HRVATSKO **D**RUŠTVO ZA **M**EHANIKU
CROATIAN **S**OCIETY OF **M**ECHANICS

PODRUŽNICA OSIJEK

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Građevinski fakultet Sveučilišta J.J.Strossmayera u Osijeku

P o z i v a j u

na popularno-znanstveno predavanje

" ***Seismic Strengthening of Reinforced Concrete Bridge Columns***"

koje će održati

Prof.dr.sc. Tatjana Isaković
Građevinski fakultet Sveučilišta u Ljubljani

u petak 19. travnja 2013. u 12,00 sati,

na ***Građevinskom fakultetu u Osijeku, Crkvena 21, Predavaonica br. 10/I.***

PREDSJEDNICAPODRUŽNICE:

prof.dr.sc. Mirjana Bošnjak-Klečina

Summary:

Seismic Strengthening of Reinforced Concrete Bridge Columns

Bridges, which were built before the modern principles of the earthquake engineering were established, often comprise construction details that are nowadays considered inappropriate for the seismic regions. These deficiencies are mostly related to the transverse reinforcement in columns, which typically cannot ensure adequate shear strength and the confinement of concrete core and in many cases cannot prevent the buckling of the longitudinal flexural bars. These deficiencies can cause the undesired brittle types of failure.

While there are many strengthening solutions available for columns with simple cross-section shapes (rectangular and circular), strengthening of some more complex column shapes, which are typical for central Europe is substantially more challenging. The presentation will be focused on two types of such columns that have been extensively used in the past three decades: a) columns with hollow box cross-sections and I shape cross-sections. The possibilities of their strengthening using some traditional (concrete jacketing) as well as modern strengthening techniques (carbon-fiber jacketing) will be analyzed and overviewed. The results of the experimental as well as analytical investigations that were recently performed at University of Ljubljana will be presented.

Short biography of Tatjana Isaković

Dr. Isakovic is Professor at the University of Ljubljana (ULJ). She joined ULJ as a young researcher in 1990, and later was appointed to the Research Assistant and Professor at the same university. Her research interests are in the fields of seismic design of reinforced concrete structures (particularly RC bridges), computer aided design of reinforced concrete structures and modern IT supported teaching techniques of structural design. Recently, she was involved in different projects dealing with the development and the introduction of the Eurocode standards into the design practice, seismic isolation of bridges, seismic strengthening and retrofit of RC bridges, development of the analysis procedures for the nonlinear analysis of bridges, analysis and design of RC walls and RC industrial buildings.