MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

First name			
Family name			
Gender (*)		Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)			

(*) Mandatory

A.1. Current position

Position	Full Professor (Catedrático de Universidad)		
Initial date	03/06/2016		
Institution	Universidad de Cantabria (UC)		
Department/Center	Ciencia en Ing. del Terreno y de los Materiales	E.T.S.I.C.C.P.	
Country	SPAIN	Teleph. number	
Key words	Structural Integrity, Environmental Assisted Cracking, Bridges		

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
01/10/2009 – 30/09/2015	Official master coordinator / Universidad de Cantabria
30/04/2009 – 28/05/2013	Principal of materials department / Universidad Cantabria
01/11/2007 – 29/04/2009	Assistant principal of materials department / Univ. Cantabria
22/09/2004 – 28/02/2010	Assistant principal of ETS Caminos C. y P. / Univ. Cantabria
04/01/2002 – 02/06/2016	Professor (Prof. Titular Univ.) / Universidad de Cantabria
01/07/1999 – 31/09/1999	Visiting researcher / Welding Institute (UK)
03/06/1997 – 03/01/2002	Lecturer (Prof. Titular E.U.) / Universidad de Cantabria
01/10/1995 – 02/06/1997	Interim Lecturer (Prof. Titular E.U. interino) / Univ. Cantabria
01/10/1992 – 10/10/1995	Assistant Lecturer 1st cycle (P. Ayudante 1er c.) / U. Cantab.
01/10/1990 – 30/09/1992	Assistant Lecturer 2nd cycle (P. Ayudante 2º c.) / U. Cantab.
01/03/1988 – 30/09/1990	Intern (Becario) / Universidad de Cantabria
01/03/1988 – 30/09/1990	Intern (Becario) / Universidad de Cantabria

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD, Industrial Engineering	Universidad de Cantabria / Spain	1998
MsC, Industrial Engineering	Universidad de Cantabria / Spain	1992
BsC, Industrial Engineering	Universidad de Cantabria / Spain	1989

(Include all the necessary rows)

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

My scientific trajectory begins in 1989. PhD in Industrial Engineering from the University of Cantabria, studying also at the UPM (mechanics-construction) and UC (electricity). Currently Full Professor of Materials science and Metallurgical Engineering at the University of Cantabria. During the PhD I completed two research stays of 2 and 7 months in the Department of Aerospace Vehicles of the ETS of Aeronautical Engineers of the Polytechnic University of Madrid. During the post-doctoral training I obtained a scholarship from the Royal Society

together with the national program of training of doctors that allowed me to complete a post-doctoral research stay of 3 months in the prestigious institution the Welding Institute (Cambridge, UK). I have participated as a researcher in many projects of the Spanish national research plan, European Union and national and international public companies and administrations. Result of this are 160 publications in journals and Congresses (80 in international journals indexed and more than 60 in magazines with relative Quality index), 10 doctoral theses directed, eleven books (or chapters), and the edition of the Annals of fracture mechanics 2009 and 2017. The quality of my research labors has been recognized with 5 sexenios. Among the projects that I managed (IP), it is worth mentioning 4 programs of the National Plan (MAT2004-06992-C02-02; MAT2008-06879-C03-02; MAT2011-28796-C03-01; MAT2014-58738-C3-3-R). I have also participated in 12 European projects. In my technology transfer works I can hilight, the co-authorship of three patents, the creation of the company INESCO Ingenieros, and the participation in the FITNET project that gave rise to the draft of a European structural integrity procedure. In management I was deputy director of the ETS of Ingenieros de Caminos C y P, and organizer of a PhD program, editor of the EEES study plans, and responsible for two masters.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications

A. Cayón, F. Gutiérrez-Solana, B. Arroyo, J.A. Álvarez, (2021), ***Hydrogen embrittlement processes in microalloyed steel notched tensile samples***, Theoretical and Applied Fracture Mechanics, Vol 112, 102878; doi.org/10.1016/j.tafmec.2020.102878

