



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **Andreea Casuta (Duțu)**
Address(es) Bucharest, Romania
E-mail andreea.dutu@utcb.ro
Nationality Romanian
Gender Female
Birth date 23.08.1983

Work experience

Dates	October 2016 - present
Occupation or position held	Lecturer
Main activities and responsibilities	Construction engineering – teaching, Research on Traditional Buildings
Name and address of employer	Technical University of Civil Engineering Bucharest, Department of Civil Engineering
Dates	September 2012 - present
Occupation or position held	Assistant professor
Main activities and responsibilities	Construction engineering - teaching
Name and address of employer	Technical University of Civil Engineering Bucharest, Department of Civil Engineering
Dates	December 2013 – September 2014
Occupation or position held	JSPS (Japan Society for Promotion of Science) Postdoctoral Researcher
Main activities and responsibilities	Research on Timber Framed Masonry Structures
Name and address of employer	Tokyo Institute of Technology, Structural Engineering Research Center, Sakata Laboratory
Dates	April 2013 – November 2013
Occupation or position held	Researcher
Main activities and responsibilities	Research on Timber Framed Masonry Structures
Name and address of employer	Tokyo Institute of Technology, Structural Engineering Research Center, Sakata Laboratory
Dates	May 2012 – March 2013
Occupation or position held	GCOE (Global Center of Excellence) Postdoctoral Researcher
Main activities and responsibilities	Experimental Research on Timber Framed Masonry Structures
Name and address of employer	Tokyo Institute of Technology, Center for Urban Earthquake Engineering, Hayashi /Sakata Laboratory
Dates	October 2011- May 2012

Occupation or position held	Researcher (CSIII)
Main activities and responsibilities	Research, issuing technical approvals, testing on building elements and structures
Name and address of employer	National Institute For Research And Development In Construction, Urban Planning And Sustainable Spatial Development "URBAN-INCERC", INCERC Bucharest Branch
Dates	June 2008- September 2011
Occupation or position held	Research assistant (ACS)
Main activities and responsibilities	Research, issuing technical approvals, testing on building elements and structures
Name and address of employer	National Institute For Research And Development In Construction, Urban Planning And Sustainable Spatial Development "URBAN-INCERC", INCERC Bucharest Branch

Education and training

Dates	July 2021
Title of qualification awarded	Passing and completion certificate
Principal subjects/occupational skills covered	ARCH301x: Japanese Architecture and Structural Design
Name and type of organisation providing education and training	Tokyo Institute of Technology.
Dates	October 2008 – September 2011
Title of qualification awarded	Doctor of Engineering
Principal subjects/occupational skills covered	Structural Engineering
Name and type of organisation providing education and training	Technical University of Civil Engineering Bucharest
Dates	October 2010
Title of qualification awarded	Training certificate
Principal subjects/occupational skills covered	Introduction in the field of rehabilitation of existing buildings
Name and type of organisation providing education and training	FunDEC, Technical University of Lisbon, Portugal
Dates	October 2007 – July 2008
Title of qualification awarded	Postgraduate diploma
Principal subjects/occupational skills covered	Construction Management
Name and type of organisation providing education and training	Technical University of Civil Engineering Bucharest
Dates	October 2002 – July 2007
Title of qualification awarded	M. Sc.
Principal subjects/occupational skills covered	Civil Engineering
Name and type of organisation providing education and training	Technical University of Civil Engineering Bucharest
Dates	September 1998 – June 2002
Title of qualification awarded	College Diploma

Principal subjects/occupational skills covered Mathematics-Physics
 Name and type of organisation providing education and training National College "Bogdan Petriceicu Hasdeu " Buzau

Research stages

Period September 2015 – November 2015
 Location University Grenoble-Alpes (Joseph Fourier)
 Department 3SR – Structures, Solids and Risks
 Supervisors Prof. Laurent Daudeville, Dr. Stephane Grange, Dr. Yannick Sieffert
 Domain Numerical methods for applied nonlinear mechanics

Period October 2014
 Location Lanzhou University of Technology, China
 Department Institute of Earthquake Protection and Disaster Mitigation
 Supervisors Prof. YongFeng Du
 Domain Base isolation building investigation

