

Curriculum Vitæ

Alexandre Bacelar Gonçalves

DETAILS AND CONTACT INFORMATION

Place and date of birth Amadora, Portugal, August 21st, 1972

Nationality Portuguese

Professional address Departamento de Engenharia Civil, Arquitetura e Ambiente (DECivil) and Departamento de Engenharia de Recursos Minerais e Energéticos (DER)
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EDUCATION

Feb. 2007 PhD in Territorial Engineering, Instituto Superior Técnico, Technical University of Lisbon. Thesis: “*Modelação geográfica de problemas de localização*” (“*Geographical modelling of location problems*”). Supervisor: Prof. João Matos, IST.

Jul. 1998 MSc in Geographical Information Systems, Instituto Superior Técnico, Technical University of Lisbon. Thesis: “*Detecção e medição de diferenças em cartografia digital*” (“*Detection and measurement of differences in digital cartography*”). Supervisor: Prof. João Bento, IST.

Oct. 1995 Graduation (5-year) in Applied Mathematics and Computer Science. Instituto Superior Técnico, Technical University of Lisbon. Overall classification: 16/20. Final graduation project: “*Determinação de caminhos críticos no apoio à gestão da despoluição da bacia do Rio Trancão*” (“*Critical paths to support the management of the Trancão River basin remediation*”). Supervisor: Prof. João Bento, IST.

PROFESSIONAL EXPERIENCE

Since Feb. 2024 Associate Professor, Department of Civil Engineering, Architecture and Environment, and Department of Mineral and Energy Resources Engineering (*double appointment*), IST, Univ. Lisbon.

Jan. 2022– Feb. 2024 Assistant Professor, Department of Civil Engineering, Architecture and Environment, and Department of Mineral and Energy Resources Engineering (*double appointment*), IST, Univ. Lisbon.

Feb. 2007 – Jan. 2022 Assistant Professor, Department of Civil Engineering, Architecture and Georesources, IST, Univ. Lisbon.

Jul. 1998 - Feb. 2007 Lecturer, Department of Civil Engineering, IST, Tech. Univ. Lisbon.

Oct. 1997 - Jul. 1998 Training Lecturer, Department of Civil Engineering, IST, Tech. Univ. Lisbon.

Feb. 1995 - Oct. 1997 Teaching Assistant (*Monitor*), Department of Civil Engineering, IST, Tech. Univ. Lisbon.

RESEARCH ACTIVITY

Member of the CERIS (Civil Engineering Research and Innovation for Sustainability) research center, within the Systems and Management group since January 2017 (formerly in the Information Design and Support Systems research group).

Author / co-author of 29 publications in international peer-reviewed journals (WoK/Web of Knowledge and SCOPUS-indexed), >30 oral presentations in national and international meetings and 11 poster presentations in international meetings. Participation in 9 national and 7 international research projects in competitive calls.

Scientific database identities and citations:

- Scopus Author ID: 36127345200, Scopus h-index: 12, total citations: 603, in 38 documents
- Google Scholar: IFvfLp8AAAAJ, h-index: 15, i10-index: 20, total citations: 1013
- Publons (Thompson Reuters Web of Knowledge / Researcher ID): A-6117-2012, h-index: 12, total citations: 506 (<https://www.webofscience.com/wos/author/record/1404311>)
- ORCID: 0000-0001-7273-1230
- Ciência ID: EF1F-A58C-967B
- SciProfiles: abg

i) Scientific publications

a) ARTICLES IN INTERNATIONAL PEER-REVIEWED JOURNALS (Web of Knowledge and SCOPUS-indexed)

Key: Authors, (Year), *Title*, **Publication**, volume/issue, pages, doi (index, impact factor at publication date, number of citations in international peer-reviewed publications at Scopus / Google Scholar)

1. Falcão, A.P.; Gonçalves, A.B.; Ferreira, G.F. (2023): "A discussion on the estimation of apparent colour of water with the Forel-Ule Index for medium-width sections of rivers with high hydrodynamic activity". **Remote Sensing Applications: Society and Environment**, 32, art. 101075. doi: 10.1016/j.rsase.2023.101075 (WoK, NC=0/0).
2. Bahadori, M.S.; Gonçalves, A.B.; Moura, F. (2022): "A GIS-MCDM method for ranking potential station locations in the expansion of bike-sharing systems". **Axioms**, 11(6), 263. doi: 10.3390/axioms11060263 (Scopus, NC=1/3).
3. Moreno, J.V.; Machete, R.; Falcão, A.P.; Gonçalves, A.B.; Bento, R. (2022): "Dynamic data feeding into BIM for facility management: A prototype application to a university building". **Buildings**, 12(5), 645. doi: 10.3390/buildings12050645 (WoK, NC=12/16).
4. Rodrigues, A.; Gonçalves, A.B.; Costa, R.L.; Gomes, A.A. (2021): "GIS-based assessment of the chestnut expansion potential: A case-study on the Marvão Productive Area, Portugal". **Agriculture**, 11(12), 1260. doi: 10.3390/agriculture11121260 (WoK, NC=2/2).
5. Machete, R.; Falcão, A.P.; Gonçalves, A.B.; Godinho, M.; Bento, R. (2021): "Development of a Manueline style object library for Heritage BIM". **International Journal of Architectural Heritage**, 15(12), 1930-1941. doi: 10.1080/15583058.2020.1740825 (WoK, NC=5/8).
6. Bahadori, M.S.; Gonçalves, A.B.; Moura, F. (2021): "A systematic review of station location techniques for bicycle-sharing systems planning and operation". **ISPRS International Journal of Geo-Information**, 10(8), 554. doi: 10.3390/ijgi10080554 (WoK, NC=10/13).
7. Machete, R.; Silva, J.R.; Bento, R.; Falcão, A.P.; Gonçalves, A.B.; Lobo de Carvalho, J.M.; Silva, D.V. (2021): "Information transfer between two Heritage BIMs for reconstruction support and facility management: the case study of the Chalet of the Countess of Edla, Sintra, Portugal". **Journal of Cultural Heritage**, 49, 94-105. doi: 10.1016/j.culher.2021.02.010 (WoK, NC=17/22).

8. Falcão, A.P.; Machete, R.; Gomes, M.; Gonçalves, A.B. (2021): "Spatial multi-criteria decision analysis for rehabilitation priority ranking: a collaborative application to heritage workforce housing sites". **International Journal of Architectural Heritage**, 15(5), 790-806. doi: 10.1080/15583058.2019.1650132 (WoK, NC=4/7).
9. Göswein, V.; Silvestre, J.D.; Lamb, S.; Gonçalves, A.B.; Pittau, F.; Freire, F.; Oosthuizen, D.; Lord, A.; Habert, G. (2021): "Invasive alien plants as an alternative resource for concrete production - Multi-scale optimization including carbon compensation, cleared land and saved water runoff in South Africa". **Resources, Conservation and Recycling**, 167, art. 105361. doi: 10.1016/j.resconrec.2020.105361 (WoK, NC=16/17).
10. Sousa, V.; Meireles, I.; Gonçalves, A.B.; Falcão, A.P. (2020): "Climate changes impacts in the upper Paiva River: today and in the future", **Desalination and Water Treatment**, 194, 343-357. doi: 10.5004/dwt.2020.25856 (Scopus, NC=0/0).
11. Rodrigues, A.; Gonçalves, A.B.; Casquilho, M.; Gomes, A.A. (2020): "A GIS-based evaluation of the potential of woody short rotation coppice (SRC) in Portugal aiming at co-firing and decentralized co-generation". **Biomass & Bioenergy**, 137, art. 105554. doi: 10.1016/j.biombioe.2020.105554 (WoK, NC=9/10).
12. Godinho, M.; Machete, R.; Ponte, M.; Falcão, A.P.; Gonçalves, A.B.; Bento, R. (2020): "BIM as a resource in heritage management: An application for the National Palace of Sintra, Portugal". **Journal of Cultural Heritage**, 43, 153-162. doi: 10.1016/j.culher.2019.11.010 (WoK, NC=51/67).
13. Cambra, P.; Gonçalves, A.B.; Moura, F. (2019): "The digital pedestrian network in complex urban contexts: A primer discussion on typological specifications". **Finisterra**, 54(110), 155-170. doi: 10.18055/Finis16414 (Scopus, NC=12/20).
14. Pillesjö, P.; Mansourian, A.; Runnstrom, M.; Groth, R.; Gonçalves, A.B. et al. (2018): "Features of the international MSc educational programme in environmental management and modelling". **Geodesy & Cartography**, 44(4), 134-139. doi: 10.3846/gac.2018.6294 (Scopus, NC=0/0).
15. Göswein, V.; Gonçalves, A.B.; Silvestre, J.D.; Freire, F.; Habert, G.; Kurda, R. (2018): "Transportation matters - Does it? GIS-based comparative environmental assessment of concrete mixes with cement, fly ash, natural and recycled aggregates". **Resources, Conservation and Recycling**, 137, 1-10. doi: 10.1016/j.resconrec.2018.05.021 (WoK, IF=7.044, NC=60/79).
16. Cardeira, L.; Henriques, F.; Bailão, A.; Candeias, A.; Gonçalves, A.B.; Pereira, F. (2017): "Implementation of a documentation system for the technical study of the Adriano de Sousa Lopes academic paintings at the Faculty of Fine Arts of the University of Lisbon (FBAUL)". **Ge-Conservación**, 1(12), 159-171 (WoK, NC=3/3).
17. Bailão, A.; Henriques, F.; Cabral, M.; Gonçalves, A.B. (2017): "Documentation in conservation for the retouching process of a painting by Amadeo de Souza-Cardoso", **International Journal of Conservation Science**, 8(1), 25-34. (Scopus, NC=1/0).
18. Moura, F.; Cambra, P.; Gonçalves, A.B. (2017): "Measuring walkability for distinct pedestrian groups with a participatory assessment method: A case study in Lisbon". **Landscape and Urban Planning**, 157, 282-296. doi: 10.1016/j.landurbplan.2016.07.002 (WoK, IF=3.654, NC=221/376).
19. Falcão, A.P.; Matias, M.P.; Pestana, R.; Gonçalves, A.B.; Heleno, S. (2016): "Methodology to combine topography and bathymetry datasets for hydrodynamic simulations: Case of Tagus River". **Journal of Surveying Engineering**, 142(4), art. 05016005. doi: 10.1061/(ASCE)SU.1943-5428.0000192 (WoK, IF=1.000, NC=5/10).
20. Gonçalves, A.B.; Almeida, J.; Rua, H. (2016): "Assessment of the permeability of historical defensive systems: The case of the Lines of Torres Vedras". **International Journal of Historical Archaeology**, 20(2), 229-248. doi: 10.1007/s10761-016-0334-9 (WoK, IF=0.430, NC=4/4).
21. Bailão, A.; Henriques, F.; Mendes, S.; Gonçalves, A.B. (2016): "Study for spatial characterization of losses for the chromatic reintegration process of the painting *The Circumcision of Jesus*". **Ge-Conservación**, 1(10), 6-19. doi: 10.37558/gec.v10i0.308 (WoK, NC=3/0).
22. Falcão, A.P.; Mazzolari, A.; Gonçalves, A.B.; Araújo, M.A.V.C.; Trigo-Teixeira, A. (2013): "Influence of elevation modelling on hydrodynamic simulations of a tidally-dominated estuary". **Journal of Hydrology**, 497, 152-164. doi: 10.1016/j.jhydrol.2013.05.045 (WoK, IF=2.656, NC=26/32).
23. Lira, C.; Lousada, M.; Falcão, A.P.; Gonçalves, A.B.; Heleno, S.; Matias, M.; Pereira, M.J.; Pina, P.; Sousa, A.J.; Oliveira, R.; Almeida, A.B. (2013): "The 20 February 2010 Madeira Island flash-floods: VHR satellite imagery

processing in support of landslide inventory and sediment budget assessment". **Natural Hazards and Earth System Sciences**, 13(3), 709-719. doi: 10.5194/nhess-13-709-2013 (WoK, IF=1.983, NC=20/26).

