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



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## 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.**

## EXPERIENCE AT THE UNIVERSITAT POLITÈCNICA DE VALÈNCIA

**Deputy Director**, Department of Construction Engineering, from July 2010 to July 2012, and from July 2014 present

**Academic Head**, M.Sc. in Concrete Engineering, from June 2008 to February 2017. This M.Sc. degree is applied to the construction-engineering field and it is fully supported by the Department of Construction Engineering. Its purpose is to provide a broad understanding of concrete as a building material, as well as the skills necessary for the analysis and design of concrete structures. <http://victoryepes.blogs.upv.es/2015/08/26/presentacion-del-master-universitario-en-ingenieria-del-hormigon/>

**Full Professor**, from November 2017 to present, Department of Construction Engineering

**Associate Professor**, from April 2008 to November 2017, Department of Construction Engineering

**Part Time Professor**, from October 1994 to April 2008, Department of Construction Engineering

**Part Time Professor**, from October 1989 to September 1990, Department of Construction Engineering

**Research Assistant**, from September 1987 to July 1988, Department of Transportation Engineering.

## VISITING SCHOLAR

Department of Engineering and Construction Management

Pontificia Universidad Católica de Chile, 2013

<http://www.ing.uc.cl/ingenieria-y-gestion-construccion/nuestro-departamento/profesores-visitantes/>

## 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-to present).

## JOURNAL PUBLICATIONS (SCI)

1. ZHOU, Z.; ALCALÁ, J.; YEPES, V. (2020). [Bridge Carbon Emissions and Driving Factors Based on a Life-Cycle Assessment Case Study: Cable-Stayed Bridge over Hun He River in Liaoning, China.](#) *International Journal of Environmental Research and Public Health*, 17(16):5953. DOI:10.3390/ijerph17165953
2. LÓPEZ, S.; YEPES, V. (2020). [Impact of the R&D&I on the performance of Spanish construction companies.](#) *Advances in Civil Engineering*, 2020: 7835231. DOI:10.1155/2020/7835231
3. PONS, J.J.; VILLALBA-SANCHIS, I.; INSA, R.; YEPES, V. (2020). **Life cycle assessment of a railway tracks substructures: comparison of ballast and ballastless rail tracks.** *Environmental Impact Assessment Review* 85:106444. DOI:10.1016/j.eiar.2020.106444
4. MILANI, C.J.; YEPES, V.; KRIPKA, M. (2020). [Proposal of sustainability indicators for the design of small-span bridges.](#) *International Journal of Environmental Research and Public Health*, 17(12):4488. DOI:10.3390/ijerph17124488