Period January 2012 – February 2012
 Location Kandilli Observatory for Earthquake Research Institute (KOERI) Istanbul, Turkey
 Department Earthquake Engineering Department
 Supervisors Dr. Can Zulfikar
 Domain Application of ELER (earthquake loss estimation routine) for Vrancea seismic hazard

Dates June 2010 – April 2011
 Location Technical University of Lisbon, Instituto Superior Tecnico, Portugal
 Department Civil engineering department, Construction and technology section
 Supervisors Prof. Fernando Branco, Prof. João Gomes Ferreira
 Domain Structural rehabilitation of civil existing buildings

Mother tongue(s) Romanian

Other language(s)

Self-assessment <i>European level (*)</i>	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production			
English	C1 Proficient user		C1 Proficient user		C1 Proficient user		C1 Proficient user		C1 Proficient user	
Japanese	B1	Independent user	B2	Independent user	A1	Basic user	A1	Basic user	A1	Basic user
French	B1	Independent user	B2	Independent user	A2	Basic user	A1	Basic user	A2	Basic user
Portuguese	A1	Basic user	A1	Basic user	A1	Basic user	A1	Basic user	A1	Basic user

Certifications Authorization to control cranes with ground control (traveling cranes) - E type

Research projects

(director)

PN-III-P2-2.1-PED-2021-1428 – Experimental Demonstrative Project (UEFISCDI Romania), budget 130 000 euro, 2022-2024 “Appropriate strengthening methods for the Romanian traditional ”paiantă” house” tfmro.utcb.ro

PN-II-RU-TE-2014-4-2169 – Young Research Teams (UEFISCDI Romania), budget 125 000 euro, 2015-2017 “Seismic evaluation method for Romanian traditional residential houses” tfmro.utcb.ro

PN-III-P2-2.1-PED-2016-1073 – Experimental Demonstrative Project (UEFISCDI Romania), budget 130 000 euro, 2017-2018 “Revival of Romanian traditional houses with modern solutions and local, natural materials” trarom.utcb.ro

MSL Collaborative Research Projects (2014-2023), yearly, budget ~250 000 yen, funded by Tokyo Institute of Technology

Participation in research projects (as a member)

National Research Program - PN 06-11.01.01 (Romania) Modern methods, at European level, for design and realization of new buildings and rehabilitation of existing buildings, made of precast elements

National Research Program - PN 09 14 (Romania) Rehabilitation of buildings made of prefabricated elements and panels, in order to meet the demands imposed by ensuring compliance with European requirements and ensure the concepts of performance required in seismic zones

Technical regulation (Romania) National Annex SR EN 1996-1-2 Fire resistance for masonry

REABEPA - PTDC/ECM/100168/2008 (Portugal)

Structural rehabilitation of masonry walls in old buildings NERA project – Work package TA1 (Turkey) Database with vulnerable buildings for post-earthquake intervention. Earthquake loss estimation for Romania seismicity

Awards TIEMS 2011 BEST STUDENT PAPER AWARD, June 2011, The 18th annual TIEMS conference (The International Emergency Management Society)

Best presentation award in recognition of outstanding contributions by a young researcher - 9th International Conference on Urban Earthquake Engineering/4th Asia Conference on Earthquake Engineering, March 6-8, 2012, Tokyo Institute of Technology, Tokyo, Japan

Special Mention for Academic Excellence from the Romanian Students Abroad League, Section Other Continents, January 2015, Bucharest, Romania

Invited lectures

“GLOBAL WEBINAR ON SUSTAINABLE & EARTHQUAKE RESILIENT STRUCTURES”, (2022), September 29th, Organizer: Prof. Hamood Alwashali, Green Innovation Center, Okayama University, Japan

17th WORLD CONFERENCE ON SEISMIC ISOLATION IN TORINO, (2022), “Seismic isolation applications in Romania”, September

Round table: “Vulnerability of human settlements to natural hazards: A cross between science and local knowledge, diagnosis and decision support, reconstruction and resilience” Summer School RISK@UGA 2022 FROM AUGUST 29, 2022 TO AUGUST 31, 2022, THEMATIC PROGRAM RISK GRADUATE SCHOOL GS@UGA UNIVERSITÉ GRENOBLE ALPES & GRENOBLE INSTITUTE RISK & RESILIENCE UNIVERSITÉ GRENOBLE ALPES