24. Rua, H.; Gonçalves, A.B.; Figueiredo, R.A. (2013): "Assessment of the Lines of Torres Vedras defensive system with visibility analysis". **Journal of Archaeological Science**, 40(4), 2113-2123. doi: 10.1016/j.jas.2012.12.012 (WoK, IF=1.914; NC=17/27).
25. Amorim, A.; Gonçalves, A.B.; Nunes, L.M.; Sousa, A.J. (2012): "Optimizing the location of weather monitoring stations using estimation uncertainty". **International Journal of Climatology**, 32(6), 941-952. doi: 10.1002/joc.2317 (WoK, IF=2.347, NC=14/25).
26. Gonçalves, A.B. (2010): "An extension of GIS-based least-cost path modelling to the location of wide paths". **International Journal of Geographical Information Science**, 24(7), 983-996. doi: 10.1080/13658810903401016 (WoK, IF=1.533, NC=40/64).
27. Bailão, A.; Henriques, F.; Cabral, M.; Gonçalves, A.B. (2010): "First steps of maturity on the way to differentiated chromatic reintegration in easel painting in Portugal". **Ge-Conservación**, 2010(1), 127-141. doi: 10.37558/gec.v1i1.16 (WoK, NC=2/6).
28. Leitão, J.P.; Matos, J.S.; Gonçalves, A.; Matos, J.L. (2005): "Contribution of geographic information systems and location models to planning of wastewater systems". **Water Science and Technology**, 52(3), 1-8. doi: 10.2166/wst.2005.0055 (WoK, IF=1.094, NC=20/26).
29. Matos, J.; Gonçalves, A. (2003): "Measurement and analysis of positional accuracy". **Geodesy & Cartography**, 29(1), 19-25. ISSN: 1392-1541. doi: 10.1080/13921541.2003.10552983 (Scopus, NC=0/0).

b) EDITORIALS IN INTERNATIONAL PEER-REVIEWED JOURNALS (Web of Knowledge and SCOPUS-indexed)

1. Gonçalves, A.B. (2021): "Spatial Analysis and Geographic Information Systems as Tools for Sustainability Research". **Sustainability**, 13(2), 612. doi: <https://doi.org/10.3390/su13020612> (WoK, NC=3/4).

c) ARTICLES IN INTERNATIONAL CONFERENCE PROCEEDINGS

1. Monteiro, L.; Mendes, M.P.; Gonçalves, A.B.; Cruz, C.O. (2021): "Feasibility analysis of water reuse projects in an urban area". IAHR2020 - 6th IAHR Europe Congress, February 15th-18th, Warsaw, Poland (online only).
2. Ponte, M.; Bento, R.; Godinho, M.; Machete, R.; Falcão, A.P.; Gonçalves, A.G. (2020): "The use of a Building Information Model to support seismic analysis: application to the National Palace of Sintra, Portugal". SAHC 2020 – 12th International Conference on Structural Analysis of Historical Constructions, 16-18 September, Barcelona, Spain.
3. Santos, S.; Ferreiro, M.F.; Ramos, I.L.; Gonçalves, A.B. (2018): "'Out-off-the map'. Finding places of marginalization and vulnerability in Lisbon Metropolitan Area". Proceedings of the AESOP (Association of European Schools of Planning) 2018 Annual Congress, July 2018, Stockholm, Sweden.
4. Sousa, V.; Meireles, I.; Gonçalves, A.B.; Falcão, A.P. (2018): "A d(r)ying river: the Upper Paiva". In: Silva-Afonso, A. and Rodrigues-Pimental, C. (Eds.), Proceedings of the Water Efficiency Conference 2018, 5-7 September, Aveiro, Portugal. WATEF Network/University of Bath, 2018, pp. 213-222.
5. Pilesjö, P.; Mansourian, A.; Gonçalves, A.; Vanleeuwen, L.; Paršeliūnas, E.; Sužiedelytė-Visockienė, J.; Popovas, D.; Obuchovski, R.; Šlikas, D.; Buga, A.; Manafi, M.; Toomanian, A.; Azeez Saeed, M.; Hammoudi Albazzaz, R.; Yasrebi, E. (2018): "Promoting of the geospatial experience: Introduction into international MSc Educational Programme in Environmental Management and Modelling". EDULEARN18 – 10th International Conference on Education and New Learning Technologies, pp. 9045-9055. Palma, Spain, July 2018. doi: 10.21125/edulearn.2018.2120
6. Henriques, F.; Bailão, A.; Bordalo, R.; Le Gac, A.; Cardeira, L.; Gonçalves, A.; Vieira, E.; Candeias, A. (2017): "Mapping lacunae for retouching paintings with computer graphics software". In: Bailão, Ana; Sustic, Sandra (Ed.) - 4th International Meeting on Retouching of Cultural Heritage, Postprints RECH4, Croatia, Academy of Arts, University of Split, 20th and 21st October 2017. Porto: Ineditar, 2018, pp. 130-136.
7. Give, A.; Silva, J.B.; Gonçalves, A.B. (2017): "Expansão urbana de cidades estuarinas – Efeitos da primeira travessia na A.M.Lisboa e os desafios da primeira travessia na A.M.Maputo". Proceedings CLME2017/VCEM - 8.º Congresso Luso-Moçambicano de Engenharia, Ed: J.F. Silva Gomes et al.; Publ: INEGI/FEUP, 65-82. Maputo, Mozambique, Sep. 2017. <https://paginas.fe.up.pt/clme/2017/Proceedings/data/papers/6613.pdf>

8. Cambra, P.; Moura, F.; Gonçalves, A.B. (2017): "*On the correlation of pedestrian flows to urban environment measures: A space syntax and walkability analysis comparison case*". 11th Space Syntax Symposium, Lisboa, Portugal, July 2017. <http://www.11ssslisbon.pt/docs/proceedings/papers/51.pdf>
9. Moura, F.; Cambra, P.; Gonçalves, A.B. (2016): "*Pedestrian counts. Issues and outcomes of the validation of a walkability assessment tool in Lisbon, Portugal*". 19th EURO Working Group on Transportation Meeting, Istanbul, Turkey, Sep. 2016.
10. Figueiredo, R.; Gonçalves, A.B.; Ramos, I.L. (2016): "*Service areas of local urban green spaces: An explorative approach in Arroios, Lisbon*". 1st International Conference on Smart Data and Smart Cities, 30th UDMS, Split, Croatia, Sep. 2016. ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences, V. IV-4/W1, 111-116. doi: 10.5194/isprs-annals-IV-4-W1-111-2016
11. Henriques, F.; Gonçalves, A.; Candeias, A.; Vieira, E. (2016): "*Heritage documentation and 3D retouching of virtual objects*". RECH3: Postprints of the 3rd International Meeting on Retouching of Cultural Heritage, Escola Artística e Profissional Árvore, Porto, 83-91.
12. Gomes, M.; Gonçalves, A.B.; Shruballs, S. Correia, D. (2016): "*Optimization of routes for hazardous materials transportation: a case study of fuel deliveries in Lisbon*". In Proceedings of the 5th International Conference on Operations Research and Enterprise Systems – ICORES 2016, 362-365, Rome, Italy, Feb. 2016. doi: 10.5220/0005711803620365
13. Gomes, F.; Gomes, M.; Gonçalves, A.B. (2016): "*Optimization of routes for road surface inspection: an application to the Portuguese national road network*". In Proceedings of the 5th International Conference on Operations Research and Enterprise Systems - ICORES 2016, 357-361, Rome, Italy, Feb. 2016. doi: 10.5220/0005711703570361
14. Barreiras, N.; Gonçalves, A.B.; Nunes Correia, F.; Saldanha Matos, R. (2015): "*The role of web-based data sharing systems in water governance*". 1st International Conference on Redrafting Water Governance, Lisbon, Portugal, Oct. 2015.
15. Bailão, A.; Henriques, F.; Mendes, S.; Gonçalves, A. (2015): "*Chromatic essay for characterization of losses for the chromatic reintegration process of cultural heritage*". Colours 2015: Bridging Science with Art, Évora, Portugal, Sep. 2015.
16. Moura, F.; Cambra, P.; Gonçalves, A. (2015): "*Measuring the walkability to TRANSED 2015*". Proceedings of the TRANSED 2015 conference, Lisbon, Portugal, July 2015.
17. Gonçalves, A.; Cambra, P.; Sousa, H.; Moura, F.; Correia, S. (2015). "*The importance of digitizing a detailed pedestrian network for walkability assessment: the case of elderlies and impaired mobility*". Proceedings of the TRANSED 2015 conference, Lisbon, Portugal, July 2015.
18. Rodrigues, M.S.; Gomes, M.C.; Gonçalves, A.B.; Shruballs, S. (2015): "*Hazardous materials transportation using bi-level linear programming: a case-study of liquid fuel distribution*", 4th International Conference on Operations Research and Enterprise Systems – ICORES 2015, Lisbon, Portugal, Jan. 2015. (NC=2/3)
19. Moura, F.; Cambra, P.; Gonçalves, A. (2014): "*IAAPE - Pedestrian accessibility and attractiveness assessment tool when planning for walkability*", CITTA 7th annual conference, Coimbra, Portugal, Oct. 2014.
20. Falcão, A.P.; Pestana, R.; Matias, M.P.; Gonçalves, A.; Heleno, S. (2014): "*Analysis of the influence of the digital elevation model characteristics on hydrodynamic simulations: the case of the Tagus River*". European Geosciences Union General Assembly 2014, Vienna, Austria, Apr. 2014.
21. Pestana, R.; Matias, M.P.; Canelas, R.; Roque, D.; Araújo, A.; Van Zeller, E.; Trigo-Teixeira, A.; Ferreira, R.; Oliveira, R.P.; Heleno, S.; Falcão, A.P.; Gonçalves, A. (2014): "*Calibration of 2D hydraulic inundation models with SAR imagery in the floodplain region of the Lower Tagus River*". European Geosciences Union General Assembly 2014, Vienna, Austria, Apr. 2014.
22. Matias, M.P.; Falcão, A.P.; Gonçalves, A.B.; Alvares, T.; Pestana, R.; Van Zeller, E.; Rodrigues, V.; Heleno, S. (2013): "*A methodology to generate a digital elevation model by combining topographic and bathymetric data in fluvial environments*". 2013 ESA Living Planet, Edinburgh, UK, Sep. 2013.
23. Silva, J.B.; Félix, R.; Gonçalves, A.B.; Silva, F.N. (2013): "*A participative bike route planner to improve adaptive cycling strategies in cycling starter cities - typology of cyclists and cycling preferences in Lisbon*". AESOP/ACSP Joint Congress 2013, Association of the European Schools of Planning, Dublin, Ireland, July 2013.

