

Katedra mechaniky Stavební fakulty ČVUT v Praze
Department of Mechanics, Faculty of Civil Engineering, CTU in Prague
Erasmus Mundus Advanced Masters in Structural Analysis of Monuments and Historical Constructions

si Vás dovoluje pozvat na / would like to invite you for

Seminář / Seminar

Seminář proběhne v **pátek 17. května 2013 od 10:00 do 11:00**
místnosti B366 v budově Fakulty stavební ČVUT v Praze
Thákurova 7, 166 29 Praha 6

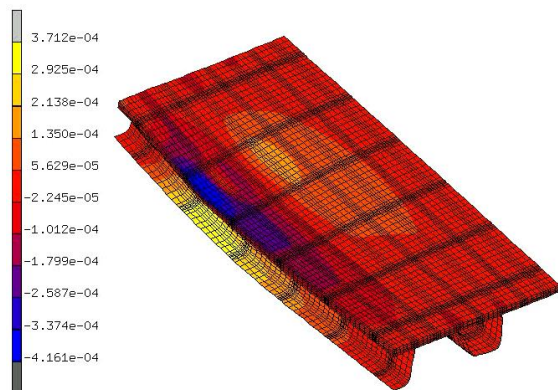
The seminar will be held on **Friday, May 17, 2013 from 10:00 to 11:00**
in room B366 at the Faculty of Civil Engineering, CTU in Prague
Thákurova 7, 166 29 Praha 6

Evaluation of fatigue durability of steel bridge deck overlaid with Engineered Cementitious Composite

Assoc. Prof. Takashi Matsumoto, Ph.D.

Hokkaido University

Fatigue crack of steel bridge deck is often observed at welding locations. This is due to poor welding practice, insufficient steel plate thickness, and load repetitions by heavy trucks. Strengthening of existing steel bridge decks is necessary to elongate their service life, and, as a possible candidate, Engineered Cementitious Composite is proposed (ECC). ECC is a unique class of fiber reinforced cementitious composite, which exhibits a strain hardening behavior with fine multiple cracks. Unlike typical cementitious materials, ECC can sustain tensile stress even after cracking, and it can reach its ultimate tensile strain as high as several percent. In this study, fatigue degradation model of ECC based on micromechanics is developed, and fatigue durability of steel-ECC composite deck is evaluated with finite element analysis.



Dr. Takashi Matsumoto is currently an associate professor of Division of Engineering and Policy for Sustainable Environment at Hokkaido University, Japan. He graduated from Department of Civil Engineering at University of Tokyo, Japan in 1992, and he received Ph.D. in Civil Engineering at University of Michigan, USA in 1998. His research interest is in the maintenance of bridges and structures utilizing fracture mechanics and micromechanics. Especially, his focus is on the theoretical modeling of fracture and fatigue mechanisms of composite materials and structures. Presently, he is visiting the Czech Technical University as a guest lecturer in the Erasmus Mundus program, Advanced Masters in Structural Analysis of Monuments and Historical Constructions.

Pro více informací prosím kontaktujte / For more information please contact:
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