MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

CURRICULUM VITAE (maximum 4 pages)

CV date	30/12/2024

Part A. PERSONAL INFORMATION

First and Family name	Josep Ramon Medina Folgado		
Social Security, Passport, ID number		Age	
Researcher numbers	Researcher ID	H-6929-2015	
	Orcid code	0000-0001-5007-7426	

A.1. Current position

Name of University/Institution	Universitat Politècnica de València			
Department	E.T.S.I. Caminos, Canales y Puertos			
Address and Country	Camino de Vera-Edificio 4A, Dep. de Ing. e Infr. Transportes			
Phone number	+34 963877375	E-mail	jrmedina@upv.es	
Current position	Full professor		From	16/08/1993
Espec. cód. UNESCO	330511, 330506, 251010, 120911, 120704, 120304			
Palabras clave	Breakwaters, Ports and coasts, Wave analysis, Wave climate, Intelligent systems, Neural networks			

A.2. Education

PhD	University	Year
Civil Engineering	Universitat Politècnica de València	1982

A.3. JCR articles, h Index, thesis supervised…

Positive six-year reseach periods: 7+1 (innovation transfer) from 1980 to 2022
Last six-year reseach period: 2017-2022
PhD Thesis supervised (last 6 years): 3
JCR publications: 57
JCR-D1 publications: 20
Citations 122 cited documents (Scopus): 1333
Most cited document Scopus (single authorship): 83
Average citations/year during 2020-2023 (Scopus): 126
Author's *h*-index (Scopus): 20

Part B. CV SUMMARY *(max. 3500 characters, including spaces)*

Josep R. Medina is Professor and Director of the Laboratory of Ports and Coasts of the Universitat Politècnica de València (UPV) in Spain. Professor at the Civil Engineering School of the UPV since 1993, he has developed his career in the UPV, serving different academic as well as management positions.

Prof. Medina has participated in multinational public research projects funded by USA and EU, as well as Spanish public and private funded projects. The research activity has been focused on physical modelling of breakwaters, but has covered also wave climate, littoral processes and intelligent systems applied to physical modelling and vehicle routing and other fields. Numerous papers and several patents describe most of the research work developed in national and international projects.

During the last two decades, Prof. Medina has orientated his research to new products protected by patents (modular quay, CUBIPOD®, low-reflecting caissons, etc.). Seven invention patents (the first patent P8901204 on D-shape breakwaters was granted by USPTO, EPO and OEPM in the 1990s) point out the continuous effort to sell the technical innovations generated by the scientific research. During the last decade, it is remarkable the success of the triadic patent CUBIPOD® extended to the most important maritime countries of the world (US8529153 (B2), JP5118031 (B2), ES2264906 (B1), MA30617 (B1), etc.) given the licensee a competitive advantage in the construction of mound breakwaters in the world (several Cubipod-armored breakwaters have been constructed in Spain, Algeria, Denmark and other countries).

Part C. RELEVANT MERITS

C.1. Publications (including books)

