RÉPUBLIQUE FRANÇAISE
Liberté Égalité Fraternité

IRSN
INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE

IRSN workshop

Natural fractures in clayrock formations in the context of Geological Disposal of Radioactive Waste

September 29-30, 2022

➢ @ IRSN Conference room - Triangle building, Fontenay-aux-Roses, France, for speakers and chairmen

➢ Online or @ IRSN Conference room for other participants

MEMBRE DE ETSON

Programme

29th Sept., 13:00-18:00

SESSION I – Fault architecture and fluid flow in clayrocks

Keynote: Christopher Wibberley (*TotalEnergies, France*)

Chairmen: Paul Bossart (*former Director of the Mont Terri Project,* Switzerland), Anita Torabi (*University of Oslo,* Norway), Pierre Dick (*IRSN,* France) and a representative from *Nagra,* Switzerland

Dinner for the registered attendees

30th Sept., 09:00-13:00

SESSION II – Scaling effects and modeling

Keynote: Eirik Keilegavlen (*University of Bergen,* Norway)

Chairmen: Simon Norris (*Nuclear Waste Services,* England), Rebecca Lunn (*University of Strathclyde,* Scotland), Edouard Veilly (*IRSN,* France)

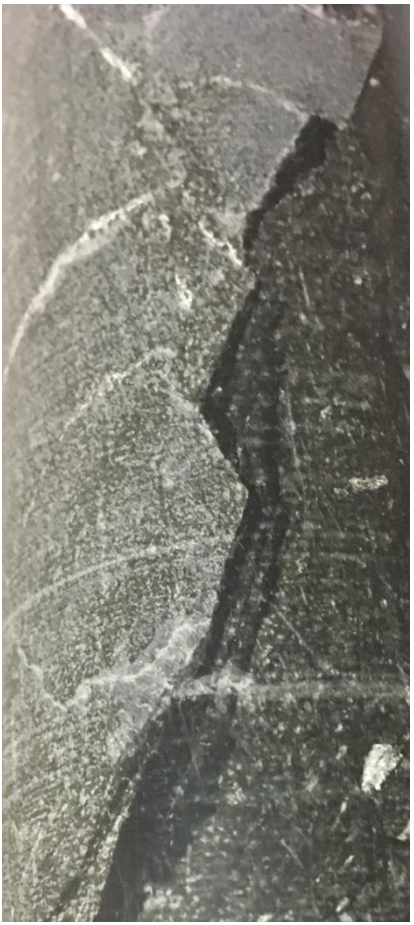
Main goals and questions

SESSION I – Fault architecture and fluid flow in clayrocks

- What is the influence of fault architecture and fabrics on fluid flow?
- Which types of fractures are relevant for detection in terms of fluid flow and how can the permeability of the fractures change with time?
- Which tools are relevant for detecting these fractures before, during and after excavation works in a deep underground repository?
- Is there a link between the parameters measured by geophysics, the architecture of the fractured medium and their hydraulic properties inferred through petrophysical approaches?

SESSION II – Scaling effects and modeling

- How can one extrapolate permeability measurements from the core scale to the field scale?
- What natural/anthropic processes can induce a fluid (water and gas) flow through faults and influence the related pathways?
- What could be the role of different fracturing scales on the mechanical or hydraulic behavior of the geological medium?
- Which hydro-mechanical models are the most suitable to characterize a fault under different stresses?
- How to model cross formational flow due to permeable faults?



@IRSN credits - Drill core with a clay-rich gouge

This workshop aims to bring together an international panel of scientists from industry, institutional entities and academia to gather the state-of-the-art and discuss an array of questions related to the presence and role of fractures in clayrocks, namely those concerning the occurrence of fluid flows through them.

The workshop will address topics related to the confining properties of fractured clay host rocks : how to better apprehend and to model them and what is the performance of caprocks in general.

