

Second Announcement and Call for Posters

IGD-TP Symposium and Webinar

The role of optimisation in radioactive waste geological disposal programmes

11-13 January 2022, Zurich, Switzerland
26 January 2022, Online

We are delighted to announce that registration is now open for the IGD-TP's international symposium on the role of optimisation in geological disposal programmes for radioactive waste. Hosted by Nagra in January 2022, the event is open to anyone interested in geological disposal of radioactive waste.

Geological disposal projects are first of a kind projects, span several decades, and are multi-billion endeavours. In order to build and operate repositories safely, to make consistent progress, and to ensure efficiency, optimisation of all aspects plays a critical role and is a continuous activity throughout its implementation. While safety optimisation is well established, also through international guidelines, optimisation of the implementation of geological disposal has gained increased attention. This symposium and webinar aim to summarise the status of the main aspects of repository optimisation from a technical-scientific viewpoint and to discuss future directions.

To enable access and involvement of all interested parties, the event will be held in two parts. The first, physical event, will consist of a two-day meeting in Zurich with sessions on:

- the role of optimisation in selected national geological disposal programmes
- technology and material optimisation
- lessons learned from optimisation in large infrastructure projects
- integrating optimisation for safety
- global optimisation approaches – concepts and numerical applications

A number of side events will also be arranged to make the most of attendee time. Registration for such meetings will be arranged separately to the symposium.

The third day will provide an opportunity for attendees to tour the Mont Terri underground research laboratory, the ZWILAG interim storage facility or a Nagra drill site as part of the ongoing exploration programme for the site selection process (see overleaf for descriptions). Tour numbers are limited.

Talks and posters presented at the symposium will be recorded and made available online, prior to the webinar.

The second part of the event will consist of a live webinar that will include a panel discussion and question and answer session. Questions can be submitted in advance via the IGD-TP website and during the webinar.

Interested parties can attend the symposium, or the webinar, or both events.

Issued 10 September 2021

Call for Posters

Throughout the symposium the IGD-TP will host a series of themed poster sessions that aim to showcase the cutting-edge radioactive waste management RD&D of our community. The posters will also be displayed on our website. We strongly encourage you to submit poster applications that align to the IGD-TP [Strategic Research Agenda](#). Poster abstract submission is now open.

Poster submission: Please submit your poster application via the IGD-TP website (www.igdtp.eu). The submission must include the poster title, authors and their affiliations, and an abstract of no more than 300 words. We strongly encourage you to submit poster applications that align to the IGD-TP [Strategic Research Agenda](#); the Key Topic area that your poster is most closely linked to must be identified. There will be a prize for the best poster.

Deadline: Poster abstracts must be submitted by 31 October 2021.

Accepted poster authors will be notified by 30 November and a release consent form supplied at that time. The poster presenter must physically attend the Symposium.

Guidance: Poster sessions will be grouped according to Key Topics in the IGD-TP [Strategic Research Agenda](#). The posters will be set up in the refreshment area within the Symposium venue to increase visibility and attendee interaction. One of the significant advantages of a poster presentation is that it allows one-on-one time with the audience for exchange of information and to answer questions. Poster presenters are encouraged to verbally and visually convey the importance of their subject, including its implications and significance.

The posters will be displayed electronically and must be provided by 7 January 2022 to secretariat@igdtp.eu. A PDF file format is expected to be best, although JPG files can be supplied with ratio 16:9, HD 1920 x 1080 pixels or UHD 3840 x 2160 pixels. The monitors are 55", with dimensions 1250mm x 790mm.

Symposium posters will also be displayed on the IGD-TP website, increasing the visibility of your work.