China-Europe Forum on Retrofitting of Historical Buildings, Online Platform Tencent Meeting, July 29, 2021, Organized by Lanzhou University of Technology and ASSISi during the 9th Chinese national conference on structural retrofitting (CNSR9) July 28-30, 2021, “Seismic isolation applications in Romania”

Opening of the bilingual (Chinese/English) course “Optimum structural Design for senior undergraduate students”, “Traditional timber frames in Romania”, in Lanzhou University of Technology, China, May 27, 2020

Tokyo Institute of Technology, Kishiki Laboratory, Japan, February 19th 2018. “Seismic evaluation and improvement of Romanian traditional buildings with timber structure and various infills”

Tohoku University, Maeda Laboratory, Japan, February 17th 2018. “Seismic evaluation and improvement of Romanian traditional buildings with timber structure and various infills”

Tsinghua University, Ji Laboratory, June 28th, 2017, “Traditional Romanian timber frames with infills”

Institute of Earthquake Mechanics (IEM), Beijing, China, June 27th, 2017, “Traditional Romanian timber frames with infills”

University Grenoble-Alpes, 3SR Laboratory, Grenoble, October 23rd, 2015 “Timber Framed Masonry Structures, an Earthquake Resistant Influenced Architecture”

Institute of Earthquake Mechanics (IEM), Beijing, China, October 28th, 2014. “Seismic behavior of timber frames with masonry infills”

Lanzhou University of Technology, Institute of Earthquake Protection and Disaster Mitigation, China, October 21st, 2014. “Seismic behavior of timber frames with masonry infills”

Tohoku University, Maeda Laboratory, Japan, September 26th, 2013. “Study on timber framed masonry panels retrofitted with aramid fiber reinforced polymers (AFRP)”

Tokyo Institute of Technology, Japan, Center for Urban Earthquake Engineering, August 25th, 2012. “Study on earthquake behavior of timber framed masonry buildings”

Kandilli Observatory for Earthquake Research Institute (KOERI) Istanbul, Turkey, January 12th, 2012. “Aspects regarding the seismic analysis of timber framed masonry structures”

Research proposals reviewer

ARUT – Research grants for young researchers (evaluator)

COST Action (EU)

RI in the Danube area - ResInfra@DR

Committees ISO Meeting Observing Member on behalf of ASRO in the Technical Committee ISO/TC98- SC2-WG13 - Bases for design of structures - General Principles of Seismically Isolated Structures that was held in Prague in November 13-14, 2018

Member in Technical Committee CEN 343

Organizations Member of the scientific council of the European Center for Buildings Rehabilitation - ECBR within EUR-OPA Major Hazards Agreement of European Council General

Secretary of the Board in TIEMS Young Scientists Network

Member of Earthquake Engineering Research Institute

Member of Architectural Institute of Japan

Member of Historic Timber Frames in Seismic Zones

Member in Anti-Seismic System International Society (ASSISi)

Publications

- Published book, chapters** Dutu, A., Iordachescu, A., Mocanu, D., Soveja, L. (2023). Seismic Isolation Applications in Romania. In: Cimellaro, G.P. (eds) Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures. WCSI 2022. Lecture Notes in Civil Engineering, vol 309. Springer, Cham. https://doi.org/10.1007/978-3-031-21187-4_3
- Andreea Dutu, Daniel Mocanescu, Book Chapter, (2022), "Seismic Vulnerability Assessment of Civil Engineering Structures at Multiple Scales From Single Buildings to Large-Scale Assessment, Elsevier
- Andreea Dutu, Book Chapter 14th: An engineering view on the traditional timber frames with infills in Romania", Masonry Construction in Active Seismic Regions, 1st Edition, Elsevier, Editors: Rajesh Rupakhety Dipendra Gautam, Paperback ISBN: 9780128210871, Imprint: Woodhead Publishing, Published Date: 3rd May (2021)
- Andreea Casuta (Dutu), (2021), "Introduction to the construction engineering of seismic isolated buildings", MatrixRom
- I. Spătărelu, A. Duțu, M. Niste, „Construction Engineering: Project Guideline”, ISBN 978973-100-419-8, Editura Conspress (2016)
- “Historical Earthquake-Resistant Timber Frames in the Mediterranean Area”, Editors: Nicola Ruggieri, Gennaro Tampone, Raffaele Zinno, Chapter 6 “Experimental study on timber framed masonry structures”, Dutu A., Sakata H., Yamazaki Y., Springer (2015)

