

PERSONAL INFORMATION

Vitor Faria e Sousa



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-  vitor.sousa@tecnico.ulisboa.pt
-  <https://fenix.tecnico.ulisboa.pt/homepage/ist143604/apresentacao>
-  Skype account: vfsousa@hotmail.com

Sex Male | Date of birth 26/08/1978 | Nationality Portuguese

POSITION

Lecturer

WORK EXPERIENCE

Nov. 2012 - Present

Lecturer

IST - University of Lisbon, Av. Rovisco Pais, 1, 1049-001, Lisbon, Portugal

- Lecturing
- Supervising theses
- Research

[Business or sector](#) Higher education

Mar. 2008 – Nov. 2012

Teaching Assistant

IST - University of Lisbon, Av. Rovisco Pais, 1, 1049-001, Lisbon, Portugal

- Lecturing
- Research

[Business or sector](#) Higher education

Jan. 2005 – Mar. 2008

Consultant

HIDRA, Hidráulica e Ambiente Lda., Av. Defensores Chaves, 31, 1º Esq, 1000-111, Lisbon, Portugal

- Design of wastewater treatment plants and drainage networks
- Design of wastewater treatment plants and drainage networks
- Wastewater collection systems rehabilitation and maintenance projects

[Business or sector](#) Civil Engineering – Design of sanitation systems

Mar. 2005 – Nov. 2008

Lecturer

ESTBarreiro – Polytechnic Institute of Setúbal, Rua Américo da Silva Marinho, 2839-001 Lavradio, Portugal

- Lecturing
- Coordination
- Research

[Business or sector](#) Higher education

Jan. 2005 – Mar. 2008

Consultant

HIDRA, Hidráulica e Ambiente Lda., Av. Defensores Chaves, 31, 1º Esq, 1000-111, Lisbon, Portugal

- Design of wastewater treatment plants and drainage networks
- Design of wastewater treatment plants and drainage networks
- Wastewater collection systems rehabilitation and maintenance projects

[Business or sector](#) Civil Engineering – Design of sanitation systems

Dec. 2001 – Dec. 2004

Project Engineer

HIDRA, Hidráulica e Ambiente Lda., Av. Defensores Chaves, 31, 1º Esq, 1000-111, Lisbon, Portugal

- Design of wastewater treatment plants and drainage networks
  - Design of wastewater treatment plants and drainage networks
  - Wastewater collection systems rehabilitation and maintenance projects
- Business or sector** Civil Engineering – Design of sanitation systems

Oct. 2000 – Nov. 2001

**Junior Engineer**

SANIGEST, Engenharia Sanitária e Ambiental Lda., Avenida de Roma, 86, 2º - D, 1700-351, Lisbon, Portugal

- Design of building water distribution networks
  - Design of building wastewater and rainwater drainage networks
- Business or sector** Civil Engineering – Design of building installations

**EDUCATION AND TRAINING**

March 2008 - November 2012

**PhD Civil Engineering**

EQF 8

IST - University of Lisbon, Av. Rovisco Pais, 1, 1049-001, Lisbon, Portugal

- Construction management
- Risk management
- Risk assessment (Monte Carlo simulation)
- Urban drainage systems asset management (design, construction and operation)
- Artificial intelligence tools (neural networks, support vector machines)
- Statistics (logistic and nominal regression, Markov chains)

September 2001 – December 2003

**MSc Construction (2 years)**

EQF 7

IST - University of Lisbon, Av. Rovisco Pais, 1, 1049-001, Lisbon, Portugal

- Non-structural rehabilitation (inspection techniques, interventions strategies, rehabilitation methods)
- Construction technology
- Construction management (planning and scheduling, resources management, safety management, quality management)
- Building physics (hygrothermal, acoustics)

September 1996 – September 2001

**Degree Civil Engineering (5 years)**

EQF 6

IST - University of Lisbon, Av. Rovisco Pais, 1, 1049-001, Lisbon, Portugal

- General civil engineer skills  
Specialization in Hydraulics and Environment
- Sanitation (water distribution and wastewater/stormwater drainage)
  - Hydrology (flood analysis)
  - Hydraulic structures (dams design, transient analysis)
  - Environmental management (construction site management)

**PERSONAL SKILLS**

**Mother tongue(s)** Portuguese

**Other language(s)**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C1
Spanish	A1	B1	A1	A1	A2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
Common European Framework of Reference for Languages

**Communication skills**

**Good verbal communication skills acquired through**

- course lecturing
- conference and seminar presentations
- meetings, namely as a member of the scientific committee at ESTBarreiro (2005-2008)

**Good written communication skills acquired through**

- project reports
- research papers
- thesis

**Organisational / managerial skills**

**Good work organization skills**

- responsibility for several courses at ESTBarreiro (Construction Materials; Conservation and Rehabilitation; Construction Technology; Building Installations) and IST (Construction Planning and Economics)
- balancing research/academic work with engineering work (master student and project engineer between 2001 and 2003; lecturer and project engineer/consultant between 2004 and 2008)

**Managerial skills**

- advisor of 12 concluded and 13 ongoing MSc thesis and collaboration in 3 PhD thesis (some in cooperation with Sanest, Estradas de Portugal, Refer, Sonae Sierra and Cascais Próxima)
- coordinator of the Construction and Rehabilitation Section at ESTBarreiro (2005 -2007)

**Job-related skills**

**Engineering**

- design of building installations (water and wastewater)
- design of wastewater treatment plants
- design of wastewater collection systems
- design of water distribution systems
- non-structural water infra-structure rehabilitation projects
- developing wastewater asset management plans
- simulation of thermal performance of buildings

