

## PERSONAL INFORMATION

**Dorin RADU**

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## WORK EXPERIENCE

- 2020 - present Vice-Dean for Research Activities  
Faculty of Civil Engineering, Transilvania University of Braşov
- 2022 - present Associate Professor  
Civil Engineering Department - Faculty of Civil Engineering  
Transilvania University of Braşov
- 2019 - 2022 Lecturer  
Civil Engineering Department - Faculty of Civil Engineering  
Transilvania University of Braşov
- 2006 - 2019 Teaching Assistant  
Faculty of Civil Engineering - Transilvania University of Braşov
- 2003 - 2006 Junior Teaching Assistant  
Faculty of Civil Engineering - Transilvania University of Braşov
- 2003 - 2005 Civil Engineer  
S.C. Proconstruct S.R.L

## EDUCATION AND TRAINING

- December 2019  
CEEPUS mobility – Lectures at Faculty of Civil Engineering and Architecture –  
Josip Juraj Strossmayer University of Osijek - Croatia
- April 2019  
Erasmus mobility – Lectures at Faculty of Civil Engineering from Subotica –  
University of NoviSad - Serbia
- 2018  
„Loading and Environment Effects on Structural Integrity” summer school, European  
Structural Integrity Society  
ESIS – Belgrade, Serbia
- 2017  
Transilvania University Scholarship – Research Traineeship at Faculty of Mechanical  
Engineering – University of Belgrade, Serbia
- 2013 – 2017  
Doctoral studies in Civil Engineering  
Politehnica University of Timişoara – Doctoral School  
The PhD thesis was accomplished and defended at Faculty of Civil Engineering of  
Politehnica University of Timişoara – Steel Structures and Construction Mechanics  
Department and in Faculty of Mechanical Engineering from Belgrade University - Serbia  
PhD title – “Excellent” gradation  
Doctoral Thesis „Engineering Critical Assessment of the Cylindrical Steel Shell Structures”.  
Tutors: Prof. Eng. Radu BĂNCILĂ, PhD și Prof. Eng. Aleksandar SEDMAK, PhD
- 2014  
IWSD – course at Welding and Testing Materials Institute of Timişoara  
International Welded Structures Designer (IWSD) – degree obtained from International  
Institute of Welding

2014

Research Study Scholarship Ministerul Educației Naționale - Agenția de Credite și Burse de Studii – Belgrad, Serbia – Faculty of Mechanical Engineering

2014

Research internship – Faculty of Mechanical Engineering – University of Belgrade, Serbia

2011 – 2013

Master studies – UNED University – Madrid, Spain – Superior School of Mechanical Engineers

1998 – 2003

Bachelor and master studies

Faculty of Civil Engineering - Transilvania University of Brașov

2003

University of Trento - Università degli Studi di Trento - Italia

Scholarship under supervision of Prof. Dr. ing. Riccardo Zandonini

2002

Research internship Fachhochschule Konstanz Germania under supervision of Prof. Dr. ing. Kuchar Peter

1994 – 1998

Dr. Ioan Meșota Highschool, Brașov

Baccalaureate diploma

## RESEARCH ACTIVITY

### Research results published in Journals and International Scientific proceedings (selection)

Mihajlo Arandelović, Ana Petrović, Branislav Đorđević, Simon Sedmak, Aleksandar Sedmak, Stefan Dikić, **Radu D.**, „Effects of Multiple Defects on Welded Joint Behaviour under the Uniaxial Tensile Loading: Fem and Experimental Approach” 2022, MDPI Sustainability (Second quartile –Q2)

Arandelović M., Sedmak S, Jovičić R, Perković S, Burzić Z., **Radu D.**, Radaković Z, „Numerical and experimental investigation of fracture behaviour of welded joints with multiple defects”, 2021, MDPI Materials (First quartile –Q1)

**Radu D.**, Sedmak A., Sedmak S., Wei L. „Engineering critical assessment of steel shell structure elements welded joints under high cycle fatigue”, August 2020 Engineering Failure Analysis, 10.1016/j.engfailanal.2020.104578 (First quartile –Q1)

