November 19, 2024

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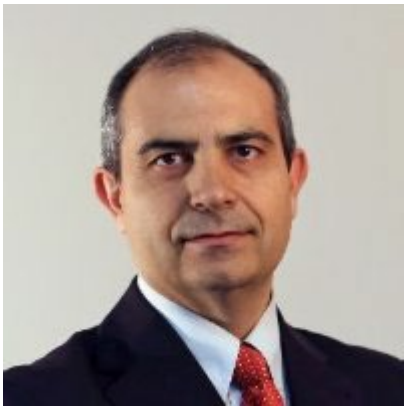
MSc MEng BEng (Hons) Civil & Structural Engineer, Ph.D.



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Víctor Yepes is a Full Professor with tenure at the Department of Construction Engineering, Universitat Politecnica de Valencia, Spain. He holds a Ph.D. in Civil Engineering and has been the Academic Director of the Master in Concrete Materials and Structures since 2007. He has received the Academic Excellence Award from the Social Council, the Excellent Research Career Award and the Excellent Research Impact Award, both from the Universitat Politècnica de València. Furthermore, he is also a member of the Institute of Concrete Science and Technology (ICITECH). He is currently involved in several projects related to the optimisation and life cycle assessment of concrete structures and optimisation models for infrastructure asset management. He also teaches courses on construction methods, innovation and quality management. Dr Yepes has authored more than 350 journal and conference papers, including over 175 published journals quoted in JCR. He has acted as an Expert for project proposal evaluation for the Spanish Ministry of Technology and Science and is the Main Researcher on many projects. He also serves on the editorial board of 12 international journals, including Structure & Infrastructure Engineering, Structural Engineering and Mechanics, Mathematics, Sustainability, Revista de la Construcción, Advances in Civil Engineering, and Advances in Concrete Construction.

EDUCATION

Universitat Politècnica de València, Spain
Doctor of Philosophy, Civil Engineering, Department of Transportation Engineering, Sep 2002
Specialist Degree in Quality Control Management, Department of Applied Statistics and Operational Research, and Quality, June 2000
Bachelor of Science and Master of Science (Honours), Civil Engineering, School of Civil Engineering, June 1988, **achieving rank 1 in his class**.
Academic Excellence Award Social Council of the Univesitat Politècnica de València.
Excellent Research Career Award granted by the Universitat Politècnica de València.
Excellent Research Impact Award granted by the Universitat Politècnica de València.

EXPERIENCE AT THE UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Full Professor, Department of Construction Engineering: November 2017 - present
Associate Professor, Department of Construction Engineering: April 2008 - November 2017
Part-Time Professor, Department of Construction Engineering: October 1994 - April 2008
Part-Time Professor, Department of Construction Engineering: October 1989 - September 1990
Research Assistant, Department of Transportation Engineering: September 1987 – 1988.
Deputy Director, Department of Construction Engineering: July 2010 - July 2012, July 2014 – December 2023.
Academic Head, M.Sc. in Concrete Engineering: June 2008 - February 2017. This Master of Science degree is focused on construction-engineering and fully supported by the Department of Construction Engineering. It aims to provide a comprehensive understanding of concrete as a building material, as well as the necessary skills for analyzing and designing concrete structures. Learn more at http://victoryepes.blogs.upv.es/2015/08/26/presentacion-del-master-universitario-en-ingenieria-del-hormigon/

VISITING SCHOLAR

Department of Engineering and Construction Management
Pontificia Universidad Católica de Chile, 2013

PROFESSIONAL ENGINEERING EXPERIENCE

Iberdrola, S.A. (Energy company) Assistant Engineer. 1987.
Dragados y Construcciones, S.A. (Construction company) Civil Engineer and Site Manager. 1989-1992.
Generalitat Valenciana. (Regional government) Director of Infrastructure Engineering and R+D+I. 1992-2008.
Member of the General Council of the Association of Civil Engineers of Spain (2020 - present).
Member of Commission 13 - Architecture, Civil Engineering, Construction and Urban Planning, for the accreditation of university professors of ANECA (2023).
Secretary of Commission 15 - Civil Engineering, for the accreditation of university professors of ANECA (2024 – present).