Published journal papers (peer-reviewed) Dutu, Andreea, Mihai Niste, Iolanda-Gabriela Craifăleanu, and Marina Gingirof. (2023). "Construction Techniques and Detailing for Romanian Paiantă Houses: An Engineering Perspective" Sustainability 15, no. 2: 1344. <https://doi.org/10.3390/su15021344>

- Florin Pavel, Andreea Dutu, Ehsan Noroozinejad Farsangi, (2022) Seismic Loss Estimation Using Experimental Fragility and Vulnerability Functions: Case Study of Buzau County, Romania, February 2022, *Natural Hazards Review*
- Mohamed Issa, Andreea Dutu, Iolanda-Gabriela Craifaleanu, Matsutaro Seki (2021), "Numerical analysis of a reinforced concrete frame with masonry infill under seismic loading", *CONSTRUCTII Journal*
- Alexandru Aldea, Andreea Dutu, Sorin Demetriu, Daniel Dima, (2021) DYNAMIC PROPERTIES IDENTIFICATION FOR A TIMBER FRAMED MASONRY HOUSE, *CONSTRUCTII Journal*
- Parrise F, Polletti E., Dutu A., Rodrigues H., (2021), "Numerical modeling of the seismic performance of Romanian timber-framed masonry walls", *Engineering Structures*, Volume 239, 112272
- Cristian Petcu, Daniel Barbu-Mocanescu, Andreea Dutu, (2021), "A SUSTAINABLE SOLUTION FOR PREFABRICATED RESIDENTIAL BUILDINGS", *Revista Urbanism. Arhitectură. Construcții*, Vol. 12 • Nr. 2 • 2021
- Andreea Dutu, Mihai Niste, Iulian Spatarelu, Daniel Barbu-Mocanescu, Dietlinde Kober & Shoichi Kishiki (2020) Seismic Performance of a Newly Proposed Structural Timber Wall System (TRAROM) with Simple Nailed Connections, *International Journal of Architectural Heritage*, DOI: 10.1080/15583058.2020.1805044
- Dutu Andreea, Daniel Barbu-Mocanescu, Mihai Niste, Iulian Spatarelu, and Yoshihiro Yamazaki. 2020. "In-Plane Static Tests on a Structural Timber Frame System Proposal (TRAROM) Inspired from Traditional Architecture and Using Local Materials." *Engineering Structures* 212 (March): 110491. <https://doi.org/10.1016/j.engstruct.2020.110491>
- Alexandru ALDEA, Andreea DUTU, Sorin DEMETRIU, Daniel I. DIMA, (2020) "Dynamic properties identification for a timber framed masonry house", *Constructii: Journal of Civil Engineering Research*, No.1/2020, ISSN 1221-2709, e-ISSN 2247-0328
- Dutu A., Yamazaki Y., Sakata H., (2018) "Shear spring model proposed for seismic evaluation of a timber framed masonry infilled wall", *Engineering Structures*, Volume 167, 15 July 2018, Pages 671-682
- Dutu A., Niste M., Spatarelu I., Dima D.I., Kishiki S., (2018) "Seismic evaluation of Romanian traditional buildings with timber frame and mud masonry infills by in-plane static cyclic tests", *Engineering Structures*, Volume 167, 15 July 2018, Pages 655-670
- Dutu, A., Sakata, H., Yamazaki, Y., and Shindo, T. (2015). "In-Plane Behavior of Timber Frames with Masonry Infills under Static Cyclic Loading." *J. Struct. Eng.*, 10.1061/(ASCE)ST.1943-541X.0001405 , 04015140.
- Qu Z., Dutu A., Zhong J., and Sun J. (2015) Seismic Damage to Masonry-Infilled Timber Houses in the 2013 M7.0 Lushan, China, Earthquake. *Earthquake Spectra*: August 2015, Vol. 31, No. 3, pp. 1859-1874.
- Dutu, A., Ferreira, J.G. and Sandu, C. (2013) 'Incremental seismic rehabilitation concept for Romanian civil buildings integrated in natural hazards prevention management', *Int. J. Emergency Management*, Vol. 9, No. 3, pp.248–257.
- Ferreira, J. G., Teixeira, M. J., Duțu, A., Branco, F., Goncalves, A., (2012) "Experimental Evaluation and Numerical Modelling of Timber Framed Walls", *Experimental techniques*, Volume 38, Issue 4, pages 45–53, July/August 2014, DOI: 10.1111/j.17471567.2012.00820.x
- Duțu, A., Ferreira, J. G., Guerreiro, L., Branco, F., Goncalves, A. (2012) "Timbered masonry for earthquake resistance in Europe", *Materiales de Construcción*, Vol. 62, 308, 615-628, octubre-diciembre 2012. ISSN: 0465-2746. doi: 10.3989/mc.2011.01811
- Duțu, A., Ferreira, J. G., Goncalves, A., Covaleov A., (2012) "Components interaction in timber framed masonry structures subjected to lateral forces", *Constructii: Journal of Civil Engineering Research*. 2012;13(1)62-67, ISSN: 1221-2709 (Print); 2247-0328 (Online)

