrete under several environmental actions". Paper presented in *7 th International Conference of Asian Concrete Federation (ACF2016)*, 2016.
- 29 Xavier, José. "Measurement of fracture toughness for fiber tensile failure mode of UD composites under high rate loading". Paper presented in *19 th International Conference on Composite Structures (ICCS19)*, 2016.
- 30 Xavier, José. "Selective ply-level hybridisation for improved notched response". Paper presented in *17 th European Conference for Composite Materials (ECCM17)*, 2016.

- 31 Sampayo, L.M.C.M.V.; Monteiro, P.M.F.; Correia, J.A.F.O.; Xavier, J.M.C.; De Jesus, A.M.P.; Fernandez-Canteli, A.; Calçada, R.A.B.. "Probabilistic S-N Field Assessment for a Notched Plate Made of Puddle Iron from the Eiffel Bridge with an Elliptical Hole". 2015.  
10.1016/j.proeng.2015.08.011
- 32 Pinto, V.C.; Ramos, T.; Alves, S.; Xavier, J.; Tavares, P.; Moreira, P.M.G.P.; Guedes, R. M.. "Comparative Failure Analysis of PLA, PLA/GNP and PLA/CNT-COOH Biodegradable Nanocomposites thin Films". 2015.  
10.1016/j.proeng.2015.08.004
- 33 Pinto, V.C.; Xavier, J.; Guedes, R.M.. "Experimental creep analysis of biodegradable polymer matrix nanocomposites for ACL replacement". 2014.
- 34 Fernandes, J.R.A.; Passos, D.J.; Xavier, J.; Morais, J.J.L.; Frazão, O.. "Initial studies of glued wood joints using FBG strain sensors". 2014.  
10.1109/MePhoCo.2014.6866495
- 35 Pereira, J.C.R.; De Jesus, A.M.P.; Fernandes, A.A.; Xavier, J.; Martins, B.. "Comparison of the monotonic, low-cycle and ultra-low-cycle fatigue behaviours of the X52, X60 and X65 piping steel grades". 2014.  
10.1115/PVP2014-28761
- 36 Mata, H.; Natal Jorge, R.; Parente, M.P.L.; Fernandes, A.A.; Santos, A.D.; Valente, R.A.F.; Xavier, J.. "Establishment of the mechanical properties of aluminium alloy of sandwich plates with metal foam core by using an image correlation procedure". 2012.
- 37 Majano-Majano, A.; Fernandez-Cabo, J.L.; Xavier, J.. "Characterization of clear wood by a single specimen: Evaluation of first results and further improvements". 2012.
- 38 Erçin, G.H.; Camanho, P.P.; Mahdi, S.; Linde, P.; Xavier, J.; Bessa, M.. "Size effects on the tensile and compressive failure of notched composite laminates". 2012.  
10.1016/j.compstruct.2012.10.004

## Journal article

- 1 Pereira, Fábio; Morais, José; Xavier, José; Dourado, N.; de Moura, M.F.S.F.. "Experimental evaluation of cohesive laws components of mixed-mode I + II fracture characterization of cortical bone". *Engineering Fracture Mechanics* 268 (2022): 108493. <http://dx.doi.org/10.1016/j.engfracmech.2022.108493>.  
Published · 10.1016/j.engfracmech.2022.108493
- 2 Rodrigo Valente; André Mourato; Moisés Brito; José Xavier; António Tomás; Stéphane Avril. "Fluid-Structure Interaction Modeling of Ascending Thoracic Aortic Aneurysms in SimVascular". *Biomechanics* (2022): <https://doi.org/10.3390/biomechanics2020016>.  
10.3390/biomechanics2020016
- 3 J.L. Gómez-Royuela; A. Majano-Majano; A.J. Lara-Bocanegra; J. Xavier; M.F.S.F. de Moura. "Evaluation of R-curves and cohesive law in mode I of European beech". *Theoretical and Applied Fracture Mechanics* 118 (2022): 103220-103220. <https://doi.org/10.1016/j.tafmec.2021.103220>.  
10.1016/j.tafmec.2021.103220