JOURNAL PUBLICATIONS (SCI)

1. ZHOU, Z.; LIANG, Z.; ALCALÁ, J.; YEPES, V. (2024). **Three-dimensional finite element coupled optimization assessment of extra-large bridges**. *Structures*, 70:107743. DOI:10.1016/j.istruc.2024.107743
2. GUAYGUA, B.; SÁNCHEZ-GARRIDO, A.; YEPES, V. (2024). **Life cycle assessment of seismic resistant prefabricated modular buildings**. *Heliyon*, 10(20), e39458. DOI:10.1016/j.heliyon.2024.e39458.
3. MARTÍN, R.; YEPES, V. (2024). **Valuation of landscape intangibles: Influence on the marina management**. *Ocean & Coastal Management*, 259, 107416. DOI:10.1016/j.ocecoaman.2024.107416.
4. YEPES-BELLVER, L.; BRUN-IZQUIERDO, A.; ALCALÁ, J.; YEPES, V. (2024**). Artificial neural network and Kriging surrogate model for embodied energy optimization of prestressed slab bridges.** *Sustainability*, 16(19), 8450; DOI:10.3390/su16198450
5. RUIZ-VÉLEZ, A.; GARCÍA, J.; PARTSKHALADZE, G.; ALCALÁ, J.; YEPES, V. (2024). **Enhanced Structural Design of Prestressed Arched Trusses through Multi-Objective Optimization and MCDM.** *Mathematics*, 12(16), 2567. DOI:10.3390/math12162567
6. MALVIYA, A.K.; ZAREHPARAST MALEKZADEH, M.; SANTARREMIGIA, F.E.; MOLERO, G.D.; VILLALBA-SANCHIS, I.; MARTÍNEZ-FERNÁNDEZ, P.; YEPES, V. (2024). **Optimization of the Life cycle cost and environmental impact functions of NiZn batteries by using Multi-Objective Particle Swarm Optimization (MOPSO)**. *Sustainability*, 16(15):6425. DOI:10.3390/su16156425
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8. VILLALBA, P.; SÁNCHEZ-GARRIDO, A.; YEPES, V. (2024). **A review of multi-criteria decision-making methods for building assessment, selection, and retrofit.** *Journal of Civil Engineering and Management*, 30(5):465-480. DOI 10.3846/jcem.2024.21621
9. MALVIYA, A.K.; ZAREHPARAST MALEKZADEH, M.; LI, J.P.; LI, B.Y.; SANTARREMIGIA, F.E.; MOLERO, G.D.; VILLALBA-SANCHIS, I.; YEPES, V. (2024). **A formulation model for computation to estimate the Life Cycle Environmental Impact of NiZn Batteries.** *Energies*, 17(11):2751. DOI:10.3390/en17112751
10. ZHOU, Z.; WANG, Y.; ALCALÁ, J.; YEPES, V. (2024). **Research on coupling optimization of carbon emissions and carbon leakage in international construction projects.** *Scientific Reports*, 14: 10752. DOI:10.1038/s41598-024-59531-4
11. RUIZ-VÉLEZ, A.; GARCÍA, J.; ALCALÁ, J.; YEPES, V. (2024). **Enhancing Robustness in Precast Modular Frame Optimization: Integrating NSGA-II, NSGA-III, and RVEA for Sustainable Infrastructure.** *Mathematics*, 12(10):1478. DOI:10.3390/math12101478
12. NEGRÍN, I.; KRIPKA, M.; YEPES, V. (2024). **Optimized Transverse-Longitudinal Hybrid Construction for Sustainable Design of Welded Steel Plate Girders.** *Advances in Civil Engineering*, 2024:5561712. DOI:10.1155/2024/5561712
13. VILLALBA, P.X.; SÁNCHEZ-GARRIDO, A.; YEPES, V. (2024). **Life cycle evaluation of seismic retrofit alternatives for reinforced concrete columns.** *Journal of Cleaner Production*, 455:142290. DOI:10.1016/j.jclepro.2024.142290
14. RUIZ-VÉLEZ, A.; GARCÍA, J.; ALCALÁ, J.; YEPES, V. (2024). **Sustainable Road Infrastructure Decision-Making: Custom NSGA-II with Repair Operators for Multi-objective Optimization.** *Mathematics*, 12(5):730. DOI:10.3390/math12050730
15. MALVIYA, A.K.; ZAREHPARAST MALEKZADEH, M.; SANTARREMIGIA, F.E.; MOLERO, G.D.; VILLALBA-SANCHIS, I.; YEPES, V. (2024). **A formulation model for computation to estimate the Life Cycle Cost of NiZn Batteries**. *Sustainability*, 16(5):1965. DOI:10.3390/su16051965