**Academic**

- asset management (research and innovation experience)
- deconstruction and circular economy (research and innovation experience)
- water efficiency (research and innovation experience)
- construction management (lecture and research experience)
- construction materials (lecture and research experience)
- construction technology (lecture and research experience)

**Editorial**

Publication activity expressed in 2 Thesis, 18 papers in international journals, 6 papers in Portuguese journals, 32 communications in international seminars/conferences and 16 communications in Portuguese seminars/conferences in the following main topics:

- risk assessment and management
- asset management
- integrating economic and social analysis into decision-making processes
- resources conservation and recycling
- water efficiency

**Computer skills**

Competent with most Microsoft Office tools (word, excel, power point, visio, access, project) and with Autocad 2D (knowledge in 3D)

Experience with CFD codes, namely Flow3D, with project management software, namely MSProject, CCS Candy and Primavera, with risk management software, namely @Risk and Model Risk, with statistics software, namely SPSS and STATISTICA, and with SIG software, namely ArcGIS

Some programming experience in Visual Basic, Fortran and Python

**Other skills and hobbies**

Oceanic sailing experience, soccer, surf, windsurf, trekking, jogging, cycling.

**Driving licence**

A  
B

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 ADDITIONAL INFORMATION

## Publications

**Ph.D. Thesis**

- Sousa, V. (2012). Risk management in construction: Application to urban drainage systems. IST - Technical University of Lisbon, 621 pages (in Portuguese).

**M.Sc. Thesis**

- Sousa, V. (2003). The National Palace of Sintra: Non-structural anomalies. IST - Technical University of Lisbon, 226 pages (in Portuguese).

**Scientific Publications in International Journals**

- ▪ Sousa, V.; Silva, M.; Meireles, I.; Saldanha Matos, J. (). Energy flux comparison for convention and wetland wastewater treatment plants for small communities" (in preparation)
- ▪ Almeida, N. M.; Sousa, V.; Silva, C. M.; Branco, F.; Moura, R. (). "Programming the levels of risk and performance for building structures" (in preparation)
- ▪ Sousa, V.; Matos, J. P.; Matias, N. (xxxx). "Statistical comparison of the performance of data driven models for sewer condition modelling". Computer-Aided civil Engineering (in preparation)
- Sousa, V.; Almeida, N.; Alves Dias, L. (xxxx). "The influence of the construction technology in time-cost relationships for sewerage projects in the U.S". Journal of Construction Engineering and Management (sumetitted)
- Lúcio, C.; Silva, C. M.; Sousa, V. (xxxx). "Potential of rainwater harvesting in urban centres – Application to Lisbon". Water Resources Management (submitted)
- 18 ▪ Silva-Afonso, A.; Pimentel-Rodrigues, C.; Meireles, I.; Sousa, V. (2016). "Feasibility study of water saving measures in university campuses buildings: A case study of the University of Aveiro". British Journal of Environment and Climate Change, 6(2):116-127.
- 17 ▪ Sousa, V.; Pereira, T. D.; Meireles, I. (2015). "Modelling the degradation rate of the wood frame doors and windows of the National Palace of Sintra". Journal of Performance of Constructed Facilities, 23:12-24.
- 16 ▪ Almeida, N. M.; Sousa, V.; Dias, L.; Branco, F. (2015). "Managing the technical risk of performance-based building structures". Journal of Civil Engineering and Management, 21(3):384-294.
- 15 ▪ Almeida, N. M.; Sousa, V.; Dias, L.; Branco, F. (2015). "Engineering risk management in performance-based building environments". Journal of Civil Engineering and Management, 21(2):218-230.
- 14 ▪ Sousa, V.; Almeida, N.; Alves Dias, L. (2015). "Risk-based management of occupational safety and health in the construction industry – Part 2: Quantitative model". Safety Science, 74:184-194.
- 13 ▪ Silva, C. M.; Sousa, V.; Carvalho, N. V. (2015). "Technical and economic evaluation of the implementation of rainwater harvesting in Portugal: Application to single-family houses". Resources, Conservation & Recycling, 94:21-34.
- 12 ▪ Sousa, V.; Matos, J. P.; Matias, N. (2014). "Evaluation of artificial intelligence tools performance and uncertainty for predicting sewer structural condition". Automation in Construction, 44:84-91.
- 11 ▪ Sousa, V.; Almeida, N. M.; Alves Dias, L. (2014). "The roles of statistics and engineering judgment in developing optimized time-cost relationship models". Journal of Construction Engineering and Management, ASCE, 140(8).
- 10 ▪ Sousa, V.; Almeida, N. M.; Alves Dias, L.; Branco, F. (2014). "Risk-informed time-cost relationship models for sanitation projects". Journal of Construction Engineering and Management, ASCE, 140(5).
- 9 ▪ Sousa, V.; Almeida, N. M.; Alves Dias, L. (2014). "Risk-based management of occupational safety and health in the construction industry – Part 1: Background knowledge". Safety Science, 66:75-86.
- 8 ▪ Sousa, V.; Ferreira, F. M.; Meireles, I.; Almeida, N.; Saldanha Matos, J. (2014). "Comparison of the inspector and rating protocol uncertainty influence in the condition rating of sewers". Water Science and Technology, 69(4):862-867.
- 7 ▪ Sousa, V.; Matos, J. P.; Almeida, N.; Saldanha Matos, J. (2014). "Risk assessment of sewer condition using artificial intelligence tools: Application to the SANEST sewer system". Water Science and Technology, 69(3):622-627.
- 6 ▪ Sousa, V.; Almeida, N.; Alves Dias, L. (2012). "Risk management framework for the construction industry according to the ISO 31000:2009 standard". Special Issue of the Journal of Risk Analysis and Crisis Response "Risk Management in Construction", Atlantis Press, 2(4):261-274.
- 5 ▪ Sousa, V.; Almeida, N.; Meireles, I.; Brito, J. (2011). "Anomalies in wall renders: Overview of the main causes of degradation". International Journal of Architectural Heritage, 5(2):198-218.
- 4 ▪ Almeida, N.; Sousa, V.; Dias, L.; Branco, F. (2010). "A framework for combining risk management and performance-based building approaches". Building Research and Information, 38(2):157–174.
- 3 ▪ Younis, B.A.; Sousa, V.; Meireles, I. (2009) "Prediction of the asymptotic water depth in rough compound channels." Journal of Irrigation and Drainage Engineering, ASCE, 135(2):231-234.

