



GRID

Newsletter Q3 2025

GRID's researcher is making waves!

We're excited to share that GRID's groundbreaking research is making waves! The first wave of our dissemination products has been published in some of the most prestigious journals in the field. Want to dive deeper? Visit the following links for all the details. Plus, don't miss the audio summaries—a quick and engaging way to stay informed!

[Physics-informed machine learning in geotechnical engineering: a direction paper](#) ▶

[Soil improvement with laponite: effects on soil-structure interaction in liquefiable sands](#) ▶

[Convolutional neural network prediction of the particle size distribution of soil from close-range images](#) ▶

[Dataset of close-range soil images and corresponding particle size distributions](#) ▶

[Comprehensive dataset of dynamic probing heavy test results for subsurface characterization](#) ▶

These papers have already garnered in total 4 citations, [656 reads and 21 recommendations on ResearchGate!](#) (21.07.25).



GRID's publications in leading journals

Researcher of the quartal

Fernando Mitzio Rizzato

Fernando Mitzio Rizzato from the [University of San Juan's Institute of Antiseismic Studies \(IDIA\)](#) just completed his secondment at [BOKU](#).

During his secondment, Fernando helped improving BOKU's computer vision model for soil classification. He also lent a helping hand at KinderUni Wien (see following section).

During his time at BOKU, Fernando made significant contributions by enhancing the university's [computer vision model for soil classification](#), helping to refine its accuracy and performance. In addition to his research work, Fernando actively participated in outreach activities, lending his expertise at the KinderUni Wien event (see the following section for details).

His dedication and collaborative spirit have left a lasting impact, and we're grateful for his valuable contributions to the GRID project!



Fernando Mitzio Rizzato from UNSJ's IDIA



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GRID outreach at KinderUni Wien

On July 8th, 2025, GRID proudly participated in the [KinderUni Wien event at BOKU](#), where primary school students got hands-on experience with the fascinating world of machine learning and soil classification.

The young participants were introduced to the basics of model training, including essential concepts like train-test splitting and the challenges of class imbalance. Through interactive activities, [they explored how machine learning models classify soil](#) and gained insights into the tricks and pitfalls of the process.

To bring the lesson to life, the students were shown a real-world application of AI in soil classification. They even had the chance to compare the AI-generated results with the traditional sieving method, sparking curiosity and lively discussions.

It was an inspiring day of learning and discovery, showcasing the power of AI in environmental science.



Photos of the KinderUni Wien event will be posted on the [website](#) starting from August

Deliverable alert: what's next?

Mark your calendars! The next deliverable, the progress report, is due on November 30. Following that, we will unveil a GenAI model for uncertainty management in geotechnics in April 2026.

But that's not all! In November 2025, we'll be hosting the **next General Assembly** and the **Work Package Leaders Group meetings**. These events will provide an excellent

opportunity to review progress, align on upcoming goals, and foster collaboration across the GRID project.

Stay tuned for more updates and exciting developments!

Upcoming events: meet GRID on tour!

Catch us at these prestigious events:

ISGSR2025 Oslo, Norway, 25–28 August 2025

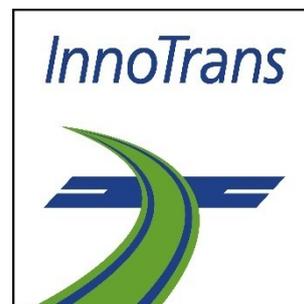


Third Workshop on the Future of Machine Learning in Geotechnics

Florence, Italy, 15–17 October 2025



Hong Kong, 10–13 May 2026



Berlin, Germany, 22 – 25 September 2026

6th ICITG

Graz, Austria, 13–16 October 2026

Spotlight on GitHub contribution: ChatPDF application

Hozaifa Ahmed, one of our affiliated researchers, is making an exciting addition to the GRID GitHub repository with the creation of a [chatbot for pdf and json documents](#) to help ETS gain a comprehensive understand of their data in the



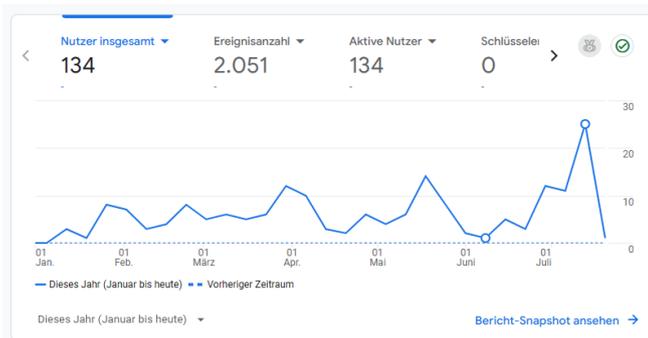
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wider geotechnical context of the infrastructure under monitoring. Built using modern technologies like [Streamlit](#) for its user-friendly interface, [LangChain](#) for managing interactions with large language models and [ChromaDB](#) for storing and retrieving document data, the ChatBot uses advanced [Retrieval-Augmented Generation technology](#) to analyze documents without needing an internet connection after setup, ensuring privacy and security.

Engaging the community

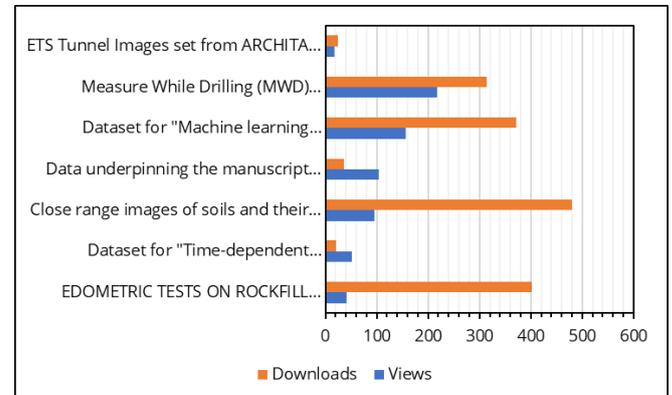
Our website is buzzing with activity! Thanks to [Google Analytics](#), we can see the geographical distribution of our active users. Plus, [our Zenodo community](#) datasets have been viewed 684 times and downloaded 1650 times.

Website stats



Number of active users of website and their geographical distribution according to [Google Analytics](#)

Zenodo stats



Views and downloads of the [GRID data sets](#)

Unlocking potential with EU Booster support

GRID is thrilled to announce its successful application for EU [Booster](#) support, aimed at maximizing the impact of our research results. The EU [Booster](#) services provide expert and customized support, designed to elevate the added value of research and innovation. With their assistance, GRID is poised to transform groundbreaking research into real-world applications, driving forward progress in geotechnics and AI.



Get involved

Join us in our journey to revolutionize geotechnics and AI. Your involvement is the key to our success!

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- <https://cordis.europa.eu/project/id/101182689>
- www.youtube.com/@GRID-Proj
- <https://github.com/GRID-Proj>