

Workshop programme for online meeting EWG-IE 2020

Internal erosion at the field scale

Thursday February 4th, 2021

4.00-7.00 pm CET

Welcome to the online meeting for the European Working Group on Internal Erosion with the theme 'Internal erosion at the field scale'. Research that is conducted in the field of internal erosion is intended to investigate the erosion mechanisms that control the performance of dams and levees in practice. Often this research is conducted at small scale in the laboratory. Working on the field scale raises challenges that are different from those at the lab-scale, such as extrapolation of laboratory results to larger scales, effects of heterogeneity on the processes, monitoring the processes and generalizing results from a limited number of field tests to broader application.

Investigations at the field scale bring researchers, consultants and levee and dam owners together, as the issues that arise require a combination of the knowledge and experience of all parties. The aim of this workshop is to exchange experiences among all involved parties by evaluating the erosion phenomenon at the field scale.

The schedule of presentations is listed below. The workshop consists of three sessions on 'Monitoring and field tests', 'Modelling and assessment' and 'Case studies and remediation', each with 3 or 4 contributions. After each contribution (with duration of 10 minutes), 5 minutes is scheduled for questions and discussion.

Please confirm your attendance by emailing to vera.vanbeek@deltares.nl and feel free to share this programme with others you think may be interested. The link to the meeting and a pdf with abstracts will be provided to all attendees prior to the workshop.

We look forward to see you all during the workshop.

Vera van Beek, Esther
Rosenbrand and André
Koelewijn
*Deltares, Delft, The
Netherlands*

Adam Bezuijen

*Ghent University, Ghent,
Belgium*

Joost Pol and Juan Pablo
Aguilar López

*Delft University of
Technology, Delft, The
Netherlands*

Programme:

16.00-16.05 Welcome

16.05-17.05 Session 1: Monitoring and field tests

An experimental earthfill embankment dam with built-in defects in the core - detection and time dependent evolution of defects - *Johan Lagerlund, Peter Viklander, Christian Bernstone (Vattenfall)*

Progression of backwards erosion piping estimated from field scale pore pressure measurements - *C. Bocovich (Colorado School of Mines / USBR), W. Kanning (Deltares / Delft University of Technology), M. Mooney (Colorado School of Mines)*

Backward Erosion piping in tidal sands – *Marc Hijma (Deltares), Gert-Ruben van Goor (Fugro)*

Can we hear the backward erosion piping (BEP)? Proof of concept for fiber optics DAS based BEP monitoring - *J.P. Aguilar López (Delft University of Technology), T.A. Bogaard (Delft University of Technology), A. Garcia Ruiz (Universidad de Alcalá), M. Gonzàles Herràez (Universidad de Alcalá)*

17.05-17.15 10-minute break

17.15-18.00 Session 2: Modelling and assessment

The effect of subsurface heterogeneity on well discharges - *W.J. Dirkx, T.G. Winkels (Utrecht University)*

Application of the coarse sand barrier at pilot-site Gameren: 3D flow aspects - *André Koelewijn, Esther Rosenbrand, Vera van Beek (Deltares)*

Length-effects in reliability analysis of internal erosion in earthen dikes - *Jochem Caspers (HKV)*

18.00-18.10 10-minute break

18.10-18.55 Session 3: Case studies and remediation

Field measurements on a natural sand boil along the Po river (Italy) - *Michela Marchi, Guido Gottardi, Laura Tonni (Universita di Bologna)*

Case studies in using internal stability criterion to characterize piping, softening and dispersive soils - *Emoke Imre (Óbuda University), Daniel Barreto (Edinburgh Napier University), János Szendefy (BME), Levente Kovács (Óbuda University)*

The sand boil generator and a new technique to control sand boils - *Axel Montalvo-Bartolomei (U.S. Army Corps of Engineers)*

18.55-19.00 Closure