M. Sánchez, S. Cicero, B. Arroyo, J.A. Álvarez, (2021), ***Estimation of the load-bearing capacity of tubular cantilever beams containing through-thickness circumferential U-notches***, Engineering Structures, Vol 229, 111598; doi.org/10.1016/j.engstruct.2020.111598

B. Arroyo, L. Andrea, F. Gutiérrez-Solana, J.A. Álvarez, P. González (2020), ***Threshold stress estimation in hydrogen induced cracking by Small Punch tests based on the application of the incremental step loading technique***, Theoretical and Applied Fracture Mechanics, Vol 110, 102839; doi.org/10.1016/j.tafmec.2020.102839

P. González, S. Cicero, B. Arroyo, J. A. Álvarez (2019), **Environmentally Assisted Cracking Behavior of S420 and X80 Steels Containing U-notches at Two Different Cathodic Polarization Levels: An Approach from the Theory of Critical Distances**, Metals, 9, 570; doi.org/10.3390/met9050570

B. Arroyo, J. A. Álvarez, F. Gutiérrez-Solana, A. Cayón, Y.J. Jirón, A.R. Seco (2019), ***A proposal for the application of failure assessment diagrams to subcritical hydrogen induced cracking propagation processes***, Metals, 9, 670; doi.org/10.3390/met9060670

P. González, S. Cicero, B. Arroyo, J. A. Álvarez (2019), ***A theory of critical distances bases methodology for the analysis of environmentally assisted cracking in steels***, Engineering Fracture Mechanics, Vol 214 (134-148); doi.org/10.1016/j.engfracmech.2019.04.004

J. A. Álvarez, R. Lacalle, B. Arroyo, J. Sainz-Aja, I. Sosa, C. Alonso, (2017), ***Analysis of the environmental degradation effects on the cables of "La Arena" bridge (Spain)***, Procedia Structural Integrity, 5 (55-62); doi.org/10.1016/j.prostr.2017.07.062

B. Arroyo, J. A. Álvarez, R. Lacalle, C. Uribe, T.E. García, C. Rodríguez (2017), ***Analysis of key factors of hydrogen environmental assisted cracking evaluation by small punch test on medium and high strength steels***, Materials Science and Engineering A, Vol 691 (180-194); doi.org/10.1016/j.msea.2017.03.006

J. Terán-Guillén, S. Cicero, T. García, J.A. Álvarez, M. Martínez-Madrid, J.T. Pérez-Quiróz (2016), ***Structural integrity asessment of the cast steel upper anchorage elements used in a cable stayed bridge***, Engineering Structures, Vol 81 (309-317); doi.org/10.1016/j.engstruct.2014.10.018

C.2. Congress

1) S. Cicero, P. González, B. Arroyo, J.A. Álvarez, "Analysis of environmentally assisted cracking processes in notched steels using the point method"
Modality: Co-autor
Congress: 25th International Conference on Fracture and Structural Integrity
Publication: Revista, Procedia Structural Integrity
Catania, Italia; 10 -14 June 2019

2) P. González, S. Cicero, B. Arroyo, J.A. Álvarez, "Planteamiento de una metodología de análisis de la fisuración asistida por el ambiente del acero X80 basada en la teoría de las distancias críticas"
Modality: Co-autor
Congress: XXXVI Encuentro de Grupo Español de Fractura, GEF 2019
Publication: Revista, Anales de Mecánica de la Fractura XXXVI.
Sevilla; 3 -5 April 2019

3) B. Arroyo, P. González, L. Andrea, J.A. Álvarez, R. Lacalle, "Caracterización de la fragilización por hidrógeno mediante la aplicación de la técnica de escalones incrementales al ensayo Small punch"
Modality: Main autor / Oral presentation
Congress: XXXVI Encuentro de Grupo Español de Fractura, GEF 2019
Publication: Revista, Anales de Mecánica de la Fractura XXXVI.
Sevilla; 3 -5 April 2019

4) I. Díaz, L.B. Peral, G. Álvarez, B. Arroyo, C. Rodríguez, "Análisis de la fragilización por hidrógeno de un acero CrMoV mediante distintas metodologías de ensayo"
Modality: Co-autor
Congress: XXXV Encuentro de Grupo Español de Fractura, GEF 2018
Publication: Revista, Anales de Mecánica de la Fractura XXXV.
Málaga; 14 - 16 March 2018