- 4 João Filho; José Xavier; Luiz Nunes. "An Alternative Digital Image Correlation-Based Experimental Approach to Estimate Fracture Parameters in Fibrous Soft Materials". *Materials* 15 7 (2022): 2413-2413. <https://doi.org/10.3390/ma15072413>  
10.3390/ma15072413
- 5 J. Henriques; J. Xavier; G. Andrade-Campos. "Identification of orthotropic elastic properties of wood by digital image correlation and finite element model updating techniques". *Identification of orthotropic elastic properties of wood by digital image correlation and finite element model updating techniques* 37 (2022): 25-32. <https://doi.org/10.1016/j.prostr.2022.02.047>.  
Published · <https://doi.org/10.1016/j.prostr.2022.02.047>
- 6 Filipa G.Cunha; Telmo G.Santos; José Xavier. "In situ monitoring of wire and arc additive manufacturing by digital image correlation: a case study". *Procedia Structural Integrity* 37 (2022): 33-40.  
<https://doi.org/10.1016/j.prostr.2022.01.056>
- 7 Almudena Majano-Majano; Antonio José Lara-Bocanegra; José Xavier; Fábio Pereira; José Morais. "Direct evaluation of mode I cohesive law of eucalyptus bonded joints". *Procedia Structural Integrity* 37 (2022): 492-499.  
<https://doi.org/10.1016/j.prostr.2022.01.114>
- 8 João Henriques; José Xavier; António Andrade-Campos. "Identification of Orthotropic Elastic Properties of Wood by a Synthetic Image Approach Based on Digital Image Correlation". *Materials* (2022): <https://doi.org/10.3390/ma15020625>.  
10.3390/ma15020625
- 9 Silva, T.; Silva, F.; Xavier, J.; Gregório, A.; Reis, A.; Rosa, P.; Konopík, P.; Rund, M.; Jesus, A.. "Mechanical Behaviour of Maraging Steel Produced by SLM". *Procedia Structural Integrity* 34 (2021): 45-50. <http://dx.doi.org/10.1016/j.prostr.2021.12.007>.  
Published · 10.1016/j.prostr.2021.12.007
- 10 F Danzi; RP Tavares; J Xavier; D Fanteria; PP Camanho. "Effects of hybridization and ply thickness on the strength and toughness of composite laminates". *Journal of Composite Materials* (2021): 002199832110417-002199832110417. <https://doi.org/10.1177/00219983211041762>.  
10.1177/00219983211041762
- 11 Silva, Tiago; Gregório, Afonso; Silva, Filipe; Xavier, José; Reis, Ana; Rosa, Pedro; de Jesus, Abílio. "Numerical-Experimental Plastic-Damage Characterisation of Additively Manufactured 18Ni300 Maraging Steel by Means of Multiaxial Double-Notched Specimens". *Journal of Manufacturing and Materials Processing* 5 3 (2021): 84. <http://dx.doi.org/10.3390/jmmp5030084>.  
Published · 10.3390/jmmp5030084
- 12 Filipa G. Cunha; Telmo G. Santos; José Xavier. "In Situ Monitoring of Additive Manufacturing Using Digital Image Correlation: A Review". *Materials* (2021): <https://doi.org/10.3390/ma14061511>.  
10.3390/ma14061511
- 13 Silva, Catarina; Branco, Jorge M.; Mehdipour, Zabih; Xavier, José; Rebouças, Arthur S.; Lourenço, Paulo B.. "Strain variation analysis of cross-laminated timber elements under cyclic moisture". *Journal of Building Engineering* (2021): 102373. <http://dx.doi.org/10.1016/j.jobe.2021.102373>.  
10.1016/j.jobe.2021.102373
- 14 Pagaimo, Filipe; Fernandes, Paulo R.; Xavier, José; Alves, Óscar L.; Xavier, José. "New methodology to assess in-vivo quality of motion in cervical spine". *Clinical Biomechanics* 82 (2021): 105275-105275. <http://dx.doi.org/10.1016/j.clinbiomech.2021.105275>.

