



Aurel Stratan

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WORK EXPERIENCE

Politenica University of Timisoara

Country: Romania

[2024 – Current] **Director of the Department of Steel Structures and Structural Mechanics**

Politehnica University of Timisoara

Country: Romania

[2020 – Current] **Professor**

Lectures: Structural Dynamics and Earthquake Engineering (undergraduate); Basis of Structural Design (undergraduate); Performance Based Seismic Design (master); Seismic Assessment and Retrofit of Existing Buildings (master). Project: Steel Structures (undergraduate).

Politenica University of Timisoara

Country: Romania

[2017 – Current] **Head of laboratory**

Materials and Structural Testing Laboratory

Politehnica University of Timisoara

Country: Romania

[2016 – Current] **PhD coordinator**

Politehnica University of Timisoara

Country: Romania

[2008 – 2020] **Associate professor**

Politenica University of Timisoara

Country: Romania

[2005 – 2008] **Lecturer**

SC BRITT SRL

City: Timisoara | **Country**: Romania

[1997 – 2008] **Structural engineer (part-time)**

Politenica University of Timisoara

Country: Romania

[2002 – 2005] **Assistant professor**

Politenica University of Timisoara

Country: Romania

[2001 – 2002] **Assistant**

EDUCATION AND TRAINING

[2016] **Habilitation in Civil Engineering and Installations**

Granted by the Ministry of National Education and Scientific Research

Country: Romania |

Habilitation procedure carried out at the Politehnica University of Timisoara

[2004] **PhD in Civil Engineering**

Politehnica University of Timisoara

Country: Romania |

Magna cum laude distinction

[1997] **BSc in Civil Engineering**

Politehnica University of Timisoara

Country: Romania |

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING C1 READING C2 WRITING C2

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Russian

LISTENING C2 READING C2 WRITING B2

SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1

Italian

LISTENING B1 READING B1 WRITING A1

SPOKEN PRODUCTION A2 SPOKEN INTERACTION B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

General

- Papers in journals: 73, of which 22 indexed in WOS and 13 in other international databases
- Papers in conference proceedings: 176, of which 27 indexed in WOS and 32 in other international databases
- Books and book chapters as author: 15
- Research reports: 5
- Editor of conference proceedings: 2
- Citations excluding self-citations (Web of Science): 426
- H-index: WOS - 13, SCOPUS - 12, Google Scholar - 19

Selective list of publications

- Stratan, A. (2007). "Dynamics of Structures and Earthquake Engineering", Ed. Orizonturi Universitare, Timisoara, ISBN 978-973-638-388-0, 223 pages (in Romanian).
- Vamvatsikos, D., Bakalis, K., Kohrangi, M., Pyrza, S., Castiglioni, C. A., Kanyilmaz, A., Morelli, F., Stratan, A., D' Aniello, M., Calado, L., Proença, J. M., Degee, H., Hoffmeister, B., Pinkawa, M., Thanopoulos, P., and Vayas, I. (2020). "A risk-consistent approach to determine EN1998 behaviour factors for lateral load resisting systems." *Soil Dynamics and Earthquake Engineering*, 131, 106008.
- Voica, T. F., & Stratan, A. (2022). Controlling Drift Demands in Steel Moment Resisting Frames at Frequent Earthquakes Using Tuned Mass Dampers. In F. M. Mazzolani, D. Dubina, & A. Stratan (Eds.), *Proceedings of the 10th International Conference on Behaviour of Steel Structures in Seismic Areas* (pp. 726–733). Springer International Publishing. https://doi.org/10.1007/978-3-031-03811-2_79
- Dubina, D., Stratan, A., Dinu, F. (2008). "Dual high-strength steel eccentrically braced frames with removable links". *Earthquake Engineering & Structural Dynamics*, Vol. 37, issue 15, pp. 1703-1720.
- Fajfar, P., Dolsek, M., Marusic, D. and Stratan, A. (2006). "Pre- and post-test mathematical modelling of a plan-asymmetric reinforced concrete frame building". *Earthquake Engng Struct. Dyn.* 2006; 35: 1359–1379.
- Dubina, D., Ciutina, A., Stratan, A. (2001). "Cyclic Tests of Double-Sided Beam-to-Column Joints", *ASCE, Journal of Structural Engineering*, Vol.127, No.2, pp.129-136.
- Dubina, D. and Stratan, A. (2002). "Behaviour of welded connections of moment resisting frames beam-to-column joints", *Engineering Structures*, Vol. 24, No. 11, 1431-1440.
- Ioan, A., Stratan, A., Dubină, D., Poljanšek, M., Molina, F. J., Taucer, F., Pegon, P., and Sabău, G. (2016). "Experimental validation of re-centring capability of eccentrically braced frames with removable links." *Engineering Structures*, 113, ISSN 0141-0296, 335–346.
- Stratan, A. and Dubina, D. (2004). "Bolted links for eccentrically braced steel frames". *Proc. of the Fifth AISC / ECCS International Workshop "Connections in Steel Structures V. Behaviour, Strength & Design"*, June 3-5, 2004. Ed. F.S.K. Bijlaard, A.M. Gresnigt, G.J. van der Vegte. Delft University of Technology, The Netherlands. pp. 223-232
- Dubina, D., Stratan, A., Vulcu, C., and Ciutina, A. (2014). "High strength steel in seismic resistant building frames." *Steel Construction: Design and Research*, 7(3), 173–177.