- 2 ▪ Sousa, V.; Ferreira, F.; Almeida, N.; Matos, J.; Martins, J.; Teixeira, A. (2009). "A simplified technical decision support tool for the asset management of sewer networks". *Water Asset Management International*, 5.1:3-9.
- 1 ▪ Brito, J.; Sousa, V.; Pereira, T. (2006) "Anomalies in the Sintra National Palace wood-framing". *Journal of Building Appraisal*, 2(3):193-206.
- Scientific Publications in National Journals**
- 6 ▪ Sousa, V.; Almeida, N.; Luísa Sousa, M.; Campos Costa, A.; Saldanha Matos, J. (2012). "Seismic risk management of buried pipes - the case of wastewater drainage systems." *Águas & Resíduos*, pp. 4-21 (in Portuguese)
- 5 ▪ Sousa, V.; Pereira, F. D.; Brito, J. (2012). "Reabilitação do património: O palácio nacional de sintra - diagnóstico e classificação de anomalias em rebocos." *Construção Magazine*, nº 51, pp. 39-44.
- 4 ▪ Sousa, V.; Ferreira, F.; Almeida, N.; Matos, J. (2009). "Technical decision support model for urban drainage systems". *Águas & Resíduos*, pp. 38-50 (in Portuguese).
- 3 ▪ Sousa, V.; Pereira, T.; Brito, J. (2005). "Traditional renders: Properties of plasters and application." *Monumentos, DGEMN*, nº 23, pp. 164-171 (in Portuguese).
- 2 ▪ Sousa, V.; Pereira, T.; Brito, J. (2005). "Traditional renders: Main causes of degradation." *Engenharia Civil*, nº23, pp. 5-18 (in Portuguese).
- 1 ▪ Sousa, V.; Pereira, T.; Brito, J. (2004). "Wood Moldings: Main causes of degradation." *Arquitetura&Vida*, nº 53, pp. 102-107 (in Portuguese).
- Scientific Publications/Posters in International Congresses and Seminars**
- 32 ▪ Vidal, F.; Meireles, I.; Vicente, R.; Sousa, V. (2016). "Thermal comfort performance of a passive house in summer under a Mediterranean climate". 41st IAHS World Congress, 13-16 September 2016 - Algarve, Portugal.
- 31 ▪ Meireles, I.; Sousa, V.; Silva-Afonso, A. (2016). "Statistical analysis of water consumption pattern in university buildings". 41st IAHS World Congress, 13-16 September 2016 - Algarve, Portugal.
- 30 ▪ Silva, C. M.; Sousa, V.; Teixeira, P.; Silva-Afonso, A. (2016). "Statistical analysis of water consumption pattern in university buildings". 41st IAHS World Congress, 13-16 September 2016 - Algarve, Portugal.
- 29 ▪ Silva, C. M.; Sousa, V.; Ponces, I. (2016). "Technical-economic evaluation of rainwater harvesting systems in commercial buildings – Case studies from Sonae Sierra in Portugal and Brazil". 4th Annual Water Efficiency Conference, WatefCon 2016 - Water Frontiers: Strategies for 2020 and beyond, 7- 9 September 2016 - Coventry, UK.
- 28 ▪ Meireles, I.; Oliveira, A.; Silva-Afonso, A.; Sousa, V. (2016). "User comfort and behaviour change owing to washbasin taps retrofit: A case study of the DECivil building of the University of Aveiro". 4th Annual Water Efficiency Conference, WatefCon 2016 - Water Frontiers: Strategies for 2020 and beyond, 7- 9 September 2016 - Coventry, UK.
- 27 ▪ Seixas, J. F.; Sousa, V.; Silva, M. L.; Lobo, F.; Silva, J.; Almeida, N. M.; Santos, S. I. R. S. (2016). "Asset management in the urban waste sector in Portugal: The role and contribution of the regulator". 4th International Conference on Sustainable Solid Waste Management, 23–25 June 2016 – Limassol, Cyprus.
- 26 ▪ Almeida, N. M.; Sousa, V.; Dias, L. A. (2015). Management of the structural performance and risk of new and existing buildings. CONPAT 2015, 8-10 September, Lisbon, Portugal. (in Portuguese)
- 25 ▪ Goncalves, C. A.; Domingues, S.; Almeida, N. M.; Sousa, V. (2015). Effects of indirect costs deviation on the economic objectives of construction companies. CONPAT 2015, 8-10 September, Lisbon, Portugal. (in Portuguese)
- 24 ▪ Sousa, V.; Dias, L. A.; Almeida, N. M., (2015). Proposal of risk-based quantitative model for managing health and safety in construction. CONPAT 2015, 8-10 September, Lisbon, Portugal. (in Portuguese)
- 23 ▪ Sousa, V.; Almeida, N. M.; Dias, L. A. (2015). Risk-informed time-cost relationships: application to sanitation projects. CONPAT 2015, 8-10 September, Lisbon, Portugal. (in Portuguese)
- 22 ▪ Meireles, I.; Gonçalves, P.; Sousa, V.; Silva-Afonso, A. (2014). "Water efficiency potential in university buildings: The DECivil building of the University of Aveiro". 40th IAHS World Congress: sustainable housing construction, 16-19 December, Funchal, Portugal.
- 21 ▪ Meireles, I.; Silva, S.; Viseu, T.; Sousa, V. (2014). Experimental and numerical study of water intakes: case study of the Foz Tua hydropower plant. Proc. 3rd IAHR Europe Congress, Porto, Portugal.
- 20 ▪ Sousa, V.; Matos, J. P.; Matias, N.; Almeida, N.; Saldanha Matos, J. (2014). "Statistical modeling of sewers condition: Application to the SANEST sewer system". 12º Congresso da Água/16º Encontro de Engenharia Sanitária e Ambiental (ENASB)/XVI Simpósio Luso-Brasileiro de Engenharia Sanitária e Ambiental (SILUBESA), 5-8 March, Lisbon, Portugal. (in Portuguese)
- 19 ▪ Sousa, V.; Silva, A.; Meireles, I.; Almeida, N.; (2014). "Contribution to the quantification of the epistemic uncertainty in the determination of rainwater discharge". 12º Congresso da Água/16º Encontro de Engenharia Sanitária e Ambiental (ENASB)/XVI Simpósio Luso-Brasileiro de Engenharia Sanitária e Ambiental (SILUBESA), 5-8 March, Lisbon, Portugal. (in Portuguese)



