

## Geotechnical engineering research at Aalto University

**16<sup>th</sup> of December 2024, Civil Engineering Department, Rakentajanaukio 4, R3**  
(2<sup>nd</sup> floor)

Join us on Monday, the 16<sup>th</sup> of December 2024 starting at 9 am (8.30 am for coffee), the Civil Engineering Building, Rakentajanaukio 4, Espoo and meet the Aalto community of students and researchers. If you plan to attend the seminar at Aalto, please register with the link <https://link.webpolsurveys.com/S/F03BEBEC509E455FB> so we can order the right amount of coffee and lunch (please do not register if you plan to attend online). Please contact [wojciech.solowski@aalto.fi](mailto:wojciech.solowski@aalto.fi) in case you need more information about the event.

### Seminar programme

**8.30 – 9.00 Morning coffee**

**9.00 Session 1: Offshore conditions**

**Chair: Joonas Virtasalo**

9.00 Welcome and introduction to Geomeasure project (Wojtek Sołowski & Joonas Virtasalo)

9.05 Offshore site characterisation (Maarit Saesma)

9.30 Laboratory soil testing and soil properties (Saeideh Mohammadi)

10.00 Numerical replication of experimental data (Debasis Mohapatra / Wojtek Sołowski)

10.30 Construction of offshore infrastructure (Reza Khalili / Wojtek Sołowski)

**10.45 – 11.15 Coffee break**

**11.15 Session 2: Soil Improvement**

**Chair: Leena Korkiala-Tanttu**

11.15 Recycling of granular materials (Anoosheh Iravanian)

11.45 Feasibility of biochar for low-emission soft clay stabilization using CO<sub>2</sub> curing. (Mohamad Hanafi)

12.00 Hydrophobized Iron Tailing based Cementitious Composites for Low to Medium Load Bearing External Applications (Soumya Roy)

12.15 Soil Water Retention Characteristics of Undisturbed Soft Clay under Electro-Osmosis (Udesh Kahanda Bulathge)

**12.30 – 13.30 Lunch**

**13.30 Session 3: Numerical modelling**

**Chair: Wojtek Sołowski**

13.30 Introduction to Granular Material Point Method? (Hakimeh Koochi)

13.45 Vibrations in soils caused by compaction (Naum Shpata)

14.00 Replication of a small-scale dynamic replacement experiment (Naum Shpata)

14.15 Gas transport in partially saturated materials (Abhishek Gupta)

14.30 Towards numerical replication of soil mixing process (Ying Ma / Wojtek Sołowski)

14.35 Towards modelling of frost-heave (Chenjie Ruan / Wojtek Sołowski)

14.40 2D vs 3D modelling of soil stability (Wojtek Sołowski)

14.50 Use of statistical methods to analyse alternative fall-cone test setup (Wojtek Sołowski)

~15.00 Closure of the event

We encourage you to follow the event at Aalto, but online participation is possible:

<https://aalto.zoom.us/j/66414339472?pwd=sSnXSHYi95OhG2jArznGcO4T4mJzF5.1>

Meeting ID: 664 1433 9472

Passcode: 422471