CV Date	16/01/2023

Part A. PERSONAL INFORMATION

First Name	María Dolores		
Family Name	Martínez Rodrigo		
Sex	Female	Date of Birth	Not For Public Release
ID number Social Security, Passport			
URL Web	www.mmcte.uji.es		
Email Address	mrodrigo@uji.es		
Open Researcher and Contributor ID (ORCID)	0000-0003-4748-9133		

A.1. Current position

Job Title	Catedrático de Universidad N.R.P. 1899806968A0500		
Starting date	2022		
Institution	Universitat Jaume I		
Department / Centre	Ingeniería Mecánica y Construcción / Escuela Superior de Tecnología y Ciencias Experimentales		
Country	Spain	Phone Number	(34) 964387473
Keywords	Civil engineering; Rail transport; Vibrations; Bridges		

A.2. Previous positions (Research Career breaks included)

Period	Job Title / Name of Employer / Country
2018 - 2022	Profesor Titular de Universidad / Universitat Jaume I
2010 - 2018	Profesor Contratado Doctor / Universitat Jaume I
2022 -	Director del Departamento de Ingeniería Mecánica y Construcción / Universitat Jaume I / Spain

A.3. Education

Degree/Master/PhD	University / Country	Year
Doctor por la Universitat Politècnica de València	Universitat Politècnica de València	2009
Master of Science in Structural Engineering	University of California San Diego / United States of America	2001
Ingeniero Industrial	Universitat Jaume I	2000

Part B. CV SUMMARY

Mª Dolores Martínez Rodrigois a Full Professor in the Division of Continuum Mechanics and Structural Analysis at Jaume I University of Castellón (UJI), where she has developed her teaching and research activity since 2001. Her research falls within the field of Computational Mechanics and Structural Dynamics, applied to seismic and railway induced vibrations related problems. She defended her Doctoral Thesis focused on vibration control of railway bridges in 2009. This thesis won the COMSA Railway Award from Polytechnical University of Catalonia and the Best Doctoral Thesis award of the Polytechnic University of Valencia in the area of Civil and Industrial Engineering in 2010, and led to the development of the National Patent ES 2 372 095. She is currently the leader of the Computational Mechanics and Structural Analysis research group at UJI, and belongs to the inter-university research group USUJI with University of Seville, devoted to improving the safety, functionality and sustainability of railway infrastructures based on prediction and experimentation in noise and vibration. USUJI group has performed three vibratory studies required by ADIF for the construction of the Madrid-Galicia and León-Asturias High-Speed lines. M.D. Martínez-Rodrigo has taught more than 3000 hours of structural engineering related subjects and has tutored over 30 bachelor's, master's and PhD theses. Her research has resulted so far in

31 JCR indexed papers (27 Q1) with close to 800 citations, 2 books, 10 book chapters and more than 70 publications in recognised international conferences. Prof. Martínez maintains important research international collaborations after completing 24-month research internships at Katholieke Universiteit Leuven (Belgium), State University of New York at Buffalo (USA) and KTH Stockholm (Sweden). She has three validated research 6-year terms by CNEAI. It is also worth mentioning her participation as a researcher or principal investigator in seven national projects, five regional and four local ones for over 1.3 M€. She has also been responsible of two especially relevant competitive research contracts with University of Granada related to the monitoring of railway viaducts; one within the framework of an INNPACTO project, and the other from the Strategic Singular Projects subprogram, both funded by the Ministry of Science and Innovation. Nowadays, she is the chair of the Mechanical Engineering and Construction Department composed by 80 academics at Jaume I University of Castellón.