- Muñoz-Palao, S., Diaz-Carrasco, P., Molines, J., Gómez-Martín, M.E. and Medina, J.R. (2024). *Numerical construction tests to assess the feasibility of placement grids for Cubipod Homogeneous low-crested structures*. *Coastal Engineering*, ELSEVIER, 188 (2024) 104455. DOI: 10.1016/j.coastaleng.2024.104455 (D1)
- Diaz-Carrasco, P., Molines, J., Gómez-Martín, M.E. and Medina, J.R. (2024). Neural Network calibration method for VARANS models to simulate wave-coastal structures interaction. *Coastal Engineering*, ELSEVIER, 188 (2024) 104443. DOI: 10.1016/j.coastaleng.2023.104443 (D1)
Diaz-Carrasco, P., Molines, J., Gómez-Martín, M.E. and Medina, J.R. (2023). Simple and explicit neural network-derived formula to estimate wave reflection on mound breakwaters. *Coastal Engineering*, ELSEVIER, 186 (2023) 104404. DOI: 10.1016/j.coastaleng.2023.104404 (D1)
- Mares-Nasarre, P., Molines, J., Gómez-Martín, M.E. and Medina, J.R. (2022). Hydraulic stability of cube-armored mound breakwaters in depth-limited breaking wave conditions. *Ocean Engineering*, ELSEVIER, 259 (2022) 111845. DOI: 10.1016/j.oceaneng.2022.111845 (Q1)
- Molines J, Cento, R., Di Risio, M. and Medina, J.R. (2021). Estimation of layer coefficients of Cubipod homogeneous low-crested structures using physical and numerical model placement tests. *Coastal Engineering*, ELSEVIER, 168 (2021) 103901. DOI: 10.1016/j.coastaleng.2021.103901 (D1)
- Mares-Nasarre, P., Molines, J., Gómez-Martín, M.E. and Medina, J.R. (2021). Explicit Neural Network-derived formula for overtopping flow on mound breakwaters in depth-limited breaking wave conditions. *Coastal Engineering*, ELSEVIER, 164 (2021) 103810. DOI: 10.1016/j.coastaleng.2020.103810 (D1)
- Medina, J.R., Molines, J., González-Escrivá, J.A. and Aguilar, J. (2020). Bunker consumption of containerships considering sailing speed and wind conditions. T*ransportation Research Part D: Transport and Environment*, ELSEVIER, 87(2020) 102494. DOI: 10.1016/j.trd.2020.102494 (D1)
- Mares-Nasarre, P., Molines, J., Gómez-Martín, M.E. and Medina, J.R. (2020). Individual wave overtopping volumes on mound breakwaters in breaking wave conditions and gentle sea bottoms. *Coastal Engineering*, ELSEVIER, 159 (2020) 103703. DOI: 10.1016/j.coastaleng.2020.103703 (D1)
-Mares-Nasarre, P., Argente, G., Gómez-Martín, M.E. and Medina, J.R. (2019). Overtopping layer thickness and overtopping flow velocity on mound breakwaters. *Coastal Engineering*, ELSEVIER, 154 (2019) 103561. DOI: 10.1016/j.coastaleng.2019.103561 (D1)
-Molines, J, Herrera, M.P., Gómez-Martín, M.E. and Medina, J.R. (2019). Distribution of individual wave overtopping volumes on mound breakwaters. *Coastal Engineering*, ELSEVIER, 149 (2019): 15-27. DOI: 10.1016/j.coastaleng.2019.03.006 (D1)
-Molines, J, Herrera, M.P., and Medina, J.R. (2018). Estimations of wave forces on crown walls based on wave overtopping rates. *Coastal Engineering*, ELSEVIER, 132 (2018): 50-62. DOI: 10.1016/j.coastaleng.2017.11.004 (D1)
-Herrera, M.P., and Medina, J.R. (2017). Hydraulic stability of rock armors in breaking wave conditions. *Coastal Engineering*, ELSEVIER, 127(2017): 55-67. DOI: 10.1016/j.coastaleng.2017.06.010 (D1)
-Medina, J.R., Gómez-Martín, M.E., (2016). Cubipod® Manual 2016. Editorial Universitat Politècnica de València. ISBN: 978-84-9048-538-5.
- Herrera, M.P., and Medina, J.R. (2015). Toe berm design for very shallow waters on steep sea bottoms. *Coastal Engineering*, ELSEVIER, 103(2015): 67-77. DOI: 10.1016/j.coastaleng.2015.06.005. (D1).
-Molines, J, and Medina, J.R. (2015). Calibration of overtopping roughness factors for concrete armor units in non-breaking conditions using the CLASH database. *Coastal Engineering*, ELSEVIER, 96(2015): 62-70. DOI: 10.1016/j.coastaleng.2014.11.008. (D1).

C.2. Research projects and grants

HORIZON-MSCA-2022-PF-01-01_Proposal ID 101109919. PREDICTIVE TOOL OF SEAGRASS HEALTH TO OPTIMIZE THE DESIGN OF LOW CRESTED STRUCTURES IN THE MEDITERRANENA SEA (SEGRALCS)
Supervisor: Josep R. Medina
Researcher: Mireille Escudero Castillo
Body where project took place: Universitat Politècnica de València
Funding bodies: EUROPEAN RESEARCH EXECUTIVE AGENCY
Duration of the project: 19 months (01/05/2023-31/12/2024)
Amount of funding: 206,642.20 €

PDC2022-133474-I00. NUMERICAL METHOD FOR REALISTIC BREAKWATER CONSTRUCTION (REBECOS)
Principal researcher: Josep R. Medina and Mª Esther Gómez-Martín
Body where project took place: Universitat Politècnica de València
Funding bodies: NEXT GENERATION EU & AGENCIA ESTATAL DE INVESTIGACION
Duration of the project: 24 months (01/12/2022-30/11/2024)
Amount of funding: 138,000.00 €

PID2021-126475OB-I00. REPAIR AND REHABILITATION OF MOUND BREAKWATERS (REMOBE) Principal researcher: Josep R. Medina and Mª Esther Gómez-Martín
Body where project took place: Universitat Politècnica de València
Funding bodies: FEDER & AGENCIA ESTATAL DE INVESTIGACION
Duration of the project: 36 months (01/9/2022-31/08/2025)
Amount of funding: 121,363.00 €

RTI2018-101073-B-I00-AR. HYDRAULIC STABILITY AND TRANSMISSION OF HOMOGENEOUS LOW CRESTED BREAKWATERS IN BREAKING WAVE CONDITIONS (HOLOBREAK)
Principal researcher: Josep R. Medina
Body where project took place: Universitat Politècnica de València
Funding bodies: FEDER & AGENCIA ESTATAL DE INVESTIGACION
Duration of the project: 36 months (01/01/2019-31/12/2021)
Amount of funding: 169,400.00 €

