

## Curriculum Vitae

### Joana Isabel de Bastos Fernandes

address: Rua do Lindo Vale, 426; 4200-370 Porto, Portugal

email: joanabfernandes@yahoo.com; phone: 00351910204429

born on 1977/05/15, S. Pedro, Funchal; C.C. 10965825

driving licence P-1035980 1; Portuguese Architects Association 11277; CCP n° F582941/2012



## A. Work - Scientific research

Centre for Innovation, Technology and Policy Research (IN+), Instituto Superior Técnico, Lisbon (since 2019)

### A.1. scientific outputs

#### A.1.1. journal papers and conference papers

- Fernandes, J., Ferrão, P. Bridging Circular Economy and Embodied Carbon: A Quantitative Assessment Method for Building Refurbishment Design. *Developments in the Built Environment* 2025, 24, 100801. <https://doi.org/10.1016/j.dibe.2025.100801>
- Martinho, M., Fernandes, J., Gomes, R. et al. A comprehensive tool for embodied carbon quantification and supporting mitigation strategies in the Building sector. *Discov Appl Sci* 7, 781 (2025). <https://doi.org/10.1007/s42452-025-07384-5>
- Chojnacka, K., Widera, B., Macarulla, M. et al. Green urban transition: interdisciplinary insights on green façades design in hot climates as one of crucial strategies for low-carbon development. *Clean Techn Environ Policy* 2024, <https://doi.org/10.1007/s10098-024-02957-1>
- Fernandes, J.; Ferrão, P. Improving building refurbishment strategies to promote Circular Economy. *Proceedings of the 19th International Symposium on Waste Management, Resource Recovery, and Sustainable Landfilling*. 10-2023
- Fernandes, J.; Ferrão, P. A New Framework for Circular Refurbishment of Buildings to Operationalize Circular Economy Policies. *Environments* 2023, 10, 51. <https://doi.org/10.3390/environments10030051>
- Fernandes, J.; Ferrão, P. Urban Metabolism-Based Approaches for Promoting Circular Economy in Buildings Refurbishment. *Environments* 2023, 10, 13. <https://doi.org/10.3390/environments10010013>
- Göswein, Verena; Carvalho, Sofia ; António Lorena; Joana Fernandes; Ferrão, Paulo. "Bridging the gap: A database tool for BIM-based circularity assessment". 2022. 10.1088/1755-1315/1078/1/012099
- Fernandes, J. B., Ferrão, P. C., Silvestre, J. D. ., Aguiar Costa, A., & Göswein, V. (2022). Advancing Circular Economy in the existing building stock: A methodology to support building characterisation for sustainable refurbishment design. *Acta Polytechnica CTU Proceedings*, 38, 599–605. <https://doi.org/10.14311/APP.2022.38.0599>
- Fernandes, J.; Santos, M.C. ; Castro, R. Introductory Review of Energy Efficiency in Buildings Retrofits. *Energies* 2021, 14, 8100. <https://doi.org/10.3390/en14238100>

#### A.1.2. conference posters

- Fernandes, J.; Ferrão, P. A new BIM-based method to promote Buildings Circular Economy at a neighborhood scale. 11th International Conference on Industrial Ecology, Leiden 2023.
- Fernandes, J.; A BIM-based circularity assessment methodology towards sustainable buildings refurbishment design. MIT Portugal 2022 Annual Conference
- Fernandes, J; Circular Economy Refurbishment of existing building stock: a methodological framework for design sustainability assessment. MIT Portugal 2021 Annual Conference
- Fernandes, J; Gomes, R.; Benis K.; Ferrão P.; C-Tech Summer School Buildings Team. Characterization of Lisbon existing building stock: Building archetypes in C-Tech Project area. MIT Portugal 2020 Annual Conference

