



Parte A. Información personal		Fecha CV	01/2024
Nombre y apellidos	Francisco Javier Montáns (Leal)		
		Age	
	Researcher ID	F-5195-2015	
	Scholar ID	YniazX4AAAAJ	
	ORCID code	0000-0002-0046-6084	

A.1. Puesto actual

Universidad	UNIVERSIDAD POLITÉCNICA DE MADRID Afiliado a UNIVERSITY OF FLORIDA		
Departamento	AERONAVES Y VEHÍCULOS ESPACIALES (UPM) MECHANICAL AND AEROSPACE ENGINEERING (UF)		
Categoría	CATEDRÁTICO DE UNIVERSIDAD	Desde	18ENE2008
Código UNESCO	330411,330532,330533,331208		

A.2. Educación

Título/PhD	Universidad	Year
Ph.D. (Doctor Ing. Industrial)	Universidad Politécnica de Madrid	1995
Ingeniero Industrial (Mecánica)	Universidad Politécnica de Madrid	1992

A.3. Artículos JCR, h Index, Tesis supervisadas...

JCR papers: 80+. First quartile (Q1): 60+. H-index: 30. I10-Index: 58. Cites: 2600+ (Google Scholar). Ph.D. theses supervised: 17 (7 ongoing)

Publicaciones actualizadas en Google Scholar:

https://scholar.google.es/citations?hl=es&user=YniazX4AAAAJ&view_op=list_works&sortby=pubdate



Part C. Méritos relevantes

C.1. Algunas publicaciones

1. Ben-Yelun I, Díaz-Lago M, Saucedo-Mora L, Sáenz MA, Callado R, Montáns FJ. Self-learning locally-optimal hypertuning using maximum entropy, and comparison of machine learning approaches for estimating fatigue life in composite materials of the aerospace industry. *Engineering Structures* 2023, 283:115829 (JCR/Q1).
2. Amores V, Moreno L, Benitez JM, Montáns FJ. A model for rubber-like materials with three parameters obtained from a tensile test. *European Journal of Mechanics A/Solids* 2023, 104931 (JCR/Q1).
3. Champaney V, Amores VJ, Garois S, Irastorza-Valera L, Ghnatios C, Montáns FJ, Cueto E, Chinesta F. Modeling systems from partial observations. *Frontiers in Materials* 2022, 9: 970970 (JCR/Q2)
4. N Nguyen, VJ Amores, MA Sanz, FJ Montáns. Thermodynamically consistent nonlinear viscoplastic formulation with exact solution for the linear case and well-conditioned recovery of the inviscid one. *Computational Mechanics* 2021; 67(5): 1349-1373 (JCR/Q1)
5. VJ Amores, FJ San Millan, I Ben-Yelun, FJ Montans. A finite strain non-parametric hyperelastic extension of the classical phenomenological theory for orthotropic compressible composites. *Composites Part B: Engineering* 2021; 212:108591 (JCR/Q1)
6. VJ Amores, K Nguyen, FJ Montáns. On the network orientational affinity assumption in polymers and the micro-macro connection through the chain stretch. *Journal of the Mechanics and Physics of Solids* 2021; 148:104279 (JCR/Q1)
7. M Zhang, K Nguyen, J Segurado, FJ Montáns. A multiplicative finite strain crystal plasticity formulation based on additive elastic corrector rates: Theory and numerical implementation. *International Journal of Plasticity* 2020; 102899 (JCR/Q1)
8. VJ Amores, JM Benítez, FJ Montáns. Data-driven, structure-based hyperelastic manifolds: A macro-micro-macro approach to reverse-engineer the chain behavior and perform efficient simulations.... *Computers and Structures* 2020, 231, 106209 (JCR/Q1)
9. J Crespo, O Duncan, A Alderson, FJ Montáns. Auxetic orthotropic materials: Numerical determination of a phenomenological plane-based stored density energy and its



