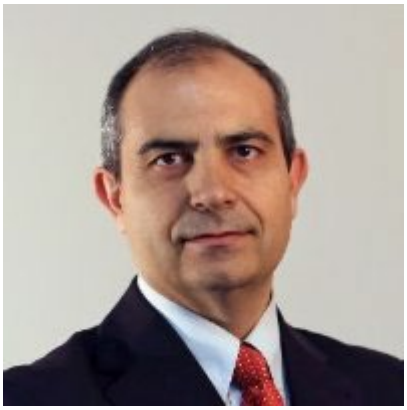
May 15, 2024

Víctor Yepes

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 in Valencia, Spain. He holds a Ph.D. degree in civil engineering and has been the Academic Director of the M.S. studies 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 granted by the Universitat Politècnica de València. Furthermore, he is a Concrete Science and Technology Institute (ICITECH) member. He is currently involved in several projects related to the optimization and life-cycle assessment of concrete structures and optimization models for infrastructure asset management. He also teaches construction methods, innovation, and quality management courses. Dr. Yepes has authored over 350 journal and conference papers, including over 170 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. VILLALBA, P.X.; 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*, (accepted, in press).
2. 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
3. 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
4. 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
5. 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
6. 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
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8. 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
9. 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
10. LOPEZ, S.; YEPES, V. (2024). **Visualizing the future of Knowledge sharing in SMEs in the construction industry: A VOS-viewer Analysis of emerging trends and best practices.** *Advances in Civil Engineering,* 2024:6657677. DOI:10.1155/2024/6657677
11. 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
12. GUAYGUA, B.; SÁNCHEZ-GARRIDO, A.; YEPES, V. (2023). **A systematic review of seismic-resistant precast concrete buildings.** *Structures*, 58; 105598. DOI:10.1016/j.istruc.2023.105598
13. 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.
14. YEPES-BELLVER, L.; BRUN-IZQUIERDO, A.; ALCALÁ, J.; YEPES, V. (2023). **Embodied energy optimization of prestressed concrete road flyovers by a two-phase Kriging surrogate model.** *Materials*, 16(20); 6767. DOI:10.3390/ma16206767
15. 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

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17. 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.
18. HADIZADEH-BAZAZ, M.; NAVARRO, I.J.; YEPES, V. (2023). **Life Cycle Assessment of a Coastal Concrete Bridge Aided by Non-Destructive Damage Detection Methods.** *Journal of Marine Science and Engineering*, 11(9):1656. DOI:10.3390/jmse11091656
19. NEGRÍN, I.; KRIPKA, M.; YEPES, V. (2023). **Metamodel-assisted meta-heuristic design optimization of reinforced concrete frame structures considering soil-structure interaction.** *Engineering Structures*, 293:116657. DOI:10.1016/j.engstruct.2023.116657
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21. NAVARRO, I.J.; MARTÍ, J.V.; YEPES, V. (2023). **Enhancing sustainability assessment of bridges in aggressive environments through multi-criteria group decision-making**. *DYNA*, 98(5):477-483. DOI:10.6036/10816.
22. SÁNCHEZ-GARRIDO, A.J.; NAVARRO, I.J.; GARCÍA, J.; YEPES, V. (2023). **A systematic literature review on Modern Methods of Construction in building: an integrated approach using machine learning.** *Journal of Building Engineering*, 73:106725. DOI:10.1016/j.jobe.2023.106725.
23. 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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25. 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.
26. 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
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29. 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
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31. 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.

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33. 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
34. 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
35. 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.
36. 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
37. 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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39. 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.
40. 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
41. 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
42. 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
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44. 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
45. 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
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49. 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
50. VITORIO, P.C., Jr.; YEPES, V.; KRIPKA, M. (2022). **Comparison of Brazilian Social Interest Housing Projects considering Sustainability**. *International Journal of Environmental Research and Public Health*, 19(10):6213. DOI:10.3390/ijerph19106213.
51. FERNÁNDEZ-MORA, V.; NAVARRO, I.J.; YEPES, V. (2022). **Integration of the structural project into the BIM paradigm: a literature review.** *Journal of Building Engineering*, 53:104318. DOI:10.1016/j.jobe.2022.104318.
52. MARTÍNEZ-MUÑOZ, D.; MARTÍ, J.V.; YEPES, V. (2022). **Social Impact Assessment Comparison of Composite and Concrete Bridge Alternatives.** *Sustainability*, 14(9):5186. DOI:10.3390/su14095186..
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58. 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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