

Nyhetsbrev / Newsletter



September 2025

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Meet our own SAFERCLAY Postdoc: Rui Tao (Terry)

Hi, I'm Rui Tao (Terry), and I'm excited to share that I've joined the Norwegian Geotechnical Institute (NGI) as a Postdoctoral Researcher, working on the SAFERCLAY project! 🌍



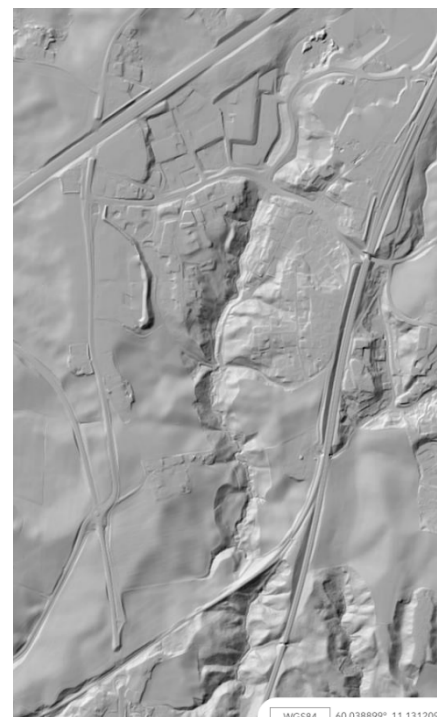
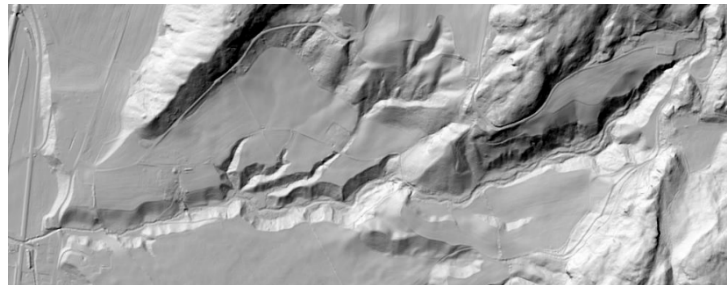
My background spans geotechnical engineering, hydropower engineering, railway engineering, and offshore engineering. I earned my bachelor's degree in water Conservancy and Hydropower Engineering from Hohai University, followed by a Master's in Hydraulic Structure Engineering from Wuhan University. My master's thesis focused on Uncertainty Quantification of SWCC with Bimodal Features and Reliability Analysis of Unsaturated Loess Slopes. My PhD research was supported by the Geotechnical Group at NTNU, where I focused on *Enhancing Detection and Prediction of Ground Movement-Induced Abnormalities in Norway's Railway System*. Along the way, I've held several roles: Research and Teaching Assistant at SuSTech (China), working on offshore foundations; Head Engineer at NTNU, managing geotechnical laboratory operations; and Visiting PhD Researcher at UC Berkeley, exploring remote sensing techniques. Now, I'm honoured to work under the leadership of **Jean-Sébastien L'Heureux** (Project Leader) and **Emir Ahmet Oguz** (Leader of Work Package 2). In Work Package 2, the SAFERCLAY project aims to mitigate quick clay risks by leveraging remote sensing technologies (particularly L-band satellite InSAR and UAV-based LiDAR) to identify erosion-prone areas and integrating terrain changes into a coupled hydro-mechanical model. This enables dynamic updates to slope stability analyses, helping decision-makers, industries, and communities balance safety and sustainability in quick clay regions. **Looking forward to contributing more to the SAFERCLAY project!**

From SAFERCLAY team we say: **WELCOME TERRY!**

WP1 Field Site Selection for Case Studies

A key task for Work Package 1 (WP1) in 2025 has been the selection of field sites for case studies. The goal is to instrument these sites as early as possible to generate valuable data for the SAFERCLAY project. Finding ideal locations that meet both scientific criteria and the interests of our partner municipalities proved to be challenging. Before the summer, several Teams meetings were held to evaluate a range of proposed sites in the municipalities of Lillestrøm, Sarpsborg, and Melhus, as well as a few suggestions outside these areas. Ultimately, two sites were selected:

- **Melhus Municipality:** A site in the Bortna catchment was chosen. Bortna covers an area of 5.9 km² and has an average annual runoff of nearly 800 mm. The marine limit in the area is at 176 meters above sea level, and the river has carved distinct ravines below this limit.
- **Lillestrøm Municipality:** A site near Mohagen/Lindeberg was selected. This area has undergone significant land use changes, making it particularly interesting for studying how these changes have affected streamflow and erosion in the small creek Jeksla.



Collaborative work in WP2

Work Package 2 (WP2) in SAFERCLAY has seen strong momentum in 2025, marked by a dedicated workshop held in Trondheim on **June 12th** and a follow-up **status meeting on September 11th**. These meetings brought together partners from NGI, NTNU, NVE, NGU, LU, SGI, SVV/NPRA, and the Quebec Ministry of Transportation to align on remote sensing strategies for hazard mapping in quick clay areas. The discussions focused on **Task 2.1**, which involves sensitivity testing of hazard mapping tools using multi-temporal LiDAR and Green Laser data, and **Task 2.2**, which explores the feasibility of **L-band and S-band SAR data** for monitoring slope stability. Key action points were agreed upon, including the creation of a **shared high-quality training and testing dataset**, testing of erosion detection methods, and the involvement of **master's and PhD students** in case studies. Separate meetings have been held with **LU, NVE, and NGU** to follow up on specific action points, particularly regarding data sharing, processing chains, and SAR data acquisition. These collaborative efforts are expected to **strengthen the scientific foundation of WP2**, while also paving the way for a **joint publication in 2026** and deeper integration across work packages.

