Research Report ਛੱ



SOLUTIONS FOR IMPROVED SEISMIC PERFORMANCE OF NEW AND EXISTING STRUCTURES

Author: Aurel STRATAN

Abstract

Habilitation thesis of Aurel Stratan presents his main scientific, professional and academic achievements following the defence of the PhD thesis at the Politehnica University of Timisoara, as well as the future development plan. The main research area of the author fits into the broad and multi-disciplinary area of earthquake engineering, with particular emphasis on seismic performance of steel structures and rehabilitation of existing buildings using metal-based solutions. The most important and relevant research directions pursued by the author are: "Re-centring eccentrically braced frames", "Cold-formed steel pitched-roof portal frames with bolted joints", "High strength steel in seismic resistant structures", "Seismic rehabilitation of existing reinforced concrete and masonry buildings with steel-based solutions", "Validation of the technical solution for braces with true pin connections", "Seismic performance of multi-storey steel structures with friction dampers" and "Pregualification of bolted beam to column joints with haunches". Experimental investigation methods represent the main tool of the research, supported at the same time by advanced numerical simulations and analytical tools. The habilitation thesis summarises the evolution of the research performed by the author following the defence of the PhD thesis, as well as the main outcomes, outlining also the context in which the research was performed, i.e. funding scheme, dissemination of results, and associated PhD theses. There were 12 grants supporting the research: 4 national grants, 7 international grants and 1 research contract with industry. The results were disseminated in 92 publications (journal and conference papers, and book chapters). Six PhD students were involved in the research (5 PhD theses were successfully defended and 1 is currently under development). Aurel Stratan had an active role in guiding the PhD candidates. Professional development of Aurel Stratan followed a wide pallet of activities, including participation to training courses, structural design, industry-oriented research, involvement in professional organisations and technical committees, code drafting, development of the research infrastructure, organisation of scientific events, short-term scientific missions, involvement in administrative duties and peer-review of scientific publications.



Aurel Stratan is member in several national professional organisations: AICPS, APCMR, AGIR–SBIS. He is also an active member in several national and international technical committees: Technical Committee TC13 "Seismic Design" of the European Convention for Constructional Steelwork (ECCS), CEN/TC 250/SC 8 "Eurocode 8: Earthquake resistance design of structures", CEN/TC 340/WG 5 "Revision of EN 15129 — Anti-seismic devices", ASRO CT 343 "Basis of design and structural eurocodes", CTS4 " Actions on structures", Ministry of Regional Development and Public Administration (MDRAP). He was member of the scientific committee of three conferences, member in the organizing committee of two conferences and chaired two sessions within international conferences.

The full abstract at:

http://www.upt.ro/img/files/2014-2015/doctorat/ abilitare/stratan/Abstract_teza_abilitare_Stratan_en.pdf

Habilitation Commission

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