24. Félix, R.; Gonçalves, A.B.; Silva, J.B. (2013): "A web and GIS-based tool (SIRCuL) for a better cycling network planning and mobility management - interfacing bicycle users data and local administration policies". CITTA 6th Annual Conference on Planning Research, Coimbra, May 2013.
25. Moreira, I.; Gonçalves, A.; Shrubbsall, S. (2012): "Planning on Safer Urban Mobility through Spatial Analysis: Application to Vila Real, Portugal". AESOP 2012, 26th Annual Congress, Association of the European Schools of Planning, Ankara, Turkey, July 2012.
26. Lira, C.; Lousada, M.; Falcão, A.P.; Gonçalves, A.; Heleno, S.; Matias, M.; Sousa, A.J.; Pereira, M.J.; Pina, P.; Oliveira, R.; Almeida, A.B. (2011): "Automatic detection of landslide features with remote sensing techniques: application to Madeira Island". 2011 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2011), Vancouver, Canada, July 2011, 1997-2000, doi: 10.1109/IGARSS.2011.6049520. (NC=10/10)
27. Henriques, F.; Gonçalves, A. (2010): "Analysis of Lacunae and Retouching Areas in Panel Paintings Using Landscape Metrics", Third International Euro-Mediterranean Conference (EuroMed 2010), Limassol, Cyprus, Nov. 2010, Lecture Notes in Computer Science 6436, Springer, 99-109. doi: 10.1007/978-3-642-16873-4_8. (NC=4/10)
28. Rua, H.; Gonçalves, A. (2010): "Historical and Territorial Analysis: A Contribution to the Study of the Defense of the City of Lisbon – The Peninsular Wars", CAA2010 - XXXVIII Annual Conference of the Association on Computer Applications and Quantitative Methods in Archaeology, Granada, Spain, 6-9 Apr. 2010.
29. Henriques, F.; Gonçalves, A.; Calvo, A.; Bailão, A. (2009): "Application of Spatial Analysis Operations for the Characterization of Wood Painting Features: Furniture Beetle Holes, Shellac coverage, Graphite Inscription and Radiography", International Conference on Wooden Cultural Heritage: Evaluation of Deterioration and Management of Change, Hamburg, Germany, 7-10 Oct. 2009.
30. Falcão, A.; Matos, J.; Casaca, J.; Sousa, A.; Gonçalves, A. (2008): "Preliminary Results of Spatial Modelling of GPS/Levelling Heights: A Local Quasi-Geoid/Geoid for the Lisbon Area", International Symposium on Gravity, Geoid and Earth Observation 2008, Chania, Greece, June 2008. Springer. ISBN 978-3-642-10633-0, doi: 10.1007/978-3-642-10634-7_43 (Scopus, NC=1/1)

d) COMMUNICATIONS IN INTERNATIONAL CONFERENCES WITHOUT PROCEEDINGS

1. Machete, R.; Falcão, A.P.; Gomes, M.; Sousa, A.; Gonçalves, A. (2017): "Reabilite – platform for workforce building rehabilitation". International Conference on Digital heritage in Iberian context: Between practice and critical thinking. Sociedade de Geografia de Lisboa, Lisboa, Nov. 2017.
2. Henriques, F.; Bailão, A.; Bordalo, R.; Le Gac, A.; Bottaini, C.; Carneira, L.; Gonçalves, A.; Vieira, A.; Candeias, A. (2017): "Mapping lacunae for chromatic reintegration with Blender". 4th International Meeting on Retouching of Cultural Heritage – RECH4- Split, Croacia, Oct. 2017. doi: 10.13140/RG.2.2.28347.31521

e) POSTERS IN INTERNATIONAL CONFERENCES

1. Meireles, I.; Sousa, V.; Falcão, A.P.; Gonçalves, A. (2023). "Unlocking the potential of treated wastewater reuse: The case study of Lisbon". 10th Int. Conference on Sustainable Solid Waste Management, Chania, Greece, Jun. 2023.
2. Rodrigues, A.; Gonçalves, A.B.; Maçãs, B.; Cordeiro, A.; Brito, P. (2023). "A first stage of an iterative strategy for empirical spatial modelling of biomass straw in Alentejo, Portugal". 31st European Biomass Conference & Exhibition - EuBCE, Bologna, Italy, Jun. 2023.
3. Rodrigues, A.; Maçãs, B.; Brito, P.; Gonçalves, A.; Paz, A.M. (2019): "Cereals and olive tree cultivations as major sources of bioenergy for Alentejo". Bioenergy International Conference 2019. Portalegre, Portugal, Sep. 2019.
4. Matias, M.P.; Falcão, A.P.; Gonçalves, A.B.; Alvares, T.; Pestana, R.; Van Zeller, E.; Rodrigues, V.; Heleno, S. (2013): "A methodology to generate a digital elevation model by combining topographic and bathymetric data in fluvial environments". 2013 ESA Living Planet, Edinburgh, UK, Sep. 2013.
5. Henriques, F.; Gonçalves, A. (2012): "Pintura ou Território: Intersecções na representação e análise". In Sousa, G.V.; Vieira, E. (ed.) Actas do I Encontro Luso-Brasileiro de Conservação e Restauro. Porto: CITAR, 2012, p. 235.

6. Falcão, A.P.; Gonçalves, A.B.; Silva, N.; Braz, N.; Lima, J.N.; Araújo, M.A.V.C.; Trigo-Teixeira, A. (2011): "Construction of an elevation model for the evaluation of estuarine flooding frequency: the case of Lima River, Portugal". 7th International Symposium on Spatial Data Quality (ISSDQ 2011), Coimbra, Portugal, Oct. 2011.
7. Lira, C.; Lousada, M.; Falcão, A.P.; Gonçalves, A.; Heleno, S.; Matias, M.; Sousa, A.J.; Pereira, M.J.; Pina, P.; Oliveira, R.; Almeida, A.B. (2011): "Automatic detection of landslide features with remote sensing techniques: application to Madeira Island". 2011 IEEE International Geoscience and Remote Sensing Symposium, Vancouver, Canada, July 2011.
8. Pereira, M.J.; Falcão, A.P.; Gonçalves, A.; Heleno, S.; Lira, C.; Lopes, S.; Lousada, M.; Matias, M.; Proença De Oliveira, R.; Pina, P.; Sousa, A.J.; Almeida, A.B. (2011): "Analysis of factors potentially triggering and/or constraining landslides occurred during the floods of February 20th, 2010 in Madeira Island". European Geosciences Union General Assembly 2011, Vienna, Austria, Apr. 2011.
9. Lousada, M.; Lira, C.; Pina, P.; Gonçalves, A.; Falcão, A.P.; Heleno, S.; Matias, M.; Sousa, A.J.; Pereira, M.J.; Oliveira, R.; Almeida, A.B. (2011): "A comparative assessment of supervised pixel-based classification methods in the detection of landslide scars". European Geosciences Union General Assembly 2011, Vienna, Austria, Apr. 2011.
10. Lira, C.; Falcão, A.P.; Gonçalves, A.; Heleno, S.; Lousada, M.; Matias, M.; Sousa, A.J.; Pereira, M.J.; Pina, P.; Oliveira, R.; Almeida, A.B. (2011): "Landslide shape modeling from field cartography". European Geosciences Union General Assembly 2011, Vienna, Austria, Apr. 2011.
11. Henriques, F.; Gonçalves, A.; Calvo, A.; Bailão, A. (2010): "Identificazione di lacune di un dipinto dopo la stuccature e prima del ritocco pittorico". V International Conference on Materials and Methods in the Conservation of Polychrome Art Works (CESMAR7 2010). Trento, Italy, Nov. 2010.

f) ARTICLES IN NATIONAL PEER-REVIEWED JOURNALS

1. Machete, R.; Godinho, M.; Ponte, M.; Bento, R.; Falcão, A.P.; Gonçalves, A. (2020): "BIM em intervenções de conservação e reabilitação do património: Uma aplicação ao Palácio Nacional de Sintra". Revista Portuguesa de Engenharia de Estruturas, III, 13, 55-62, Jul. 2020.
2. Henriques, F.; Gonçalves, A.B. (2010): "Identificação de regiões de lacunas numa pintura retabular: análise comparativa de métodos de classificação em ambiente SIG". Estudos de Conservação e Restauro, 1(2):72-82, Dec. 2010. doi: 10.7559/ecr.2.3156
3. Henriques, F.; Gonçalves, A.B.; Bailão, A. (2009): "Tear feature extraction with spatial analysis: a tangka case study". Estudos de Conservação e Restauro, 1(1):11-23, 2009.
4. Bravo, J.M.; Collischonn, W.; Pilar, J.V.; Gonçalves, A. (2008): "Avaliação do desempenho de um algoritmo baseado no comportamento de formigas em problemas de caminho de mínimo custo em ambientes raster". Revista Brasileira de Cartografia, 60(1), Apr. 2008.

g) ARTICLES IN NATIONAL CONFERENCE PROCEEDINGS

1. Falcão, A.P.; Machete, R.; Gonçalves, A.B.; Ponte, M.; Bento, R. (2022): "Aplicação de BIM na gestão do património cultural construído: os modelos do Palácio Nacional de Sintra e do Chalet da Condessa D' Edla". Pedra & Cal, N.º 73 - Património e Transição Digital, 30-35. ISSN. 1645-4863.
2. Machete, R.; Villavicencio, J.; Falcão, A.P.; Gonçalves, A.B.; Bento, R. (2022): "Ligação dinâmica de dados em ambiente BIM: Aplicação à gestão de um edifício universitário". PTBIM 2022, 4º Congresso Português de Building Information Modelling, Universidade do Minho, Portugal, 4-6 May 2022. doi: 10.21814/uminho.ed.32.51
3. Ferreira, G.; Falcão, A.P.; Gonçalves, A.B.; Neves, O. (2022): "Exploração de imagens de satélite Sentinel-2 para a estimação da cor aparente dos rios". 13.º Seminário sobre Águas Subterrâneas, Associação Portuguesa dos Recursos Hídricos, IST, Lisboa, Portugal, 28-29 Apr. 2022.
4. Machete, R.; Godinho, M.; Ponte, M.; Falcão, A.P.; Gonçalves, A.; Bento, R. (2020): "BIM em intervenções de conservação e de reabilitação do património: uma aplicação ao Palácio Nacional de Sintra". ENCORE 2020, 4.º Encontro de Conservação e Reabilitação de Edifícios, LNEC, Lisboa, Portugal, Nov. 2020.
5. Gomes, M.C.; Paulo, R.; Varela, B.; Conde, D.; Canelas, R.; Gonçalves, A.B.; Regateiro, F.; Ricardo, A.M. (2017): "A WebGIS-based platform for data management in water resources systems". XXIV Jornadas de