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Most important publications in national or international peer-reviewed journals, books and conferences

AC: corresponding author. (nº x / nº y): position / total authors. If applicable, indicate the number of citations

1 **Scientific paper**. J.C. Sánchez-Quesada; A. Romero; P. Galvín; E. Moliner; M.D. Martínez-Rodrigo. (5/5). 2023. 3D analysis of railway induced vibrations on skew girder bridges including ballast track-bridge interaction effects ENGINEERING STRUCTURES. Elsevier. 279-115546. ISSN 0141-0296. https://doi.org/10.1016/j.engstruct.2022.115546

2 **Scientific paper**. J. Chordà-Monsonís; A. Romero; E. Moliner; P. Galvín; M.D. Martínez-Rodrigo. (5/5). 2022. Ballast shear effects on the dynamic response of railway bridges ENGINEERING STRUCTURES. Elsevier. pp.1-19. https://doi.org/10.1016/j.engstruct.2022.114957

3 **Scientific paper**. A. Romero; J.C. Cámara-Molina; E. Moliner; P. Galvín; M.D. Martínez-Rodrigo. (5/5). 2021. Energy harvesting analysis in railway bridges: An approach based on modal decomposition MECHANICAL SYSTEMS AND SIGNAL PROCESSING. Elsevier. 160-107848. ISSN 0888-3270. https://doi.org/10.1016/j.ymssp.2021.107848

4 **Scientific paper**. P. Galvín; A. Romero; E. Moliner; G. de Roeck; M.D. Martínez-Rodrigo. (5/5). 2021. On the dynamic characterisation of railway bridges through experimental testing ENGINEERING STRUCTURES. Elsevier. 111261. ISSN 0141-0296. https://doi.org/10.1016/j.engstruct.2020.111261

5 **Scientific paper**. M.D. Martínez-Rodrigo (AC); E. Moliner; A. Romero; G. De Roeck; P. Galvín. (1/5). 2020. Maximum resonance and cancellation phenomena in orthotropic plates traversed by moving loads: Application to railway bridges INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES. Elsevier. 169-105316. ISSN 0020-7403. https://doi.org/10.1016/j.ijmecsci.2019.105316

6 **Scientific paper**. M.D. Martínez-Rodrigo (AC); A. Andersson; C. Pacoste; R. Karoumi. (1/4). 2020. Resonance and cancellation phenomena in two-span continuous beams and its application to railway bridges ENGINEERING STRUCTURES. Elsevier. 222-111103. ISSN 0141-0296. https://doi.org/10.1016/j.engstruct.2020.111103

7 **Scientific paper**. J.D. Yau; M.D. Martínez-Rodrigo; A. Doménech. (2/3). 2019. An equivalent additional damping approach to assess vehicle-bridge interaction for train-induced vibration of short-span railway bridges ENGINEERING STRUCTURES. Elsevier. 188, pp.496-479. ISSN 0141-0296. https://doi.org/10.1016/j.engstruct.2019.01.144

8 **Scientific paper**. E. Moliner; A. Romero; P. Galvín; M.D. Martínez-Rodrigo. (4/4). 2019. Effect of the end cross beams on the railway induced vibrations of short girder bridges ENGINEERING STRUCTURES. Elsevier. 201-109728. ISSN 0141-0296. https://doi.org/10.1016/j.engstruct.2019.109728

9 **Scientific paper**. M.D. Martínez-Rodrigo (AC); P. Galvín; A. Doménech; A. Romero. (1/4). 2018. Effect of soil properties on the dynamic response of simply-supported bridges under railway traffic through coupled boundary element-finite element analyses ENGINEERING STRUCTURES. Elsevier. 170, pp.78-90. ISSN 0141-0296. https://doi.org/10.1016/j.engstruct.2018.02.089

10 **Scientific paper**. A. Domenech; P. Museros; M.D. Martínez-Rodrigo. (3/3). 2014. Influence of the vehicle model on the prediction of the maximum bending response of simply-supported bridges under high-speed railway traffic ENGINEERING STRUCTURES. 72, pp.123-139. ISSN 0141-0296. https://doi.org/10.1016/j.engstruct.2014.04.037

C.2. Conferences and meetings

1 Maria D. Martinez Rodrigo; Juan Carlos Sánchez Quesada; Emmanuela Moliner Cabedo; Pedro Galvín Barrera; Antonio Romero Ordóñez. Coupling effect of the ballasted track on short simply-supported bridges composed by adjacent twin decks. IABMAS 2022: Bridge safety, maintenance, management, life-cycle cost and sustainability. IABMAS, International Association for Bridge Maintenance and Safety. 2022. Spain.