### A.1.3. other outputs and oral communications in seminars and media

- Plugin for Building and Embodied Carbon Circularity Assessment, Pyhton/ Archicad interface (2025/11);
- Participation in the ATE - Alliance for the Energy Transition project (56), supported by the EU PRR;
- "A Circular Refurbishment Framework to facilitate Buildings oriented Circular Economy policies", Technology, Data, and Policy Consortium Meeting (MIT, 2024/06);
- "O papel dos edifícios na Economia Circular", interview, article on sustainable construction, Edifícios e Energia magazine n. 149 (2023/09);
- Participation in "90 segundos de ciência", radio program, Antena 1 (<https://www.rtp.pt/play/p2936/e704292/90-segundos-ciencia>) (2023/07);
- Plugin for Building Circularity Assessment, Circular EcoBIM Project (<https://github.com/CircularEcoBIM/CircularityTool4Revit>);
- "Final event of the project", Circular EcoBIM Project (Lisboa, 2022/10) ;
- "Circular Economy Principles for the Built Environment - Circular EcoBIM Project", lecture in Postgraduate Diploma in Circular Economy Leadership for the Built Environment (Online, 2022/10);
- "Podcast Episode 1 - Design for Circular Construction", Circular EcoBIM Project (<https://www.youtube.com/watch?v=UojniG-b87c>) (2022/08);
- "Developing the tools for BIM-based circularity assessment", Circular EcoBIM Project (Online, 2022/02) ;
- Participation in 3d modelling of Oeiras city for the application Oeiras 27 - European Capital of Culture 2027 (2022/02).
- Developing a methodology for BIM.based Circularity Assessment (Online, 2021/07);
- "Integrating Level(s) Framework and BIM for Buildings' Sustainability Assessment", International Industrial Ecology Day 2021 (online 2021/06);
- "Circular EcoBIM Kick-off Webinar, Circular EcoBIM Project (Online, 2020/12).

### A.2. participation in seminars, conferences and relevant workshops

- "Growing Circle" workshop (Online, 2021/11)
- "The search for sustainable buildings: Innovative solutions from Level(s) and the New European Bauhaus" webinar (Online,2021/06)
- "DiCE Lab: The Internet of things for a Circular Economy" webinar (Online, 2022/05)
- 1st webinar - SECCLASS Project: "Sistema de Classificação para a Construção Circular: Opções para Portugal" (Online, 2021/04);
- "Model Cities Anywhere - Pathways towards a Net-Zero Building Stock" workshop, MIT Sustainable Design Lab (2021/01);
- Cluster Habitat Sustentável, session "Soluções para os Desafios da Sustentabilidade" webinar (2020/12);
- "Cost of building to Net Zero" webinar (2020/09);
- "CE Week Webinar: Circular Economy, Reuse and Construction" webinar (2020/06);
- "A sustentabilidade aplicada ao projeto - BIM" conference (2019/12).