HONOURS AND AWARDS

- [2019] **"Anghel Saligny" award of the Romanian Academy**
granted to Cristian Vulcu, Aurel Stratan and Adrian Ciutina for the series of papers with the common title "Beam-to-CFT high-strength joints with external diaphragm".
- [2008] **1st award at the contest "Technical Book 2008"**
for the book "Structural dynamics and earthquake engineering (in Romanian)" awarded by the General Association of Engineers from Romania (AGIR), Timis branch.
- [2007] **"ECCS European Award for Steel Structures 2007"**
for the design of the Tower Center International building (D. Dubina, F. Dinu, A. Stratan, A. Ciutina).

- [2007] **1st prize of the Romanian Association of Structural Engineering (AICPS)**
for the design of the Tower Center International building (D. Dubina, F. Dinu, A. Stratan, A. Ciutina).
- [2004] **"Best Paper Award – ICTWS'04"**
for the paper "Monotonic and cyclic performance of joints of cold formed steel portal frames", by D. Dubina, A. Stratan, A. Ciutina, L. Fulop & Zs. Nagy.
- [2004] **Honour of the General Association of Engineers from Romania (AGIR)**
For the book "Buildings in high-seismicity areas (in Romanian)". Coord: Dubina, D. and Lungu, D.; auth: Aldea, A., Arion, C., Ciutina, A., Cornea, T., Dinu, F., Fülöp, L., Grecea, D., Stratan, A., Văcăreanu, R.
- [2003] **"ECCS European Award for Steel Structures 2003"**
for the design of the building Banc Post Timisoara (D. Dubina, F. Dinu, A. Stratan, A. Ciutina).

JOB-RELATED SKILLS

Seismic-resistant design of steel and composite structures; Modelling of nonlinear response of structures; Seismic performance assessment; Vibration measurements and modal analysis of structures; Experimental techniques; Computer-aided design.

RESEARCH PROJECTS AND CONTRACTS

General

- International research projects obtained through competition: 13 (as member in the research team).
- National research projects obtained through competition: 26 (7 as coordinator; 19 as member in the research team).
- Research/consultancy contracts: 15 (6 as coordinator; 9 as member in the research team).

Selective list of research projects as coordinator

512PED/2020 (2020-2022). Hybrid replaceable links from stainless and high-strength steel (HYLINK). Beneficiary: UEFISCDI. Value: 392,490.00 RON.