2 Josep Chordà Monsonís; Maria D. Martínez Rodrigo; Pedro Galvín Barrera; Antonio Romero Ordóñez; Emmanuela Moliner Cabedo. Effect of the ballasted track on the dynamic response of multi-span railway bridges using a discrete approach. ISMA2022 International Conference on Noise and Vibration Engineering. Katholieke Universiteit Leuven & LMSD. 2022. Belgium.

3 Juan Carlos Sánchez Quesada; Emmanuela Moliner Cabedo; Antonio Romero Ordóñez; Pedro Galvín Barrera; María D. Martínez Rodrigo. Track-bridge interaction in railway bridges composed by single-track adjacent decks using 3d FE models. DinEst 2021: 2nd Conference on Structural Dynamics. Escuela Politécnica de Ingeniería de Gijón. 2021. Spain.

4 Pedro Galvín Barrera; Emmanuela Moliner Cabedo; Antonio Romero Aro; María D. Martínez Rodrigo. Experimental study of railway bridges of several structural typologies. EURODYN 2020: XI International Conference on Structural Dynamics. European Association for Structural Dynamics. 2020. Greece.

5 María D. Martínez Rodrigo; Pedro Galvín Barrera; Emmanuela Moliner Cabedo; Antonio Romero Aro. Rail-bridge interaction effects in single-track multi-span bridges. Experimental results versus numerical predictions under operating conditions. EURODYN 2020: XI International Conference on Structural Dynamics. European Association for Structural Dynamics. 2020. Greece.

6 María Dolores Martínez Rodrigo; Emmanuela Moliner Cabedo; Antonio Romero Ordóñez; Pedro Galvín Barrera. Resonance and cancellation mechanisms in existing High-Speed railway bridges with an orthotropic plate behaviour. ISMA 2018 International Conference on Noise and Vibration Engineering. Katholieke Universiteit Leuven. 2018. Belgium.

7 Pedro Galvín Barrera; María Dolores Martínez Rodrigo; Antonio Romero Ordóñez; Emmanuela Moliner Cabedo. On the prediction of maximum resonance and cancellation of resonance in orthotropic plates: Application to railway bridges. RAILWAYS 2018: 4th International Conference on Railways Technology. Civil-Comp. 2018. Spain.

8 Pedro Galvín Barrera; Emmanuela Moliner Cabedo; Antonio Romero Ordóñez; María Dolores Martínez Rodrigo. Investigation of the dynamic response and effect of soil properties of Arroyo Bracea II bridge in Madrid-Sevilla High-Speed railway line through experimental analyses. EURODYN 2017 - X International Conference on Structural Dynamics. European Association for Structural Dynamics. 2017. Italy.

9 María Dolores Martínez Rodrigo; Alejandro Doménech Monforte; Antonio Romero Ordóñez; Pedro Galvín Barrera. Railway induced vibrations in beam bridges including soil-structure interaction through coupled boundary element-finite element analyses. SEMC 2016 - 6th International Conference on Structural Engineering, Mechanics and Computation. Prof. Zingoni, University of Cape Town. 2016. South African Republic. Conference.

10 Alejandro Doménech Monforte; Pedro Museros Romero; María de los Dolores Martínez Rodrigo. Un enfoque conservador en la evaluación de la influencia del modelo del vehículo en el diseño de puentes de ferrocarril isostáticos para alta velocidad. VIII Jornadas Internacionales de Ingeniería para Alta Velocidad. Fundación Caminos de Hierro para la Investigación y la Ingeniería Ferroviaria. 2014. Spain. Conference.

C.3. Research projects and contracts

1 **Project**. AICO/2021/200: Interacción vehículo-vía-estructura-suelo en aras a una predicción ajustada de la respuesta vibratoria de puentes de ferrocarril para la mejora de su seguridad, funcionalidad y sostenibilidad. Generalitat Valenciana. Consejería de Innovación, Universidades, Ciencia y Sociedad Digital. María Dolores Martínez Rodrigo. (Universitat Jaume I). 01/01/2021-31/12/2023. 83.600 €. Principal investigator.