16. SALAS, J.; YEPES, V. (2024). **Improved delivery of social benefits through the maintenance planning of public assets.** *Structure and Infrastructure Engineering*, 20(5):699-714. DOI:10.1080/15732479.2022.2121844
17. ZHOU, Z.; ZHOU, J.; ZHANG, B.; ALCALÁ, J.; YEPES, V. (2024). **The centennial sustainable assessment of regional construction industry under the multidisciplinary coupling model.** *Sustainable Cities and Society*, 101:105201. DOI:10.1016/j.scs.2024.105201
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19. ZHOU, Z.; ZHOU, J.; ALCALÁ, J.; YEPES, V. (2024). **Thermal coupling optimization of bridge environmental impact under natural conditions.** *Environmental Impact Assessment Review*, 104:107316. DOI:10.1016/j.eiar.2023.107316
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21. GARCÍA, J.; LEIVA-ARAOS, A.; DÍAZ-SAAVEDRA, E.; MORAGA, P.; PINTO, H.; YEPES, V. (2023). **Relevance of Machine Learning Techniques in Water Infrastructure Integrity and Quality: A Review Powered by Natural Language Processing.** *Applied Sciences*, 13(22):12497. DOI:10.3390/app132212497.
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23. MARTÍNEZ-MUÑOZ, D.; GARCÍA, J.; MARTÍ, J.V.; YEPES, V. (2023). **Deep learning classifier for life cycle optimization of steel-concrete composite bridges.** *Structures*, 57:105347. DOI:10.1016/j.istruc.2023.105347
24. NEGRÍN, I.; KRIPKA, M.; YEPES, V. (2023). **Multi-criteria optimization for sustainability-based design of reinforced concrete frame buildings.** *Journal of Cleaner Production*, 425:139115. DOI:10.1016/j.jclepro.2023.139115
25. ZHOU, Z.; ALCALÁ, J.; YEPES, V. (2023). **Carbon impact assessment of bridge construction based on resilience theory.** *Journal of Civil Engineering and Management*, 29(6):561-576. DOI:10.3846/JCEM.2023.19565.
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31. TERREROS-BEDOYA, A.; NEGRÍN, I.; PAYÁ-ZAFORTEZA, I.; YEPES, V. (2023). **Hybrid steel girders: review, advantages and new horizons in research and applications.** *Journal of Constructional Steel Research*, 207:107976. DOI:10.1016/j.jcsr.2023.107976.

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33. NAVARRO, I.J.; MARTÍ, J.V.; YEPES, V. (2023). **Evaluation of Higher Education Students' Critical Thinking Skills on Sustainability.** *International Journal of Engineering Education*, 39(3):592-603.
34. NEGRÍN, I.; KRIPKA, M.; YEPES, V. (2023). **Metamodel-assisted design optimization in the field of structural engineering: a literature review.** *Structures*, 52:609-631. DOI:10.1016/j.istruc.2023.04.006
35. ZHOU, Z.; ALCALÁ, J.; YEPES, V. (2023). **Experimental Research on Diseases of Emulsified Asphalt Mortar Board for Ballastless Tracks.** *Journal of Materials in Civil Engineering*, 35(6):04023156. DOI:10.1061/JMCEE7.MTENG-15149
36. HADIZADEH-BAZAZ, M.; NAVARRO, I.J.; YEPES, V. (2023). **Life-cycle cost assessment using the power spectral density function in a coastal concrete bridge.** *Journal of Marine Science and Engineering*, 11(2):433. DOI:10.3390/jmse11020433
37. MARÍN, R.; YEPES, V. (2023). **Landscape values in a marina in Granada (Spain): Enhancing landscape management through public participation.** *Land*, 12(2):492. DOI:10.3390/land12020492
38. TRES JUNIOR, F.L.; YEPES, V.; MEDEIROS, G.F.; KRIPKA, M. (2023). **Multi-objective Optimization Applied to the Design of Sustainable Pedestrian Bridges.** *International Journal of Environmental Research and Public Health*, 20(4), 3190. DOI:10.3390/ijerph20043190
39. HADIZADEH-BAZAZ, M.; NAVARRO, I.J.; YEPES, V. (2023). **Power Spectral Density method performance in detecting damages by chloride attack on coastal RC bridge.** *Structural Engineering and Mechanics*, 85(2):197-206. DOI:10.12989/sem.2023.85.2.197.
40. RUIZ-VÉLEZ, A.; ALCALÁ, J.; YEPES, V. (2023). **A parametric study of optimum road modular hinged frames by hybrid metaheuristics.** *Materials*, 16(3):931. DOI:10.3390/ma16030931
41. YEPES, V.; LOPEZ, S. (2023). **The Knowledge sharing capability in innovative behavior: A SEM approach from graduate students' insights.** *International Journal of Environmental Research and Public Health*, 20(2):1284. DOI:10.3390/ijerph20021284
42. MARTÍNEZ-MUÑOZ, D.; GARCÍA, J.; MARTÍ, J.V.; YEPES, V. (2023). **Hybrid swarm intelligence optimization methods for low-embodied energy steel-concrete composite bridges.** *Mathematics*, 11(1):140. DOI: 10.3390/math11010140
43. RUIZ-VÉLEZ, A.; ALCALÁ, J.; YEPES, V. (2023). **Optimal design of sustainable reinforced concrete precast hinged frames.** *Materials*, 16(1):204. DOI:10.3390/ma16010204.
44. ZHOU, Z.; ALCALÁ, J.; YEPES, V. (2022). **Research on Sustainable Development of the Regional Construction Industry Based on Entropy Theory.** *Sustainability*, 14(24): 16645. DOI:10.3390/su142416645
45. PARTSKHALADZE, G.; ALCALÁ, J.; MEDZMARIASHVILI, E.; CHAVLESHVILI, G.; SURGULADZE, B., I.; YEPES, V. (2022). **Heuristic Optimization of a New Type Prestressed Arched Truss.** *Materials*, 15(22): 8144. DOI:10.3390/ma15228144
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47. ZHOU, Z.; ALCALÁ, J.; YEPES, V. (2022). **Research on the optimized environment of large bridges based on multi-constraint coupling.** *Environmental Impact Assessment Review*, 97:106914. DOI:10.1016/j.eiar.2022.106914.

