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# MPM-DREDGE – External Workshop

## Monday, 16 December 2013, 13<sup>00</sup>–17<sup>00</sup>

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### Venue

Deltares, Colloquium Room Main Building (Rotterdamseweg 185, Delft, The Netherlands)

### Programme

13.00 – 13.15	Opening and Welcome (Pieter Vermeer)
13.15 – 15.15	Chairman: Kenichi Soga <ul style="list-style-type: none"><li>• EDUARDO ALONSO (UPC BARCELONA) <i>The challenge of modelling landslide runout: Progressive failure, rate effects, unsaturated soils and thermal interactions. Perspectives of MPM modelling</i></li><li>• JÜRGEN GRABE, TIM PUCKER (TU HAMBURG-HARBURG) <i>Applications of numerical modelling of large deformations</i></li><li>• SAMILA BANDARA (EPFL LAUSANNE, FORMERLY: UNIVERSITY OF CAMBRIDGE) <i>Material Point Method for modelling large deformations of two-phase material</i></li></ul>
15.15 – 15.45	Coffee Break
15.45 – 16.55	Chairman: Pieter Vermeer <ul style="list-style-type: none"><li>• KRISHNA KUMAR, KENICHI SOGA (UNIVERSITY OF CAMBRIDGE) <i>Multi-scale multiphase modelling of granular flows: MPM, DEM and LBM approaches</i></li><li>• LARS BEUTH, PIETER VERMEER, ALEXANDER ROHE (DELTAIRES) <i>Recent advances in modelling large deformations using MPM: phase transition and erosion/sedimentation processes</i></li></ul>
16.55 – 17.00	Closure (Pieter Vermeer)

### MPM-DREDGE

MPM-DREDGE is an Industry-Academia Partnerships and Pathways (IAPP) project funded from the 7<sup>th</sup> Framework Programme (FP7/2007-2013) of the European Commission under grant agreement PIAP-GA-2012-324522. The project is a collaboration of the University of Cambridge and Deltares and is supported by the dredging industry (i.e. Royal Boskalis Westminster, Van Oord Dredging and Marine Contractors, Dredging International and Jan de Nul).

### Project Description

The aim of the MPM-DREDGE project is to develop, validate and demonstrate a numerical tool for the modelling and simulation of dredging applications. It is aimed to solve the numerical issues associated with large deformations and fluid pressures that occur in the interaction between soils and fluids. This effort will result in a joint computer code of all contributing participants.

The main focus will be on the modelling of soil-fluid interaction problems related to the following three dredging applications: dropping of geocontainers with interaction between pore water and open water; liquefaction and (submarine) flow slides including the dredging of soils; and erosion and scour around offshore and near-shore structures.