2 **Project**. PID2019-109622RB-C22, PID2019-109622RB-C22: Interacción vía-estructura-suelo y efectos de amortiguamiento en puentes de ferrocarril. Análisis experimental de estructuras existentes y desarrollo de modelos avanzados. Ministerio de Ciencia e Innovación. María Dolores Martínez Rodrigo. (Universitat Jaume I). 01/06/2020-01/06/2023. 102.850 €. Principal investigator.

3 **Project**. US-1264916, US-1264916: Microgeneración de energía a partir de vibraciones ambientales para el desarrollo de sistemas autónomos de monitorización: análisis de viabilidad en la red ferroviaria. Programa Operativo FEDER Andalucía 2014-2020. Antonio Romero Aro. (Universidad de Sevilla). 01/02/2020-30/04/2022. 85.460 €. Team member.

4 **Project**. AICO/2019/175: Análisis del comportamiento dinámico de puentes ferroviarios pertenecientes a líneas de alta velocidad. Desarrollo de modelos numéricos avanzados y validación mediante campañas experimentales. Generalitat Valenciana. Consejería de Innovación, Universidades, Ciencia y Sociedad Digital. María Dolores Martínez Rodrigo. (Universitat Jaume I). 01/01/2019-31/03/2021. 40.000 €. Principal investigator.

5 **Project**. BIA2016-75042-C2-2-R, BIA2016-75042-C2-2-R: Análisis numérico y validación experimental del efecto de la interacción suelo-estructura sobre el comportamiento vibratorio de puentes ferroviarios. Ministerio de Economía y Competitividad. María Dolores Martínez Rodrigo. (Universitat Jaume I). 01/01/2017-31/12/2019. 42.350 €. Principal investigator.

6 **Project**. BIA2008-04111, BIA2008-04111: Modelos numéricos avanzados para el análisis de vibraciones detectadas en puentes de ferrocarril pertenecientes a líneas convencionales acondicionadas para Alta Velocidad. Ministerio de Ciencia e Innovación. Pedro Museros Romero. (Universidad de Granada). 01/01/2008-31/12/2010. 29.040 €. Team member.

7 **Contract**. 2824/0722: Servicio de asistencia para la redacción del proyecto de construcción, de protección acústica y del estudio vibratorio en la línea de Alta Velocidad Madrid-Galicia. Tramo: Pedralba de Pradería-Ourense ADIF-PROINTEC S.A.. Pedro Galvín Barrera. 2016-01/01/2017.

8 **Contract**. 2243/0722: Estudio vibratorio de la línea de Alta Velocidad Madrid-Galicia. Tramo: Zamora-Pedralba de Pradería ADIF-PROINTEC S.A.. Pedro Galvín Barrera. 2014-01/10/2014.

9 **Contract**. IPT-370000-2010-12: VIADINTEGRA: Integración de la Monitorización de Viaductos ferroviarios en el sistema de gestión y mantenimiento de infraestructuras. Subprograma INNPACTO UNIVERSIDAD DE GRANADA. María de los Dolores Martínez Rodrigo. (Universitat Jaume I). 2012-19/11/2012. 28.800 €.

10 **Contract**. PSE-370000-2009-10: VIADINTEL: Viaductos Ferroviarios Inteligentes. Proyectos singulares y estratégicos del P.N. 2008-2011 UNIVERSIDAD DE GRANADA. María de los Dolores Martínez Rodrigo. (Universitat Jaume I). 10/03/2010-10/12/2010. 11.389 €.

C.4. Activities of technology / knowledge transfer and results exploitation

Patent of invention. Pedro Museros Romero; José Lavado Rodríguez; María Dolores Martínez Rodrigo; Emmanuela Moliner Cabedo; Alejandro Castillo Linares; Jorge Nasarre y de Goicoechea. ES 2 372 095 B1. Sistema de reacondicionamiento de puentes mediante elementos de disipación pasiva Spain. 13/11/2012. Universidad de Granada, Universitat Jaume I, Fundación Caminos de Hierro para la Investigación y la Ingeniería Ferroviaria.