- 18 ▪ Jafar, K.; Almeida, N.; Dias, L.; Sousa, V. (2013). "A contribution for the technical control of construction projects in Portugal: state-of-the art review and analysis of the national and international experiences". ICEUBI 2013 – International Conference on Engineering: Engineering for Economic development, 27-29 November, Covilhã, Portugal.
  - 17 ▪ Sousa, V.; Dias Pereira, T.; Silva, D. (2013). "Asset management of built heritage: application to wood-framing elements of the National Palace of Sintra". Built Heritage 2013: Monitoring Conservation Management, 18-20 November, Milan, Italy.
  - 16 ▪ Sousa, V.; Ferreira, F. M.; Meireles, I.; Almeida, N.; Saldanha Matos, J. (2013). "CCTV inspections: Quantification of protocol and inspector uncertainty". 7th International Conference on Sewer Processes & Networks, 28-30 August, Sheffield, U.K.
  - 15 ▪ Sousa, V.; Matos, J. P.; Almeida, N.; Saldanha Matos, J. (2013). "Risk assessment of sewer condition using artificial intelligence tools: Application to the SANEST sewer system". 7th International Conference on Sewer Processes & Networks, 28-30 August, Sheffield, U.K.
  - 14 ▪ Sousa, V.; Meireles, I.; Matos, J.; Almeida, M. C. (2013). "Numerical modelling of air-water flow in a vertical drop manhole". 7th International Conference on Sewer Processes & Networks, 28-30 August, Sheffield, U.K.
  - 13 ▪ Sousa, V.; Almeida, N.; Luísa Sousa, M.; Campos Costa, A.; Saldanha Matos, J. (2012). "A methodology to couple vulnerability and condition of buried pipes in seismic risk assessment: Application to a subsystem of the Lisbon wastewater system." 15th WCEE – World Conference on Earthquake Engineering, Lisbon, Portugal, 24-28 September.
  - 12 ▪ Gomez, P.; Sousa, V.; Ferreira, F.; Meireles, I.; Gomes, C. (2012). "Contribution to the quantification of the uncertainty in evaluating the condition of sewer: The case of the Costa do Estoril system trunk sewers." XI Seminário Ibero-Americano sobre Sistemas de Abastecimento e Drenagem, Coimbra, Portugal, 2-4 Julho. (in Portuguese)
  - 11 ▪ Sousa, V.; Saldanha Matos, J.; Santos Silva, J. (2012). "Application of numerical modelling to the evaluation of the hydraulic performance of wastewater treatment plants components: the case of a large sewerage system in Portugal." XV SILUBESA – Simpósio Luso-Brasileiro de Engenharia Sanitária e Ambiental, Belo Horizonte, Brasil, 18-22 Março. (in Portuguese)
  - 10 ▪ Bombardelli, F.; Meireles, I.; Sousa, V.; Matos, J. (2011). "Recent computational experiments with the air-entrainment model of FLOW-3D". FLOW-3D World Users Conference, Santa Fé, New Mexico, USA, 15-16 September.
  - 9 ▪ Almeida, N.; Dias, L.; Branco, F.; Sousa, V. (2011). "Performance and risk based technical management of buildings: concept and practical application". ELAGEC – Encuentro Latino-Americano de Gestión e Economía de la Construcción, Santiago, Chile, 4-5 Octubre (in Portuguese).
  - 8 ▪ Almeida, N.; Sousa, V.; Dias, L.; Branco, F. (2010). "Risk-Managed Performance-Based Building (RM-PBB): General Framework". CIB World Congress, 10-13 May, UK.
  - 7 ▪ Sousa, V.; Bombardelli, F.; Chanson, H. (2009). "Numerical simulation of rectangular dropshafts using a Volume Of Fluid (VOF) technique." 33rd IAHR Congress: Water Engineering for a Sustainable Environment, IAHR/ASCE, 9-14 August, Vancouver, Canada.
  - 6 ▪ Almeida, N.; Sousa, V.; Dias, L.; Branco, F. (2009). "Technical management. Framework and principles for a national model of guarantees against construction defects." 3.º Encontro sobre Patologia e Reabilitação de Edifícios – PATORREB 2009, 18-20, Porto, Portugal. (in Portuguese)
  - 5 ▪ Sousa, V.; Meireles, I.; Almeida, N.; Brito, J. (2008). "Earth Constructions - Main anomalies and degradation mechanisms." 4º CINPAR: Congresso Internacional sobre Patologia e Reabilitação de Estruturas, 25-28 June, Aveiro, Portugal. (in Portuguese)
  - 4 ▪ Sousa, V.; Silva, M.; Veigas, T.; Matos, J.; Martins, J.; Teixeira, A. (2007). "Technical Management of Sewer Networks: A Simplified Decision Tool." LESAM 2007 - 2nd Leading Edge Conference on Strategic Asset Management, 17–19 October, Lisbon, Portugal.
  - 3 ▪ Sousa, V.; Brito, J.; Pereira, T. (2005). "Introduction to deconstruction - Towards sustainable construction." CIB W102-2005 (Information and Knowledge Management in Building): Meeting and International Conference, 19-20 May, Lisbon, Portugal.
  - 2 ▪ Sousa, V.; Brito, J.; Pereira, T. (2005). "Introduction to deconstruction - Towards sustainable construction." CIB W102-2005 (Information and Knowledge Management in Building): Meeting and International Conference, 19-20 May, Lisbon, Portugal.
  - 1 ▪ Sousa, V.; Pereira, T.; Brito, J. (2004). "Non-structural anomalies of the National Palace of Sintra: Sloped roof." 1º Congresso Ibérico a Madeira na Construção, 25-27 March, Guimarães, Portugal. (in Portuguese)
- Scientific Publications/Posters in National Congresses and Seminars**
- 16 ▪ Gonçalves, B.; Sousa, V.; Teixeira, J.; Almeida, N. (2015). "Cost structure and variability of stormwater pipes operation, maintenance and rehabilitation activities." ENEG 2015 - Encontro Nacional de Entidades Gestoras de Água e Saneamento, 1–4 December, Porto, Portugal (in Portuguese).

