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Dipartimento di Ingegneria
Civile e Ambientale

Seminar

Evaluation of Scouring Reliability at Bridge Pier Foundations



Venerdì 17 Marzo,
ore 11:30 aula 111, Via di S. Marta 3

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Abstract

Apart from structural, materials, and geotechnical deficiencies in design stage of river bridges, the most critical bridge failure component is attributable to scouring at infrastructural elements. In this seminar, within the context of scouring reliability, sources of uncertainties involved in hydrologic and hydraulic parameters are examined first. In the analyses, the uncertainties involved in the temporal variation of scour depth at single cylindrical piers under clear water conditions are interpreted using appropriate probability density functions of governing parameters. The risk associated with the scouring action under these conditions is estimated using Monte Carlo simulations. In the model developed, the effects of flow, pier size and bed material characteristics on scour risk are evaluated.

About the lecturer

Dr. A. Melih Yanmaz is a full professor in Civil Engineering Department of Middle East Technical University, Ankara, Turkey. He has been teaching numerous courses in the fields of water resources engineering, river engineering, and bridge hydraulics at undergraduate and graduate levels. His fields of interest include hydraulic engineering with special emphasis to bridge hydraulics, river training, and dam safety assessment. Currently, he is supervising a research project on the development of a safety-inspection methodology for river bridges.