BC56/26.06.2023, Experimental tests on buckling restrained braces for the „Maria Skłodowska Curie” clinical hospital. Beneficiary: KEMFORT STEEL IND S.R.L. Value: 68,068.00 RON.

BC98/2021 “Vibration measurements on steel towers”. Beneficiary: SC DUAL MAN SRL.

Contract no. 99/2014, CodePN-II-PT-PCCA-2013-4-2091 (2014-2017). Implementation into Romanian seismic resistant design practice of buckling restrained braces (IMSER). Beneficiary: UEFISCDI. Value: 442,558.00 RON.

12019 / 25.09.2015 (2015-2017), "SC3.T2 Steel - Joints and Connections according to EN 1993-1-8". Beneficiary: NEN – Netherlands Standardization Institute. Value: 18,750.00 EUR.

BC79/04.07.2011 (2011-2012): "Testing and validation of braces and their connections for the Smart Park building in Bucharest". Beneficiary: SC Popp & Asociații SRL. Value: 78,666.84 RON.

Selective list of research projects as member of the research team

No. 754048 (2017-2019). "Valorisation of knowledge for European pre-QUALified steel JOINTS (EQUALJOINTS-PLUS)". Financing authority / Beneficiary: European Commission - Research Fund for Coal and Steel. Val.: 75,887.50 EUR

No. 709434 (2016-2017). "Valorization of innovative anti-seismic devices (INNOSEIS)". Financing authority / Beneficiary: European Commission - Research Fund for Coal and Steel. Val.: 40,164.00 EUR

RFS2-CT-2014-00022 (2014-2015). "Steel based applications in earthquake-prone areas (STEELEARTH)". Financing authority / Beneficiary: European Commission - Research Fund for Coal and Steel.

RFSR-CT-2013 – 00021 (2013-2016). "European pre-QUALified steel JOINTS (EQUALJOINTS)" (authorised contact person). Financing authority / Beneficiary: European Commission - Research Fund for Coal and Steel. Val.: 137,022.00 EUR.

JRC N° 31817 / 24.09.2010 (2010-2014). "Full-scale experimental validation of dual eccentrically braced frame with removable links (DUAREM)". Transnational Access within the framework of Grant Agreement No. 227887. Beneficiary: European Commission.

RFSR-CT-2009-00024 HSS-SERF 01.07.2009-30.06.2013. "High Strength Steel in Seismic Resistant Building Frames - HSS-SERF", Financing authority / Beneficiary: European Commission - Research Fund for Coal and Steel. Value: 101,736 EUR.

Investment grants

Contract no. 662/8.08.2014, project POS CCE ID1827/SMIS48741 "Platforma integrată de cercetare-dezvoltare pentru comportarea construcțiilor la acțiuni extreme (ACTEX)", Competiția POSCCE-A2-O2.2.1-2013-1, Programul Operațional Sectorial - Creșterea Competitivității Economice, Axa prioritară 2: Competitivitate prin Cercetare, Dezvoltare Tehnologică și Inovare, Operațiunea: 2.2.1. Dezvoltarea infrastructurii CD existente și crearea de noi infrastructuri CD. (member in management team). Val.: 19,632,036.00 RON

MEMBER IN TECHNICAL COMMITTEES AND PRO- FESSIONAL ORGANIZA- TIONS

Technical committee TC13 "Seismic Design" of the European Convention for Constructional Steelwork (ECCS) - member and technical secretary.

CEN/TC 250/SC 3/WG8 " Eurocode 3: Design of steel structures - Part 1-8: Design of joints ", European Committee for Standardization (CEN).

CEN/TC 250/SC 8 "Eurocode 8: Earthquake resistance design of structures", European Committee for Standardization (CEN).

Technical committee ASRO/CT 343 "Basis of Design and Structural Eurocodes", Romanian Standards Association (ASRO).

Technical committee CTS4 "Actions on constructions", Ministry of Regional Development and Public Administration (MDRAP).

AICPS - Romanian Association of Structural Engineers.

APCMR - Romanian Association of Steelwork Producers.