**Radu D.**, Gălățanu T.F., Sedmak S., „Butt welded joints assessment after fire exposure” Engineering Failure Analysis, Dec. 2019, ISSN 1350-6307, DOI 10.1016/j.engfailanal.2019.08.010 (Second quartile –Q2)

**Radu D.**, Sedmak A., Băncilă R., “Determining the crack acceptability in the welded joints of a wind loaded cylindrical steel shell structure”, Engineering Failure Analysis, Apr. 2018, ISSN 1350-6307, DOI 10.1016/j.engfailanal.2018.04.032 (zona galbenă - second quartile –Q2)

**Radu D.**, Sedmak A., Sedmak S., Dunjić M. „Stress analysis of a steel structure comprising cylindrical shell with billboard tower” – Technical Gazette Vol25/no.2/2018 DOI 10.17559/TV-20160819201538.

**Radu D.**, Feier A., Petzek E., Băncilă R., „Refurbishment of existing steel structures – an actual problem”, Periodica Polytechnica Civil Engineering Vol.2016 paper 9140 DOI 10.3311/Ppci.9140

**Radu D.**, Gălățanu T.F., Sedmak S. “Structural integrity of butt welded connection after fire exposure”, Procedia Structural Integrity Volume 13, 2018, Pages 1082-1087, DOI: 10.1016/j.prostr.2018.12.227

**Radu D.**, Sedmak A., Băncilă R., “Structural integrity of a wind loaded cylindrical steel shell structure” Procedia Structural Integrity, 2nd International Conference on Structural Integrity, ICSI 2017, 4-7 September 2017, Funchal, Madeira, Portugal, Vol. 5, 2017, pp. 1213-1220

**Radu D.**, Gălăţanu T.F., Taus D., "Fatigue Assessment and Behavior of a Shell Steel Element Welded Joint", *Procedia Engineering*, Volume 181, 2017, Pag.159-166

**Radu D.**, Feier A., „Steel antenna towers – from designing to manufacturing optimization”, September 2018 IOP Conference Series Materials Science and Engineering 399(1):012047 DOI: 10.1088/1757-899X/399/1/012047

**Radu D.** „Manufacturing Imperfections importance in Rectangular Hollow Section Welded Joints Behavior” 15th International Multidisciplinary Scientific GeoConference SGEM 2015, Conference Proceedings, ISBN 978-619-7105-33-9 / ISSN 1314-2704, June 18-24, 2015, Book1 Vol. 3

Băncilă R., Feier A., **Radu D.** „Rehabilitation of Existing Steel Structures, an Integral Part of the Sustainable Development”, International Scientific Conference CiBV 2014 - Bulletin of the Transilvania University of Braşov, vol.7 (56), Braşov 2014, ISSN 2065-2127

Sedmak A., **Radu D.** „Truss Beams Welded Joints – Manufacturing Imperfections and Strengthening Solutions”, *Journal Structural Integrity and Life – Vol 14, No.1 (2014) pp.29-34, ISSN 1451-3749*

Băncilă R., Feier A., **Radu D.** „Rehabilitation of Existing Steel Structures, an Integral Part of the Sustainable Development”, International Scientific Conference CiBV 2014 - Bulletin of the Transilvania University of Braşov, vol.7 (56), Braşov 2014, ISSN 2065-2127

Sedmak A., Radu D. „Truss Beams Welded Joints – Manufacturing Imperfections and Strengthening Solutions”, *Journal Structural Integrity and Life – Vol 14, No.1 (2014) pp.29-34, ISSN 1451-3749*

**Radu D.** „Influence of manufacturing flaws in the truss beams welded joint behaviour”, WSEAS Conference RIMA 2014 – Braşov, ISBN 978-960-474-386-5

**Radu D.**, Sedmak A. „Failure Modes and Designing Procedures of the Tubular Truss Beams Welded Joints According with EN 1993-1-8”, International Scientific Conference CiBV 2014 - Bulletin of the Transilvania University of Braşov, vol.7 (56), Braşov 2014, ISSN 2065-2127

**Radu D.** „History of the Semi-Rigid Joint Behaviour modeling”, International Scientific Conference CiBV 2013 - Bulletin of the Transilvania University of Braşov, vol.6 (55), 2013, ISSN 2065-2127

