



ANURA3D MPM WORKSHOP 2025 - TECHNICAL PROGRAMME

Thursday, 30th January 2025

8:00 – 8:30 Registration

8:30 – 13:00 ANURA3D Training course

13:00 – 14:00 Lunch Break

ANURA3D WORKSHOP

Invited/Theme lectures: 35 min; 5 min Q&A session (40 min total)

General presentations: 15 min; 2-3 min Q&A session; 2 min changeover of speakers (20 min total)

14:00 – 14:20 *Opening and introduction of the Anura3D MPM Research Community*

14:20 – 15:00 **Invited lecture:** “Simulating real landslides with MPM: best practices and challenges”

Speaker: **Francesca Ceccato**, Università degli Studi di Padova, Italy

15:00 – 16:00 *Session 1a*

Impact Loading Induced Long-runout Landslide: 3D Simulation on the Lanshibao Landslide

Y. Chen*, **F. Wang**

Simulating Retrogressive Failures of Sensitive Clay Landslide with NGI-ADP-Soft Model Using the Material Point Method

E. Cheon*, **Z. Liu**, **K. Huynh**

Thermally Induced Accelerated Landslides

T. Zhang*, **L. Lemus**, **N. Pinyol**, **G. Di Carluccio**

16:00– 16:30 *Coffee Break*

16:30 – 17:50 *Session 1b*

Forty Fort Levee Seepage and Stability Modeling with MPM

K. Yost, **Y. Peng***

Design of Runout Protection Berms Using the Material Point Method

O. Ledesma*, **E. Lieu**, **D. Hockley**

Modelling of Wetting-Induced Collapse

N. Pinyol*, **G. Di Carluccio**, **L. Avilés**

MPM Modeling of Surface Fault Rupture Displacement Experiments

R. Kompse*, **R. Moss**

17:50 – 18:00 *Recap and Discussion*

20:00 *Dinner*



Friday, 31st January 2025

9:00 – 9:40 **Invited lecture:** “MPM in Kratos multiphysics”

Speaker: Antonia Larese, Università degli Studi di Padova (TUM-IAS, Germany), Italy

9:40 – 11:00 *Session 2a*

Simulation of Stava Tailing Dams Failure: Preliminary Results

J. Lino da Silva*, **F. Ceccato**

An FEM-MPM Approach for Flowslide Runout Analysis

Ali P. Babaki*, **Dwayne D. Tannant**

Tailings Dam Breach Analysis Using Material Point Method (MPM) for CDA Cases 2A and 2B

E. Lino Ramirez*, **O. Ledesma**, **A. Lizcano**

Class A Prediction of Debris Flow Impact Forces on Protection Barriers: MPM Modelling

S. Cuomo*, **A. Di Perna**, **M. Martinelli**, **C. Ng**, **R. De Silva**, **C. Choi**

11:00 – 11:30 *Coffee Break*

11:30 – 12:30 *Session 2b*

MPM Simulation of Soil Arching in Trapdoor Tests

Y. Chen*, **Y. Hwang**, **L. Ge**

Numerical Simulation of Trapdoor Underground Collapses Using Anura3D

C. Karam, **A. Yerro**, **J. Westcott**, **S. Samanta***

Multidirectional Following Mesh and Associated Level Set Applied to Frictional Contact

M. Maglia*, **Gaia Di Carluccio**, **Núria M. Pinyol**

12:30 – 13:00 *Recap and Discussion*

13:00 – 14:00 *Lunch Break*

14:00 – 14:40 **Invited lecture:** “MPM Developments for Simulating Different Pile Installation Techniques”

Speaker: **Vahid Galavi**, Witteveen+Bos, The Netherlands

14:40 – 16:00 *Session 2c*

Application of Convected Particle Domain Interpolation Method for predicting installation dynamics of Offshore Vibratory Monopiles

S. Giridharan*, **D. Stolle**, **C. Moormann**

Improved neighbor search algorithm for efficiently locating material points in numerical simulations using the material point method (MPM)

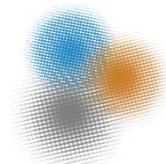
A. Chemelnizkij*, **K. Smarsly**

A First Step to Addressing Volumetric Locking in MPM Portable Free Fall Penetrometer Models

J. Moore*, **A. Yerro-Colom**

Mitigating volumetric locking in IGA MPM

A. Alsardi, **A. Yerro***



16:00 – 16:30 *Coffee Break*

16:30 – 16:45 *Anura3D v2025 release*

16:45 – 17:45 *Open Forum for feedback and discussion*

17:45 – 18:00 *Closure*