48. HADIZADEH-BAZAZ, M.; NAVARRO, I.J.; YEPES, V. (2022). **Performance comparison of structural damage detection methods based on Frequency Response Function and Power Spectral Density**. *DYNA*, 97(5):493-500. DOI:10.6036/10504
49. NAVARRO, I.J.; MARTÍ, J.V.; YEPES, V. (2022). **Analytic Network Process-based sustainability life cycle assessment of concrete bridges in coastal regions.** *Sustainability*, 14(17):10688. DOI:10.3390/su141710688
50. MARTÍN, R., YEPES, V. (2022). **Economic valuation of landscape in marinas: Application to a marina in Spanish Southern Mediterranean coast (Granada, Spain).** *Land*, 11(9):1400. DOI:10.3390/land11091400
51. GARCÍA, J.; VILLAVICENCIO, G.; ALTIMIRAS, F.; CRAWFORD, B.; SOTO, R.; MINTATOGAWA, V.; FRANCO, M.; MARTÍNEZ-MUÑOZ, D.; YEPES, V. (2022). **Machine learning techniques applied to construction: A hybrid bibliometric analysis of advances and future directions.** *Automation in Construction*, 142:104532. DOI:10.1016/j.autcon.2022.104532
52. YEPES-BELLVER, L.; BRUN-IZQUIERDO, A.; ALCALÁ, J.; YEPES, V. (2022). **CO_2-optimization of post-tensioned concrete slab-bridge decks using surrogate modeling**. *Materials*, 15(14):4776. DOI:10.3390/ma15144776
53. MARTÍNEZ-MUÑOZ, D.; GARCÍA, J.; MARTÍ, J.V.; YEPES, V. (2022). **Discrete swarm intelligence optimization algorithms applied to steel-concrete composite bridges.** *Engineering Structures*, 266:114607. DOI:10.1016/j.engstruct.2022.114607
54. MARTÍN, R., YEPES, V. (2022). **Assessing the relationship between landscape and management within marinas: The managers' perception.** *Land*, 11(7):961. DOI:10.3390/land11070961
55. SÁNCHEZ-GARRIDO, A.J.; NAVARRO, I.J.; GARCÍA, J.; YEPES, V. (2022). **An Adaptive ANP & ELECTRE IS-based MCDM Model Using Quantitative Variables.** *Mathematics*, 10(12):2009. DOI:10.3390/math10122009
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57. ZHOU, Z.; ALCALÁ, J.; YEPES, V. (2022). **Regional sustainable development impact through sustainable bridge optimization**. *Structures*, 41, 1061-1076. DOI: 10.1016/j.istruc.2022.05.047
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sustainability and buildability of wind turbine foundations. *Structural and Multidisciplinary Optimization*, 65:46. DOI:10.1007/s00158-021-03154-0

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65. YEPES, V.; LOPEZ, S. (2021). **Knowledge management in the construction industry: Current state of knowledge and future research.** *Journal of Civil Engineering and Management*, 27(8):671-680. DOI:10.3846/jcem.2021.16006
66. SIERRA, L.; ARAYA, F.; YEPES, V. (2021). **Consideration of uncertainty and multiple disciplines in the determination of sustainable criteria for rural roads using neutrosophic logic.** *Sustainability*, 13(17):9854. DOI:10.3390/su13179854
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