## B. Work - architecture and urban planning

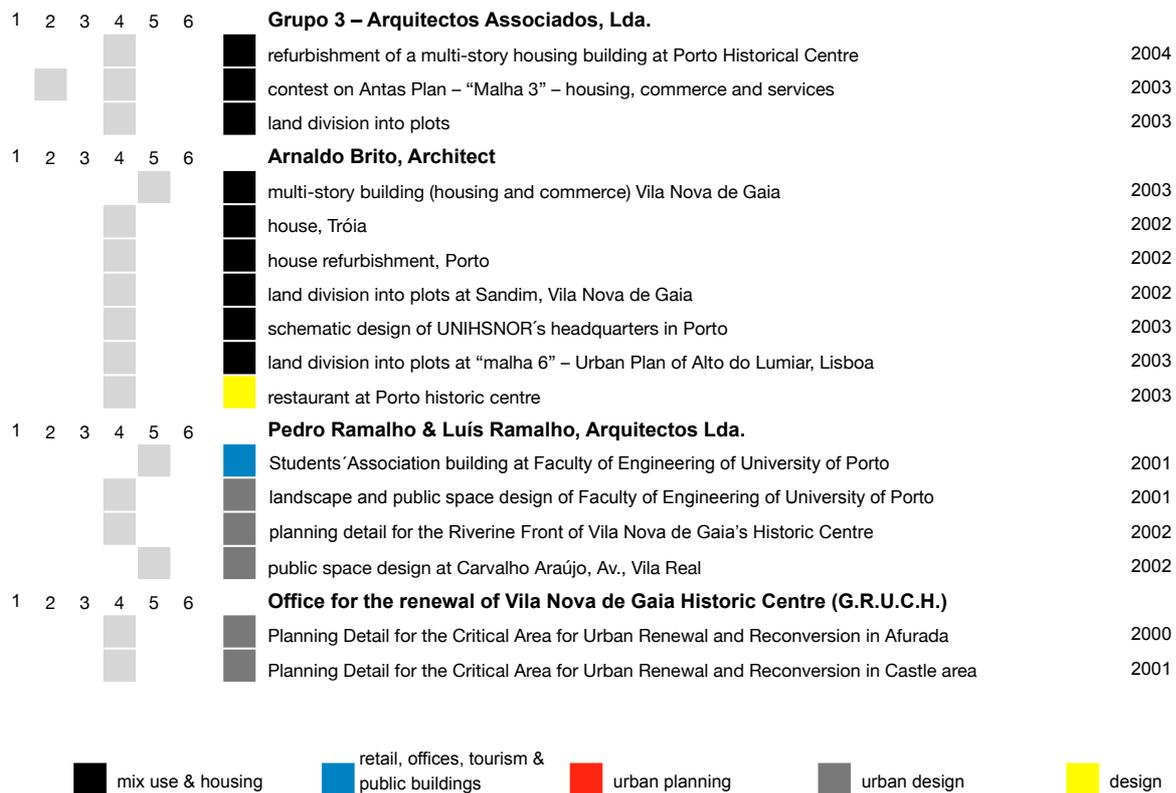


1	2	3	4	5	6	Self employed architect		
						■	soccer field and south street design, Vendas Novas	2018
						■	renovation of Rua Marechal Craveiro Lopes, Vendas Novas	2019
						■	renovation of part of 25 de Abril Av., Vendas Novas	2018
						■	renovation of Rua da Escola Prática de Artilharia, Vendas Novas	2018
						■	retail refurbishment at Rua da Bainharia, Porto	2018
						■	building refurbishment (commerce and housing) at Rua de Santo André, Porto	2018
						■	refurbishment of Ordem da Trindade Church and museum (co-autor), Porto	2018
						■	building refurbishment (housing) at Travessa da Rua Chã, Porto	2017
						■	house refurbishment in Carriço, Pombal	2017
						■	building refurbishment (housing) at Rua de Bonjôia, Porto	2017
						■	building refurbishment (commerce and housing) at Praça Carlos Alberto, Porto	2017
						■	building refurbishment (commerce and housing) at Rua dos Mercadores, Porto	2017
						■	building refurbishment (housing) at Rua do Corpo da Guarda, Porto	2017
						■	touristic house refurbishment casa de campo, Provesende	2017
						■	house refurbishment at Rua Coutinho de Azevedo, Porto	2017
						■	building refurbishment (housing) at Rua da Boavista, Porto	2017
						■	building refurbishment (commerce and housing) at Rua de Trindade Coelho, Porto	2017
						■	building refurbishment (commerce and housing) at Rua do Almada, Porto	2017
						■	house refurbishment at Rua Adolfo Casais Monteiro, Porto	2017
						■	building refurbishment (commerce and housing) at Rua de Cedofeita, Porto	2017
						■	house refurbishment at Rua Direita de Francos, Porto	2017
						■	house refurbishment at Rua das Antas, Porto	2016
						■	building refurbishment (commerce and housing) at Rua de Trás, Porto	2016
						■	elementary school refurbishment 2, Vendas Novas	2016
						■	Retail and services refurbishment at Rua das Carmelitas, Porto	2016
						■	building refurbishment (commerce and housing) at Rua da Reboleira, Porto	2016
						■	flat refurbishment at Rua da Constituição, Porto	2016
						■	building refurbishment (commerce and housing) at Rua de Belmonte, Porto	2016
						■	house in Branzelo, Gondomar	2015
						■	flat at Rua do Carmo, Porto	2015
						■	house refurbishment at Rua de Tristão Vaz, Vila Nova de Gaia	2015
						■	building refurbishment (housing) at Praça do Marquês, Porto	2015
						■	facade renovation at Rua de Ricardo Jorge, Porto	2015
						■	building refurbishment (commerce and services) at Rua dos Mercadores, Porto	2015
						■	hostel refurbishment at Rua de Sampaio Bruno, Porto	2015
						■	building refurbishment (housing) at Rua de Sacadura Cabral, Porto	2014
						■	flat refurbishment at Rua Formosa, Porto	2014
						■	kiosk for touristic agency in Bom Sucesso Market, Porto	2014
						■	building refurbishment (housing) II at Rua de Trás, Porto	2014
						■	building refurbishment (housing) at Rua da Alegria, Porto	2013
						■	restaurant at Bonfim, Porto	2013
						■	house refurbishment - Casa da Vinha, Celorico de Basto	2013
						■	house refurbishment at Rua Anselmo Braancamp, Porto	2013
						■	Building metric design at Rua das Flores, Porto	2013
						■	flat refurbishment at Rua de D. Hugo, Porto	2013
						■	grocery shop and bar, Porto	2013
						■	house in Serzedo, Vila Nova de Gaia	2013
						■	building refurbishment (housing) at Rua de Trás, Porto	2013
						■	house refurbishment at Rua do Salgueiral, Porto	2013
						■	flat refurbishment, Almada	2012

