

Resume

**RAQUEL VALENTE DE
PINHO MATOS**



PERSONAL INFORMATION

📍 Rua do Ramalhão nº 30, 3860-461 Aveiro (Portugal)
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📅 **Date of birth** 06/10/1993
🇵🇹 **Nationality** Portuguese

LANGUAGES

English	- B.2
French	- A.1

IT SKILLS

- Python programming
- REVIT
- Autocad
- MsOffice
- CYPE
- SAP2000
- MS Project
- Plaxis

SOCIAL SKILLS

Motivated
Assiduous
Diligent

EDUCATION

10/2022—03/2023

Fulbrighter as Researcher scholar

Construction Science Department - Texas A&M University, College Station, Texas, USA.

11/2019—Present

PhD Student in Civil Engineering - Civil Engineering Department, University of Aveiro, Aveiro, Portugal.

Title: "Building Condition Assessment applied to public buildings".

10/2020—03/2021

Post-graduate course in Building Information Modelling (BIM) coordination, Polytechnic Institute of Porto - School of Engineering (ISEP), Oporto, Portugal. Grade:16

09/2017

"Forecast Engineering: From Past Design to Future Decisions" , Bauhaus Summer School, Weimar, Germany.

09/2011—12/2016

Master degree in Civil Engineering , Civil Engineering Department, University of Aveiro, Aveiro, Portugal.

Thesis title: "Building Life Cycle Management na reabilitação de edifícios". Grade:19 /20 points.

07/2016

Collaboration in Building Inspection at Bairro do Falcão (10-15 apartment), in Oporto, Portugal.

02/2016—06/2016

Internship in rehabilitation of existent building, accompanied by Engº Paulo Ribeirinho and Engº Duarte Almas, in Porto, Portugal.

WORK EXPERIENCE

Charge: Civil Engineer

12/2017—10/2019

GEPECTROFA—Gabinete de Estudo e Projetos de Engenharia Civil da Trofa.

Main Activities:

- Waste water drainage and water supply projects; Energy Performance/thermal behaviour projects; Buildings inspections and anomalies diagnosis; Building measurements and budgeting; Assessment of buildings' deterioration state.

01/2017—11/2017

Charge: Civil Engineer

Research fellow - Civil Engineering Department, University of Aveiro.

Researcher scholarship. Activity: "Assessment of buildings' deterioration state, the reason behind the anomalies identified and rehabilitation solutions. To develop maintenance and repair plans of buildings."

GRANTS AND HONORS

- **Fulbright research fellowship, with FCT support** — April 2022 — Research fellow at Texas A&M University, USA — April 2022 - <https://www.fulbright.pt/fulbrighters/bolseiros/ano-academico-2022-2023/raquel-matos/>

- **FCT Fellowship** — SFRH/BD/147532/2019

- **Best internship award/2017** given by Portuguese Engineers Order.

- **Best Technical Article Award.**- CINPAR2016 – XII International conference on Structural Repair and Rehabilitation, Porto, Portugal, 26-29 October, 2016.

PARTICIPATION IN JURY AS MAIN ARGUER

ERASMUS+ 20 Undergraduate Civil Engineering Project/Internship submitted by Bob Klepper entitled "3D digital reconstruction of existing Civil Engineering Structures using the Structure From Motion (SfM) technique", Polytechnic Institute of Porto—ISEP, 29 July 2022, Porto, Portugal.

ROLES IN SCHOLARLY PUBLICATIONS

Reviewer for *Journal of Building Engineering* (Since 2021)

Peer-reviewed process:

Reviewer for *Scientia Iranica* (Since 2021)

PUBLISHED WORKS

Thesis

Dissertation presented at University of Aveiro to obtain the Master degree in Civil Engineering, named: "Building Life Cycle Management na reabilitação de edifícios", 16, December 2016, with a grade of 19 values.