5. MARTÍNEZ-MUÑOZ, D.; MARTÍ, J.V.; YEPES, V. (2020). [Steel-concrete composite bridges: design, life cycle assessment, maintenance and decision making.](#) *Advances in Civil Engineering*, 2020:8823370. DOI:10.1155/2020/8823370
6. GARCÍA, J.; MARTÍ, J.V.; YEPES, V. (2020). [The buttressed walls problem: An application of a hybrid clustering particle swarm optimization algorithm.](#) *Mathematics*, 8(6):862. <https://doi.org/10.3390/math8060862>
7. PENADÉS-PLÀ, V.; MARTÍNEZ-MUÑOZ, D.; GARCÍA-SEGURA, T.; NAVARRO, I.J.; YEPES, V. (2020). [Environmental and social impact assessment of optimized post-tensioned concrete road bridges.](#) *Sustainability*, 12(10), 4265. DOI:10.3390/su12104265
8. GARCÍA, J.; YEPES, V.; MARTÍ, J.V. (2020). [A hybrid k-means cuckoo search algorithm applied to the counterfort retaining walls problem.](#) *Mathematics*, 8(4), 555. DOI:10.3390/math8040555
9. YEPES, V.; MARTÍ, J.V.; GARCÍA, J. (2020). [Black hole algorithm for sustainable design of counterfort retaining walls.](#) *Sustainability*, 12(7), 2767. DOI:10.3390/su12072767
10. PENADÉS-PLÀ, V.; YEPES, V.; GARCÍA-SEGURA, T. (2020). **Robust decision-making design for sustainable pedestrian concrete bridges.** *Engineering Structures*, 209: 109968. DOI:10.1016/j.engstruct.2019.109968
11. PENADÉS-PLÀ, V.; GARCÍA-SEGURA, T.; YEPES, V. (2020). [Robust design optimization for low-cost concrete box-girder bridge.](#) *Mathematics*, 8(3): 398; DOI:10.3390/math8030398
12. SÁNCHEZ-GARRIDO, A.J.; YEPES, V. (2020). **Multi-criteria assessment of alternative sustainable structures for a self-promoted, single-family home.** *Journal of Cleaner Production*, 258, 120556. DOI:10.1016/j.jclepro.2020.120556
13. SALAS, J.; YEPES, V. (2020). [Enhancing sustainability and resilience through multi-level infrastructure planning.](#) *International Journal of Environmental Research and Public Health*, 17(3):962; DOI:10.3390/ijerph17030962
14. NAVARRO, I.J.; YEPES, V.; MARTÍ, J.V. (2020). **Sustainability assessment of concrete bridge deck designs in coastal environments using neutrosophic criteria weights.** *Structure and Infrastructure Engineering*, 16(7): 949-967. DOI:10.1080/15732479.2019.1676791
15. YEPES, V.; DASÍ-GIL, M.; MARTÍNEZ-MUÑOZ, D.; LÓPEZ-DESFILÍS, V.J.; MARTÍ, J.V. (2019). [Heuristic techniques for the design of steel-concrete composite pedestrian bridges.](#) *Applied Sciences*, 9, 3253; DOI:10.3390/app9163253