mix use & housing
  retail, offices, tourism & public buildings
  urban planning
  urban design
  design

1	2	3	4	5	6			
							<b>Self employed architect</b>	
							rural hotel hotel, Amarante	2012
							modular houses, Africa	2012
							house in historic centre, Montemor-o-Novo	2012
							loft interior design, Porto	2010
							farm refurbishment, Montemor-o-Novo	2012
							10000 modular houses, Angola (co-author)	2010
							lawyers'office refurbishment, Porto (co-author)	2010
							medical centre, Vila Nova de Gaia (co-author)	2008
							house refurbishment in Campo de Rou, Porto (co-author)	2007
							house refurbishment, Porto	2007
							house, Celorico de Basto	2008
							house refurbishment, Gondomar (co-author)	2006
							dental clinic, Vila Nova de Gaia (co-author)	2008
							house refurbishment at Bonjardim St., Porto (co-author)	2009
							dental clinic, Vila Nova de Gaia (co-author)	2006
							logo, graphic design and trademark registration: umseisum   arquitectura (co-author)	2007
							commerce and services building, Vila Nova de Gaia (co-author)	2003
							house in Vilar do Paraíso, Vila Nova de Gaia	2002
							<b>Nuno Ribeiro Lopes - Arquitectos, Lda.</b>	
							building refurbishment for housing and offices at Rua do Cano, Évora	2011
							<b>Porto Vivo, SRU – Sociedade de Reabilitação Urbana da Baixa Portuense, S.A.</b>	
							Strategic Plan for the Rehabilitation of the Historic Centre of Porto UNESCO World Heritage	2011
							development of Porto's Municipal Plan for Noise Reduction	2010
							project for an underground 400 parking places at Mouzinho/Flores	2010
							conversion of Porto's Zone of Priority Intervention into Urban Rehabilitation Areas	2010
							building refurbishment at Carlos Alberto Plaza, Porto	2011
							joint refurbishment of 11 buildings at Mouzinho da Silveira St., Porto	2011
							two refurbishments at Miragaia St. and Comércio do Porto St., Porto	2011
							rehabilitation of FAJDP's headquarters' building	2011
							Strategic Integrated Plans for Ferreira Borges, Porto Vivo and Ponte Nova blocks	2007-2011
							Strategic Integrated Plans for S. João, Sementeira and S. Domingos blocks	2007-2011
							Strategic Integrated Plans for Martins Alho, D. João I and Viela dos Congregados blocks	2008-2011
							inspections of all the buildings located at Imperial, Feitoria Inglesa and Corpo da Guarda blocks	2006
							Sustainable Development of Sea Towns (Naples, Zanzibar, Le Havre, Matosinhos, Istanbul, Livorno)	2006-2007
							Contest for Ideas within the Revitalisation of Oporto Riverine Front in the Zone of Priority Intervention	2007
							Public contest for the refurbishment of 6 buildings at Carlos Alberto block	2006
							refurbishment of Urban Renewal's Shop building and ateliers on Porto	2006
							strategic program for the Rehabilitation of Sé area	2005
							Masterplan for urban and social rehabilitation of Porto City Centre	2005
							Porto Vivo, SRU's stand at Salão Imobiliário de Lisboa [Real Estate Trade Show]	2005
							architectural issues on the financial project European Investment Bank	2005
							research on parking demands at Zone of Priority Intervention	2005
							characterization studies for the Strategic Integrated Plans of Carlos Alberto and Infante blocks	2005
							layout for Porto Vivo, SRU's website	2005
							technical analysis and contributes on Multi-Criteria Evaluation System for Porto's City Plan	2004
							public tender for consolidation and archaeological works of several buildings at Porto Historical	2004
							guidelines for the "Strategic Paper for the Rehabilitation of Porto City Centre"	2004
							master guidelines to be included in Strategic Integrated Plans, according do legal framing	2004
							characterisation tables to be used in several blocks	2004

mix use & housing
  retail, offices, tourism & public buildings
  urban planning
  urban design
  design