Draft Programme

Symposium: 11-13 January 2022, Zurich, Switzerland

Time (CET)	Item	Chair / Speaker
Day 1 – Tuesday 11 January 2022		
10:30-11:30	Individual arrival and registration	
11:30-13:00	Lunch (finger food) and poster session	
13:00-13:15	Welcome	Matthias Braun (CEO Nagra, Switzerland)
13:15-13:30	The IGD-TP vision and the strategic research agenda; why this is the right time for this symposium	Irina Gaus (Chair IGD-TP, Nagra, Switzerland)
13:20-14:30	Session 1: The role of optimisation in selected national geological disposal programmes	<i>Chair:</i> Ingo Blechschmidt (Nagra, Switzerland)
	Optimisation process of deep geological disposal (Cigéo project) in the French context: from feasibility principle to licensing application then progressive development of operation	ANDRA, France (<i>name to be confirmed</i>)
	The role of optimisation in Posiva's programme	Tiina Jalonen (Posiva; Finland)
	COVRA - Optimisation through international initiatives (<i>working title</i>)	Ewoud Verhoef (COVRA, ERDO; the Netherlands)
14:30-15:00	Refreshment break and poster session	
15:00-18:00	Session 2: Technology and material optimisation	<i>Chair:</i> Joaquín Farias Seifert (ENRESA, Spain)
	Optimisation of canister design and its lifetime assessment: state of the art and plans within the EURAD CONCORD work package	Nikitas Diomidis (Nagra, Switzerland)
	Canisters: R&D-project KoBrA - requirements for waste packages for high-level radioactive waste and spent fuel elements for different host rocks (<i>working title</i>)	Holger Völzke (BAM, Germany)
	Optimisation in Posiva EBS clay component design – segmented buffer, granular backfill, mixture of crushed rock and bentonite in central tunnels	Petri Koho (Posiva, Finland)
	SKB value engineering work (<i>working title</i>)	Johan Hedlund (SKB, Sweden)
	Progress in pre-disposal of L-ILW contributing to geological disposal optimisation: state-of -the-art and outcomes of the EURATOM PREDIS project	Erika Holt (VTT, Finland)
	Artificial intelligence in radioactive waste disposal research	Manfred Krafczyk (TUB, Germany)
19:00-22:00	Dinner at the Sheraton Zurich	
Day 2 - Wednesday 12 January 2022		
08:00-08:30	Arrival and refreshments	
08:30-10:00	Session 3: Lessons learned from optimisation in large infrastructure projects	<i>Chair:</i> Jon Martin (RWM, UK)
	Prague City Ring Road - transport engineering construction for the metropolis of the 21st century	Alexandr Butovič (CTU, Czech Republic)
	Application of optimisation to decommissioning at the UK Trawsfynydd nuclear power station - delivery of an optimised site end state	Dan Galson (GSL, UK)

Issued 10 September 2021

Time (CET)	Item	Chair / Speaker
	Success criteria and success factors for the optimal planning, construction and operation of large infrastructure systems	Heinz Ehrbar (ETH Zürich, Switzerland)
10:00-10:30	Refreshment break and poster session	
10:30-12:00	Session 4: Integrating optimisation for safety	<i>Chair:</i> PURAM (Hungary)
	Optimisation and the safety case: what have we learnt from the Integration Group for the Safety Case	Lucy Bailey (RWM, UK)
	Optimisation and the International Commission on Radiological Protection (<i>working title</i>)	Christophe Depaus (ONDRAF/NIRAS, Belgium)
	Concept development in stages and its inclusion in the safety case of Posiva's disposal programme	Anne Kontula (Posiva, Finland)
12:00-13:30	Lunch (finger food) and poster session	
13:30-15:00	Session 5: Global optimisation approaches – concepts and numerical applications	<i>Chair:</i> Axel Liebscher (BGE, Germany)
	Optimisation of the thermal aspects of a generic high-level waste repository through Pareto front analysis	Andreas Poller (CSD Engineers, Switzerland)
	ONDRAF/NIRAS geological disposal facility layout update: an optimisation-based approach for the conceptual design	Didier Léonard (ONDRAF/NIRAS, Belgium)
	Optimisation of thermal dimensioning of the Cigéo project: operational goal and scientific key issues	Laurent Calsyn (ANDRA, France)
15:00-15:30	Closure and handover of the IGD-TP Chair from Nagra to Posiva	Irina Gaus (Nagra, Switzerland) & Tiina Jalonen (Posiva, Finland)
15:30-16:00	Refreshment break	
Day 3 - Thursday 13 January 2022		
08:00 start	An optional visit to the Mont Terri underground research laboratory (URL), the ZWILAG storage facility or a Nagra drill site. The visits to the ZWILAG storage facility and a Nagra drill site will take approximately half a day, so transport home can be arranged for late afternoon. The visit to Mont Terri will take all day; there must be a minimum of 10 participants and a maximum of 23 for this option.	

Webinar: 26 January 2022, Online

Time (CET)	Item
13:30-16:00	<p>The role of optimisation in disposal programmes</p> <p>Webinar chairs The current and incoming IGD-TP Chairs, Irina Gaus (Nagra) and Tiina Jalonen (Posiva)</p> <p>Panellists from the following organisations are confirmed</p> <ul style="list-style-type: none"> - IAEA, - NWMO, Canada - STUK, Finland - WIPP, USA - EURAD <p>The panellist will each give a 5 minute presentation on their view of optimisation</p> <p>Questions can be submitted in advance and by the audience during the webinar</p>

Day 3 Tour Options

Rock Laboratory Mont Terri (mont-terri.ch)