- 15 ▪ Sousa, V.; Almeida, N.; Dias, L.; Branco, F. (2012). "Risk management framework - Model for the construction sector." *Construção 2012 – 4º Congresso Nacional*, Coimbra, Portugal, 18-20 December (in Portuguese).
- 14 ▪ Almeida, N.; Sousa, V.; Dias, L.; Branco, F. (2012). "Quality, performance and risk - An integrated perspective for the construction sector." *Construção 2012 – 4º Congresso Nacional*, Coimbra, Portugal, 18-20 December (in Portuguese).
- 13 ▪ Domingues, S.; Almeida, N.; Sousa, V. (2012). "Risk management in financial execution of construction projects - The contractor's perspective." *Construção 2012 – 4º Congresso Nacional*, Coimbra, Portugal, 18-20 December (in Portuguese).
- 12 ▪ Silva, C. M.; Almeida, N. M.; Sousa, V. (2012). "Risk-Informed Performance-Based Fire Safety in Buildings." *Construção 2012 – 4º Congresso Nacional*, Coimbra, Portugal, 18-20 December (in Portuguese).
- 11 ▪ Amaral, R.; Sousa, V.; Ferreira, F.; Saldanha Matos, J.; Santos Silva, J. (2012). "Dynamic simulation of the hydraulic performance of wastewater treatment plants." 15.º ENaSB - Encontro Nacional de Saneamento Básico, Évora, Portugal, 10-12 October (in Portuguese).
- 10 ▪ Sousa, V.; Almeida, N.; Sousa, L.; Costa, A.; Matos, J. (2010). "Contribution to the seismic risk management of wastewater networks." 14º ENASB/SILUBESA - Encontro Nacional de Saneamento Básico/Simpósio Luso-Brasileiro de Engenharia Sanitária e Ambiental, APESB, Porto, 26-29 October (in Portuguese).
- 9 ▪ Matias, N.; Sousa, V.; Póvoa, P.; Catarino, L.; Matos, J. (2009). "Lisbon's intercepting system: The interconnections in Terreiro do Paço." ENEG 2009 - Encontro Nacional de Entidades Gestoras de Água e Saneamento, 24–26 November, Lisbon, Portugal (in Portuguese).
- 8 ▪ Filonovich, M.; Sousa, V.; Meireles, I.; Bombardelli, F.; Ferreira, R.; Rojas-Solorzano; L.; Leal, J. (2009). "Evaluation of the performance of CFD code in predicting flow velocity in compound channels." III MEFTE - Conferência Nacional em Mecânica dos Fluidos, Termodinâmica e Energia, Bragança, 17-18 September (in Portuguese).
- 7 ▪ Sousa, V.; Almeida, N.; Dias, M.; Matos, J.; Branco, F. (2008). "Risk management in construction - Application to urban drainage systems." 13º Encontro Nacional de Saneamento Básico, 14 - 17 October, Covilhã, Portugal (in Portuguese).
- 6 ▪ Sousa, V.; Meireles, I.; Matos, J.; Matos, J. (2008). "Drawdown curves in compound sections: comparison of hydraulic calculation methods analysis." 9º Congresso da Água, 2-4 April, Cascais, Portugal (in Portuguese).
- 5 ▪ Sousa, V.; Ferreira, F.; Matos, J.; Silva, M (2007). "Urban drainage systems support tools." ENEG 2007 - Encontro Nacional de Entidades Gestoras de Água e Saneamento, 6–8 November, Lisbon, Portugal (in Portuguese).
- 4 ▪ Veigas, T.; Sousa, V.; Ferreira, F.; Matos, J.; Silva, M; Martins, J. (2007). "Simplified model for the optimization of urban drainage systems operation." ENEG 2007 - Encontro Nacional de Entidades Gestoras de Água e Saneamento, 6–8 November, Lisbon, Portugal (in Portuguese).
- 3 ▪ Sousa, V.; Matos, J.; Almeida, M. (2006). "Urban drainage systems inspections techniques: State-of-art resume." 12º Encontro Nacional de Saneamento Básico, 24-27 October, Cascais, Portugal (in Portuguese).
- 2 ▪ Sousa, V. (2004). "Deconstruction: A tool for sustainable construction." 1º Workshop do CIB Student Chapter do DECivil, October, Lisbon, Portugal (in Portuguese).
- 1 ▪ Sousa, V.; Pereira, T.; Brito, J. (2003) "Non-structural anomalies of the National Palace of Sintra: Anomalies in wooden moldings." 3º ENCORE - Encontro sobre Conservação e Reabilitação, 26-30 May, Lisbon, Portugal. (in Portuguese)