1.conference-publication 2.competition 3.project management 4.design 5.detailed design for construction 6.construction management

## B.1. oral and participation in relevant seminars, conferences and workshops

- participation in SUSTAIN’Be Seminar – Sustainable Construction 2019 (2019/07 - FEUP, Porto);
- participation in the workshop on “Alternative Rehabilitation: “bottom-up” and “low-cost” Architecture”, promoted by ADDICT (Creative Industries, Portugal) (2011/02 – Maus Hábitos, Porto);
- participation in seminar on “Sustainability of urban renewal operations”, promoted by Porto Vivo, SRU ( 2010/12 – Centro de Congressos da Alfândega, Porto);
- participation in “Technical Course on wooden structures – rehabilitation of buildings’structures” (2010/09 - Departamento de Engenharia Civil da Universidade do Minho);
- participation in “Seminar and lunch on earthquake engineering and historic masonry” (2010/07 - Departamento de Engenharia Civil da Universidade do Minho);
- participation in “19th Technical Course of Grupo Habitar (GH) - Urban and Housing Renewal”, promoted by CidadeGaia, SRU E.M. (2010/06 – Calém Cellars promoted by, Vila Nova de Gaia);
- participation in “Urban rehabilitation and social impact” colloquium, promoted by GRUA (2010/03 – FAUP);
- participation in seminar on “Urban Management of a World Heritage City”, promoted by Porto Vivo, SRU (2009/12 – Centro de Congressos da Alfândega, Porto).
- International Seminar “Final Seminar Working Group Sudest”, SUDEST Project (Naples, 2007/07);
- “Final Seminar Working Group Sudest” Working group, SUDEST Project (Zarzis, 2007/04);
- International Seminar “The capitalisation and the dissemination of the working group’s results”, SUDEST Project (Le Havre, 2007/02);
- International Seminar “Management instruments of urban regeneration”, SUDEST Project (Matosinhos, 2006/10);

- International Seminar “Economic and social dimension of the urban regeneration of urban regeneration”, SUDEST Project (Istambul, 2006/06);
- International Seminar “Physical dimension of urban regeneration”, SUDEST Project - Sustainable Development of Sea Towns (Livorno, 2006/02).

## **B.2. publications and media**

- Anteprojectos (architecture magazine), house in Celorico de Basto (2010);
- Arquitectarte - RTP-N, tv program about a building refurbishment in Porto (2009);
- Urbact Sudest - Working group / Groupe de travail (all texts about the Riverine Front in Porto). In: Sudest Pocket. ISBN/ISSN: 978-88-85359-89-2, EN/FR (2007).

## **C. relevant education and workshops**

- PhD student in Sustainable Energy Systems, Instituto Superior Técnico (since 2019);
- PhD student in Architecture, Évora University (2012/2013);
- specialization course in Urban Management, Centro de Estudos e Formação Autárquica, final classification 17/20 (2009/2010);
- degree in Architecture, Faculty of Architecture (FAUP), Porto University, final classification 15/20 (2000/2001);
- 12th grade on Social and Economics Studies, final classification 19/20 (1994/1995).
- Scientific writing Workshop, Instituto Superior Técnico (2023);
- co-supervisor of Master Degree thesis “Furniture design for refurbished micro-flat”, Inês da Silva Martins, Escola Superior de Artes e Design - Specialization in Product Design (2018-Porto);
- Archicad Level I, Infor (2013);
- Avanced Archicad, Infor (2013);

## **D. language and computer skills**

- English (First Certificate, Universidade de Cambridge), French (medium) and Spanish (medium);
- 3D Studio Max, Adobe Creative Suite, ArcGis, QGis, Rhinoceros, Archicad, Artlantis Studio, Autocad, Microstation, MS Word, MS Excel, MS Outlook, Ms PowerPoint, Windows and Mac;
- Basic knowledge of urban simulation(UMI) and building simulation (EnergyPlus and Ecodesigner Star) softwares;
- Programming: Python and Archicad API.

Porto, February 2026