5) B. Arroyo, J.A. Álvarez, R. Lacalle, "Analysis of the Small Punch Test capability to evaluate the response of high strenght steels facing HIC or SCC"
Modality: Main autor / Oral presentation
Congress: American Society of Mechanical Engineers, Pressure Vessels and Piping Division, PVP 2016
Publication: Revista, American Society of Mechanical Engineers, Pressure Vessels and Piping Division
Vancouver, Canada; 11 -15 July 2016

C.3. Research projects

Reference / title: ***INCEFA SCALE (NFRP-2019-2020, grant agreement No 945300)*** / *INcreasing safety in NPPs by Covering gaps in Environmental Fatigue Assessment - focusing on gaps between laboratory data and component SCALE*
Funding body: ***Horizon 2020, European Union***
Main researcher / benefitiary: Sergio Cicero González / Universidad de Cantabria
Duration / funding / state of the project: 01/10/2020 - 30/09/2025 / 295.323,23€ / in-progress
Role: Researcher

Reference: ***FRACTESUS (NFRP-04, grant agreement No 900014)***

Title: *Fracture mechanics testing of irradiated RPV steels by means of sub-sized specimens*
Funding body: ***Horizon 2020, European Union***
Main researcher / benefitiary: Sergio Cicero González / Universidad de Cantabria
Duration / funding / state of the project: 01/10/2020 - 30/09/2024 / 141.628,12€ / in-progress
Role: Researcher

Reference: ***INCEFA PLUS (NFRP-2014-2015, grant agreement No 900014)***
Title: *INcreasing Safety in NPPs by Covering gaps in Environmental Fatigue Assessment*
Funding body: ***Horizon 2020, European Union***
Main researcher / benefitiary: Sergio Cicero González / Universidad de Cantabria
Duration / funding / state of the project: 01/07/2015 - 31/05/2020 / 198.125,00€ / completed
Role: Researcher

Reference: ***MAT2014-58738-C3-3-R***
Title: *Efectos del hidrógeno en aceros de medida y alta resistencia: optimización de los métodos de caracterización para la evaluación de la integridad estructural*
Funding body: **Plan Nacional de I+D+i 2014-2017, MINECO**
Main researcher / benefitiary: Jose Alberto Álvarez Laso / Universidad de Cantabria
Duration / funding / state of the project: 01/01/2015 - 30/09/2017 / 76.230,00€ / completed
Role: Main researcher

Reference: ***MAT2011-28796-C03-01***
Title: *Caracterización en condiciones de creep-fractura y corrosión bajo tensión empleando el ensayo small punch*
Funding body: **Plan Nacional de I+D+i 2008-2011, MINECO**
Main researcher / benefitiary: José Alberto Álvarez Laso / Universidad de Cantabria
Duration / funding / state of the project: 01/01/2012 - 31/12/2014 / 100.000,45€ / completed
Role: Main researcher

C.4. Contracts, technological or transfer merits

1) Title: Convenio de colaboración del laboratorio de la división de ciencia e ingeniería de los materiales (LADICIM) de la Universidad de Cantabria para caracterización de materiales (microestructural o mecánica)
Entity: Varias entidades financiadoras
Duration: 1994 to: present
Main Researcher: Juan Antonio Polanco Madrazo – Ongoing

2) Title: Análisis de tendones postensados del Viaducto de “El Castro”
Entity: IDEAM S.A.
Duration: 2022 to :2022
Main Researcher: Jose Alberto Álvarez Laso – Completed

3) Title: Análisis de la integridad en cadenas y conectores
Entity: Vicinay Marine S.L.
Duration: 2020 to :2022
Main Researcher: Jose Alberto Álvarez Laso – Completed

5) Title: Análisis mecánico de material en alambrón bajo diferentes tratamientos térmicos
Entity: Trefilierías Quijano
Duration: 2011 to: 2012
Main Researcher: Jose Alberto Álvarez Laso – Completed