**Radu D.** „Assesment of Steel Joints Behavior”, *Journal of Applied Engineering Sciences*, Vol.2 (15) Oradea 2012, ISSN 2247-3769

**Radu D.** „Steel Joints – Component Method Application”, International Scientific Conference CiBV 2012 - Bulletin of the Transilvania University of Braşov, vol.5 (54), Braşov 2012, ISSN 2065-2127

#### **Books, Courses, Book chapters as author**

1. **Radu D.**, "Engineering critical assessment of the steel shell structures", Editura Politehnica Timisoara, 2017, ISBN 978-606-35-0132-6, 312 pages
2. **Radu D.** "Construcţii metalice - curs", <https://elearning.unitbv.ro/course/view.php?id=2013>
3. Popăescu A., Deaconu O., Croitoru G., **Radu D.**, "Existing Large and Thin Concrete Slab Damaged by Multiple Cracks Almost Pierced. Expertise, Diagnosis, Strengthening, Behavior and Control After Execution", High Tech Concrete: Where Technology and Engineering Meet, Proceedings of the 2017 fib Symposium, held in Maastricht, The Netherlands, June 12-14, 2017, Springer International Publishing AG 2018, DOI [https://doi.org/10.1007/978-3-319-59471-2\\_226](https://doi.org/10.1007/978-3-319-59471-2_226)

#### **Grants / Research projects**

Grant naţional "Studii si cercetări privind stabilirea soluțiilor constructive pentru spina ce deserveşte tehnologic si funcţional clădirile institutului de cercetare PRODD Contract nr. 20/2009. Durata 24 luni. Director (pentru instituția coordonatoare).

Grant naţional "Studii și cercetări privind stabilirea soluțiilor pentru structurile de rezistență aferente construcțiilor destinate Institutului de cercetare PRO DD", Durata 24 luni - membru în echipa de implementare a grantului;

BIMhealthy - Housing as a strategy for the promotion of health from an intersectoral and multidisciplinary approach, 2019-1-ES01-KA203-065060, valoare\_grant\_pr: 34515 euro, 2019 – 2021 - membru în echipă;

CircularBIM - Learning software for the reincorporation of building materials into the industrial value chain, enhancing the transition to the circular economy with the use of BIM technologies, 2019-1-

ES01-KA203-065962 - 2019 – 2021 - membru în echipă;

Membru în UrbanBIM - Innovative Educational Integration of Urban Plannings Based on BIM-GIS Technologies, nr\_contract:2018-1-RO01-KA203-049458 - 2018 – 2020 - membru în echipă;

Contract internațional Leonardo da Vinci "Work Based Learning (Learn&Work). Agreement no. 2006 DK/05/B/F/pp-145.502. Durata 24 luni (2005-2007) - membru în echipă;

**Research and Consultancy projects**

Amenajare amfiteatre în spațiul atelierului de microproducție - platforma uzina Tractorul. Număr contract. /2012. Durata 12 luni.

Servicii de consiliere și consultanță în vederea promovării documentației tehnico-economice de construcții și instalații pentru avizarea în CTE a proiectului tehnic-proiectare și execuție, Reabilitare-Spitalul Clinic Județean de Urgență Brașov

PERSONAL SKILLS

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C2	C2	C2
Italian	B2	B2	B1	A1	A1