**Didactic documents**

- 8 ▪ Sousa, V. – Risk management in construction. Document for the curricular unit of Construction Planning and Economics, 87 pages, Lisbon, 2016. (in Portuguese)
- 7 ▪ Alves-Dias, L.; Almeida, N.; Sousa, V.; Oliveira-Cruz, C – Construction organization and management. Document for the curricular unit of Construction organization and management, 590 pages, Lisbon, 2016. (in Portuguese)
- 6 ▪ Sousa, V. – Introduction to the study of materials. Document for the curricular unit of Construction Materials I, 21 pages, Barreiro, 2006. (in Portuguese)
- 5 ▪ Sousa, V. – Natural stones. Document for the curricular unit of Construction Materials I, 45 pages, Barreiro, 2006. (in Portuguese)
- 4 ▪ Sousa, V. – Design of roller compacted concrete. Document for the curricular unit of Construction Materials II, 19 pages, Barreiro, 2005. (in Portuguese)
- 3 ▪ Sousa, V. – Design of concrete formwork. Document for the curricular unit of Construction Materials II, 27 pages, Barreiro, 2005. (in Portuguese)
- 2 ▪ Sousa, V. – Constructed heritage: Theories and principles of intervention. Document for the curricular unit of Conservation and Rehabilitation I, 56 pages, Barreiro, 2004. (in Portuguese)

- 1 ▪ Sousa, V. – Design of conventional concrete by the Faury method. Document for the curricular unit of Construction Materials I, 25 pages, Barreiro, 2004. (in Portuguese)
- Projects**
- Research projects**
- Funded**
- 4 ▪ FCT project PTDC/AAC-AMB/102634/2008 entitled "Monitoring and warning systems in urban drainage sewer infrastructures - SIMAI Project" (190 476,00€) - Member.
- 3 ▪ FCT project PTDC/ECM/108128/2008 entitled "Experimental and numerical modelling of air-water flows in hydraulic structures" (139 468,00€) - Member.
- 2 ▪ FCT project PTDC/ECM/69132/2006 entitled "Assessment of the corrosion behaviour of stainless steel rebars for application in concrete construction" - Member.
- 1 ▪ FCT project POCI/AMB/56349/2004 entitled "Modelling and management of urban sanitation systems – MOGIS Project" - Member.
- Not funded**
- FCT project EXPL/ECM-COM/1876/2013 entitled "Sustainable fire safety design in buildings" - Member.
- FCT project PTDC/ECM-HID/3197/2012 entitled "Physical and computational modelling of turbulent flows in hydraulic structures" - Member.
- FCT project PTDC/ECM/121084/2010 entitled "Monitoring, modelling and warning of hydrogen sulphide as instrument for decision support in sewer systems - MASID Project" - Member.
- Submitted**
- FCT project PTDC/ECM-HID/4758/2014 entitled "Bedload flash flood risk warning" - Member.
- FCT project PTDC/ECM-COM/2800/2014 entitled "GRUSMA – Green Roofs Urban Savings in Mediterranean Areas" - Member.
- FCT project PTDC/ECM-COM/5669/2014 entitled "Managing big data of sustainable construction projects life-cycle costs" - Member
- FCT project PTDC/ECMCOM/6864/2014 "PUMA - Performance-based risk-informed Urban drainage infrastructure asset Management" - Principal researcher.
- Consultancy projects (sample)**
- Member of the project "Implementation of risk management in the Portuguese Road Administration", IST-University of Lisbon (in execution – 18 000,00€).
- Member of the project "Hydrologic and hydraulic evaluation of the upper Paiva River", University of Aveiro (in execution – 24 500€).
- Member of the project "Hydraulic and environmental performance of components of the Guia Wastewater treatment plant", IST-University of Lisbon, 2012 (20 000,00€).
- Member of the project "Implementation of risk management in the Venda Nova III Dam project", IST-University of Lisbon, 2010 (60 000,00€).
- INOVA / Increasing the storage and pumping capacity of the Fervença plant. Hidra, January, 2008.
- SIMTEJO / Interceptor Largo do Chafariz de Dentro -Terreiro do Paço and Terreiro do Paço-Cais do Sodré project - Volume III: Terreiro do Paço – Cais do Sodré. Hidra, June, 2007.
- ÁGUAS DO ZÊZERE E CÔA / Celorico da Beira wastewater treatment plant: Hydrologic and hydraulic study. Hidra, April, 2007
- SMAS ALMADA / Structural and environmental rehabilitation of the Quinta da Bomba wastewater treatment plant project. Hidra, July, 2005
- Engineering projects (sample)**
- ÁGUAS DO ZÊZERE E CÔA / Vale de Amoreira-Valhelhas trunk sewer and Valhelhas-Manteigas wastewater treatment plant project. Hidra, August, 2004.
- CÂMARA MUNICIPAL DA MEALHADA / Mealhada wastewater treatment plant extension and refurbishment project. HIDRA, March, 2003.
- CÂMARA MUNICIPAL DE LISBOA / CDH Galinheiras project – Wastewater and storwater drainage system. GERA, December, 2002.
- ÁGUAS DO ZÊZERE E CÔA / Castinçal and Sobral wastewater drainage and treatment project. HIDRA, August, 2002.
- Conferences**
- Participation**
- CONPAT2015 XIII - Congresso Latino-Americano de Patologia da Construção, XV Congresso de Controlo de Qualidade na Construção, Construção 2015: Congresso Luso-Africano da Construção, Lisbon 8-10 September, 2015. (2 presentations)
- 12.º Congresso da Água; 16.º Encontro de Engenharia Sanitária e Ambiental (ENASB); XVI Simpósio Luso-Brasileiro de Engenharia Sanitária e Ambiental (SILUBESA), Lisbon 5-8 March, 2014. (2 presentations)
- SPN7 2013 – 7th International Conference on Sewer Processes & Networks, Sheffield, UK, 28-30 August, 2013. (2 presentations)