- 15 Furtado, Carolina; Tavares, Rodrigo P.; Arteiro, Albertino; Xavier, José; Linde, Peter; Wardle, Brian L.; Camanho, Pedro P.; Xavier, José. "Effects of ply thickness and architecture on the strength of composite sub-structures". *Composite Structures* 256 (2021): 113061-113061. <http://dx.doi.org/10.1016/j.compstruct.2020.113061>.  
10.1016/j.compstruct.2020.113061
- 16 Oliveira, Jorge; Xavier, José; Pereira, Fábio; Morais, José; de Moura, Marcelo. "Direct Evaluation of Mixed Mode I+II Cohesive Laws of Wood by Coupling MMB Test with DIC". *Materials* 14 2 (2021): 374. <http://dx.doi.org/10.3390/ma14020374>.  
Published · 10.3390/ma14020374
- 17 Cappello, Riccardo; Pitarresi, Giuseppe; Xavier, José; Catalanotti, Giuseppe. "Experimental determination of mode I fracture parameters in orthotropic materials by means of Digital Image Correlation". *Theoretical and Applied Fracture Mechanics* 108 (2020): 102663. <http://dx.doi.org/10.1016/j.tafmec.2020.102663>.  
10.1016/j.tafmec.2020.102663
- 18 Maimí, P.; Wagih, A.; Ortega, A.; Xavier, José; Blanco, N.; Camanho, P.P.. "On the experimental determination of the J-curve of quasi-brittle composite materials". *International Journal of Fracture* 108 (2020): 102663. <https://doi.org/10.1007/s10704-020-00456-0>.
- 19 Ferreira, Isaac; Jesus, Abílio; Machado, Margarida; Pereira, João; Alves, Jorge Lino; Xavier, José. "Experimental characterisation of fused filament fabrication printed parts under tension, shear, and combined shear-tension loads via Arcan test". *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications* 234 6 (2020): 835-850. <http://dx.doi.org/10.1177/1464420720908625>.  
10.1177/1464420720908625
- 20 Almudena Majano-Majano; Antonio José Lara-Bocanegra; José Xavier; José Morais. "Experimental Evaluation of Mode II fracture Properties of Eucalyptus globulus L.". *Materials* 13 3 (2020): 745-745. <https://doi.org/10.3390/ma13030745>.  
10.3390/ma13030745
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## Activities

### Supervision

	Thesis Title Role	Degree Subject (Type) Institution / Organization
2022/10/01 - Current	Enhancement of functionally graded material created by multi-feed wire and arc additive manufacturing using a full-field identification method Supervisor	(PhD) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/09/01 - Current	A neglected transitional zone: study of C2-C3 intervertebral disc space and its relationship with post-operative neck pain Supervisor	3º Ciclo de Estudos em Investigação Clínica e em Serviços de Saúde (PhD)
2021/09/01 - Current	Digital twin development in metal forming: calibration aided by digital image correlation and artificial	(PhD) Universidade de Aveiro, Portugal

intelligence.

Co-supervisor

2021/04/01 - Current	Haemodynamic simulation tool for functional assessment of thoracic aorta aneurysms Supervisor	Plano Doutoral Engenharia Mecânica (PhD) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/03/01 - Current	Dinâmica inversa 2D do salto vertical em coordenadas relativas e naturais Co-supervisor	Engenharia Mecânica (Master) Universidade de Trás-os-Montes e Alto Douro Escola de Ciências e Tecnologia, Portugal
2021/03/01 - Current	Estudo numérico da interação fluido-estrutura na aorta ascendente aneurismática Co-supervisor	Engenharia Mecânica (Master) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/03/01 - Current	Visualização do desenvolvimento da camada solidificada na moldagem por injeção: uma contribuição para a síntese numérica de imagem Co-supervisor	Engenharia Mecânica (Master) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/02/28 - Current	Sobre a definição do processo de simulação do comportamento mecânico da Aorta Torácica Ascendente Co-supervisor	Engenharia Mecânica (Master) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/01/03 - Current	Fracture Investigation of Elastomeric composites using Digital Image Correlation Co-supervisor	(PhD) Universidade Federal Fluminense, Brazil
2020/09/01 - Current	Determinação de factores associados com o aumento do diâmetro aórtico na doença aneurismática da aorta ascendente Co-supervisor	(PhD) Universidade Nova de Lisboa Faculdade de Ciências Médicas, Portugal
2020/01/02 - Current	Análisis de la resistencia al hendidado de uniones con clavijas en madera de frondosas cargadas perpendicularmente a las fibras bajo el enfoque de la mecánica de fractura Co-supervisor	Universidad Politécnica de Madrid, Spain
2019/07/01 - Current	Estudo experimental e teórico da fratura de compósitos de matriz polimérica Co-supervisor	Engenharia Mecânica (PhD) Universidade Federal Fluminense, Brazil