16. NAVARRO, I.J.; YEPES, V.; MARTÍ, J.V. (2019). [A review of multi-criteria assessment techniques applied to sustainable infrastructures design](#). *Advances in Civil Engineering*, 2019: 6134803. DOI:10.1155/2019/6134803
17. MARTÍN, R.; YEPES, V. (2019). **The concept of landscape within marinas: Basis for consideration in the management**. *Ocean & Coastal Management*, 179: 104815. DOI:10.1016/j.ocecoaman.2019.104815.
18. PARTSKHALADZE, G.; MSHVENIERADZE, I.; MEDZMARIASHVILI, E.; CHAVLESHVILI, G.; YEPES, V.; ALCALÁ, J. (2019). [Buckling Analysis and Stability of Compressed Low Carbon Steel Rods in Elasto-Plastic Region of Material](#). *Advances in Civil Engineering*, 2019: 7601260. DOI:10.1155/2019/7601260
19. BOSCARDIN, J.T.; YEPES, V.; KRIPKA, M. (2019). **Optimization of reinforced concrete building frames with automated grouping of columns**. *Automation in Construction*, 104: 331-340. DOI:10.1016/j.autcon.2019.04.024
20. SALAS, J.; YEPES, V. (2019). [VisualUVAM: A Decision Support System Addressing the Curse of Dimensionality for the Multi-Scale Assessment of Urban Vulnerability in Spain](#). *Sustainability*, 11(8): 2191. DOI:10.3390/su11082191
21. MARTÍNEZ-FERNÁNDEZ, P.; VILLALBA-SANCHÍS, I.; INSA-FRANCO, R.; YEPES, V. (2019). **A review of modelling and optimisation methods applied to railways energy consumption**. *Journal of Cleaner Production*, 222:153-162. DOI: 10.1016/j.jclepro.2019.03.037
22. KRIPKA, M.; YEPES, V.; MILANI, C.J. (2019). [Selection of sustainable short-span bridge design in Brazil](#). *Sustainability*, 11(5):1307. DOI: 10.3390/su11051307
23. SALAS, J.; YEPES, V. (2019). **MS-ReRO and D-ROSE methods: assessing relational uncertainty and evaluating scenarios' risks and opportunities on multi-scale infrastructure systems**. *Journal of Cleaner Production*, 216:607-623. DOI: <https://doi.org/10.1016/j.jclepro.2018.12.083>
24. PENADÉS-PLÀ, V.; GARCÍA-SEGURA, T.; YEPES, V. (2019). [Accelerated optimization method for low-embodied energy concrete box-girder bridge design](#). *Engineering Structures*, 179:556-565. DOI:10.1016/j.engstruct.2018.11.015
25. NAVARRO, I.J.; MARTÍ, J.V.; YEPES, V. (2019). **Reliability-based maintenance optimization of corrosion preventive designs under a life cycle perspective**. *Environmental Impact Assessment Review*, 74:23-34. DOI:10.1016/j.eiar.2018.10.001
26. GARCÍA-SEGURA, T.; PENADÉS-PLÀ, V.; YEPES, V. (2018). **Sustainable bridge design by metamodel-assisted multi-objective optimization and decision-making under uncertainty**. *Journal of Cleaner Production*, 202: 904-915. DOI:10.1016/j.jclepro.2018.08.177
27. NAVARRO, I.J.; YEPES, V.; MARTÍ, J.V.; GONZÁLEZ-VIDOSA, F. (2018). **Life cycle impact assessment of corrosion preventive designs applied to prestressed concrete bridge decks**. *Journal of Cleaner Production*, 196: 698-713. DOI:10.1016/j.jclepro.2018.06.110
28. NAVARRO, I.J.; YEPES, V.; MARTÍ, J.V. (2018). **Social life cycle assessment of concrete bridge decks exposed to aggressive environments**. *Environmental Impact Assessment Review*, 72:50-63. DOI:10.1016/j.eiar.2018.05.003
29. DEDE, T.; KRIPKA, M.; TOGAN, V.; YEPES, V.; RAO, R.V. (2018). [Advanced optimization techniques and their applications in civil engineering](#). *Advances in Civil Engineering*, 2018: 5913083. DOI:10.1155/2018/5913083
30. PONS, J.J.; PENADÉS-PLÀ, V.; YEPES, V.; MARTÍ, J.V. (2018). **Life cycle assessment of earth-retaining walls: An environmental comparison**. *Journal of Cleaner Production*, 192:411-420. DOI:10.1016/j.jclepro.2018.04.268
31. SIERRA, L.A.; YEPES, V.; PELLICER, E. (2018). **A review of multi-criteria assessment of the social sustainability of infrastructures**. *Journal of Cleaner Production*, 187:496-513. DOI:10.1016/j.jclepro.2018.03.022