- Classificação e Análise de Dados – JOCLAD 2017, Porto, Portugal, April 2017. In: Bacelar-Nicolau, H. et al. (Eds.), *Classificação e Análise de Dados, Métodos e Aplicações III*, CLAD, ISSN 2183-8801, pp. 159-167.
6. Gonçalves, A.B.; Gomes, C.M.; Gomes, F. (2016): "Otimização de circuitos de inspeção de pavimentos: Aplicação à rede rodoviária nacional". Conferência Nacional de Geodesia, Escola Superior de Tecnologia do Barreiro, Barreiro, Portugal, May 2016.
 7. Barreiras, N.; Gonçalves, A.B.; Nunes Correia, F.; Saldanha Matos, R. (2016): "O papel e o impacto dos sistemas de informação geográfica partilhados na governança das águas subterrâneas", 13.º Congresso da Água, Lisboa, Portugal, Mar. 2016.
 8. Matias, M.P.; Falcão, A.P.; Gonçalves, A.B.; Pina, P.; Heleno, S.; Sousa, A.J. (2015): "Metodologia para o cálculo de volumes de deslizamentos de terras de dimensões variáveis. O exemplo da Ilha da Madeira". VIII Conferência Nacional de Cartografia e Geodesia, Amadora, Portugal, Oct. 2015.
 9. Henriques, F.; Mendes, S.; Bailão, A.; Candeias, A.; Gonçalves, A.B.; Vieira, E. (2015): "Sistemas de Informação Geográfica na documentação de bens culturais: aplicabilidade a uma pintura do século XVI da colecção particular do seminário maior do Porto". Jornadas de Software Aberto para Sistemas de Informação Geográfica - SASIG 2015. Lisboa, Portugal, Sep. 2015. In: Costa C., Ferreira V., Santos H., Pereira P., Carreira D. & Gil A. (Eds.) (2015) - Livro de Atas do SASIG 2015; 123 p.; ISCTE – Instituto Universitário de Lisboa & OSSEO-PT; Lisboa, Portugal. ISBN: 978-989-732-663-9. <https://repositorio.iscte-iul.pt/handle/10071/10301>
 10. Falcão, A.P.; Matias, M.P.; Pestana, R.; Gonçalves, A.; Araújo, A.; Heleno, S. (2014): "Análise da influência das características do modelo digital de terreno em simulações hidrodinâmicas: o caso do rio Tejo". Conferência Nacional de Geodesia, Escola Superior de Tecnologia do Barreiro, Barreiro, Portugal, May 2014.
 11. Gonçalves, A.B.; Cambra, P.; Moura, F. (2014): "Construção de indicadores de atratividade e acessibilidade pedonal para medição da "caminhabilidade" em sistemas de informação geográfica - Aplicação ao caso de Lisboa". Conferência Nacional de Geodesia, Escola Superior de Tecnologia do Barreiro, Barreiro, Portugal, May 2014.
 12. Félix, R.; Gonçalves, A.B.; Silva, J.B. (2014): "SIRCUL - Ferramenta interativa de planeamento de percursos para ciclistas e de apoio à gestão da mobilidade em Lisboa". Conferência Nacional de Geodesia, Escola Superior de Tecnologia do Barreiro, Barreiro, Portugal, May 2014.
 13. Pestana, R.; Matias, M.P.; Canelas, R.; Roque, D.; Araújo, M.A.; Van Zeller, E.; Trigo-Teixeira, A.; Falcão, A.P.; Gonçalves, A.B.; Ferreira, R.; Heleno, S. (2014): "Calibração de modelos de inundação com imagens de radar de abertura sintética (SAR) no Baixo Tejo". Conferência Nacional de Geodesia, Escola Superior de Tecnologia do Barreiro, Barreiro, Portugal, May 2014.
 14. Matias, M.P.; Falcão, A.P.; Gonçalves, A.B.; Pestana, R.; Heleno, S.; Alvares, T.; Van Zeller, E.; Rodrigues, V. (2014): "A influência dos modelos digitais de terreno nas simulações hidrodinâmicas – Metodologia aplicada ao rio Tejo". Conferência Nacional de Geodesia, Escola Superior de Tecnologia do Barreiro, Barreiro, Portugal, May 2014.
 15. Morais, R.; Sousa, A.J.; Gonçalves, A.; Carvalho, P.; Garcia, C.; Almeida, E.; Novais, V.; Sérgio, C. (2013): "Avaliação da deposição atmosférica de metais pesados na região de Lisboa usando biomonitorios". Atas 10.ª Conferência Nacional do Ambiente/XII Congresso Nacional de Engenharia do Ambiente, Univ. de Aveiro, Aveiro, Portugal, Nov. 2013, pp. 859-860.
 16. Falcão, A.P.; Gonçalves, A.; Silva, N.; Braz, N.; Lima, J.N.; Araújo, A.; Trigo-Teixeira, A. (2011): "A construção de um modelo altimétrico para a avaliação da frequência de inundação estuarina: exemplo do rio Lima". Actas da VII Conferência Nacional de Cartografia e Geodesia, Porto, Portugal. Ed. Lidel.
 17. Pina, P.; Falcão, A.P.; Gonçalves, A.; Heleno, S.; Lira, C.; Lousada, M.; Matias, M.; Oliveira, R.; Pereira, M.J.; Sousa, A.J.; Almeida, A.B. (2011): "Detecção de deslizamentos causados pelo evento de 20 de Fevereiro de 2010 na ilha da Madeira com imagens de satélite, ortofotos, modelos digitais de terreno e dados de campo". Actas da VII Conferência Nacional de Cartografia e Geodesia, Porto, Portugal. Ed. Lidel.
 18. Moreira, I.; Gonçalves, A.; Shrubbsall, S. (2011): "Análise espacial de acidentes rodoviários em Vila Real". Actas da VII Conferência Nacional de Cartografia e Geodesia, Porto, Portugal. Ed. Lidel.
 19. Valentim, M.; Gonçalves, A. (2009): "Identificação de áreas urbanas por análise espacial matricial", in Actas da VI Conferência Nacional de Cartografia e Geodesia, Caldas da Rainha, Portugal. Ed. Lidel, 495-506.

20. Sousa, J.; Gonçalves, A. (2009): "*Localização por site search*", in Actas da VI Conferência Nacional de Cartografia e Geodesia, Caldas da Rainha, Portugal. Ed. Lidel, 584-595.
21. Gonçalves, A.; Matos, J. (2007): "*Modelação e geração de corredores viários*", in Actas da V Conferência Nacional de Cartografia e Geodesia, Lisboa, Portugal.
22. Gonçalves, A.; Matos, J. (2005) "*Modelação geográfica de problemas de localização de equipamentos*", in Actas da IV Conferência Nacional de Cartografia e Geodesia, Lisboa, Portugal.

h) COMMUNICATIONS IN NATIONAL CONFERENCES WITHOUT PROCEEDINGS

1. Henriques, F.; Le Gac, A.; Dargent, R.; Candeias, A.; Gonçalves, A.; Vieira, E. (2017): "Coche da Coroa - Uma instância virtual de uma obra de D. João V. In Colóquio "Arte Pública na Era da Criatividade Digital", Escola das Artes, Universidade Católica Portuguesa, Apr. 2017.
2. Henriques, F.; Cardeira, L.; Bailão, A.; Candeias, A.; Gonçalves, A.; Vieira, E.; Pereira, F. (2016): "Processos de documentação 2D e 3D em obras académicas de Adriano de Sousa Lopes do acervo da FBAUL". In III Colóquio Internacional Coleções de Arte em Portugal e Brasil nos séculos XIX e XX. As Academias de Belas-Artes do Rio de Janeiro, de Lisboa e do Porto, 1816-1836: Ensino, Artistas, Mecenas e Coleções. Fundação Calouste Gulbenkian, Lisboa, Nov. 2016.
3. Cardeira, L.; Henriques, F.; Bailão, A.; Candeias, A.; Gonçalves, A.; Vieira, E.; Pereira, F.A.B. (2016): "Implementação de um sistema de documentação com QGIS no estudo transversal de pinturas académicas de Adriano de Sousa Lopes da FBAUL". I Colóquio Investigações em Conservação do Património, Faculdade de Belas-Artes, Univ. de Lisboa, Set. 2016.
4. Henriques, F.; Salgueiro, J.; Gonçalves, A.; Candeias, A.; Vieira, E. (2016): "O inventário 3D de uma coleção arqueológica do Museu de Arte Sacra e Arqueologia do Porto ". I Colóquio Investigações em Conservação do Património, Faculdade de Belas-Artes, Univ. de Lisboa, Set. 2016.
5. Pereira, C.; Henriques, F.; Carriço, N.; Amaral, V.; Gonçalves, A.B.; Ferreira, T.; Candeias, A. (2015): "Infografia web-based aplicada ao Património. O retábulo-mor da igreja do Espírito Santo em Évora". In III Encontro Luso-brasileiro de Conservação e Restauro, Universidade de Évora, Nov. 2015.
6. Gomes, F.; Gomes, M.; Gonçalves, A.B. (2015): "*Optimização de circuitos de inspeção aos pavimentos de uma rede rodoviária nacional*". 17.º Congresso da Associação Portuguesa de Investigação Operacional, Portalegre, Portugal, Sep. 2015.
7. Amorim, A.; Gonçalves, A.; Nunes, L.M.; Sousa, A.J. (2011): "*Optimização da localização de estações meteorológicas*". 15.º Congresso da Associação Portuguesa de Investigação Operacional, Coimbra, Portugal, Apr. 2011.

i) OTHER PUBLICATIONS

1. Henriques, F.; Gonçalves, A.B.; Calvo, A. (2010): "*Caracterização da densidade das lacunas em superfícies pictóricas com recurso a Sistemas de Informação Geográfica (SIG)*". *Conservar Património*, 11: 3-11, Nov. 2010. doi: 10.14568/cp11_1
2. Henriques, F.; Gonçalves, A.B.; Bailão, A.; Calvo, A. (2009). "*A lacuna pictórica - Metodologias de interpretação e análise*". *Pedra & Cal*, XI(42):13-15, Apr. 2009.

ii) Participation in projects

a) PARTICIPATION IN INTERNATIONAL PROJECTS (COMPETITIVE FUNDING)

1. *TOPIO – Towards Democratic Landscape Observation Through Geoinformatics and Public Participation*. HORIZON-TMA-MSCA-SE (Marie Skłodowska-Curie Actions) project (2023-2027). Global funding: 915.4k€. Funding for IST/UL: 110.4k€. Partners: Foundation for Research and Technology Hellas (GR), IST-UL (PT), Geosystems Hellas (GR), J&G Arch. (CY), Univ. Ghent (BE), Univ. Sevilla (ES), Geo University (EE), Univ. Roma La Sapienza (IT), HSPN (GR), Hellenic Soc. for Protection of Nature (GR) *Coord.: D. Alexakis (FRT, GR)*. *Coord. at IST/UL: Isabel Loupa Ramos*.

The goal of TOPIO is to give people an active role in decision-making on landscape by means of Citizen Science, Geoinformatics (Earth Observation and GIS), Artificial Intelligence and Public Participation to promote sustainable development. It will use methods of exchange information on landscape policies and peoples experience

concerning protection, management and planning, public participation and implementation at different scales and levels.

2. CIDMA – *Climate Change Induced Disaster Management in Africa* (400610153). Erasmus+ project (2019-2022). Global funding: 999k€. Funding for IST/UL: 62k€. Partners: Lund Univ. (SE), Univ. Lisboa (PT), Politecnico Milano (IT), KTH (SE), Acad. Ciências Moç. (MZ), Univ. Eduardo Mondlane (MZ), Univ. Zambeze (MZ), Univ. Lurio (MZ). Coord.: Ali Mansourian (Lund Univ., SE). Coord. at IST/UL: Alexandre Gonçalves.

The goal of CIDMA is to develop three courses: “Disaster Risk and Climate Change”, “Spatial Modelling for Disaster Analysis”, and “Public Participatory GIS and Spatial Data Infrastructure in Disaster Management” and a WebGIS tool while training students on the applications and use of spatial methods for disaster modelling and management.

3. NEXUS – *Nodes of Excellence in (SEA) Universities through Spatial Data* (585604-EPP-1-2017-1-BE-EPPKA2-CBHE-JP). Erasmus+ project (2018-2021). Global funding: 999k€. Funding for IST/UL: 62k€. Partners: Vrije Univ. Brussel (BR), King Mongkut Univ. of Tech. Thonburi (TH), Mandalay Tech. Univ. (MM), Prince Songkla Univ. (TH), Royal Univ. Agriculture (KH), Royal Univ. Phnom Penh (KH), Szkola Glowna Gospodarstwa Wiejskiego (PL), Glasgow Caledonian Univ. (UK), Univ. Lisboa (PT), Univ. Politecnica de Valencia (ES), Yezin Agricultural Univ. (MM). Coord.: Jonathan Chan (Vrije Univ. Brussel, BE). Coord. at IST/UL: Rui Mendes.