WP3 Workshop with Insightful Discussions at NGI Oslo

Oslo, August 13, 2025 — The SAFERCLAY project took a significant step forward as the WP3 working group convened for a full-day workshop at NGI in Oslo. The session brought together experts and partners for a deep dive into the development of a framework aimed at evaluating the social, economic, and ecological dimensions of mitigation measures against quick clay landslides.



The WP3 framework is a cornerstone of the SAFERCLAY initiative, designed to guide decision-makers in assessing the trade-offs between proactive mitigation and the potential consequences of landslide events. The workshop's primary objective was to critically review the indicators proposed in the framework's first draft, ensuring that the final version remains both scientifically robust and practically applicable. The morning session focused on indicators related to risk reduction, hazards, and exposure, followed by technical feasibility and environmental aspects such as water vulnerability. While the afternoon discussions shifted toward ecological indicators—soil, vegetation, and biodiversity—and socio-economic dimensions including quality of life, landscape heritage, and revitalization of marginal areas. The day concluded with an open forum on next steps, emphasizing collaboration and refinement of the framework. Participants actively contributed to shaping the framework, offering insights from diverse disciplines and regional contexts. The workshop underscored the importance of interdisciplinary dialogue in tackling complex geohazards. **Thank you to all SAFERCLAY partners** for your engagement and contributions to a productive and forward-looking session.

WP4 Workshop just before the summer

On **June 5th, 2025**, SAFERCLAY held a dedicated workshop for **Work Package 4 (WP4)** at NVE in Oslo, focusing on acceptable risk and risk communication in areas affected by quick clay hazards. The workshop gathered **14 participants** from a broad range of partner organizations, including NGI, NTNU, NVE, SVV, SGI, and several municipalities. The day was structured around four group exercises, each addressing different aspects of WP4 tasks, with dynamic group compositions to encourage diverse discussions. Important insights emerged around how **risk perception is shaped by media, personal experience, and trust in authorities**, and how this affects societal acceptance of risk in quick clay areas. The group emphasized the need for **clear, science-based communication**, especially in the aftermath of catastrophic events like the Gjerdrum landslide. WP4 will synthesize findings from WP1–WP3 to develop a **risk-informed framework** and **recommendations for national guidelines**, aiming to balance safety, environmental concerns, and societal needs. Separate follow-up meetings have been held with **NVE, NGI, and NTNU** to refine specific action points and coordinate contributions to upcoming deliverables. The workshop marked a strong step forward in building shared understanding and collaborative momentum across disciplines.

Master thesis topics and students' enrolment

Maren Haug Delivered her MSc at UiO in August 2025, she worked with the topic: "Analysis of parameters for Norwegian quicks clay landslides – with a focus on landslide initiation".

The students Christoffer Larsen and Eirik Sjøgren Amundsen will work on a project and master thesis during 2025-2026 at NTNU in collaboration with NGI where they will be comparing different calculation methods for stability analysis. As well, Ole Martin Folkvord Bjelland will also work on numerical analyses on the effects of erosion on stability of quick clay slopes. And. Johan Bergfjord Filseth and Jørgen Groven will work on the case studies in SAFERCLAY.

We are aiming to enrol 1-3 students to work with the topics "Cultural and environmental impact of quick clay landslides and its mitigation measures". The target public are master students in Geography (NTNU) and Civil Engineering (OsloMet).

IWLSC 2025 and other contributions

Three papers coming right from SAFERCLAY work will be presented at the 3rd International Workshop on Landslides in Sensitive Clay (IWLSC 2025). The workshop will take place from September 28th to October 2nd, 2025, in Quebec, Canada. **Bon voyage to those that will attend IWLSC 2025!**

- L'Heureux, J.S., Berthling, I., Strand, S.A., Kjøsnes, A.J., Paniagua, P. and Johnsen, M., 2025, July. [The impact of mitigation work in quick clay zones—An example from Skjelstadmark, Norway.](#) In *IOP Conference Series: Earth and Environmental Science* (Vol. 1523, No. 1, p. 012022). IOP Publishing.
- Frauenfelder, R., Salazar, S.E., Paulsen, E.M., Reutz, E.H., Steinholt, I.H., Rødvand, L.A., Paniagua, P. and L'Heureux, J.S., 2025, July. [Erosion detection and monitoring in quick clay areas by repeat UAV-borne LiDAR surveys: Two case studies from Norway.](#) In *IOP Conference Series: Earth and Environmental Science* (Vol. 1523, No. 1, p. 012039). IOP Publishing.
- Søvik, M.M., L'Heureux, J.S., Rødvand, L. and Grimstad, G., 2025, July. [A Novel Framework for Predicting Landslide Mechanism in Norwegian Quick Clays.](#) In *IOP Conference Series: Earth and Environmental Science* (Vol. 1523, No. 1, p. 012013). IOP Publishing.

As well, late August a keynote lecture with the title "The impact of mitigation work in quick clay zones—An example from Skjelstadmark, Norway" was given at the 2nd Hong-Kong Norway workshop held in Oslo.

Annual workshop in Trondheim, December 2025



ANNUAL SAFERCLAY WORKSHOP IN TRONDHEIM

We are excited to invite all project participants to the **Annual SAFERCLAY Workshop**, which will take place in **Trondheim on Wednesday, December 3rd 2025**

We are hoping for broad participation across the project team, as this workshop will be a valuable opportunity to strengthen collaboration and foster learning across work packages. By coming together, we aim to share insights, align on progress, and pave the way for even more effective cooperation in the year ahead.