32. NAVARRO, I.J.; YEPES, V.; MARTÍ, J.V. (2018). [Life cycle cost assessment of preventive strategies applied to prestressed concrete bridges exposed to chlorides.](#) *Sustainability*, 10(3):845. DOI:10.3390/su10030845
33. PENADÉS-PLÀ, V.; GARCÍA-SEGURA, T.; MARTÍ, J.V.; YEPES, V. (2018). [An optimization-LCA of a prestressed concrete precast bridge.](#) *Sustainability*, 10(3):685. DOI:10.3390/su10030685
34. SALAS, J.; YEPES, V. (2018). **Urban vulnerability assessment: Advances from the strategic planning outlook.** *Journal of Cleaner Production*, 179:544-558. DOI:10.1016/j.jclepro.2018.01.088
35. SALAS, J.; YEPES, V. (2018). **A discursive, many-objective approach for selecting more-evolved urban vulnerability assessment models.** *Journal of Cleaner Production*, 176:1231-1244. DOI:10.1016/j.jclepro.2017.11.249
36. SIERRA, L.A.; YEPES, V.; GARCÍA-SEGURA, T.; PELLICER, E. (2018). **Bayesian network method for decision-making about the social sustainability of infrastructure projects.** *Journal of Cleaner Production*, 176:521-534. DOI:10.1016/j.jclepro.2017.12.140
37. GARCÍA-SEGURA, T.; YEPES, V.; FRANGOPOL, D.M. (2017). **Multi-Objective Design of Post-Tensioned Concrete Road Bridges Using Artificial Neural Networks.** *Structural and Multidisciplinary Optimization*, 56(1):139-150. DOI:10.1007/s00158-017-1653-0
38. GARCÍA-SEGURA, T.; YEPES, V.; FRANGOPOL, D.M.; YANG, D.Y. (2017). [Lifetime Reliability-Based Optimization of Post-Tensioned Box-Girder Bridges.](#) *Engineering Structures*, 145:381-391. DOI:10.1016/j.engstruct.2017.05.013
39. MOLINA-MORENO, F.; GARCÍA-SEGURA; MARTÍ, J.V.; YEPES, V. (2017). **Optimization of Buttressed Earth-Retaining Walls using Hybrid Harmony Search Algorithms.** *Engineering Structures*, 134:205-216. DOI:10.1016/j.engstruct.2016.12.042
40. MOLINA-MORENO, F.; MARTÍ, J.V.; YEPES, V. (2017). **Carbon embodied optimization for buttressed earth-retaining walls: implications for low-carbon conceptual designs.** *Journal of Cleaner Production*, 164:872-884. DOI:10.1016/j.jclepro.2017.06.246
41. PELLICER, E.; YEPES, V.; ORTEGA, A.J.; CARRIÓN, A. (2017). **Market demands on construction management: A view from graduate students.** *Journal of Professional Issues in Engineering Education and Practice*, 143(4):04017005. DOI:10.1061/(ASCE)EI.1943-5541.0000334
42. PENADÉS-PLÀ, V.; MARTÍ, J.V.; GARCÍA-SEGURA, T.; YEPES, V. (2017). [Life-cycle assessment: A comparison between two optimal post-tensioned concrete box-girder road bridges.](#) *Sustainability*, 9(10):1864. DOI:10.3390/su9101864
43. SIERRA, L.A.; PELLICER, E.; YEPES, V. (2017). **Method for estimating the social sustainability of infrastructure projects.** *Environmental Impact Assessment Review*, 65:41-53. DOI:10.1016/j.eiar.2017.02.004
44. SIERRA, L.A.; YEPES, V.; PELLICER, E. (2017). **Assessing the social sustainability contribution of an infrastructure project under conditions of uncertainty.** *Environmental Impact Assessment Review*, 67:61-72. DOI:10.1016/j.eiar.2017.08.003
45. TORRES-MACHI, C.; PELLICER, E.; YEPES, V.; CHAMORRO, A. (2017). **Towards a sustainable optimization of pavement maintenance programs under budgetary restrictions.** *Journal of Cleaner Production*, 148:90-102. DOI:10.1016/j.jclepro.2017.01.100
46. YEPES, V.; MARTÍ, J.V.; GARCÍA-SEGURA, T.; GONZÁLEZ-VIDOSA, F. (2017). **Heuristics in optimal detailed design of precast road bridges.** *Archives of Civil and Mechanical Engineering*, 17(4):738-749. DOI:10.1016/j.acme.2017.02.006
47. ZAMARRÓN-MIEZA, I.; YEPES, V.; MORENO-JIMÉNEZ, J.M. (2017). **A systematic review of application of multi-criteria decision analysis for aging-dam management.** *Journal of Cleaner Production*, 147:217-230. DOI: 10.1016/j.jclepro.2017.01.092