The broad goal of NEXUS is to combine industrial, educational and innovation resources in targeted countries and regions of South East Asia (Thailand, Myanmar and Cambodia) to create opportunities for knowledge-based investments while increasing research capacity of HEIs through GIS and remote sensing technology.

4. RESONATE – *Professional Courses in Sustainable Water Management* (2019-1-MK01-KA202-060311). Erasmus+ project (2019-2021). Global funding: 142 k€. Funding for Univ. Lisbon: 26 k€. Partners: Institute for Research in Environment, Civil Engineering and Energy (MK), Univ. Lisboa (PT), Univ. Internacional de La Rioja (ES), Univ. Belgrade (SR). Coord.: Angelina Taneva-Veshoska (IEGE, MK). Coord. at IST/UL: Maria Paula Mendes.

The aim of RESONATE is to contribute to the education of engineering professionals for sustainable water management in line with the national and EU policies.

5. EMME – *Environmental Management in the Middle East: Spatial Approaches* (598189-EPP-1-2018-1-SE-EPPKA2-CBHE-JP). Erasmus+ project (2018-2022). Global funding: 953 k€. Funding for Univ. Lisbon: 57 k€. Partners: Lund Univ. (SE), Univ. Lisboa (PT), National Technical Univ. of Athens (GR), Vilnius Gediminas Technical Univ. (LT), École Nationale des Sciences Géographiques (FR), Univ. Tehran (IR), Imam Khomeini Internat. Univ. (IR), Bu-Ali Sina (IR), Sana’a Univ. (YE), Taiz Univ. (YE). Coord.: Ali Mansourian (Lund Univ., SE). Coord. at IST/UL: Alexandre Gonçalves.

The goal of EMME is the development of three courses using e-learning tools, focusing on spatial data infrastructures and related issues within the Middle East region.

6. GEONETC – *International MSc Educational Programme in Environmental Management and Modelling* (561967-EPP-1-2015-1-SE-EPPKA2-CBHE-JP). Erasmus+ project (2016-2019). Funding for Univ. Lisbon: 72.375€. Partners: Malayer Univ. (IR), Univ. of Torbat Heidarieh (IR), Salahddin Univ. (IQ), Univ. of Duhok (IQ), Univ. Lisboa (PT), Vilnius Gediminas Technical Univ. (LT), Univ. of Twente (NL), Lund Univ (SE). Coord.: Petter Pilešjö (Univ. Lund, SE). Coord. at IST: Alexandre Gonçalves.

The goal of GEONETC is the development of courses using e-learning tools, as well as student-teacher-admin communication and reporting tools, focusing on environmental modelling and climate change/food security issues within the Middle East region.

7. MIA-VITA – *Mitigate and Assess risk from Volcanic Impact on Terrain and human Activities*. 7th framework program project (2007-2012). Coord. at IST: João Fonseca (DFísica, IST).

The project developed tools and integrated cost-effective methodologies to mitigate risks from various hazards on active volcanoes (prevention, crisis management and recovering). At IST, main work was devoted to mapping and generating a vulnerability map for the Fogo Island volcano, Cape Verde, based on the geological map of the island and the extent of volcanic-related phenomena. This constitutes a case-study that demonstrates, in the scope of the project, the heterogeneity of approaches to the mapping of vulnerability that is later used in risk assessment and emergency plans. The project involved 15 worldwide partners from the academy and civil defence, and research institutes on the areas of volcanology and geophysics.

8. E-GIS+ – *European Level Developments of Flexible Learning Models within Geographical Information Science (GIS) for Vocational Training, phase 2 (2007-2010). Coord.: Strand Ødegård (E-GIS+, Univ. Gjøvik, NO). Coord. at IST: Alexandre Gonçalves.*
9. E-GIS – *European Level Developments of Flexible Learning Models within Geographical Information Science (GIS) for Vocational Training (2004-2006). Coord.: Hilding Sponberg (Univ. Gjøvik, NO) and). Coord. at IST: João Matos.*

Both E-GIS and E-GIS+ projects established a co-operation between European Universities and organisations using GIS in order to develop modularised courses intended for Internet-based learning, established links of communications between the partners to disseminate and share "best practices" in different teaching situations and for different types of students. The developed course modules constitute a one-year programme within GIS topics applicable to various program types, durations and audiences, ranging from introductory level short courses to advanced specific topics that are compatible with the current European ECTS credit system.

b) PARTICIPATION IN NATIONAL PROJECTS (COMPETITIVE FUNDING)

1. ENSURE – Enabling Safe Wastewater Reuse in Urban Areas. Funded by CERIS (2019).
2. REABILITE – Plataforma para a reabilitação do parque habitacional social. Funded by CERIS (2016-2017).
3. PIGDA – Plataforma Integrada de Gestão de Dados Ambientais. Funded by CERIS (2016-2017).
4. IAAPE - Pedestrian accessibility and attractiveness indicators: tool for urban walkability assessment and management. Funded by FCT (EXPL/ECM-TRA/2416/2013) (2014-2015).
5. AULIS - Automated landslides inventory based on very high spatial resolution images. Funded by FCT (PTDC/ECM/116611/2010) (2012-2015).
6. PERIURBAN - Áreas peri-urbanas perante os desafios da sustentabilidade: desenvolvimento de cenários para a AML. Funded by FCT (PTDC/AUR-AQI/117305/2010) (2012-2015).
7. RIVERSAR - Exploração de imagens SAR para aperfeiçoar modelos de inundação no Rio Tejo. Funded by FCT (PTDC/CTE-GIX/099085/2008) (2010-2013).
8. CRYPTOSENSORS/Lisbon - Monitorization of the atmospheric pollution in the biosphere of Lisbon and South Margin of Tagus River using biosensors. Funded by FCT (PTDC/AAC-AMB/105037/2008) (2010-2013).
9. GUIOMAR - Geo(graphical) User Interphase for cOastal and MARine modeling. Funded by FCT (PTDC/AMB/67450/2006) (2008-2011).

c) PARTICIPATION IN CONSULTANCY PROJECTS

1. Climate Change Risk Assessment for the Portuguese Territory using CORDEX Regional Climate Model Data on Single Levels, Portuguese Bank (2023)
2. School Map of Vila Franca de Xira, Câmara Municipal de Vila Franca de Xira (2021)
3. Optimization of municipal solid waste collecting circuits in Lisbon, Câmara Municipal de Lisboa (2019-2020)
4. BIM for the Sintra National Palace and Chalet of the Countess of Edla, Parques de Sintra/Monte da Lua (2018-2020)
5. EARAM2 – Estudo de Avaliação do Risco de Aluviões na Ilha da Madeira - Fase 2, IST/Univ. Madeira/ADIST (2014-2015)
6. *Survey of a catchment GFRP structure at Acuinova, Mira: Report 1: geometric survey and anomaly characterisation.* Reports ICIST EP n.º 19/2012 and FUNDEC PS n.º 17/2012.
7. EADAM – Plano Estratégico de Defesa contra as Aluviões da Região Autónoma da Madeira, IST/Univ. Madeira/LREC (Madeira) (2010-2011)
8. Development of an optimization system for solid waste collection in Madeira. Associação de Municípios da Região Autónoma da Madeira (2005-2007).
9. Webmapping to display municipal masterplans. Centro Nacional de Informação Geográfica/IST (1999-2001)
10. Geomarketing study for Bonjour supermarkets, Grupo SONAE (2001)

11. Portuguese coastal risk map. Instituto Nacional da Água/CEHIDRO (1998-2000)
12. DECart - ObjectARX programming for AutoCAD and AutoCAD Map for cartography quality control. IST (1996-1999)
13. CD-ROM with the Portugal map at 1/500 000 scale, using ids – information delivery service (Instituto Português de Cartografia e Cadastro) (1998)
14. Digital maps and GIS for the rehabilitation of Parque da Pena in Sintra, Parques de Sintra (1995)

iii) Other scientific activities

a) MEMBERSHIP OF EDITORIAL BOARDS

Member of the Editorial Board of:

- Geodesy & Cartography (2017-)
- Sustainability (2018-)
- Resources, Conservation & Recycling Advances (2022-2025)
- Review Editor on the Editorial Board of Earthquake Engineering (specialty section of Frontiers in Built Environment) (2022-)

b) JOURNAL EDITING

Guest Editor of Special Issues:

- "Spatial Analysis and Geographic Information Systems" – Sustainability (2019-2020)
- "GIS in Sustainable Transportation" – ISPRS International Journal of Geo-Information (2019-2020)
- "Acquisition and Analysis of Spatial Data for Sustainability Assessment" – Sustainability (2022-2023)

c) REVIEWING

Review of manuscripts submitted to several scientific journals (55 verified reviews registered at Publons, public reviewer profile at <https://www.webofscience.com/wos/author/rid/A-6117-2012>), including: Ain Shams Engineering Journal, Automation in Construction, Canadian Journal of Civil Engineering, Case Studies on Transport Policy, Cities, Climate, Energies, Energy Strategy Reviews, Geodesy & Cartography, Geospatial Health, GIScience & Remote Sensing, Heritage Science, International Journal of Geographical Information Science, ISPRS International Journal of Geo-Information, Journal of Archaeological Science, Journal of Archaeological Science-Reports, Journal of Building Engineering, Journal of Geographical Systems, Journal of Geography and Regional Planning, Land, Remote Sensing, Sustainability, Sustainable Cities and Society, The Professional Geographer, Transactions in GIS.

Review of manuscripts submitted to the Portuguese National Conference of Cartography and Geodesy (CNCG) in 2009, 2011 and 2015, as member of the Scientific Committee.

Review of manuscripts submitted to the Portuguese National Conference of Geodecision (CNG) in 2016, as member of the Scientific Committee.

Review of a research proposal submitted for FONDECYT regular 2019 grant competition, Chilean National Science and Technology Commission – CONICYT (2018).

d) MEMBERSHIP OF SCIENTIFIC COMMITTEES OF CONFERENCES

Member of the Scientific Committee of:

- Portuguese National Conference of Cartography and Geodesy (CNCG): 2009, 2011, 2015
- Portuguese National Conference of Geodecision (CNG): 2016
- I Encontro Nacional de Infraestruturas de Informação Geográfica (ENIIG): 2016
- II Jornadas de Documentação e Representação Digital de Bens Culturais, Escola das Artes, Universidade Católica Portuguesa – Porto, Oct. 2018
- III Congresso "Investigações em Conservação do Património", Faculdade de Belas-Artes da Universidade de Lisboa, Sept. 2020

e) OTHER ACTIVITIES

Submission of two project proposals in FCT project calls as Principal Investigator, not funded:

- GISELLE – *Generic Model for the Location of Linear Facilities in GIS* (2012)
The proposed goal of the project was to develop a least-cost algorithm generating wide paths using road-building earthwork costs. Experts in road building assessment and application development from IST were partners in the project.
- PedNet – *Structuring and Parametrizing Pedestrian Networks for Mobility Assessment* (2015)
The proposed goal of the project was to establish criteria for the design and parametrization of pedestrian networks in urban areas, for later GIS analysis on mobility studies. Experts in pedestrian mobility and urbanism from IST and human kinetics from FMH-Univ. Lisboa were partners in the project.