Registration and contact

P. Dick, J.M. Matray & M. Rocher

MATRAY Jean Michel <jean-michel.matray@irsn.fr>; DICK Pierre <pierre.dick@irsn.fr>; ROCHER Muriel <muriel.rocher@irsn.fr>

- Registration is free of cost but limited to ~30 attendees (no limit online): please **send us the filled form**
- The 29th September 2022 dinner will be offered by IRSN to all physically present attendees

How to come…

IRSN
INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE

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IRSN head office entrance is located across the street from 146 avenue de Verdun (Châtillon).
IRSN main entrance and parking access are located at 68 avenue du Général Leclerc (Fontenay-aux-Roses).

« Triangle » building
12 rue de la Redoute
Fontenay-aux-Roses

BY CAR
From Paris/Porte de Châtillon: take D906 Direction CLAMART/VERSAILLES. After 4 km, you arrive at Place de la Divison Leclerc.

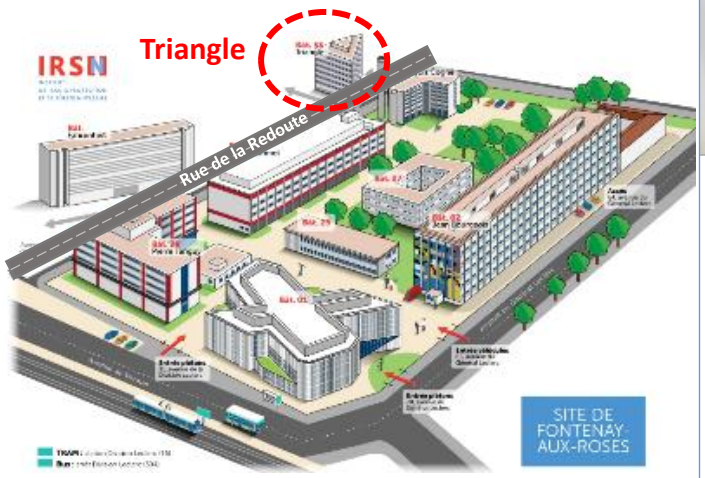
From Versailles: take highway A86, Exit CLAMART PARIS PORTE DE CHÂTILLON. Take D906, after 3 km, you arrive at Place de la Division Leclerc.

BY TRAIN
RER B (Charles de Gaulle/Robinson) :
Station FONTENAY-AUX-ROSES.
Then Bus 394: stop DIVISION LECLERC.

RER C (Versailles Chantier/Massy Palaiseau) :
Station ISSY-VAL-DE-SEINE.
Then Bus 394: stop DIVISION LECLERC.

BY METRO
Line 4 :
Station PORTE D'ORLEANS. Bus 388 or194
Stop CHÂTILLON/ MONTROUGE
Then Tramway T6, stop DIVISION LECLERC.

Line 13 :
Station CHÂTILLON/MONTROUGE.
Then Tramway T6, stop DIVISION LECLERC



THE PUBLIC EXPERT ON NUCLEAR AND RADIOLOGICAL RISKS

IRSN's mission includes providing expertise, research projects, protection, planning for the future, and sharing resources to the benefit of the French public authorities and the public at large.

IRSN can boast the unrivalled capacity to combine the expertise of researchers and experts in order to plan ahead for the questions of the future about nuclear and radiological risks changes and how to control them.

IRSN teams aim to ensure that society at large is aware of their works and can share their knowledge. With this approach, they help to improve a wide access to information and boost dialogue with stakeholders.

IRSN contributes to French public nuclear security and safety policies, as well as health, environmental and crisis management policies.

As a public industrial and commercial establishment supervised jointly by the French Minister of the Environment, the French Minister of Defence, and the French Ministers of Energy, Research and Health, IRSN comprehensively integrates its initiatives in the Government's modernisation policies with its risk management approach and by implementing a CSR policy.

KEY FIGURES 2020

1,816 employees

438 FTE* devoted to research

€271 M Budget

39.2% of the budget is allocated to research

230 international cooperation agreements

641 technical assessments and reports issued to defence and civil security and safety authorities

* FTE: Full time equivalent

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