Articles in Scientific Journals

Matos, R., Rodrigues, H., Costa, Aníbal; Rodrigues, F. (2023) "BIM-FM integrated solution resourcing to digital techniques" Special Issue: Visual Pattern Recognition and Extraction for Cultural Heritage in Neural Computing and Applications. <https://doi.org/10.1007/s00521-023-08907-0> (IF (2023) = 5.102);

Matos, R., Rodrigues, H., Costa, Aníbal; Requejo, C; Rodrigues, F. (2023) Facility manager perspectives on building condition assessment for Portuguese higher education institutions. *Building Research & Information* 2023, 16. <https://doi.org/10.1080/09613218.2023.2204415> (IF (2023)=4.799);

Bona, S.; Silva-Afonso, A.; Gomes, R.; Matos, R.; Rodrigues, F. (2023) Nature-Based Solutions in Urban Areas: A European Analysis. *Appl. Sci.* 2023, 13, 168. <https://doi.org/10.3390/app13010168> (IF (2022)= 2.838; IF5Y(2023)=2.921; Q2) (Scopus).

Rodrigues, F.; Cotella, V.; Rodrigues, H.; Rocha, E.; Freitas, F.; Matos, R. (2022) "Application of Deep Learning Approach for the Classification of Buildings' Degradation State in a BIM Methodology" *Appl. Sci.* 2022, 12, 7403. <https://doi.org/10.3390/App12157403> (IF (2022)= 2.838; IF5Y(2023)=2.921; Q2) (Scopus).

Rodrigues, F., Alves, A., Matos, R. (2022) "Construction Management Supported by BIM and a Business Intelligence Tool" *Energies* 2022, 15, 3412. <https://doi.org/10.3390/en15093412> (IF(2022)=3.252; Q2) (Scopus).

Matos, R., Rodrigues, H., Costa, A., Rodrigues, F. (2022) "Building Condition Indicators Analysis for BIM-FM Integration" *Archives of Computational Methods in Engineering*. <https://doi.org/10.1007/s11831-022-09719-6> (IF (2022)= 8.171; IF5Y(2020)=8.169; Q1) (Scopus).

Matos, R., Rodrigues, F., Rodrigues, H., Costa, A. (2021) "Building Condition Assessment supported by Building Information Modelling" *Journal of Building Engineering* <https://doi.org/10.1016/j.jobe.2021.102186>

Rodrigues, F., Antunes, F. and Matos, R. (2020), "Safety plugins for risks prevention through design resourcing BIM", *Construction Innovation*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/CI-12-2019-0147>

F. Rodrigues, J. Teixeira, R. Matos and H. Rodrigues (2019). "Development of a Web Application for Historical Building Management through BIM Technology". *Advances in Civil Engineering* Volume 2019, Article ID 9872736, 15 pages. ISSN:1687-8086; e-ISSN:1687-8094. <https://doi.org/10.1155/2019/9872736>. (Q2). (Scopus)

Rodrigues, Fernanda; Matos, Raquel; Di Prizio, Moises; Costa, Anibal (2018). "Conservation level of Residential Buildings: Methodology evolution". *Construction and Building Materials*, Volume 172, 781-786. ISSN: 0950-0618; eISSN: 1879-0526. doi: 10.1016/j.conbuildmat.2018.03.129. (IF2017=3.485; IF5y =4.039; Q1).(Scopus)

Fernanda Rodrigues, Raquel Matos, Ana Alves, Paulo Ribeirinho, Hugo Rodrigues (2017). "Building life cycle applied

PUBLISHED WORKS

Articles in Conferences (continuation)

Matos, R., Rodrigues, H., Alves, A., Costa, A., Rodrigues, F. (2022) “Manutenção preventiva de edifícios com recurso ao BIM” in PTBIM— 4th Portuguese Conference in ‘Building Information Modelling’, 4-6 May, 2022, Braga, Portugal. ISBN 978 -989 -8974 -68 -6 . <https://doi.org/10.21814/uminho.ed.32>.

Matos, R., Rodrigues, H., Tavares, E., Costa, A., Rodrigues, F. (2021) “Maintenance Management of Existing Buildings Supported on BIM” in BIMIC — 3rd Building and Management International Conference, Universidad Politécnica de Madrid, Nov 2021, Madrid, Spain.

