SAVE the DATE:
Geomechanical challenges in industrial CO2 and H2 storage in geological formation

In-person event : 1 day conference
Ecole des Mines de Paris, 60 bd de Saint Michel

Come to learn more about real industrial project: **HyPSTER** (Ain, France), **Aramis CCS** (Holland), **Bleue Lorraine Permit** (Coalbed methane, Lorraine, France) projects and related geomechanics topics

Meet Speakers
- Gregoire Hevin, Storengy
- Arnaud Réveillère, Geostock
- Gatelier Nicolas, Geostock
- Ahmed Rouabhi, Ecole des Mines de Paris
- Hippolyte Djizanne, INERIS
- Sabine Delahaye, TotalEnergies
- Nicolas Agenet, TotalEnergies
- Nicolas Mottet, Freric Bourgeois, TotalEnergies
- Vincenzo De Gennaro, SLB
- Elisabeth Bemer, Jeremy Frey, IFPEN
- Thomas Le Guenan, Hideo Aochi, BRGM
- Maria PEREZ-FERNANDEZ, Mohamed Oukil BENMESBAH, Kun Su, TotalEnergies

On 4th April 2024 from 9:00am to 17:00pm
Don't miss out our special **in-person** event of the year 2024. Registration will be open soon!
Many industrial operators around the world are committed to developing CO\textsubscript{2} storage projects (CCS) in highly permeable sandstone or carbonate reservoirs in order to meet the goals of net zero as per the Paris Agreement (COP21). At the same time, the storage of H\textsubscript{2} in subsurface salt cavities or reservoirs is also the subject of numerous studies at the pre-development stage.

The design and operation of each CO\textsubscript{2} or H\textsubscript{2} storage project require many inputs from various geomechanical topics, from rock mechanics characterization on reservoir rock samples to 3D hydromechanical or thermo-hydro-mechanical numerical simulation of the long-term behavior of host formation and its overburden, including field monitoring and assessment of risk of induced seismicity. Most of them can be addressed with the same methodologies used in conventional oil and gas developments. Others are more specific, and some are considered as game changers, for example, the maximum allowable injection pressure of CO\textsubscript{2} regarding the subsurface integrity from Geomechanical point of view.

Co-organized by CFMR, SPE France section, and EAGE Paris Chapter, this technical session focuses on key geomechanical topics related to industrial projects of CO\textsubscript{2} and H\textsubscript{2} storage in geological formations. The session aims to discuss progress made and remaining challenges in Geomechanics. Furthermore, it seeks to provide valuable insights to guide the R&D efforts of the French Rock Mechanics community regarding current issues related to CO\textsubscript{2} and H\textsubscript{2} storage. In addition, the session aims to attract young professionals to engage within the realm of Rock Mechanics.
Geomechanical challenges in industrial CO\textsubscript{2} and H\textsubscript{2} storage in geological formation

Technical Session, 9H00-17h00, 4\textsuperscript{th} April 2024, Room V106, at Ecole des Mines de Paris, 60 bd Saint Michel, Paris

9h00-9H30  Ceremony CFMR to two former Presidents

9H30

1. HyPSTER, 1er pilote de stockage d’hydrogène en cavité saline en France  
Gregoire Hevin, Storengy

2. Hystories project: Hydrogen Storage in European Subsurface  
Arnaud Réveillère, Geostock

3. Hydrogen Storage in lined mined rock cavern : geomechanical aspects  
Gatelier Nicolas, Geostock

4. Stockage de l’hydrogène en cavités salines : quelques points qui mériteraient des réponses  
Ahmed Rouabhi, Ecole des Mines de Paris

5. Numerical modeling for risk control around UHS  
Hippolyte Djizanne, INERIS

6. H2 offshore storage project  
Sabine Delahaye, TotalEnergies

Lunch 12:15-13:30

13:30

7. Aramis CCS project and related geomechanics topics  
Nicolas Agenet, TotalEnergies

8. Aramis CCS project: Cap rock integrity and faults stability:  
Nicolas Mottet, Frederic Bourgeois, TotalEnergies

9. ECBM feasibility: a case study of the Northeastern Lorraine basin (Grand-Est, France)  
Vincenzo De Gennaro, SLB

10. Workflow de remplissage en propriétés pétrophysiques et mécaniques d’un modèle géomécanique à l’échelle d’un site de stockage de CO\textsubscript{2}  
Elisabeth Bemer, Jeremy Frey, IFPEN

11. Démarche d’analyse de risque appliquée à un site de stockage de CO\textsubscript{2}  
Thomas Le Guenan, Hideo Aochi, BRGM

12. Experimental and numerical modelling of CO\textsubscript{2} injector to THM cyclic loading  
Maria PEREZ-FERANDEZ, & Mohamed Oukil BENMESBAH, Kun Su, TotalEnergies

16:30-17h00  Discussion
Geomechanical challenges in industrial CO$_2$ and H$_2$ storage in geological formation

The 4$^{th}$ April 2024, Room V106, at Ecole des Mines de Paris, 60 bd Saint Michel, Paris

With the supports from:

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![TotalEnergies](image2.png)
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![IFP Energies nouvelles](image5.png)
![brgm](image6.png)
![storengy](image7.png)
![slb](image8.png)

Organization Committee:

- **CFMR**: Philippe Cosenza, Kun Su, Laura Blanco Martin, Nicolas Guy, Nicolas Gatelier, Gregoire Hevin, Siavash Ghabezloo
- **SPE France**: Zahraa Alkalby, Natalia Quisel
- **EAGE Paris Chapter**: Guillaume Henin