- Construção 2012 – 4º Congresso Nacional, Coimbra, Portugal, 18-20 December, 2012. (1 presentation)
- 13º Encontro de Saneamento Básico. Cascais, Portugal, 14 - 17 October, 2008. (1 presentation)
- 4º CINPAR: Congresso Internacional sobre Patologia e Reabilitação de Estruturas. Aveiro, Portugal, 25-28 June, 2008. (1 presentation)
- 9º Congresso da Água. Cascais, Portugal, 2-4 April, 2008. (1 presentation)
- XXXII IAHR Congress, Venice, Italy, 1-6 July, 2007.
- 12º Encontro de Saneamento Básico. Cascais, Portugal, 24-27 October, 2006. (1 presentation)
- XXII Latin American Congress of Hydraulics / International Symposium on Hydraulic Structures. Ciudad Guayana, Venezuela, 9-14 October, 2006.
- Reabilitação de edifícios, 1º Seminário promovido pela Ordem dos Engenheiros e pela GECORPA, LNEC, Lisbon, 21 June, 2005.
- CIB W102-2005 (Information and Knowledge Management in Building): Meeting and International Conference, IST, Lisbon, 19-20 May, 2005. (1 presentation)
- XXX IAHR Congress, Thessaloniki, Greece, 24-29 August, 2003.
- 3º Encontro Nacional de Conservação e Reabilitação, LNEC, Lisbon, 26-30 May, 2003. (1 presentation)

## Supervisions

**MSc thesis (in Portuguese)**
**Concluded**

- 12 ▪ Fartaria, T. O. (2015). "Management of the conservation of secondary roads". IST - University of Lisbon, Lisbon, Portugal. Advisors: Luís Guilherme de Picado Santos; Vítor Faria e Sousa (thesis developed in cooperation with the municipality of Ourém)
- 11 ▪ Gonçalves, B. O. V. (2015). "Cost structure and variability of stormwater pipes operation, maintenance and rehabilitation activities". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vítor Faria e Sousa; Maria Júlia Dias Teixeira (thesis developed in cooperation with Cascais Próxima - municipality construction works division)
- 10 ▪ Lopes, I. M. A. G. M. (2015). "Efficiency of hydrophobic products on the water performance of lime stabilized compressed earth blocks stabilized". IST - University of Lisbon, Lisbon, Portugal. Advisors: José Alexandre de Brito Aleixo Bogas; Vítor Faria e Sousa
- 9 ▪ Ponces, M. I. B. (2015). "Techno-economic evaluation of rainwater harvesting systems in commercial buildings: The case study of SONAE Sierra". IST - University of Lisbon, Lisbon, Portugal. Advisors: Maria Cristina de Oliveira Matos Silva; Vítor Faria e Sousa (thesis developed in cooperation with SONAE Sierra - commercial centers manager)
- 8 ▪ Lúcio, C. V. A. (2015). "Water reduction potential in urban centers through rainwater harvesting". IST - University of Lisbon, Lisbon, Portugal. Advisors: Maria Cristina de Oliveira Matos Silva; Vítor Faria e Sousa
- 7 ▪ Teixeira, P. F. (2015). "Life-cycle cost of water efficiency measures in commercial buildings: The case study of SONAE SIERRA". IST - University of Lisbon, Lisbon, Portugal. Advisors: Maria Cristina de Oliveira Matos Silva; Vítor Faria e Sousa (thesis developed in cooperation with SONAE Sierra - commercial centers manager)
- 6 ▪ Correia, M. P. R. A. (2015). "Risk management in building rehabilitation". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vítor Faria e Sousa
- 5 ▪ Neto, A. A. C. (2015). "Risk-informed urban drainage systems asset management: contribute for the quantification of failure consequences". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vítor Faria e Sousa; Filipa Maria Santos Ferreira (thesis developed in cooperation with SANEST - wastewater agency)
- 4 ▪ Baptista, P. M. M. (2015). "Analysis of direct construction costs deviations: Contribute to the economic risk management in construction companies". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vítor Faria e Sousa; Sónia Cristina Simões Madeira Domingues (thesis developed in cooperation with OPWAY - contractor)
- 3 ▪ Miranda, J. G. (2014). "Quantitative analysis of time deviations in road projects". IST - University of Lisbon, Lisbon, Portugal. Approved 09-05-2014. Advisors: Vítor Faria e Sousa; Nuno G. C. Marques de Almeida
- 2 ▪ Silva, J. R. B. (2014). "Risk management in road projects: Quantitative analysis of cost deviations from the owner perspective". Approved 17-04-2013. Advisors: Vítor Faria e Sousa; Nuno G. C. Marques de Almeida
- 1 ▪ Gomes, P. A. F. G. (2013). "Sewer inspection techniques - analysis of CCTV inspection results". IST - University of Lisbon, Lisbon, Portugal. Approved 25-07-2013. Advisors: Filipa Maria Santos Ferreira; Vítor Faria e Sousa (thesis developed in cooperation with SANEST - wastewater agency).