Matos, R., Rodrigues, H., Benitez, P., Rocha, A., Rodrigues, F. (2021) “Estratégias de apoio à Manutenção Preditiva em Edifícios Existentes” in CONREA — O Congresso da Reabilitação, Julho 2021, University of Aveiro, Aveiro, Portugal.

Matos, R., Rodrigues, F., Rodrigues, H., Costa, A. (2021) “O BIM no apoio à definição da criticidade de anomalias em edifícios existentes” in CONREA - O Congresso da Reabilitação, Julho 2021, University of Aveiro, Aveiro, Portugal.

Paulo Ribeirinho, Fernanda Rodrigues, Raquel Matos, Hugo Rodrigues. “eCOSTly—Plataforma para avaliação da vida útil de soluções constructivas” - 4^o Encontro de Conservação e Reabilitação de edifícios—ENCORE 2020, Novembro 2020, Laboratório Nacional de Engenharia Civil, Lisboa, Portugal. Paper 198.

Matos, R., Rodrigues, F., Rodrigues, H., Costa, A. (2020) “Strategies to Support Facility Management Resourcing Building Information Modelling” - 15th International Conference on Durability of Building Materials and Components—XV DBMC, Outubro 2020, UPC BarcelonaTECH, Barcelona, Spain. Paper 1045.

Fernanda Rodrigues, Paulo Ribeirinho, Raquel Matos, Hugo Rodrigues (2020). “Plataforma de Gestão do Ciclo de Vida Útil do Edifício – ECOSTLY”. V Congresso Internacional na “Recuperação, Manutenção e Restauração de Edifícios” – CIRMARE 2020. UFRJ 08-10 Setembro 2020, Rio de Janeiro Brasil (Virtual). Paper 496: <file:///C:/Users/mfrodrigues/Downloads/496.pdf>.

Rodrigues, Fernanda; Costa, Anibal; Matos, Raquel; Tavares, Alice; Fonseca, Jorge; Alves, Ana; Alvares, Manuela (2018) “Avaliação da Conservação e Manutenção de um Edifício do Séc. XIV no Centro Histórico do Porto, Portugal” REHABEND 2018—Construction Pathology, Rehabilitation Technology and Heritage Management , Cáceres, Espanha

Raquel Matos, Fernanda Rodrigues, Hugo Rodrigues, Ana Alves, Paulo Ribeirinho. (2017) - “Building Life Cycle management aplicado a um edifício de pedra do início do Séc.XX”. CREPAT 2017—Congresso da Reabilitação do Património, Aveiro, Portugal.

Cristian, A., Matos, R., Karimi, S., Scupin, A., Zhurovski, A. (2017) “Distributed Damaged Detection Using Wireless Sensor Networks” at Bauhaus Summer School, Weimar, Germany.

Raquel Matos, Fernanda Rodrigues, Hugo Rodrigues, Ana Alves, Paulo Ribeirinho (2016). Building Life Cycle Management na reabilitação de edifícios. PTBIM - 1^o Congresso Português de Building Information Modelling, 527-536, 24-25 de Novembro, 2016, Universidade do Minho, Guimarães, Portugal. ISBN: 978-989-8793-04-1.

R. Matos, F. Rodrigues, H. Rodrigues, A. Dinis Alves, P. Ribeirinho (2016) “Building life cycle management for rehabilitation: Application to a case study”, CINPAR2016 – XII International conference on Structural Repair and Rehabilitation, Porto, Portugal, 26-29 October, 2016. ISBN: 978-972-752-203-3. **It won Best Technical Article Award.**

OTHER PUBLICATIONS

Technical Reports:

Aníbal Costa, Fernanda Rodrigues, Alice Tavares, Jorge Fonseca, Raquel Matos, Pablo Benitez, Fabiana Silvero - Report related to assessment of buildings’ deterioration state, the reason behind the anomalies identified and rehabilitation solutions at Bairro do Falcão Buildings: 10-15. required by: GOP - Gestão de Obras Públicas da Câmara Municipal do Porto, October, 2016.

