

IRNGeoMech Workshop 2023

(International Research Network Geomech)

Internal Soil Erosions – Theory, experiment and computation: Can we connect them across the scales?

Organizers: Ha H. Bui, Giang D. Nguyen, Francois Nicot, Olivier Millet

When: 23 – 24 February 2023, 5:00 – 8:00 pm (AEDT)

Where: Online – Free register in advance for this meeting:

<https://monash.zoom.us/meeting/register/tZMtc-yhqj8sGNDdmGFNrYMTThVqvZUzFhB89>

After registration, you will receive a confirmation email containing information about the meeting

PROGRAM: 23rd February – What mechanisms are needed?

Time	Duration	Topic	Speaker
WELCOME AND INTRODUCTION			
5:00pm	5 min	Welcome Remarks	
KEYNOTE LECTURE			
5:05pm	45 min	Observation and identification of important transport mechanisms of erosion within granular material	Alexander Scheuermann (University of Queensland, Australia)
FEATURED LECTURE			
5:50pm	30 min	Extracting the elementary physics of suffusion from DEM simulations to enrich multi-scale constitutive models	Antonie Wautier (INRAE, Aix Marseille University, France)
6:20pm	10 min	Short Break	
6:30pm	30 min	Particle scale examination of fluid flow and particle movement in internally stable and unstable soils	Elisabeth Bowman (University of Sheffield, UK)



Time	Duration	Topic	Speaker
7:00pm	30 min	Observation of internal erosion in the triaxial cell and physical models - how to mimic the realistic situation in the lab?	Akihiro Takahashi (Tokyo Institute of Technology, Japan)
<i>DISCUSSION</i>			
7:30pm	30 min	What mechanisms are needed?	ALL

PROGRAM: 24th February – What are our current capabilities & progress?

Time	Duration	Topic	Speaker
<i>KEYNOTE LECTURE</i>			
5:00pm	45 min	Modelling the impact of internal soil erosion on engineering structures and natural slopes	Pierre-Yves Hicher (Ecole Centrale de Nantes, France)
<i>FEATURED LECTURE</i>			
5:45pm	30 min	Particle-scale simulation of internal erosion processes	Adnan Sufian (University of Queensland, Australia)
6:15pm	10 min	<i>Short Break</i>	
6:25pm	30 min	The experimental and numerical evaluation of the internal erosion risk of a dam foundation in China	Gang Wang (Chongqing University, China)
6:55pm	30 min	Development of a constitutive modelling approach and an SPH computational framework for internal erosion	Giang Nguyen & Ha Bui (Adelaide and Monash Universities, Australia)
<i>DISCUSSION</i>			
7:25pm	30 min	Our current capabilities	ALL
<i>CLOSING REMARKS</i>			