

Romanian Academy

The „Anghel Saligny” Prize awarded in 2019

Lect. Cristian VULCU, PhD, Assoc. Prof. Aurel STRATAN, PhD & Prof. Adrian CIUTINĂ, PhD

“Anghel Saligny” Award of Romanian Academy to Lect. Cristian VULCU, Assoc. Prof. Aurel STRATAN, Prof. Adrian CIUTINA for a series of two scientific papers entitled „Beam-to-CFT high-strength joints with external diaphragm”.



The prize regards the papers:

- Vulcu, C., Stratan, A., Ciutina, A., Dubina, D., (2017): *Beam-to-CFT High Strength Joints with External Diaphragm. I: Design and Experimental Validation*. Journal of Structural Engineering / ASCE, Vol 143/5, Article 04017001.
- Vulcu, C., Stratan, A., Ciutina, A., Dubina, D., (2017): *Beam-to-CFT High Strength Joints with External Diaphragm. II: Numerical Simulation of Joint Behavior*. Journal of Structural Engineering / ASCE, Vol 143/5, Article 04017002.

The series of two papers awarded by Romanian Academy is based on the research carried out within the framework of the European research project RFSR-CT-2009-00024 “High Strength Steel in Seismic Resistant Building Frames” HSS-SERF, funded by the Research Fund for Coal and Steel, and carried out during 2009-2013, under the coordination of Acad. Dan DUBINA (www.ct.upt.ro/centre/cemsig/hss-serf.htm).

The research topic approached by the authors aimed to broaden the scope of high-performance steels in construction. Although the metallurgical industry has developed high strength steels, they are currently only used very little in constructions and not at all in the structures located in seismic zones, mainly due to the insufficient knowledge regarding the behavior and the limitation of the seismic design codes to soft steels. The authors identified a potential for the

application of high-strength steel to the non-dissipative elements of multi-story structures (e.g. columns and joints, characterized by high strength requirements). They undertook a systematic research program, using experimental, numerical and analytical methods, resulting in the elaboration and validation of a procedure for calculating high-strength beam-to-CFT column joints for multi-story structures located in seismic zones.

The HSS-SERF research project supported also Mr. Cristian VULCU in obtaining, in 2013, his PhD degree with the thesis “Seismic performance of dual steel frames of CFRHS and welded beam-to-column joints”, under the coordination of Acad. Dan DUBINA.