- implementation for finite element analysis. Computer Methods in Applied Mechanics and Engineering 2020; 371, 113300 (JCR/Q1)
10. K Nguyen, MA Sanz, FJ Montáns. Plane-stress constrained multiplicative hyperelasto-plasticity with nonlinear kinematic hardening. International Journal of Plasticity 2020. 128, 102592 (JCR/Q1)

C.2. Proyectos de investigación y ayudas

2023-2025: Modeling of the mechanical environment and cell behavior in glioblastoma growth (GBM_SIMUL). Funding: National Research Agency of Spain. PI: L Saucedo-Mora. Co-PI: FJ Montáns.

2021-2024: H2020-MSCA-ITN XS-Meta, GA: 956041. Cross-scale material structure design of FG 3DP metamaterials. Comisión Europea, ERC-MSCA (Project Coordinator)

2020-2024: H2020-MSCA-RISE CoMetaS, GA: 101007815. Concurrent METAMaterial-Structure Design. Comisión Europea, ERC-Marie Curie Actions (Project Coordinator)

2019: Equipamiento de Laboratorio Compartido CIAMIT: Centro de Investigación Avanzada Multidisciplinar con Impresión Tridimensional. Plan Estatal de Infraestructuras Científicas. Agencia Estatal de Investigación. EQC2019-006491-P. PI: FJ Montáns.

2019-2021: In vitro characterization and in vitro/in vivo simulation of the effect of hypoxia and drug dosage in glioblastoma multiforme (GBM-SIMUL). Excellence Science Call, PGC2018-097257-B-C32. (Plan Estatal I+D+i). PI: FJ Montáns.

2016-2018: Computational modeling of the mechanical behavior of anisotropic soft tissues at large strains. Ref: DPI2015-69801-R. PI: FJ Montáns. Funding: Ministry of Economy and Competitiveness. National R&D (Plan Estatal I+D)

2012-2015: Implicit computational algorithms for thermo-visco-hyperelasticity at large strains. Ref: DPI2011-26635. PI: FJ Montáns. Funding: Ministry of Science and Innovation of Spain (Ministerio de Ciencia e Innovación). (Plan Estatal I+D).

2009-2011: Computational algorithms for anisotropic elastoplasticity at large strains including texture evolution. Ref: DPI2008-05423. PI: FJ Montáns. Funding: Ministry of Science and Innovation of Spain. National R&D plan.

2006-2008: Study of the evolution of anisotropy in metals at large strains. Ref: PBI05-037. PI: FJ Montáns. Funding: Junta de Comunidades de Castilla-La Mancha (JCCM).

2006-2008: Unstabilities in accelerated solids. Ref: DPI2005-02278. PI: JJ López-Cela. Funding: Ministry of Science and Innovation of Spain. National R&D plan.

2002-2005: Large strain models for the analysis of metal forming and cyclic deformation of metals with relevant hardening. Ref: DPI2002-02065. PI: FJ Montáns. Funding: Ministry of Science and Innovation of Spain. National R&D plan.

2002-2005: Analysis of strain localization in solids by the finite element method. Ref: PBI02-007. PI: JJ López-Cela. Funding: Junta de Comunidades de Castilla-La Mancha.

2003-2004: True triaxial tests equipment. Ref: UNCM03-23-058. PI: JJ López-Cela. Co-PI: FJ Montáns. Funding: European Union Development Funds (FEDER) and JCCM.

2000-2002: Acoustic and vibration measurements equipment. Ref: N/A. PIs FJ Montáns, JJ López-Cela. Funding: European Union Development Funds (FEDER) and JCCM.

C.3. Contratos

Contract: Estudio del comportamiento dinámico del Centro de Ocio “Las Arenas” en Barcelona durante conciertos.