Participation, as researcher, in 16 other projects submitted to FCT project calls, not funded (from 2009 to 2023), on themes involving Geomatics expertise.

TEACHING AND STUDENT SUPERVISION ACTIVITIES

i) Teaching activities

a) AT INSTITUTO SUPERIOR TÉCNICO

Key: current courses / programmes in **bold**.

| Course(s) | Programmes | Notes/dates |
|--|--|--|
| BSc/MSc in Civil Eng. BSc in Territorial Eng. | <i>Programação (Programming)</i> | 1995-1997 |
| BSc/MSc in Civil Eng. BSc/MSc in Mining and Geological Eng. | <i>Topografia (Surveying)</i> | 1997-2021; respons. 2008-2010 |
| MSc in Environmental Eng. | <i>Sistemas de Informação Geográfica (Geographical Information Systems)</i> <i>Ecologia Aplicada e da Paisagem (Applied and Landscape Ecology)</i> | 1997-2021; respons. 2007-2020 2017-present |
| BSc/MSc in Territorial Eng. MSc in Urbanism and Spatial Planning BSc/MSc in Mining and Geological Eng. | <i>Sistemas de Informação Geográfica I (Geographical Information Systems I)</i> | 1997-2021; respons. 2007-2021 |
| MSc in Urbanism and Spatial Planning | <i>Sistemas de Informação Geográfica II (Geographical Information Systems II)</i> | 2007-2017; respons. 2007-2017 |
| MSc in Geographical Information Systems | <i>Informática (Informatics)</i> | 1998-2001 |
| MSc in Civil Eng. | <i>Introdução aos Sistemas de Informação Geográfica (Introduction to Geogr. Info. Systems)</i> | 2007-2021; respons. 2007-2021 |
| BSc in Civil Eng. | <i>Modelação e Análise de Informação Geográfica (Modelling and Analysis of Geographical Information)</i> | 2022- present respons. 2022-present |
| | <i>Topografia e Geomática (Surveying and Geomatics)</i> | 2022- present |
| BSc in Mining and Geological Eng | <i>Fundamentos de Geomática (Fundamentals of Geomatics)</i> | 2022- present |

| | | |
|--|--|--|
| MSc in Mining and Geological Eng | Geologia Mineira (Mining Geology) | collab. 2021-present |
| MSc in Mining and Geological Eng MSc in Petroleum Eng | Projeto de Sistemas de Informação Geográfica (GIS Project) | 2021- present respons. 2021-present |
| Advanced Formation Diploma in Geographical Information Systems | <i>Programação para SIG (GIS Programming)</i> | 2008-2010 |
| Advanced Formation Diploma in Complex Transport and Infrastructure Systems | <i>Information and Communication Technologies</i> | collab. 2010-2013 |
| PhD in Civil Engineering | <i>Curso Avançado de Sistemas de Informação e Apoio ao Projeto (Advanced Course on Information and Design Support Systems)</i> | co-resp. 2011-2017 |
| MSc in Transport Planning and Operations | <i>Técnicas de Apoio ao Planeamento de Transportes (Support Technics for Transport Planning)</i> | collab. 2012-2016 |
| MSc in Spatial Planning and Urbanism | Infraestruturas do Território (Territorial Infrastructures) | collab. 2024-present |
| MSc in Transportation Systems | Métodos Quantitativos de Análise em Transportes (Quantitative Methods of Analysis in Transportation) | collab. 2023-present |
| MSc in Architecture | Geografia Física (Physical Geography) | collab. 2023-present |
| MSc in Environmental Eng | <i>Poluição e Proteção de Águas Subterrâneas (Groundwater Pollution and Protection)</i> | collab. 2019-2021 |

b) AT INSTITUTO POLITÉCNICO DE BEJA (under the institutional protocol IST/IPBeja)

| Course(s) | Programmes | Notes/dates |
|-----------------------|--|-------------|
| BSc in Surveying Eng. | <i>Métodos e Algoritmos Espaciais (Spatial Methods and Algorithms)</i> | 2007-2009 |

c) AT ACADEMIA DA FORÇA AÉREA (under the institutional protocol IST/AFA)

| Course(s) | Programmes | Notes/dates |
|----------------------|-------------------------------|---------------------------------|
| MSc in Airfield Eng. | <i>Topografia (Surveying)</i> | 2010-2014; 2016-2017; 2019-2021 |

ii) Student supervision

Supervisor of:

- 1 concluded post-doctoral programme
- 6 PhD theses (5 concluded, 1 ongoing in 2024)
- 32 MSc theses (26 concluded, 6 concluding in 2024)

a) POST-DOCTORAL

- 2014-2019: Co-supervision of Frederico José Rodrigues Henriques, post-doctoral programme (FCT grant SFRH/BPD/99163/2013) in Heritage and Museology, CITAR/Universidade Católica Portuguesa, HERCULES/Universidade de Évora, IST/Universidade de Lisboa, Universidad Complutense de Madrid.

Supervisor: Eduarda Vieira (UCP-Porto), co-supervisor: António Candeias (UÉvora). Programme title: "Documentação e Análise Espacial em Bens Culturais" / "Documentation and Spatial Analysis of Cultural Property"

b) CONCLUDED PHD THESES

- 2016-2023: Co-supervision of Sebastião Ferreira de Almeida Santos, PhD in Architecture of Contemporary Metropolitan Territories, ISCTE-IUL. Co-supervision with Fátima Ferreira (ISCTE-IUL) and Isabel Loupa Ramos (IST). Thesis: "Polarização e vulnerabilidade urbana. 'Periferias' do planeamento e das políticas públicas na Área Metropolitana de Lisboa" / "Polarization and vulnerability. 'Peripheries' of planning and public policies in the Lisbon Metropolitan Area" (concluded on Sept. 26th, 2023)
- 2017-2022: Co-supervision of Mohammed Sadegh Bahadori, PhD in Transportation Systems, IST. Co-supervision with Filipe Moura (IST). Thesis: "Dynamic virtual bicycle-sharing system stations location framework – A GIS-MCDM approach" (concluded on December 12th, 2022)
- 2014-2019: Co-supervision of Pedro Gonçalo Guerra Poseiro, PhD in Civil Engineering, IST. Co-supervision with Teresa Reis (LNEC) and Juana Fortes (LNEC). Thesis: "Forecast and Early Warning System for Wave Overtopping and Flooding in Coastal and Port Areas: Development of a Model and Risk Assessment" (concluded on March 19th, 2019)
- 2008-2013: Co-supervision of Frederico José Rodrigues Henriques, PhD in Painting Conservation, Escola das Artes da Universidade Católica Portuguesa. Co-supervision with Ana Calvo (UCP-Porto). Thesis: "Metodologias de documentação e análise espacial em conservação de pintura" / "Documentation and spatial analysis methodologies in painting conservation" (concluded on January 28th, 2013)
- 2007-2010: Supervision of Ana Catarina Coelho Rosa Zózimo, PhD in Engineering Sciences, IST. Co-supervision with Conceição Juana Fortes (LNEC). Thesis: "Modelação numérica da rebentação das ondas. Sistema integrado de modelação da agitação marítima" / "Numerical modelling of sea wave breaking. Integrated system for sea wave modelling" (concluded on November 29th, 2010)

c) CURRENT PHD THESES

- 2023-: Co-supervision of Jonatan Yeraj Villavicencio Moreno, PhD in Civil Engineering, IST. Co-supervision with Ana Paula Falcão (IST). Thesis: "Definition of 3D emergency routes for public access buildings: An IOT BIM-based approach considering seismic vulnerability and user profiles" (started on December 2023)

d) CONCLUDED MSC THESES

- Co-supervision of Aleksander Janusz Dąbek, MSc in Mining and Geological Engineering, IST. Thesis: "Automation of the calculation of vegetation and water detection indexes from multispectral imagery: A plugin for QGIS software" (concluded on September 15th, 2022)
- Co-supervision of Aleksandra Rybak, MSc in Mining and Geological Engineering, IST. Thesis: "Analysis of a point cloud obtained from merging airborne laser scanning and hand-held mobile laser scanning by iPhone 13Pro" (concluded on September 14th, 2022)
- Co-supervision of Jonatan Yeraj Villavicencio Moreno, MSc in Civil Engineering, IST. Supervisor: Ana Paula Falcão (IST). Thesis: "Building Information Modelling in facility management: Application to the Civil Engineering Pavilion at IST" (concluded on December 6th, 2021)
- Co-supervision of João André Gancho Barroso, MSc in Civil Engineering, IST. Supervisor: Rita Bento (IST). Thesis: "Desenvolvimento de uma Solução de Interoperabilidade entre BIM e Programa de Análise de Estruturas: Aplicação à Avaliação Sísmica Global do Chalet da Condessa d'Edla" (concluded on November 25th, 2021)
- Co-supervision of Belén Moreno Peñuelas, MSc in Mining and Geological Engineering, IST. Supervisor: Carlos Santos Silva (IST). Thesis: "Evaluation of retrofit solutions at a neighborhood scale using urban energy modeling tools" (concluded on December 16th, 2020)
- Co-supervision of Magdalena Cerekwicka, MSc in Mining and Geological Engineering, IST. Supervisor: Paula Falcão Neves (IST). Thesis: "Identification of reclamation methods for a limestone quarry using terrestrial laser scanning" (concluded on July 10th, 2020)