2021/03/01 - 2022/03/03	Design of a testing device for an anatomical part of the ascending aorta Supervisor	Engenharia Mecânica (Master) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/03/01 - 2022/02/28	Sobre a definição do processo de simulação do comportamento mecânico da Aorta Torácica Ascendente Co-supervisor	Engenharia Mecânica (Master) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/03/03 - 2021/10/21	Identificação do comportamento da madeira de Pinus pinaster Ait. submetido a um ensaio de impacto inercial pelo método dos campos virtuais Supervisor	Engenharia Mecânica (Master) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2019/01/03 - 2020/11/18	Caracterização do comportamento mecânico de material obtido por fabrico aditivo pela técnica de correlação digital de imagem Supervisor	Engenharia Mecânica (Master) Universidade Nova de Lisboa, Portugal
2019/03/01 - 2020/09/30	Artrodese da coluna: simulação numérica da área mínima de contacto de espaçadores do tipo interfuse S Supervisor	Engenharia Mecânica (Master) Universidade de Trás-os-Montes e Alto Douro, Portugal
2019/10/01 - 2020/07/01	Deflectometry techniques for OSB products Co-supervisor	Engenharia Mecânica (Master) Università Politecnica delle Marche Facoltà di Ingegneria, Italy
2018/09/03 - 2019/11/25	Identificação de propriedades elásticas da madeira à escala dos anéis de crescimento por um método de elementos finitos iterativo Supervisor	Engenharia Mecânica Universidade de Trás-os-Montes e Alto Douro, Portugal
2018/09/09 - 2019/09/23	High strain rate identification of Pinus pinaster Ait. on the transverse plane by the image-based inertial impact test Supervisor	Engenharia Mecânica (Master) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2018/09/03 - 2019/05/24	Análise do comportamento à compressão do Pinus Pinaster Ait no plano transversal usando a barra de pressão de Split-Hopkinson Supervisor	Engenharia Mecânica (Master) Universidade de Trás-os-Montes e Alto Douro, Portugal

2016/01/02 - 2019/01/28	Estudo de caracterização da artroplastia cervical – características biomecânicas in vivo Co-supervisor	(PhD) Universidade de Lisboa Instituto Superior Técnico, Portugal
2015/01/02 - 2018/05/12	Mechanical characterisation of biodegradable scaffolds for ligament repair Co-supervisor	Engenharia Mecânica Universidade do Porto Faculdade de Engenharia, Portugal
2013/01/02 - 2016/07/01	Bond behaviour of NSM CFRP-concrete systems: durability and quality control Co-supervisor	(PhD)
2010/06/01 - 2013/06/17	Assessing wood quality by spatial variability of transverse elastic properties within the stem: Case study on <i>P. pinaster</i> at the meso scale Supervisor	(PhD) Universidade da Beira Interior, Portugal

### Jury of academic degree

	Theme Role	Candidate name (Type of degree) Institution / Organization
2022/02/22	Innovative contributions on calibration methodologies towards reliable microflow measurements. Thesis Member	Elsa Maria Isqueiro Batista. (PhD) Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/05/27	High Strain Rate Behavior of Aerospace Materials (Thesis) Main arguer	Sahand Pourhassan Shamchi (PhD)
2020/05/11	Study of cortical bone fracture behaviour under fatigue loads (Thesis) Main arguer	Filipe Gonçalo Andrade da Silva (PhD) Universidade do Porto Faculdade de Engenharia, Portugal
2020	Deformation monitoring of high-speed rotating targets (Thesis) Main arguer	Pedro José da Silva Carvalho Pereira de Sousa (PhD) Universidade do Porto Faculdade de Engenharia, Portugal
2020	Calibration of thermo-mechanical constitutive models for sheet metals from full-field measurements (Thesis) Arguer	João Miguel Martins (PhD)
2020	Desenvolvimento e caracterização físico-mecânica de OSB com resíduos de espécies de madeira provenientes da região norte do Brasil (Thesis) Main arguer	Isabella Imakawa de Araújo (PhD)