Aníbal Costa, Fernanda Rodrigues, Alice Tavares, Jorge Fonseca, Raquel Matos, Ana Dinis Alves, Pablo Benitez, Fabiana Silvero - Report related to assessment of buildings’ deterioration state, the reason behind the anomalies identified and rehabilitation solutions at Agrupamento do Falcão, Freguesia de Campanhã – Porto, required by: CMPH - DemusSocial - Empresa de Habitação e Manutenção do Município do Porto, 5M, December, 2016.

to refurbishment of a traditional building from Oporto, Portugal”. Journal of Building Engineering, Volume 17, Pages 84-95. ISSN: 23527102. <https://doi.org/10.1016/j.jobbe.2018.01.010>. (IF=0,753; Q2). (Scopus)

Articles in Conferences

OTHER PUBLICATIONS

Technical Reports (continuation):

Aníbal Costa, Fernanda Rodrigues, Alice Tavares, Jorge Fonseca, Raquel Matos, Ana Dinis Alves - Report related to assessment of buildings’ deterioration state, the reason behind the anomalies identified and rehabilitation solutions of Municipal Historical Archive - Casa do Infante, Porto, required by: CMPH – DomusSocial – Empresa de Habitação e Manutenção do Município do Porto, EM, February, 2017.

Aníbal Costa, Fernanda Rodrigues, Alice Tavares, Jorge Fonseca, Raquel Matos, Ana Dinis Alves - Development of maintenance and repair plans of Municipal Historical Archive - Casa do Infante, Porto, required by: CMPH – DomusSocial – Empresa de Habitação e Manutenção do Município do Porto, EM, February, 2017.

Aníbal Costa, Fernanda Rodrigues, Alice Tavares, Jorge Fonseca, Raquel Matos, Flávio Antunes - Report related to assessment of buildings’ deterioration state, the reason behind the anomalies identified and rehabilitation solutions of Municipal Council Building of Oporto - OPorto, required by: CMPH – DomusSocial – Empresa de Habitação e Manutenção do Município do Porto, EM, March, 2017.

Aníbal Costa, Fernanda Rodrigues, Alice Tavares, Jorge Fonseca, Raquel Matos, Flávio Antunes - Development of maintenance and repair plans of Municipal Council Building of Oporto - OPorto, required by: CMPH – DomusSocial – Empresa de Habitação e Manutenção do Município do Porto, EM, March, 2017.

COMMUNICATIONS IN SCIENTIFIC MEETINGS

Matos, R., Rodrigues, H., Costa, A., Rodrigues, F. (2022) – “BIM – FM Integrated solution resourcing to digital techniques” - 1st International Virtual Conference on Visual Pattern Extraction and Recognition for Cultural Heritage Understanding (VIPERC), Pescara, Italy, September 12, 2022. ISSN 1613-0073. <https://ceur-ws.org/Vol-3266/>.

Matos, R., Rodrigues, H., Alves, A., Costa, A., Rodrigues, F. (2022) “ Manutenção preventiva de edifícios com recurso ao BIM” in PTBIM— 4th Portuguese Conference in ‘Building Information Modelling’, 4-6 May, 2022, Braga, Portugal.

Matos, R., Rodrigues, F., Rodrigues, H., Costa, A. (2021) “Building Condition Assessment Applied to Public Buildings” in the form of pitch at the Research Summit 2021, held at the University of Aveiro, Aveiro, Portugal, July 7-9, 2021.

Paulo Ribeirinho, Fernanda Rodrigues, Raquel Matos, Hugo Rodrigues. “eCOSTly—Plataforma para avaliação da vida útil de soluções constructivas” - 4º Encontro de Conservação e Reabilitação de edifícios—ENCORE 2020, November 2020, Laboratório Nacional de Engenharia Civil, Lisbon, Portugal. Paper 198.

Matos, R., Rodrigues, F., Rodrigues, H., Costa, A. (2020) “Strategies to Support Facility Management Resourcing Building Information Modelling” - 15th International Conference on Durability of Building Materials and Components—XV DBMC, October 2020, UPC BarcelonaTECH, Barcelona, Spain. Paper 1045.

