

WORKSHOP ANNOUNCEMENT

UrbEnLab - An urban energy laboratory for monitoring and better understanding of subsurface processes related to low-enthalpy geothermal heat production

18-20 June 2024, Delft, The Netherlands



At the Delft University of Technology campus, we are currently establishing the *Delft Subsurface Urban Energy Laboratory*. The DSUEL includes a [well-instrumented geothermal doublet](#), which was successfully drilled and completed in 2023, reaching a depth of 2.5 km (see picture above; photo credit: Vanguard drilling), an ultra-sensitive portable seismic monitoring array, the scientific monitoring components of a high temperature aquifer heat storage system (HT-ATES, to be installed in 2024/2025), and a borehole array to monitor and protect groundwater supplies (also still to be installed). Currently we are planning the expansion of this unique research infrastructure with a **4.5 km deep multi-use exploration and monitoring borehole**. Initial funds for drilling this borehole have been granted by the Dutch Science Foundation within the project [EPOS eNLarge](#).

The addition of the multi-use borehole to the subsurface urban energy laboratory is targeted to tackle problems and better understand processes related to multiple/competing subsurface uses in densely populated areas. The monitoring aspects target fluid/flux movement in 3D with unprecedented precision, aiming to understand the propagation of the geothermal cold front and reservoir pressures away from the well. In addition, access to the test sites and the data will enable the international research community to develop and optimise novel downhole and cross-hole imaging and measurement methods and techniques in this unique environment under challenging (for geophysical monitoring noisy) conditions.

Workshop invitation

We hereby **invite interested scientists to a three-day workshop in Delft (18-20 June 2024)** to collaboratively develop the scientific drilling programme for this multi-use exploration and monitoring borehole. Through the workshop and the broad expertise of the participants, we want to explore key science directions and opportunities within and beyond geothermal aspects. We also consider the workshop as our first platform to (i) bring together the international research community from academia and industry to plan a collaborative research project and test novel methods and technology and (ii) consider ways for public/stakeholder engagement as social acceptance of a drilling project is a crucial step for successful implementation, especially in an urban environment.

Participation

Scientists from a wide range of Earth science disciplines and from all career stages are encouraged to apply for workshop participation. Please send a short (< 1 page) statement of interest and a 1-page resume outlining relevant research activities to Urbanlabworkshop@tudelft.nl by **29 February 2024**. A scientific committee will decide on invitations and full or partial travel support through an ICDP grant. Preference will be given to scientists from ICDP member countries (or countries with an interest in joining ICDP) and to scientists or engineers whose expertise complements that of existing project participants.

Local organising committee

David Bruhn, Phil Vardon, Evert Slob, Alexis Koulidis, Susanne Laumann