2019/09/02	Identification of constitutive models for cutting simulation of AlSi9Cu3 cast alloy by mechanical testing (Thesis) Main arguer	Soumitra Gain (PhD)
2019/09/01	Innovative methodology for railway tunnel inspection. (Thesis) Main arguer	Behzad Vasheghani Farahani (PhD)
2019/05/02	Analysis of dynamic compressive fracture of carbon composites by digital image correlation and Machine Learning. (Thesis) Arguer	Rafael de Azevedo Cidade (PhD) Universidade Federal do Rio de Janeiro, Brazil
2018/09/01	Deformation Behaviour of Semi Crystalline Polymers under Different Stress States (Thesis) Main arguer	João Pedro Manaia (PhD) Universidade do Porto Faculdade de Engenharia, Portugal
2017/04/02	Comportamento mecânico da madeira sob solicitações de modo misto I+II (Thesis) Main arguer	Jorge Marcelo Quintas de Oliveira (PhD) Universidade da Beira Interior, Portugal
2016/09/02	Analysis of composite bolted joints under out-of-plane loads and extreme temperatures. (Thesis) Main arguer	Ricardo Fernando Rodrigues Pinto. (PhD)
2016/06/01	Bond behaviour of NSM CFRP-concrete systems: durability and quality control Supervisor	Pedro Miguel Gomes Fernandes (PhD) Universidade do Minho, Portugal
2016/05/26	Structural Mechanics of Thin-Ply Laminated Composites (Thesis) Arguer	Albertino Arteiro (PhD) Universidade do Porto Faculdade de Engenharia, Portugal
2016	Bond behaviour of NSM CFRP-concrete systems: durability and quality control (Thesis) Arguer	João Carlos Rego Pereira (PhD) Universidade do Porto Faculdade de Engenharia, Portugal
2015/05/02	Identification of cohesive laws of cortical bone under mode I, mode II and mixed-mode I+II (Thesis) Main arguer	Fábio André Magalhães Pereira (PhD)
2015/02/15	Madera termotratada de frondosa para uso estructural. (Thesis) Arguer	Almudena Majano-Majano (PhD) Universidad Politécnica de Madrid Escuela Técnica Superior de Ingenieros de Montes Biblioteca, Spain



2013/03/27	Assessing wood quality by spatial variability of transverse elastic properties within the stem: Case study on <i>P. pinaster</i> at the meso scale Supervisor	José Luís Pereira (PhD) Universidade da Beira Interior, Portugal
2011/07/12	Measurement of displacement fields based on digital image correlation and differential techniques (Thesis) Arguer	António Manuel Ribeiro de Sousa (PhD) Universidade de Trás-os-Montes e Alto Douro, Portugal
2011/07/07	Mécanique et mécanismes de rupture dans le plan transverse du bois résineux Supervisor	Loane Bigorgne (PhD) Institut National des Sciences Appliquées de Lyon Bibliothèque Marie Curie, France

## Course / Discipline taught

	Academic session	Degree Subject (Type)	Institution / Organization
2019/09/14 - 2022/06/18	Mecânica dos Sólidos I   Solid Mechanics I	Mestrado Integrado em Engenharia Mecânica (Licenciatura)	Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2019/03/02 - 2022/06/18	Desenho Assitido por Computador   Computer Aided Design	Mestrado Integrado Engenharia Mecânica (Mestrado integrado)	Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2021/09/13 - 2022/01/07	Mecânica dos Sólidos II   Solid Mechanics II	Engenharia Mecânica (Mestrado integrado)	Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2020/09/14 - 2021/12/22	Mecânica Aplicada I   Applied Mechanics I	Mestrado Integrado em Engenharia Mecânica (Ensino básico 1º ciclo)	Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal
2018/09/24 - 2018/12/14	Desenho de Construção Mecânica   Mechanical Engineering Drawing	Mestrado Integrado Engenharia Mecânica (Ensino básico 1º ciclo)	Universidade Nova de Lisboa Faculdade de Ciências e Tecnologia, Portugal

## Interview (tv / radio show)

	Program	Theme
2020/07/27 - 2020/07/27	90 segundos para a ciência	Engenharia assistida por biomimética para a inovação e sustentabilidade

## Distinctions

**Other distinction**

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2007	Eng.a Cruz Azevedo
1999	Prize Fundação Engenheiro António de Almeidaç for obtaining the highest classification in the academic year of 1998/99 in the course of Mechanical Engineering at the University of Trás-os-Montes e Alto Douro. Universidade de Trás-os-Montes e Alto Douro, Portugal

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