Published conference papers

Andreea DUTU, Adrian IORDACHESCU, Dragos MOCANU, and Lucian SOVEJA, (2022), "Seismic isolation applications in Romania", 17th World conference on seismic isolation in Torino (17WCSI), Italy

Andreea Dutu, Kit Miyamoto, Giulia Jole Sechi, Shoichi Kishiki, (2022) "Timber framed masonry houses: resilient or not?", 3rd European Conference on Earthquake Engineering and Seismology (3ECEES), September, Bucharest, Romania

Dietlinde Kober, Andreea Dutu, (2022) "Finite element model for TRAROM lightweight timber walls", 3rd European Conference on Earthquake Engineering and Seismology (3ECEES), September, Bucharest, Romania

D.Sen, J. Lamsal, A. Dutu, H. Alwashali, M. Seki, M. Maeda, (2020) "EXPERIMENTAL STUDY ON FERRO-CEMENT RETROFIT FOR RC FRAME WITH INFILLED BRICK MASONRY WALL", 17WCEE Sendai Japan, September

Andreea Dutu, Valentin Nicula, Daniel Barbu-Mocanescu, Mihai Niste, Iulian Spatarelu, Kishiki Shoichi, (2020) "EXPERIMENTAL AND NUMERICAL ANALYSIS OF A NEWLY PROPOSED STRUCTURAL TIMBER WALL (TRAROM)", 17WCEE Sendai Japan, September 2020

Andreea Dutu, Mihai Niste, Iulian Spatarelu, Daniel Barbu-Mocanescu, Dietlinde Kober and Shoichi Kishiki, (2019), "Influence of timber connections in the proposed structural wall system (TRAROM)", 5th International Conference on Structural Health Assessment of Timber Structures (SHATIS), 25-27 September, Guimarães, Portugal

Dutu A., Sakata H., Yamazaki Y., Niste M., Spatarelu I., (2018), "Influence of axial force application in the behavior of timber framed masonry walls under in-plane static cyclic loading", World Conference on Timber Engineering (WCTE), Seoul, Republic of Korea, August 20-23

Dutu A., Niste M., Spatarelu I., (2018) "In-plane static cyclic tests on traditional Romanian houses' walls", 16 European Conference on Earthquake Engineering (16ECEE), Thessaloniki, Greece, June 18-21

Seki M., Popa V., Lozinca E., Dutu A., Papurcu A., (2018) "Experimental Study on Retrofit Technologies for RC Frames with Infilled Brick Masonry Walls in Developing Countries", 16 European Conference on Earthquake Engineering (16ECEE), Thessaloniki, Greece, June 18-21