The Mont Terri rock laboratory is situated to the north of St-Ursanne in the canton of Jura, around 300 m underground. It is accessed via the safety gallery of the Mont Terri motorway tunnel. The rock laboratory comprises 1200 m of galleries and niches. The horse-shoe shaped galleries are 4 to 5 m high and well-lit. The key question being investigated is: can radioactive waste be stored safely in Opalinus Clay? The Mont Terri rock laboratory is engaged solely in research; no deep geological disposal facility will be built at Mont Terri. There are 22 partners from Europe, Japan, Canada, United Kingdom, the USA and Switzerland carrying out research at the Mont Terri rock laboratory. *This will be a full-day tour including a small lunch.*



Interior view of the Mont Terri rock laboratory (www.mont-terri.ch)

ZWILAG Wurenlingen (zwilag.ch)

ZWILAG, the Swiss interim storage facility, is a key link between the generation of waste and its disposal in deep geological repositories. Until underground repositories are available, radioactive waste must be kept in interim storage for 30 to 40 years. All categories of radioactive waste generated in Switzerland are processed and temporarily stored in the ZWILAG facility and the neighbouring federal interim storage facility. *This will be a half-day tour and will include a small lunch.*



ZWILAG (www.zwilag.ch)

Nagra Borehole site Bachs or Rheinau (nagra.ch)

Nagra is currently in the final stage of a deep drilling campaign as part the last stage in the Sectoral Plan leading to the site(s) for the repositories for HLW and L/ILW. The knowledge gained in Rheinau is important for understanding the properties of the Opalinus Clay, which is of relevance for all three potential siting regions (Jura Ost, Nördlich Lägern and Zürich Nordost). In addition, Nagra is planning a borehole in the community of Bachs in the Nördlich Lägern siting region. *This will be a half-day tour and will include a small lunch.*



Drone photo of the drilling site in Bülach after setting up the drilling rig (www.nagra.ch)

Practical Details

Registration: Registration for the Symposium, Webinar or both, is now open via the IGD-TP website (www.igdtp.eu). The total number of participants is limited; registrations will be accepted on a first-come first-served basis.

Registration fee: The costs of both events are subsidised by the IGD-TP. However, a small fee is required to support the Symposium:

- Option 1: Registration fee (€200). Includes participation on both days, refreshments and lunch.
- Option 2: Registration fee and dinner (€250). Includes Option 1 plus a 3-course dinner at the Sheraton Zurich on day 1.
- Option 3: Registration fee and day 3 excursion (€250). Includes Option 1 plus the day 3 excursion (transport, refreshments, lunch, site).
- Option 4: Full package (€300). Includes all options (meeting attendance, dinner and excursion).

The Webinar is free to attend for all.

Given the Covid-19 pandemic, a final decision on whether the Symposium will proceed as a physical event will be taken in November upon review of the latest information. All registrations would be refunded in full if the physical event were to be cancelled. Please note that a COVID certificate is likely to be needed (for travel and to enter the premises).

Symposium venue: The Symposium will be held at SIX ConventionPoint, Pfingstweidstrasse 110, 8005 Zurich, Switzerland (<https://www.conventionpoint.ch>). Travel directions and advice are provided on the IGD-TP website.

Accessibility: We would like to make this event as accessible as possible. We strongly encourage you to contact us if you need further information or have any queries.

- The conference rooms and toilets are on the same floor and are wheelchair accessible. A hearing loop is available. Service animals are not allowed.
- The conference dinner venue is wheelchair accessible and has accessible toilets. Service animals are allowed.
- For the optional tours on day 3, participants should be in good physical condition as there are some steps to take and a certain distance to walk.

Accommodation: The cost of accommodation in Zurich is not included in the registration fee and must be booked and paid directly by the participant. We recommend the following two hotels, which are both within walking distance to SIX Convention Point:

- Sheraton Zurich - <https://www.marriott.com/hotels/travel/zrhzs-sheraton-zurich-hotel/>
- 25hours-Hotel Zurich West - <https://www.25hours-hotels.com/en/hotels/zurich>. *Note that there are two 25hours-Hotel's in Zurich – please make sure that you book the **Zurich West**.*

You will find more hotels via Zurich tourism: <https://www.zuerich.com/en>

Webinar: The access link will be provided directly to registered participants.

Key Dates

27 April 2021	First announcement
10 September 2021	Registration opens
10 September 2021	Second announcement and call for posters
31 October 2021	Poster abstract submission deadline
30 November 2021	Symposium registration closes and selected poster presenters informed
30 November 2021	Covid-19 review and final decision to proceed with the Symposium
20 December 2021	Final programme published
7 January 2022	Deadline to supply presentation and poster files
11-13 January 2022	IGD-TP Symposium
20 January 2022	Symposium presentations and posters published on www.igdtp.eu
25 January 2022	Webinar registration and advance question submission closes
26 January 2022	IGD-TP Webinar

Further information will be added to the IGD-TP website as it becomes available (www.igdtp.eu/event/igd-tp-symposium). For any other questions please contact secretariat@igdtp.eu