Company: Dragados Fechas: 2009-2010

Performed by: CEMIM, Fundación F2I2, Universidad Politécnica de Madrid

Contract: Análisis sobre la seguridad estructural de uniones tubulares soldadas y diseñadas según los Eurocódigos

Company: J.A. Torroja-O.T. Fecha: 2007

Performed by: CEMIM, Fundación F2I2, Universidad Politécnica de Madrid



Contract: Análisis estructural de los sistemas de drenaje del Aeropuerto de Ciudad Real
 Company: Fundación Molina.F.L. Fecha: 2005
 Performed by: Fundación General de la Universidad de Castilla-La Mancha
Contract: Prenormative Research in Support of Eurocode-8: Design of Structures for Earthquake Resistance
 Organism: PREC-8 Committee, European Union
 Performed by: Universidad Politécnica de Madrid.
 ... etc (26+ projects and reports for Industry and public institutions)

C.4. Patents

Metamaterial unit cell and material made from such unit cell. [Celda unidad de metamaterial y material formado a partir de dicha celda unidad]. Patent ES2907514 A1 (co-inventor).

C.5. Estancias de investigación

2023 University of Florida (RISE secondment, 7 months)
 2016 University of Florida (Visiting Professor, sabbatical)
 2003,2004 Massachusetts Institute of Technology (Visiting Scholar)
 1996-1997 Stanford University (Post-doc)
 1990 Laboratorio Nacional de Enxenharia Civil (Lisboa), (interc. Jóvenes Invest.)

C.6. Gestión

2010-2014 Gestor (Head) Programa de Diseño y Producción Industrial, Plan Nacional I+D
 2008-2009 Colaborador del Programa de Diseño y Producción Industrial del PN I+D
 2004-2006 Subdirector (vice-Dean) Institutional Relations ETSII-UCLM
 2000-2003 Academic Secretary Applied Mechanics Department, UCLM

C.7. Comités editoriales

Since 2024 Editor-in-Chief of "Computers and Structures", Elsevier (JCR/Q1)
 2018 Editor of a special issue of the journal "Complexity" (JCR/Q1)
 2020 Editor of the first issue of the journal "Modelling", MDPI
 Since 2005 Member of the Editorial Board of Computers and Structures
 Since 2018 Member of the Editorial Board of Mathematical Problems in Engineering
 Since 2018 Member of the Editorial Board of Int. Journal of Mathematical Physics
 Since 2020 Member of the Editorial Board of the Journal Modelling (MDPI)
 Since 2024 Member of the Editorial Board of Advances in Engineering Software (JCR/Q1)
 2005-2015 Member of Advisory Board of 10 International Congresses and member of the local organizing board of one International conference.

C.8. Organización de mini-symposia

2015 Computational Inelasticity, at 15th Int. Conf. On Civil, Structural Environmental Engrg.
 2007 Computational Plasticity with Rui Cardoso, at Congreso Ibero-Latino-Americano sobre Métodos Comp. En Ingeniería
 2006 Multiphysics Modeling in Geomechanics, con Claudio Tamagnini en el European Conf. on Computational Mechanics ECCM/ECCOMAS 2006, Lisboa
 2005 Computational Plasticity, with Ronaldo Borja, en el 3er MIT Conference on Computational Fluid and Solid Mechanics
 2005 Plastic Forming, con César de Sá, at Congreso Nacional de Métodos Numéricos en Ingeniería, Granada

C.9. Miembros de comités de evaluación

- ☐ (K) Bathe Award, Computers and Structures Award, CST Award, Spanish Arquímedes prizes, Airbus prizes).
- ☐ Expert in the evaluation of research projects (MINECO, IMSERSO, ERC – FECYT)

C.10. Otros méritos

- ☐ Profesor del Int. Master's in Theoretical & Practical Application of Finite Element Method and CAE simulation, Modulos B (Dinámica) y K (Materiales Compuestos)
- ☐ Co-author of two books (Dinamics of Structures and Composite materials)
- ☐ Co-author of four book chapters
- ☐ Supervisor of 15+ master theses.