CODE DRAFTING ACTIVITY (SELECTIVE LIST)

EN 1993-1-8. Member in the Project Team SC3.T2 "Steel - Joints and Connections according to EN 1993-1-8" (2015-2018)

Elaboration of the revised version of chapter 6 of the code (Design of steel structures), as well development of corresponding commentaries and design examples.

P100-1/2013. "Seismic design code – Part I – Design rules for buildings (in Romanian)". Volume I and II. The Official Journal of Romania, no. 558 bis/2013.

Development of Romanian versions of EN 1993-1-5, EN 1993-1-10 and EN 1993-1-12.

Member in the drafting team of national annexes to EN 1993-1-5, EN 1993-1-10, EN 1993-1-12 and EN 1998-1.

GP 082-03. "Design guide for ductile connections of steel structures in seismic areas (in Romanian)". Bul. Constr. Vol. 16, 2004, p. 3-58.

INVITED LECTURES

[06/12/2018 – 07/12/2018]

Training course on "Design of Steel Structures for Buildings in Seismic Areas", Brussels, Belgium, organised by the European Convention for Constructional Steelwork (ECCS).

Lectures by Raffaele Landolfo, Dan Dubina, Mario D'Aniello, Aurel Stratan.

[01/09/2006 – 08/09/2006]

Invited Researcher at VTT – the Technical Research Centre of Finland in Espoo with a lecture on "Characterization of seismic action: an engineer's view".

MEMBER IN THE SCIENTIFIC COMMITTEE OF CONFERENCES (SELECTIVE LIST)

The 10th International Conference on Behaviour of Steel Structures in Seismic Areas STESSA 2021, Timisoara, Romania, 26-28 May 2021.

The 9th European Conference on Steel and Composite Structures, Eurosteel 2020, Sheffield, UK, 9-11 September 2020.

A 16-a Conferință Națională de Construcții Metalice, Timișoara, 13-14 iunie 2019.

14th Nordic Steel Construction Conference – Nordic Steel 2019, 18–20 September 2019, Copenhagen, Denmark.

The 9th International Conference on Behaviour of Steel Structures in Seismic Areas STESSA '18, Christchurch, New Zealand, 14-17 February 2018.

The 8th European Conference on Steel and Composite Structures, Eurosteel 2017, Copenhagen, Denmark, 13-15 September 2017.

PEER REVIEW

WOS journals: 74 peer review records of 59 manuscripts (<https://www.webofscience.com/wos/author/record/1395184>)

STRUCTURAL DESIGN (SELECTIVE LIST)

[2005] **Bucharest Tower Center, bdul Ion Mihalache nr. 15-17, Sector 1, Bucharest. The building has three basement levels, 26 floors and a total height of 106.3 m.**

[2001] **LINDAB Administrative Building, Soseaua de Centură no. 8, Stefanestii de Jos, Ilfov. Three storey composite steel-concrete structure.**

[2001] **Banc Post Timisoara Headquarters, B-dul Mihai Eminescu nr.2/A, Timisoara. Four storey steel structure.**

TRAINING COURSES

[10/11/2010 – 12/11/2010] **Preparatory Course on Pseudodynamic Experimental Testing, European Laboratory for Structural Assessment (ELSA), Joint Research Center (JRC), Ispra, Italy.**

[18/06/2007 – 22/06/2007] **Course "New Approaches to Analysis and Testing of Mechanical and Structural Systems". International Centre for Mechanical Sciences, Udine, Italy.**

[10/2001 – 08/2002] **Research stage at the University of Ljubljana, Slovenia, within the European project SAFERR (Safety Assessment for Earthquake Risk Reduction)**

[1999] **Two research stages at the University of Naples "Federico II", Italy, within the research project Copernicus "RECOS" - Reliability of Moment Resistant Connections of Steel Building Frames in Seismic Areas**

[18/10/1999 – 20/10/1999] **Training course "Seismic Resistant Steel Structures. Progress and Challenge". International Centre for Mechanical Sciences, Udine, Italy**