In cooperation with:
BME Dept of Structural Engineering
BME Dept. of Construction Materials and Technologies
BME Dept. of Structural Mechanics

Tárgy: Meghívó a *fib* MT Ankétra

Az ülés helye: **BME Building K. Ground Floor 85.**
1111 Budapest, Műegyetem rkp. 3.

Az ülés kezdete: **2016. május 10 (Tuesday), 12^{15}-14 o' clock**

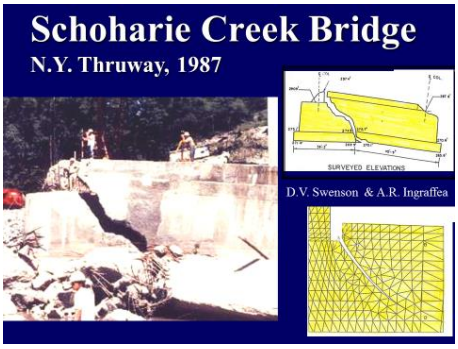
INVITATION - MEGHÍVÓ

SIZE EFFECTS IN CONCRETE STRUCTURES: FAILURES, SAFETY AND DESIGN CODES

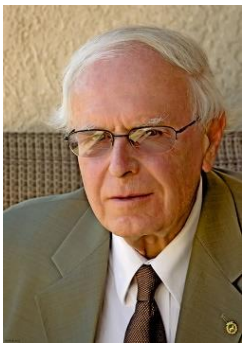
A MÉRETHATÁS SZEREPE: TÖNKREMENETELEK, BIZTONSÁG ÉS SZABVÁNYOK

Kedves Kolléga!
Tisztelettel meghívom a ***fib*** Magyar Tagozatának következő ülésére, amelynek programja lesz:

Summary: Concrete is one of many quasisibrittle materials whose response changes from quasi-plastic to quasibrittle as the ratio of structure size to material inhomogeneity size increases. In consequence, a rational size effect factor must be introduced into the limit load equations of design codes. After reviewing some failures of large structures documenting the size effect, Bažant discusses the recent efforts to modernize the code provisions for beam shear, punching, torsion, plain flexural strength, etc., and explains the benefits for safety, efficacy and innovation friendliness in structural design. *Presented in English.*



The foundation plinth with no shear reinforcement, 8.38 m deep, supporting a bridge pier, failed by shear because of one-sided riverbed scouring by flood. The size effect factor for shear was about 0.18.



Palau Bridge girder, 14.2 m deep, span 241 m, failed in 1996 when a previously delaminated top slab, loaded by retrofit tendons, underwent creep buckling. The sudden prestress drop emitted a shock wave. As it hit the stress concentration at pier corner, dynamic compression shear fracture was triggered. The size effect was involved despite shear reinforcement.

Presented by - Előadó:

ZDENĚK P. BAŽANT, Ph.D., Dr.h.c., S.E., NAS, NAE, AAAS, ForMemRS; Hon.Mem. ASME, ASCE, ACI, RILEM
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Biosketch: Born and educated in Prague (Ph.D. 1963), Bažant joined Northwestern University in 1969, where he became Professor in 1973 and Director of Center for Geomaterials (1981-87). He was elected to Nat. Academy of Sciences, Nat. Acadeny of Engrg., Am. Acad. of Arts & Sci., Royal Soc. of London; national academies of Italy (Lincei), Austria, Spain, Czech Rep. and Lombardy; to Academia Europaea and Eur. Acad. of Sci. & Arts. Honorary Member of: ASCE, ASME, ACI, RILEM. He is Illinois Registered Structural Engineer. Received: Austrian Cross of Honor for Science and Art I. Class; 7 honorary doctorates (CTU Prague, TU Karlsruhe, Colorado-Boulder, Milan Poly., INSA Lyon, TU Vienna, Ohio State); ASME Timoshenko, Nadai and Warner Medals; ASCE von Karman, Newmark, Biot, Mindlin and Croes Medals and TY Lin and Lifetime Achievement awards; SES Prager Medal; RILEM L'Hermite Medal; Exner Medal (Austria); Torroja Medal (Madrid); Šolín, Bažant,Sr. and Stodola Medals (Prague, Bratislava), etc. He was National Winner of 1955 Math. Olympics of Czechoslovakia. He authored six books: Scaling of Structural Strength, Inelastic Analysis, Fracture and Size Effect, Stability of Structures, Concrete at High Temperatures, and Concrete Creep. H-index: 108, citations: 49,000 (on Google), i10 index: 529. In 2015, ASCE established ZP Bažant Medal for Failure and Damage Prevention. ZP Bažant Prize for Eng. Mech., is annually awarded in Czech Rep. He is one of the original top 100 ISI Highly Cited Scientists in Engrg. His 1959 mass-produced patent of safety ski binding is exhibited in New England Ski Museum in Franconia, NH. He served as member of US Nat. Com. on T.&A. Mech.; president of Soc. of Eng. Science (SES, 1993); founding president of IA-FraMCoS (1992) and of IA-ConCreep (2001); Dir. of SMiRT Div. H; and Editor-in-Chief, ASCE J. of Engrg. Mech. (1988-94).

Budapest, 2016. április 21 Dr. Balázs L. György, s.k., a ***fib*** MT elnöke