C.3. Contracts

Name of the project: LICENCIA DE LA PATENTE ELEMENTO PARA LA FORMACION DE MANTOS DE DIQUES P200501750 (CUBIPOD)
Head researcher: Josep R. Medina
Body where project took place: Universitat Politècnica de València
Funding bodies: Sociedad Anónima Trabajos y Obras (OHL Group)
Duration of the project: 180 months (07/05/2014-06/05/2029)
Amount of funding: >800.000,00 €

Name of the project: *Convenio de Colaboración entre la Sociedad Anónima Trabajos y Obras (SATO) y la Universidad Politécnica de Valencia para el Estudio de Mantos Monocapa de Cubípodos (MMONOCAPA)*
Head researcher: Josep R. Medina
Body where project took place: Universitat Politècnica de València
Funding bodies: Sociedad Anónima Trabajos y Obras (OHL Group)
Duration of the project: 21 months (15/03/2011-15/12/2013)
Amount of funding: 200.000,00 €

C.4. Patents

Title:	Element Used to Form Breakwaters
Type of industrial property:	Patent of invention
Inventors:	Josep R. Medina and M. Esther Gómez-Martín
Patent holding body:	UNIVERSIDAD POLITECNICA DE VALENCIA
Priority:	P200501750 (ES) 11-07-2005
PCT:	ES2006000395 11-07-2006
Published as:	US8529153 (B2), JP5118031 (B2); ES2264906 (B1); MA30617 (B1); CN101258289 (B); EP1925747 (B1); BRPI0615497 (B1); MX303761; IND265741; etc.
Countries:	ES, EU, USA, JPN, CHN, MEX, BRA, ARG, MAR, IND
Licensee:	Sociedad Anónima Trabajos y Obras (OHL Group)
Breakwaters completed:	Dique Oeste del Puerto Exterior de A Coruña (ES), Bahia Bay d'Alger (DZ), Port of Hanstholm (DK), etc.

Breakwaters under construction: Casablanca Breakwater (MA), etc.
Accumulated UPV royalties: >800,000.00 €

Six additional patents (D-armor breakwater, Modular element for shore protection, low-reflection quays and caisson breakwaters, etc.) with lower accredited impact on the markets.

C.5, C.6, C.7… (e. g., Institutional responsibilities, memberships of scientific societies…)

- Tenure Professor (TU) from 24/12/1984 to 15/08/1993. Full Professor (CU) from 16/08/1993 to present. Director of the Department of Transportation, Urban and Territory Planning, and Administrative Law from 1985 to 1989. Director of the Institute of Transport and Territory from 2018 to 2021 and Vice-president of Initiatives and Planning of the Universitat Politècnica de València from February 1993 to September 1995.
- Visiting Professor at Oregon State University (EE.UU.) participating in two competitive grants funded by Sea Grant-NOAA in 1987-1989 and 1989-1991. IP (UPV)- no coordinator of European Projects OPTICREST (1998-2001) and CLASH (2002-2005).
- Member of ASCE, IAHR and PIANC-AIPCN. Member of the PIANC Working Group 40: Berm Breakwater Design Guidance (2003).
- Member of the Spanish Technical Commitee of ROM 0.0-01 (2001). Member of the Spanish Technical Commitee of ROM 1.0-09 and ROM 2.1-11. Coordinator of the "Foro EROM" (*Procedimiento Metodológico Participativo para la Canalización, Recogida y Difusión de Estudios y Análisis Técnico-Científicos sobre los Documentos ROM*), 1997-2010.
- Member of the organization of advising committee of the international congresses ICCE-1988, IAHR-1991, CSt'99, WAVES 2005, COASTLAB-2010, COASTLAB-2012, COASTLAB-2014, COASTLAB-2018) and national congresses (*Jornadas Españolas de Costas y Puertos*, 1993, 1995, …, 2022).
- Regular participation in the best coastal and maritime engineering congresses (vICCE-2020, CSt'2019, ICCE-2018, CMSBW-2017, ICCE-2016, CSt'2015, ICCE-2014, CMSBW-2013, ICCE-2012, CSt'2011, ICCE-2010, CMSBW-2009, ICCE-2008, etc.).
- Frequent reviewer of *Coastal Engineering (D1)* and *Ocean Engineering (Q1)*. Reviewer of other high-quality JCR journals (Applied Ocean Research Q2, Applied Soft Computing Q1, Journal of Waterway, Port, Coastal, and Ocean Engineering Q2, etc.)
- Coordinator of the Civil Engineering and Architecture Area of the Agencia Nacional de Evaluación y Prospectiva (ANEP) from November 2011 to January 2016.
-Member of the "Comité Asesor de la Comisión Nacional Evaluadora de la Actividad Investigadora (campo 6.3 - Ingeniería Civil y Arquitectura)" from Jan. 2022 to Dec. 2023.
-Member of the "Comité Asesor de Infraestructuras Singulares" from October 2019.
-Member of "Comisión 11 (Ingeniería Mecánica) de la ANECA que interviene en la acreditación estatal para el acceso a los cuerpos docentes universitarios" from Jan. 2024.