Dutu A., Barbu Mocanescu D., Niste M., Spatarelu I., Kober D., (2018) "Revival of Romanian traditional houses with modern solutions and local, natural materials (Trarom Project)", International Multidisciplinary Scientific GeoConference SGEM, June 30th-July 9th, Bulgaria

Duțu A., Sakata H., Yamazaki Y., (2017). "Comparison between different types of connections and their influence on timber frames with masonry infill structures' seismic behavior", 16th World Conference on Earthquake, 16WCEE 2017, Santiago Chile, January 9th to 13th 2017

Duțu A., Sakata H., Yamazaki Y., Shindo T., (2016). "Influence of an AFRP retrofit solution when applied to timber framed masonry panels", Proceedings of World Conference of Timber Engineering, WCTE 2016, August 22-25, Vienna

Dima D.I., Duțu A., (2016). "Traditional buildings with timber frame and various infills in Romania", Proceedings of World Conference of Timber Engineering, WCTE 2016, August 22-25, Vienna

Dutu A., Sakata H., Yamazaki Y., Shindo T., (2015) „Retrofit solution for timber framed masonry system using aramid fiber reinforced polymers (AFRP)", IABSE Conference, 13-15 May, Nara, Japan

Dutu A., Shindo T., Sakata H., Yamazaki Y., (2014) "Structural Assessment of Timber Framed Masonry Structures (Part 4): Retrofit Solution using Aramid Fiber Reinforced Polymers (AFRP)", AIJ Annual Conference, 11-14 September, Kobe, Japan

Dutu A., Sakata H., Yamazaki Y., (2013) “Experimental study on timber framed masonry structures”, Historic Earthquake-Resistant Timber Frames in the Mediterranean Region (H.Ea.R.T.2013) November 4-5, 2013, University of Calabria, Italy

Dutu A., Sakata H., Yamazaki Y., Shindo T., (2013) “Structural Assessment of Timber Framed Masonry Structures (Part 2): Static cyclic tests on timber frames with and without masonry infill”, AIJ Annual Conference, 30 August-1 September, Hokkaido, Japan

Shindo T., Dutu A., Sakata H., Yamazaki Y., (2013) “Structural Assessment of Timber Framed Masonry Structures (Part 1): Experimental evaluation of lateral resistance of masonry infill panels”, AIJ Annual Conference, 30 August-1 September, Hokkaido, Japan

Dutu A., Ferreira J. G., Dragomir C.S., (2013) “Timber framed masonry buildings, an earthquake resistance influenced architecture”, 2nd International Conference Structures and Architecture, Guimaraes, Portugal

Dragomir C.S., Dutu A., Georgescu E.S., (2013) “Control of conservation works for architectural heritage buildings by microseismic recordings and structural analysis”, 2nd International Conference Structures and Architecture, Guimaraes, Portugal

Dutu A., Zulfikar C., (2013) “Application of ELER software to Romania’s seismic hazard”, International Multidisciplinary Scientific GeoConference SGEM, June 16-22, Bulgaria

Dutu A., Sakata H., Yamazaki Y., (2013) “Experimental Study On Timber Framed Masonry Structures”, 10th International Conference on Urban Earthquake Engineering, March 1-2, Tokyo Institute of Technology, Japan

Dutu A., (2012) “Structural assessment and retrofitting solutions using smart materials for traditional non-engineered buildings”, CONCERT-Japan Conference and Partnering event, Tokyo, Japan

Dutu A., Ferrerira J. G., Goncalves A. M., (2012) “The behaviour of timber framed masonry panels in quasi-static cyclic testing”, 9th International Conference on Urban Earthquake Engineering/ 4th Asia Conference on Earthquake Engineering, March 6-8, Tokyo Institute of Technology, Japan

Duțu, A., Gomes Ferreira J., Sandu C. (2011) Seismic risk management of civil buildings in Romania based on the incremental seismic rehabilitation concept, TIEMS – The International Emergency Management Society, TIEMS 2011, Bucharest, Romania

Patents

RO133884A0 - Load-bearing wall with wood frames, Inventors: Barbu-Mocanescu Daniel and Casuta (Dutu) Andreea (under review)

12.01.2023