Raquel Matos, Fernanda Rodrigues, Hugo Rodrigues, Ana Alves, Paulo Ribeirinho. “Building Life Cycle Management na reabilitação de edifícios”. PTBIM - 1º Congresso Português de Building Information Modelling, 527-536, 24-25 de November, 2016, University of Minho, Guimarães. ISBN: 978-989-8793-04-1.

R. Matos, F. Rodrigues, H. Rodrigues, A. Dinis Alves, P. Ribeirinho (2016) “Building life cycle management for rehabilitation: Application to a case study”, CINPAR2016 – XII International conference on Structural Repair and Rehabilitation, Porto, Portugal, 26-29 October, 2016. ISBN: 978-972-752-203-3.

POSTER PRESENTATIONS

Matos, R., Rodrigues, F., Rodrigues, H., and Costa, A. (2022) “Building Condition Assessment Applied to Public Buildings” in Encontro Ciência 2022—Science and Technology in Portugal Summit from the 16th to the 18th May 2022, At Lisbon Congress Centre, Lisbon, Portugal.

Matos, R., Rodrigues, F., Rodrigues, H., and Costa, A. (2021) “Building Condition Assessment Applied to Public Buildings” in

COMMUNICATIONS BY INVITATION

Fernanda Rodrigues, Hugo Rodrigues, Raquel Matos, Ana Alves - "The role of BIM (Building Information Modelling) in the built heritage characterization". 29, September, 2017 Workshop "Building Characterization and Modelation" — INOVADOMUS.

BOOK CHAPTER

R. Matos, H. Rodrigues, · E. Tavares, · A. Costa, · A. D. Alves, · F. Rodrigues (2023) "Maintenance Management of Existing Building Supported on BIM" Chapter 1 in *New Advances in Building Information Modeling and Engineering Management*, Digital Innovations in Architecture, Engineering and Construction, https://doi.org/10.1007/978-3-031-30247-3_1

COMPLEMENTARY COURSES

2022— Course "Advanced training course 2022: Applied and computational mathematics in Engineering Application", University of Aveiro, Aveiro, Portugal.

2022—Course "Introduction to photogrammetry" Pólo Arqueológico de Viseu, Viseu, Portugal.

2017— Course "Forecast Engineering: From Past Design to Future Decisions" at **Bauhaus Summer School**— Weimar, Germany.

2017— Course of Autodesk Revit software .

2016— French course level - A.1.2 (QECR).

2016— Course of Energy Performance of Residential buildings (REH) and Energy Performance of trade and services buildings (RECS) .

2016— English course level - B.2.2 (QECR).

2016— Course of CypeCAD software.

2014— Course of design in SAP 2000.

2014— Course of Autodesk AutoCAD .

2014— Course of basic life support and in first aid.

ADDITIONAL INFORMATION

- BIM trends and Innovation Conference— Dez, 2019, ISEP , Porto

- BIMcentro Conference —Nov, 2019 , Universidade de Aveiro

- **Best internship award/2017** given by Portuguese Engineers Order.

- **Best Technical Article Award.**- CINPAR2016 – XII International conference on Structural Repair and Rehabilitation, Porto, Portugal, 26-29 October, 2016.

- Conference "Sucess—Sustainability of shallow geothermal systems" (2017)

- BIM international Conference 2016/2015—BIMMI

RESEARCH SUPPORT

FCT Fellowship — SFRH/BD/147532/2019

VOLUNTEERING EXPERIENCE

2013 - 2019—Firefighter, Bombeiros Voluntários da Murtosa.

Matos, R., Rodrigues, H., Costa, A., Rodrigues, F. (2022) – “BIM – FM Integrated solution resourcing to digital techniques” - 1st International Virtual Conference on Visual Pattern Extraction and Recognition for Cultural Heritage Understanding (VIPERC), Pescara, Italy, September 12, 2022. ISSN 1613-0073. <https://ceur-ws.org/Vol-3266/> .