48. ZASTROW, P.; MOLINA-MORENO, F.; GARCÍA-SEGURA, T.; MARTÍ, J.V.; YEPES, V. (2017). **Life cycle assessment of cost-optimized buttress earth-retaining walls: a parametric study.** *Journal of Cleaner Production*, 140:1037-1048. DOI: 10.1016/j.jclepro.2016.10.085
49. PENADÉS-PLÀ, V.; GARCÍA-SEGURA, T.; MARTÍ, J.V.; YEPES, V. (2016). [A review of multi-criteria decision making methods applied to the sustainable bridge design.](#) *Sustainability*, 8(12):1295. DOI:10.3390/su8121295
50. GARCÍA-SEGURA, T.; YEPES, V. (2016). **Multiobjective optimization of post-tensioned concrete box-girder road bridges considering cost, CO<sub>2</sub> emissions, and safety.** *Engineering Structures*, 125:325-336. DOI:10.1016/j.engstruct.2016.07.012
51. YEPES, V.; TORRES-MACHÍ, C.; CHAMORRO, A.; PELLICER, E. (2016). **Optimal pavement maintenance programs based on a hybrid greedy randomized adaptive search procedure algorithm.** *Journal of Civil Engineering and Management*, 22(4):540-550. DOI:10.3846/13923730.2015.1120770
52. MARTÍ, J.V.; GARCÍA-SEGURA, T.; YEPES, V. (2016). **Structural design of precast-prestressed concrete U-beam road bridges based on embodied energy.** *Journal of Cleaner Production*, 120:231-240. DOI:10.1016/j.jclepro.2016.02.024
53. PELLICER, E.; SIERRA, L.A.; YEPES, V. (2016). **Appraisal of infrastructure sustainability by graduate students using an active-learning method.** *Journal of Cleaner Production*, 113:884-896. DOI:10.1016/j.jclepro.2015.11.010
54. SIERRA, L.A.; PELLICER, E.; YEPES, V. (2016). **Social sustainability in the life cycle of Chilean public infrastructure.** *Journal of Construction Engineering and Management*, 142(5): 05015020. DOI:10.1061/(ASCE)CO.1943-7862.0001099
55. YEPES, V.; PELLICER, E.; ALARCÓN, L.F.; CORREA, L.C. (2016). **Creative innovation in Spanish construction firms.** *Journal of Professional Issues in Engineering Education and Practice*, 142 (1): 04015006. DOI:10.1061/(ASCE)EI.1943-5541.0000251
56. TORRES-MACHÍ, C.; CHAMORRO, A.; PELLICER, E.; YEPES, V.; VIDELA, C. (2015). **Sustainable pavement management: Integrating economic, technical, and environmental aspects in decision making.** *Transportation Research Record*, 2523:56-63. DOI:10.3141/2523-07
57. GARCÍA-SEGURA, T.; YEPES, V.; ALCALÁ, J.; PÉREZ-LÓPEZ, E. (2015). **Hybrid harmony search for sustainable design of post-tensioned concrete box-girder pedestrian bridges.** *Engineering Structures*, 92:112-122. DOI:10.1016/j.engstruct.2015.03.015
58. LUZ, A.; YEPES, V.; GONZÁLEZ-VIDOSA, F.; MARTÍ, J.V. (2015). [Design of open reinforced concrete abutments road bridges with hybrid stochastic hill climbing algorithms.](#) *Informes de la Construcción*, 67(540), e114. DOI:10.3989/ic.14.089
59. MARTÍ, J.V.; YEPES, V.; GONZÁLEZ-VIDOSA, F. (2015). **Memetic algorithm approach to designing of precast-prestressed concrete road bridges with steel fiber-reinforcement.** *Journal of Structural Engineering*, 141(2): 04014114. DOI:10.1061/(ASCE)ST.1943-541X.0001058
60. YEPES, V.; GARCÍA-SEGURA, T.; MORENO-JIMÉNEZ, J.M. (2015). **A cognitive approach for the multi-objective optimization of RC structural problems.** *Archives of Civil and Mechanical Engineering*, 15(4):1024-1036. DOI:10.1016/j.acme.2015.05.001
61. YEPES, V.; MARTÍ, J.V.; GARCÍA-SEGURA, T. (2015). **Cost and CO<sub>2</sub> emission optimization of precast-prestressed concrete U-beam road bridges by a hybrid glowworm swarm algorithm.** *Automation in Construction*, 49:123-134. DOI:10.1016/j.autcon.2014.10.013
62. MARTÍ, J.V.; YEPES, V.; GONZÁLEZ-VIDOSA, F.; LUZ, A. (2014). [Automated design of prestressed concrete precast road bridges with hybrid memetic algorithms.](#) *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*, 30(3), 145-154. DOI:10.1016/j.rimni.2013.04.010