**Ongoing**

- 13 ▪ Andrez, R. (2015). "Expert based assessment of construction projects time variation: Contractor perspective". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa; Sónia Cristina Simões Madeira Domingues (thesis developed in cooperation with OPWAY - contractor)
- 12 ▪ Farinha, N. (expected in 2016). "Whole life cycle cost of construction equipment". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Pedro Gouveia da Costa (thesis developed in cooperation with Somague – contractor)
- 11 ▪ Costa, M. (expected in 2016). "Life-cycle base and risk informed real state analysis". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Carlos Oliveira Cruz
- 10 ▪ Inocentes, M. (expected in 2016). "Decision support methodology for stormwater management: Case study of Cascais municipality". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Nuno Gouveia Almeida (thesis developed in cooperation with Cascais Próxima - municipality construction works division)
- 9 ▪ Freitas, L. (expected in 2016). "Financing risk in international construction projects". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Pedro Gouveia da Costa (thesis developed in cooperation with Somague – contractor)
- 8 ▪ Seixas, J. (expected in 2016). "Life cycle cost model for waste collection equipment". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Maris Lameiras da Silva (thesis developed in cooperation with ERSAR – regulation of the water, wastewater and waste sectors in Portugal – and EMAC – waste collection utility)
- 8 ▪ Matos, J. (expected in 2016). "Risk informed asset management: Implementation to the Amadora base of the military academy". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa (thesis developed in cooperation with Militar Academy – army)
- 7 ▪ Segurado, J. (expected in 2016). "Uncertainty in construction design". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa
- 6 ▪ Abru, J. (expected in 2016). "Contribution to the implementation of asset management in buildings: The case study of EDP real state". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Joao Hormigo (thesis developed in cooperation with EDP real state – real state manager of the Portuguese electrical company)
- 5 ▪ Gonçalves, E. (expected in 2016). "Risk informed asset management: Implementation to the headquarters base of the military academy". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa (thesis developed in cooperation with Militar Academy – army)
- 4 ▪ Mascarenhas, A. (expected in 2016). "Simplified methodology for municipal pavement management: Case study of Cascais municipality". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Luís Guilherme de Picado Santos (thesis developed in cooperation with Cascais Próxima - municipality construction works division)
- 3 ▪ Bento, A. (expected in 2016). "Risk management in time planning from a contractor perspective: Application to watering projects". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Pedro Gouveia da Costa (thesis developed in cooperation with Somague – contractor)
- 2 ▪ Baltazar, A. S. (expected in 2016). "Risk informed asset management: Application to the technical management of the National Palace of Sintra wood moldings". IST - University of Lisbon, Lisbon, Portugal. Advisors: Vitor Faria e Sousa, Fernando Dias Pereira (thesis developed in cooperation with Montes da Lua – natural park and monuments manager)
- 1 ▪ Prata, M. A. P. (expected in 2016). "Design of the Manteigas wastewater treatment plant". IST - University of Lisbon, Lisbon, Portugal. Advisors: Filipa Maria Santos Ferreira; Vitor Faria e Sousa

**Seminars**

**Participation and organization**

- Risk as a tool for managing sustainability (in construction), invited seminar at UNSW Sydney, Australia, 2014.
- Risk management in construction, seminar requested by Mota-Engil, Lisbon, Portugal, 2014.
- Operational risk management process in construction projects, Risk Management Seminar, INCI, 2013.

**Honours and awards**

**Grants**

- FCT sabbatical leave grant SFRH/BSAB/113784/2015 (3 months) - 2016
- Fulbright visiting scholar grant (6 months) - 2009-2010
- FCT PhD grant SFRH/BD/35925/2007 (4 years) - 2008-2012

**Awards**

- Honorable mention in the "Celestino da Costa" Young Professional Award (2010)

**Memberships**

**Professional organizations**

- Portuguese Society of Earthquake Engineering (since 2014)
- Ordem dos Engenheiros (since 2001)

**Research Centers**

- ICIST - Institute for Structural Engineering, Territory and Construction (since 2008)

- CEHIDRO - Centre for Hydrosystems Research (2007-2008)

**References****The following individuals can provide character and professional references**

- Professor José Manuel de Saldanha Gonçalves Matos (former PhD advisor and former employer at Hidra, Hidraulica e Ambiente, Lda.), IST – Universidade de Lisboa, Av. Rovisco Pais 1049-001, Lisbon, Portugal. jose.saldanha.matos@tecnico.ulisboa.pt
- Professor Luís Manuel Alves Dias (former PhD advisor and present group supervisor at IST – University of Lisbon) IST – Universidade de Lisboa, Av. Rovisco Pais 1049-001, Lisbon, Portugal. luis.alves.dias@tecnico.ulisboa.pt
- Professor Fabián A. Bombardelli (former visiting scholar supervisor at UC Davis), Department of Civil and Environmental Engineering, 3105 Ghausi Hall, University of California, One Shields Avenue, Davis, CA 95616. fabombardelli@ucdavis.edu

**ANNEXES**

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