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Department of Civil and
Environmental Engineering



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Innovative numerical methods for internal erosion processes

a workshop proposed for the online meeting EWG-IE 2020

Wednesday December 16th, 2020

8.00-11.00 am CET

The workshop focuses on the internal erosion processes dealt with innovative numerical approaches.

The various forms of internal erosion are considered, namely the localized processes (e.g. backward erosion piping) as well as the diffused processes (e.g. suffusion). Contributions on non-conventional numerical approaches are encouraged, possibly able to account for the coupled hydro-mechanical response of the material and, e.g.:

- the multi-scale viewpoint, from the particle detachment at the micro-scale to the pipe evolution at the scale of engineering works;
- the multi-phase nature of the process, where the erosion is seen as a phase transition from solid to fluidized condition of the removed solid mass;
- other relevant features affecting the onset and evolution of the phenomenon, such as the local heterogeneities and spatial variability, volume changes, mechanical degradation, stress field, etc.

The validation of the aforementioned numerical formulations by comparisons with available or new experimental data is also welcome.

The expected outcome of the workshop is the sharing of new perspectives on numerical methods and procedures that ultimately prove to be effective tools for understanding and predicting the phenomenon.

The online meeting is scheduled Wednesday **December 16th**, starting at **8.00 a.m.** (Central European Time) with the hope of reaching researchers from far West to far East countries. The plan is to devote about 2 hours to presentations of not less than 10 minutes each and about 1 hour to open discussion.

The workshop is organised by the signatories and open to all researchers involved in the subject who are interested in attending or contributing. Expressions of interest in contributing with a presentation can be sent until **December 9th**, with a 1-page **Abstract** to donatella.sterpi@polimi.it.

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