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66. GARCÍA-SEGURA, T.; YEPES, V.; ALCALÁ, J. (2014). **Life-cycle greenhouse gas emissions of blended cement concrete including carbonation and durability.** *International Journal of Life Cycle Assessment*, 19(1):3-12. DOI:10.1007/s11367-013-0614-0
67. PELLICER, E.; YEPES, V.; CORREA, C.L.; ALARCÓN, L.F. (2014). **Model for Systematic Innovation in Construction Companies.** *Journal of Construction Engineering and Management*, 140(4):B4014001. DOI:10.1061/(ASCE)CO.1943-7862.0000468
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69. TORRES-MACHÍ, C.; YEPES, V.; ALCALA, J.; PELLICER, E. (2013). **Optimization of high-performance concrete structures by variable neighborhood search.** *International Journal of Civil Engineering*, 11(2):90-99.
70. MARTÍNEZ-MARTÍN, F.; GONZÁLEZ-VIDOSA, F.; HOSPITALER, A.; YEPES, V. (2013). **A parametric study of optimum tall piers for railway bridge viaducts.** *Structural Engineering and Mechanics*, 45(6): 723-740. DOI: 10.12989/sem.2013.45.6.723
71. PONZ-TIENDA, J.L.; YEPES, V.; PELLICER, E.; MORENO-FLORES, J. (2013). **The resource leveling problem with multiple resources using an adaptive genetic algorithm.** *Automation in Construction*, 29(1):161-172. DOI:10.1016/j.autcon.2012.10.003
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75. CASTRO, A.L.; YEPES, V.; PELLICER, E.; CUÉLLAR-REYES, A.J. (2012). [Knowledge management in the construction industry: state of the art and trends in research.](#) *Revista de la Construcción*, 11(3): 62-73.
76. CARBONELL, A.; YEPES, V.; GONZÁLEZ-VIDOSA, F. (2012). [Automatic design of concrete vaults using iterated local search and extreme value estimation.](#) *Latin American Journal of Solids and Structures*, 9(6):675-689.
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80. YEPES, V.; PELLICER, E.; ORTEGA, J.A. (2012). **Designing a benchmark indicator for managerial competences in construction at the graduate level.** *Journal of Professional Issues in Engineering Education and Practice*, 138(1): 48-54. DOI:10.1061/(ASCE)EI.1943-5541.0000075
81. PONZ-TIENDA, J.L.; PELLICER, E.; YEPES, V. (2012). [Complete fuzzy scheduling and fuzzy earned value management in construction projects.](#) *Journal of Zhejiang University-SCIENCE A (Applied Physics & Engineering)*, 13(1):56-68. DOI:10.1631/jzus.A1100160
82. NARANJO, G.; PELLICER, E.; YEPES, V. (2011). [Marketing in construction industry: state of knowledge and current trends.](#) *DYNA*, 78(170):245-253.
83. CARBONELL, A.; YEPES, V.; GONZÁLEZ-VIDOSA, F. (2011). [Global best local search applied to the economic design of reinforced concrete vaults.](#) *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*, 27(3):227-235. DOI: 10.1016/j.rimni.2011.07.003
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