- Co-supervision of João Miguel Rebocho Paixão, MSc in Urbanism and Spatial Planning, IST. Supervisor: Jorge Baptista e Silva (IST). Thesis: "*Indicadores de monitorização de planos territoriais – Contributo para uma sistematização baseada em análise espacial*" / "*Monitoring indicators in spatial planning – A systematization based on spatial analysis*" (concluded on November 29th, 2018)
- Co-supervision of Filipe Ferreira Gomes, MSc in Industrial Engineering and Management, IST. Supervisor: Marta Gomes (IST). Thesis: "*Otimização de circuitos de inspeção aos pavimentos de uma rede rodoviária nacional*" / "*Optimization of pavement inspection routes of a national road network*" (concluded on July 3rd, 2017)
- Co-supervision of Vasco Vilela Guerlixa Firmino das Neves, MSc in Civil Engineering, IST. Supervisor: Rita Bento (IST). Thesis: "*Vulnerabilidade sísmica dos edifícios gaioleiros da cidade de Lisboa. Avaliação sísmica de um edifício tipo*" / "*Gaioleiro buildings in Lisbon. Seismic assessment of a typical Gaioleiro building*" (concluded on July 26th, 2016)
- Co-supervision of Ana Carolina Saldanha Moniz Jarimba, MSc in Civil Engineering, IST. Supervisor: Rita Bento (IST). Thesis: "*Vulnerabilidade sísmica dos edifícios porticados de betão armado da cidade de Lisboa - décadas 1960-1980*" / "*Seismic vulnerability of reinforced concrete frame buildings of in the city of Lisbon - 1960-1980 decades*" (concluded on April 1st, 2016)
- Co-supervision of Rui Jorge Damião Sousa Braga, MSc in Civil Engineering, IST. Supervisor: Rita Bento (IST). Thesis: "*Edifícios Mistos Alvenaria-Betão Armado em Campo de Ourique. Definição de uma Base de Dados e avaliação sísmica de um edifício tipo*" / "*Mixed Masonry-Reinforced Concrete Buildings in Campo de Ourique neighbourhood. Definition of a Database and seismic assessment of a typical building*" (concluded on January 22nd, 2016)
- Co-supervision of Rossano Manuel da Costa das Neves Figueiredo, MSc in Urbanism and Spatial Planning, IST. Supervisor: Isabel Ramos (IST). Thesis: "*Áreas de influência de espaços verdes urbanos de proximidade: uma abordagem exploratória na freguesia de Arroios*" / "*Service areas of local urban green spaces: an explorative approach in Arroios, Lisbon*" (concluded on October 28th, 2014)
- Supervision of José Manuel Anselmo Brito de Almeida, MSc in Civil Engineering / Military Engineering, IST/Academia Militar: Co-supervisor: Helena Rua (IST). Thesis: "*Modelação geográfica da permeabilidade do sistema defensivo das Linhas de Torres Vedras*" / "*Geographical modelling of the permeability of the Lines of Torres Vedras defensive system*" (concluded on October 6th, 2014)
- Co-supervision of João Tiago de Jesus Ferreira, MSc in Civil Engineering, IST. Supervisor: Rita Bento (IST). Thesis: "*Levantamento de informação sobre edifícios do tipo "placa" na cidade de Lisboa. Análise sísmica de um caso específico*" / "*Data collection for "placa" buildings in Lisbon. Seismic analysis of a particular case*" (concluded on October 3rd, 2014)
- Co-supervision of Ana Teresa Roque Prudêncio, MSc in Urbanism and Spatial Planning, IST. Supervisor: Beatriz Condessa (IST). Thesis: "*A equidade no processo de urbanização: modelos de perequação e grau de execução de planos*" / "*Equity in the urbanization process: compensatory models and the plan execution levels*" (concluded on June 23rd, 2014)
- Co-supervision of Ricardo Gomes Junqueira Morais, MSc in Environmental Engineering, IST. Supervisor: António Jorge de Sousa (IST). Thesis: "*Evaluation of the atmospheric deposition of heavy metals with biosensors in the region of Lisbon*" (concluded on November 20th, 2013)
- Co-supervision of João Miguel Vicente Xavier, MSc in Territorial Engineering, IST. Supervisor: Isabel Ramos (IST). Thesis: "*Modelação espacial de padrões de expansão urbana: um ensaio metodológico com autómatos celulares*" / "*Modelling urban expansion spatial patterns: a methodological approach using cellular automata*" (concluded on November 11th, 2013)
- Co-supervision of Paulo Jorge Monteiro de Cambra, MSc in Urbanism and Spatial Planning, IST. Supervisor: Filipe Moura (IST). Thesis: "*Pedestrian accessibility and attractiveness indicators for walkability assessment*" (concluded on November 22nd, 2012)
- Co-supervision of Rosa Melo Félix, MSc in Territorial Engineering, IST. Supervisor: Jorge Batista e Silva (IST). Thesis: "*Gestão da mobilidade em bicicleta - necessidades, factores de preferência e ferramentas de suporte ao planeamento e gestão de redes*" / "*Bicycle mobility management – needs, preference factors and support tools for the network planning and management*" (concluded on November 21st, 2012)

- Supervision of Ricardo Abreu Figueiredo, MSc in Civil Engineering / Military Engineering, IST/Academia Militar: Co-supervisor: Helena Rua (IST). Thesis: *“Modelação geográfica para avaliação das Linhas de Torres Vedras enquanto sistema defensivo” / “Geographic modelling for the evaluation of the Lines of Torres Vedras as a defensive system”* (concluded on December 12th, 2011)
- Supervision of Inês Franco Moreira. MSc in Civil Engineering, IST. Co-supervisor: Sílvia Shruballs (IST). Thesis: *“Identification of hazardous locations in urban areas through spatial analysis”* (concluded on November 23rd, 2011)
- Co-supervision of João André Martins Taveira Pinto, MSc in Territorial Engineering, IST. Supervisor: João Abreu e Silva (IST). Thesis: *“Análise espacial de indicadores de qualidade de serviço de transportes públicos” / “Spatial analysis of quality of service indicators for transit service”* (concluded on May 23rd, 2011)
- Supervision of Isabel Cristina Bilro Batista, MSc in Territorial Engineering, IST. Thesis: *“Módulo para Resolução de Problemas de Localização de Pontos em Ambiente SIG” / “A module for solving point location problems in GIS environment”* (concluded on November 17th, 2010)
- Co-supervision of Alexandre Daniel Vila Verde dos Santos, MSc in Geographical Information Systems (pre-Bologna), IST. Supervisor: João Matos (IST). Thesis: *“Definição do traçado de infra-estruturas lineares usando SIG: O caso da infra-estrutura ferroviária de alta velocidade” / “Definition of linear infrastructure paths using GIS: The case of the high speed rail infrastructure”* (concluded on September 18th, 2009)
- Supervision of Miguel Jorge Malveiro Valentim, MSc in Territorial Engineering, IST. Thesis: *“Identificação de áreas urbanas por análise espacial matricial” / “Identification of urban areas using raster spatial analysis”* (concluded on November 11th, 2008)
- Co-supervision of José Victor de Sousa, Supervisor: João Matos (IST). MSc in Geographical Information Systems (pre-Bologna). Thesis: *“Localização por site search” / “Location by site search”* (concluded on November 5th, 2008)

e) ONGOING MSC THESES

- Co-supervision of Gonçalo Neto Galvão Sá dos Santos, MSc in Civil Engineering, IST. Co-supervisor: Rita Bento (IST). Thesis: *“Avaliação da vulnerabilidade sísmica do parque edificado de alvenaria da Cidade de Lisboa”* (exp. 2024)
- Co-supervision of João Miguel Pereira Amaral Pereira, MSc in Mining and Geological Engineering, IST. Co-supervisor: Ana Paula Falcão (IST). Thesis: *“O uso de imagens de satélite na classificação das cores da água, aplicadas ao mapeamento expedito de presença de agentes ativos”* (exp. 2024)
- Co-supervision of Beatriz Niza Meira Jesus, MSc in Civil Engineering, IST. Co-supervisor: Ana Paula Falcão (IST). Thesis: *“Sistematização de Indicadores-Chave de Desempenho Aplicáveis à Gestão de Instalações em Ambiente BIM. Aplicação ao Pavilhão de Engenharia Civil do IST”* (exp. 2024)
- Co-supervision of João Rodrigo da Costa Agostinho, MSc in Mining and Geological Engineering, IST. Co-supervisor: Maria Paula Mendes (IST). Thesis: *“Impacto de atividades agrícolas na qualidade das águas subterrâneas”* (exp 2024)
- Co-supervision of Tiago Miguel Antunes Duarte, MSc in Civil Engineering, IST. Co-supervisor: João Abreu e Silva (IST). Thesis: *“Mapeamento e planeamento de refúgios climáticos em Lisboa”* (exp 2024)
- Co-supervision of Diogo Miguel Costa Bagulho, MSc in Civil Engineering, IST. Co-supervisor: Patrícia Ferreira (IST). Thesis: *“Identificação de zonas críticas e vulneráveis às alterações climáticas nas redes de infraestruturas de transportes na Área Metropolitana de Lisboa”* (exp 2024)

UNIVERSITY MANAGEMENT ACTIVITIES

- Since Jan. 2022: Coordinator of MSc dissertations in Civil Engineering, IST, and member of the Scientific Council of the course
- Jan. 2017 – 2019: Collaboration with the CERIS Direction Board on the research centre data mining (bibliometric data)

- Feb. 2015 – Jan. 2019: Director of the Computational Mechanics Laboratory - LTICivMat, Department of Civil Engineering, Architecture and Georesources, IST, in the Executive Board directed by Prof. Fernando Nunes da Silva. Responsible for the management of staff, facilities, and the expansion of laboratories for DECivil students
- Jan. 2011 – Dec. 2012: Member of the Executive Board of ICIST – Instituto de Engenharia de Estruturas, Território e Construção, in the Direction of Prof. Jorge de Brito
- Mar. 2008 – Dec. 2010: Coordinator of Research Group 5 (Information and Design Support Systems) of ICIST – Instituto de Engenharia de Estruturas, Território e Construção

- Participation in jury of 6 PhD theses:

Alex Lubida: "Investigating Spatial Data Infrastructure Planning in Tanzania using System Modelling and Social Concepts" PhD in Geobiosphere Science, with specialization in Geographical Information Science, Univ. of Lund, Sweden (December 17th, 2019) – main examiner

Pedro Gonçalo Guerra Poseiro: "Forecast and Early Warning System for Wave Overtopping and Flooding in Coastal and Port Areas: Development of a Model and Risk Assessment". PhD in Civil Engineering, IST (March 19th, 2019)

Luís Alexandre Duque Moreira de Sousa: "DSL3S: Domain Specific Language for Spatial Simulation Scenarios". PhD in Information Systems and Computer Engineering, IST (April 22th, 2016)

Frederico José Rodrigues Henriques: "Metodologias de Documentação e Análise Espacial em Conservação de Pintura". PhD in Painting Conservation, Escola das Artes da Universidade Católica Portuguesa (January 28th, 2013)

Victor Manuel Moça Ferreira: "Planeamento Participativo e as Tecnologias de Informação – Promover o Entendimento do Planeamento Local pelos Cidadãos". PhD in Urban and Regional Planning, IST (December 22th, 2011)

Ana Catarina Coelho Rosa Zózimo: "Modelação Numérica da Rebentação das Ondas. Sistema Integrado de Modelação da Agitação Marítima – Numerical Modelling of Sea Wave Breaking. Integrated System for Sea Wave Modelling". PhD in Engineering Sciences, IST (November 29th, 2010)

- Participation in jury of 45 MSc theses:

- Architecture (1, IST)
- Civil Engineering (10, IST)
- Environmental Engineering (2, IST)
- Geographical Information Systems (16, IST)
- Civil Engineering/Military Engineering (2, IST/AFA)
- Mining and Geological Engineering (3, IST)
- Territorial Engineering (7, IST)
- Territorial Management, spec. Remote Sensing and GIS (1, Univ. Nova de Lisboa)
- Urbanism and Spatial Planning (2, IST)
- Military Aeronautics, spec. Aerodrome Engineering (1, AFA)

Ricardo Nuno Ramos Vardasca Pereira: "Seismic assessment of the Joanina Wing of the National Palace of Sintra and definition of escape routes in BIM". MSc in Civil Engineering, IST (November 24th, 2023) – main examiner

Baptiste Nicolas Larrouy: "Implementing Lisbon GHG inventory in a GIS. Sector-based and consumption-based approaches". MSc in Civil Engineering, IST (November 2nd, 2023) – main examiner

Duarte Ferro da Cunha Ricardo Nunes: "Construção do modelo H-BIM e avaliação da vulnerabilidade sísmica de um edifício existente em Lisboa". MSc in Civil Engineering, IST (April 21st, 2023) – main examiner

Leonardo Alexandre Marques Varandas: "Implementação de metodologias BIM na fiscalização de obras - Aplicação a caso prático de reabilitação das claraboias do pavilhão de civil do Instituto Superior Técnico". MSc in Military Aeronautics, spec. Aerodrome Engineering, AFA (November 7th, 2022) – main examiner

Mariana Monteiro Alves Vieira Neves: "Construção do modelo BIM e avaliação do desempenho estrutural do corpo central do Palácio de Monserrate". MSc in Civil Engineering, IST (November 28th, 2022) – main examiner

João André Gancho Barroso: "Desenvolvimento de uma solução de interoperabilidade entre BIM e programa de análise de estruturas: Aplicação à avaliação sísmica global do Chalet da Condessa d'Edla". MSc in Civil Engineering, IST (November 25th, 2021)