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

ADDITIONAL INFORMATION

**Participation at International conferences for presenting the research results (selection)**

- ECF23 – European Conference on Fracture – Madeira, Portugal 27 June- 1 July. Parallel session presentation „Residual life of a historic riveted steel bridge - engineering critical assessment approach”, authors **Dorin Radu**, Radu Băncilă, Simon Sedmak, Mihajlo Arandelović
- ECCE2022 - Environmental Challenges in Civil Engineering, Opole – Poland – 26-28 Septembrie 2022. Parallel session presentation „Assessment and Retrofitting of Historical Steel Bridges in Transilvania Region, part of the Sustainable Development”, authors **Dorin RADU**, Radu Băncilă.
- ICSID 2021 - International Conference on Structural Integrity. Parallel session presentation „Solution for Consolidation and Retrofitting for a Historical Steel Bridge”, authors: **Dorin RADU**, Radu Băncilă, Dorel Bolduș, Simon Sedmak, Mihajlo Arandelovic
- VECF1 – Virtual Conference on Fracture – European Structural Integrity Society. Parallel session presentation „Welded Joints Integrity of Thick Plates Steel Bridges Beams”, authors: Edward Petzek, Dorin RADU, Simon Sedmak, Andrei Firus
- ICSID 2019 – International Conference on Structural Integrity and Durability – Fatigue, Fracture and Failure, Dubrovnik, Crioația, Iunie 4-7, 2019. Parallel session presentation „Engineering Critical Assessment of an Antenna Steel Tower with Shell Elements and Welded Joints”, authors Radu D., A. Sedmak, R. Băncilă
- ICSI 2017 - International Conference on Structural Integrity, Madeira Portugal. Parallel session presentation “Structural integrity of a wind loaded cylindrical steel shell structure”, autori Radu D., A. Sedmak, R. Băncilă
- Plenary invited lecture - "Structural Integrity Assessment of the Steel Structures", la invitația Croatian Society of Structural Mechanics, prezentare ce a avut loc la Faculty of Civil Engineering and Architecture Osijek, University of Josip Juraj Strossmayer in Osijek – Croatia, Decembrie 2019
- Plenary invited lecture - "Optimization solutions for truss beams elements welded joints", Conferința "CONTEMPORARY ACHIEVEMENTS in CIVIL ENGINEERING - Subotica Serbia 2016
- Plenary invited lecture - "Truss beams welded joints strengthening solutions", Conferința "CONTEMPORARY ACHIEVEMENTS in CIVIL ENGINEERING - Subotica Serbia 2015

**Member in Scientific Committee of International Scientific Conferences (selection)**

- Member in Scientific committee for 30th International Conference on Organization and Technology of Maintenance (OTO 2021) 10/12/2021, Institute for strategic studies in Osijek, Croatia <https://oto2021.panon.eu/>
- Member in Scientific committee for Conferences CONTEMPORARY ACHIEVEMENTS in CIVIL ENGINEERING 2021, 2019, 2018, 2017, 2016, 2015 - Subotica Serbia

From 2020 - present – Member in Transilvania University from Braşov Senate

From 2020 - present – Member in Civil Engineering Department Council – Faculty of Civil Engineering from Transilvania University of Braşov

From 2019 - present - Coordinator CEEPUS for UnitBv – Faculty of Civil Engineering - “Central European Exchange Program for University Studies” - proiect HR-1302 Research and Education of Environmental Risks, together with University of Osijek, Faculty of Civil Engineering, University of Montenegro, Faculty of Civil Engineering, University of Novi Sad

Member in COMITETUL TEHNIC DE SPECIALITATE CTS A – Rezistență, Mecanică și Stabilitate, subcomitetul Construcții civile, Industriale și Agricole (numire conform Ordin de Ministru nr.510 din 07.04.2021)

Member in COMITETUL TEHNIC DE SPECIALITATE CTS B – Siguranță în Exploatare pentru Construcții, subcomitetul Construcții civile, Industriale și Agricole (numire conform Ordin de Ministru nr.510 din 07.04.2021)

Preşedintele Centurii Regional de Examinare pentru atestarea tehnico-profesională a verficatorilor de proiecte și a experților tehnici, centru în cadrul Ministerului Dezvoltării, Lucrărilor Publice și Administrației (numire conform Ordin de Ministru nr.1898 din 16.12.2021)

Member in Editorial Committee of IOP Journal – CIBv 2019, CIBv2020, CIBv2021 Proceedings.

Member in Reviewers Committee of MDPI Metals

Member in Editorial Committee of MDPI Applied Mechanics

Member in European Structural Integrity Society (ESIS)

Member of Asociației Române de Mecanica Ruperii (ARMR)

Member of Asociației Inginerilor Proiectanți de Structuri (AICPS)

In 2013 - course „Auditori Energetici Clădiri și Instalații”

Web of Science Researcher ID E-2357-2014

<https://orcid.org/0000-0001-5043-2723>