Belén Moreno Peñuelas: "Evaluation of retrofit solutions at a neighborhood scale using urban energy modeling tools". MSc in Mining and Geological Engineering, IST (December 16th, 2020)

Maciej Mateusz Cerekwicki: "Application of terrestrial laser scanning for characterizing discontinuities in a limestone quarry". MSc in Mining and Geological Engineering, IST (July 10th, 2020) – [main examiner](#)

Magdalena Cerekwicka: "Identification of reclamation methods for a limestone quarry using terrestrial laser scanning". MSc in Mining and Geological Engineering, IST (July 10th, 2020)

João Miguel Rebocho Paixão: "Indicadores de monitorização de planos territoriais – Contributo para uma sistematização baseada em análise espacial". MSc in Urbanism and Spatial Planning, IST (November 29th, 2018)

David Nogueira Breia Monteiro de Abreu: "Teste à robustez do método de avaliação de caminhabilidade IAAPE". MSc in Civil Engineering, IST (November 16th, 2017) – [main examiner](#)

Júlio César Marques Luta: "Métricas físicas de deslocação pedonal em contexto urbano. Desenvolvimento de um modelo de teste". MSc in Architecture, IST (June 30th, 2016) – [main examiner](#)

Vera Filipa Cepas de Oliveira: "Modo de Gestão para a Sustentabilidade dos Destinos Turísticos: Análise do caso da Região de Sintra-Cascais". MSc in Environmental Engineering, IST (November 30th, 2015) – [main examiner](#)

Joana Maria Magalhães da Silva: "Avaliação do potencial de rede ciclável para viagens utilitárias em Lisboa". MSc in Civil Engineering, IST (December 3rd, 2014) – [main examiner](#)

José Manuel Anselmo Brito de Almeida: "Modelação geográfica da permeabilidade do sistema defensivo das Linhas de Torres Vedras". MSc in Civil Engineering / MSc in Military Engineering, IST/Academia Militar (October 6th, 2014)

Madalena Mira Vaz Sérvulo Rodrigues Bártolo: "Itinerários Seguros para o transporte de mercadorias perigosas em Portugal. Distribuição de combustíveis líquidos da Galp em Lisboa". MSc in Civil Engineering, IST (June 19th, 2014) – [main examiner](#)

Ricardo Gomes Junqueira Morais: "Avaliação da deposição atmosférica de metais pesados na região de Lisboa usando biossensores". MSc in Environmental Engineering, IST (November 20th, 2013)

João Miguel Vicente Xavier: "Modelação espacial de padrões de expansão urbana: um ensaio metodológico com autómatos celulares". MSc in Territorial Engineering, IST (November 11th, 2013)

Bruno Alexandre Herbert Leal de Sequeiros: "Aplicação de indicadores de desempenho nos serviços de resíduos urbanos". MSc in Territorial Engineering, IST (December 10th, 2012)

Adilson Vaz Cabral: "Análise Multicritério em Sistemas de Informação Geográfica para a Localização de Aterros Sanitários. O caso da Região Sul da Ilha de Santiago, Cabo Verde". MSc in Territorial Management, spec. Remote Sensing and GIS, Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa (November 23rd, 2012) – [main examiner](#)

Paulo Jorge Monteiro de Cambra: "Indicadores de Acessibilidade e Atractividade Pedonal em Meio Urbano - Desenvolvimento de um Quadro de Análise e Implementação em SIG". MSc in Urbanism and Spatial Planning, IST (November 22th, 2012)

Rosa Melo Félix: "Gestão da Mobilidade em Bicicleta - Necessidades, Factores de Preferência e Ferramentas de Suporte ao Planeamento e Gestão de Redes". MSc in Territorial Engineering, IST (November 21st, 2012)

Ricardo Abreu Figueiredo: "Modelação Geográfica para Avaliação das Linhas de Torres Vedras enquanto Sistema Defensivo". MSc in Civil Engineering / MSc in Military Engineering, IST/Academia Militar (December 12th, 2011)

Inês Franco Moreira: "Análise Espacial de Acidentes Rodoviários em Meio Urbano com Propostas de Correção Mitigadora". MSc in Civil Engineering, IST (November 23rd, 2011)

João André Martins Taveira Pinto: "Análise Espacial de Indicadores de Qualidade de Serviço de Transportes Públicos". MSc in Territorial Engineering, IST (May 23rd, 2011)

Isabel Cristina Bilro Batista, "Módulo para Resolução de Problemas de Localização de Pontos em Ambiente SIG". MSc in Territorial Engineering, IST (November 17th, 2010)

Filipe Miguel Nazaré Martins, "A Utilização de Tecnologias de Informação Geográfica na Gestão Urbanística". MSc in Civil Engineering, IST (October 29th, 2009) – main examiner

Elisabete da Fonseca Osório dos Reis, "Regime Jurídico de Urbanização e da Edificação". MSc in Territorial Engineering, IST (October 27th, 2009)

Alexandre Daniel Vila Verde dos Santos, "Definição do traçado de infra-estruturas lineares usando SIG: o caso da infra-estrutura ferroviária de alta velocidade". MSc in Geographical Information Systems, IST (September 18th, 2009)

Ana Isabel Pinto Pinela, "Optimização de Percursos de Recolha Selectiva". MSc in Geographical Information Systems, IST (June 3rd, 2009)

Lénia Maria Campos Costa, "Modelo Espacial de Localização de Ecopontos". MSc in Geographical Information Systems, IST (June 2nd, 2009)

Zara Fani Gonçalves Teixeira, "Applying Classification Algorithms to Regionalization Problems: The Ecological Map Case Study". MSc in Geographical Information Systems, IST (March 20th, 2009)

Helena Paula Mercier de Miranda Morgado Ramos, "Uso de SIG em Cadastro de Infra-estruturas de Telecomunicações por Cabo". MSc in Geographical Information Systems, IST (January 14th, 2009)

Maria Teresa Fonseca, "Análise da dinâmica das empresas/estabelecimentos com recurso aos sistemas de informação geográfica. Caso de estudo: Município de Oeiras". MSc in Geographical Information Systems, IST (December 19th, 2008)

Sara Cristina da Silva Ribeiro, "Ensaio sobre o delineamento de fronteiras desenvolvido em torno do caso de estudo da fronteira terrestre entre a República da Indonésia e a República de Timor-Leste". MSc in Geographical Information Systems, IST (December 19th, 2008)

Maria Vieira Raposo, "Sistema de informação de apoio aos projectos de requalificação ambiental das antigas minas dos radioactivos". MSc in Geographical Information Systems, IST (December 17th, 2008)

Beatriz Trindade Mendes, "Modelação da Dinâmica de um Conjunto de Embarcações da Frota de Arrasto Portuguesa". MSc in Geographical Information Systems, IST (December 2nd, 2008)

Ana Paula Alves Cordeiro, "Transferência de Informação numa Ave Colonial, o Peneireiro-das-torres Falco naumanni: Implicações para a Selecção de Habitat". MSc in Geographical Information Systems, IST (November 24th, 2008)

Miguel Jorge Malveiro Valentim: "Identificação de Áreas Urbanas por Análise Espacial Matricial". MSc in Territorial Engineering, IST (November 11th, 2008)

José Victor de Sousa, "Localização por Site Search". MSc in Geographical Information Systems, IST (November 5th, 2008)

Filipe Girbal Brandão, "Cálculo de Distâncias e Áreas Envolventes, no Elipsóide, Utilizando o Algoritmo de Vincenty". MSc in Geographical Information Systems, IST (September 12th, 2008)

Celeste de São João, "Estudo sobre a utilização e actualização da cartografia da Câmara Municipal de Lisboa". MSc in Geographical Information Systems, IST (September 11th, 2008)

Maria do Rosário Botelho Simões, "Informação Oceanográfica no InforM@ar, Desenvolvimento e Interoperabilidade de Dados". MSc in Geographical Information Systems, IST (March 17th, 2008)

António Pedro Gomes Calado, "InforM@ar - Base de Dados de Hidrografia e Visualização 2D e 3D da Geomorfometria". MSc in Geographical Information Systems, IST (March 17th, 2008)

Carla Sofia Teixeira Santana, "Metodologia de Apoio à Escolha de Corredores Rodoviários no Processo de AIA". MSc in Geographical Information Systems, IST (December 11th, 2007)

KNOWLEDGE TRANSFER

- February 2023: Communication “The use of multi-criteria decision analysis to rank heritage rehabilitation interventions: an application to Lisbon workforce housing sites” – Seminar “Impactful Applications of Multiple-Decision Criteria Analysis in Architectural Heritage: Comparing experiences in Portugal and in Italy”, Univ. of Minho, ISTAR-ISCTE and ISISE, 16th February 2023
- February 2022: Preparation and teaching in the field components of the course Land Surface Processes and Landscape Dynamics (NGEA09), run by Lund University in Portugal.
- December 2021: Course “Sistemas de Informação Geográfica na Gestão do Património” for an heritage management company, FUNDEC
- February 2020: Participation in "Cocktail de Ciências 2020" (dissemination of Earth sciences at IST to schools) with the activity "How does GPS work?"
- May 2018: Co-presentation "A Arte de Medir: da Agrimensura ao Posicionamento por Satélite", Museu de Lisboa-Teatro Romano.
- July 2016: Presentation "How walkable are our cities? Validating the walkability scores from a participatory assessment tool", Ciência'16, Centro de Congressos de Lisboa.
- Feb. 2016: Co-organization and lecturing at course "Iniciação aos Sistemas de Informação Geográfica com Software Open Source" at FUNDEC – DECivil (14h, 2 days)
- May – Sep. 2015: Co-organization of the "*Vértices Geodésicos e Outras Marcas*" exhibition at the DECivil museum, IST
- Dec. 2014: Inaugural lecture "*Os sistemas de informação geográfica e a otimização espacial no apoio à decisão: problemas, modelos e soluções*" (“Geographical information systems and spatial optimization in decision support: problems, models and solutions”) and session chair in the “II Colloquium on Geographical Information Systems”, Sociedade de Geografia de Lisboa.
- Nov. 2013: Informal lecture in the “Semana da Ciência e Tecnologia”, Ferreira Dias Secondary School.
- Dec. 2012: Co-organization and session chair in the “I Colloquium on Geographical Information Systems: Trends”, Sociedade de Geografia de Lisboa.
- Jan. 2011: Communication “*Geographic Information Techniques applied to Painting Conservation*” - III International Seminar ArchHC_3D on Conservation, Restoration and Rehabilitation: Surveying Methodologies, FAUTL, Lisbon.
- Oct. 2011: Communication “*Um novo modelo de caminho de menor custo em SIG*”, Sociedade de Geografia de Lisboa.

AWARDS

- Paper "An extension of GIS-based least-cost path modelling to the location of wide paths" was included in 2011 in the International Journal of Geographical Information Science 25th anniversary free access virtual issue, chosen by the journal's editor and gathering seminal papers in the area of geographical information published in the first 25 years of the journal.
- BIM Excellence Award 2021 in the category of Management of the Built Environment (Buildings and Infrastructures), for the research work "BIM Models for information management and support for projects, works and maintenance of built heritage – Sintra National Palace and Chalet da Condessa d' Edla" - award given by the BIM National Standardization Technical Commission, the BUILT CoLAB, the AEC Cluster and the PTPC – Portuguese Construction Technology Platform.
- IJGI 2022 Outstanding Reviewer Award
- Five diplomas of excellency in teaching, IST

Lisbon, February 2024