

ERE4.1

Versatile subsurface storage for future energy systems

Convener: Johannes Miocic^{ECS} | Co-conveners: Benjamin Emmel, Niklas Heinemann, Qi Li, Anja Sundal

[Displays can be found here.](#)

Chat time: Tue, 05 May, 08:30–12:30

Please note that the live chat discussion will be in the following order, with each display being allocated 8 minutes of chat time. During each time slot the authors will introduce their work with some prepared lines. After this a discussion can take place. Note that we have to stop the discussion after the allocated time frame – ongoing discussions should be postponed until after the chat time.

We have created Skype group calls which are online after the chat time (from 12.30 onwards) were you will have the chance to continue your chat.

CO₂ Storage (Skype chat from 12:30 <https://join.skype.com/hbsn3ngQhV9J>)

Time	Display	Authors	Title
08:30	D996	Weiqing Chen , Salaheldin Mahmoud Elkatatny, Mobeen Murtaza, and Ahmed Abdulhamid Mahmoud	Effect of Micro-MgO-based Expanding Agent on Rheological and UCS Properties of Well Cement at Early Age
08:38	D992	Liwei Zhang , Yan Wang, Manguang Gan, Sinan Liu, and Xiaochun Li	Investigation on wellbore cement degradation under geologic CO₂ storage conditions by micro-CT scanning and 3D image reconstruction
08:46	D981	Quinn C. Wenning, Antonio P. Rinaldi , Alba Zappone, Melchior Grab, Clement Roques, Ulrich W. Webber, Madalina Jaggi, Stefano M. Bernasconi, Yves Guglielmi, Matthias Brennwald, Rolf Kipfer, Claudio Madonna, Anne Obermann, Christophe Nussbaum, and Stefan Wiemer	Fault hydromechanical characterization and CO₂-saturated water injection at the CS-D experiment (Mont Terri Rock Laboratory)
08:54	D980	Christopher Yeates , Cornelia Schmidt-Hattenberger, and David Bruhn	Potential CO₂ Networks for Carbon Storage in a German Net-Zero Emission Landscape
09:02	D978	Bastien Dupuy , Anouar Romdhane, and Peder Eliasson	Quantitative CO₂ monitoring workflow
09:10	D977	Aliakbar Hassanpouryouzband , Katriona Edlmann, Jinhai Yang, Bahman Tohidi, and Evgeny Chuvilin	CO₂ Capture and Storage from Flue Gas Using Novel Gas Hydrate-Based Technologies and Their Associated Impacts

09:18	D976	Anélia Petit , Adrian Cerepi, Corinne Loisy, Olivier Le Roux, Léna Rossi, Pierre Chiquet, Audrey Estublier, Julien Gance, Bruno Garcia, Lisa Gauchet, Benoit Hautefeuille, Bernard Lavielle, Laura Luu Van Lang, Sonia Noirez, Benoit Texier, Pierre Bachaud, and Sarah Bouquet	Aquifer-CO2 Leak project: Physicochemical characterization of the CO2 leakage impact on a carbonate shallow freshwater aquifer
09:26	D1015	Ulrich Wolfgang Weber , Katja Heeschen, Martin Zimmer, Martin Raphaug, Klaus Hagby, Cathrine Ringstad, and Anja Sundal	Tracer Design and Gas Monitoring of a CO2 Injection Experiment at the ECCSEL CO2 Field Lab, Svelvik, Norway
09:34	D1013	Yerdaulet Abuov and Woojin Lee	CO2 storage capacity of Kazakhstan
09:42	D1012	Nurlan Seisenbayev, Yerdaulet Abuov, Zhanat Tolenbekova, and Woojin Lee	Assessment of CO2-EOR and its geo-storage potential in oil reservoirs of Precaspian basin, Kazakhstan
09:50	D1007	Ryan L Payton , Mark Fellgett, Andrew Kingdon, Brett Clark, and Saswata Hier-Majumder	Pore Scale Analysis of Suitability for Geological Carbon Storage, Implications for the UK Geoenergy Observatories Project
09:58	D1000	Tobias Raab , Wolfgang Weinzierl, Dennis Rippe, Bernd Wiese, and Cornelia Schmidt-Hattenberger	Electrical Resistivity Tomography Concept for CO2 Injection Monitoring at the Svelvik CO2 Field Lab
10:06	D979	Zhijie Yang , Zhenxue Dai, Tianfu Xu, Fugang Wang, and Sida Jia	Effects of Dip-angle on the CO2-Enhanced Water Recovery Efficiency and Reservoir Pressure Control Strategies

H₂ Storage and gas storage (Skype chat from 12:30 <https://join.skype.com/nnDNNvsEw4zS>)

Time	Display	Authors	Title
10:20	D983	Katriona Edlmann , Niklas Heinemann, Leslie Mabon, Julien Mouli-Castillo, Ali Hassanpouryouzband, Ian Butler, Eike Thaysen, Mark Wilkinson, and Stuart Haszeldine	Seasonal storage of hydrogen in porous formations
10:28	D1006	Christopher J. McMahon, Jennifer J. Roberts , Gareth Johnson, Zoe K. Shipton, and Katriona Edlmann	Geological Storage of Hydrogen: Learning from natural analogues
10:36	D993	Jonathan Scafidi , Mark Wilkinson, Stuart Gilfillan, and Niklas Heinemann	Hydrogen storage in porous rocks: the storage capacity of the UK continental shelf
10:44	D1008	Juan Alcalde , Niklas Heinemann, Michelle Bentham, Cornelia Schmidt-Hattenberger, and Johannes Miocic	Hydrogen storage in porous media: learnings from analogue storage experiences and knowledge gaps
10:52	D984	Elodie Lacroix , Stéphane Lafortune, Philippe De Donato, Philippe Gombert, Zbigniew Pokryszka, Francis Adélie, Marie-Camille Caumon, Odile Barrès, and Sanka Rupasinghe	Development of monitoring tools in soil and aquifer for underground H2 storages and assessment of environmental impacts through an in-situ leakage simulation
11:00	D982	Richard Schultz and David Evans	State-by-state comparison of off-normal occurrence frequencies for US underground natural gas storage facilities

Geothermal & heat storage (Skype chat from 12:30 <https://join.skype.com/pMeHVcaQc5jL>)

Time	Display	Authors	Title
11:15	D986	Hanne Dahl Holmslykke , Claus Kjøller, Rikke Weibel, and Ida Lykke Fabricius	Laboratory and modelling investigations of potential geochemical reactions upon seasonal heat storage in Danish geothermal reservoirs
11:23	D985	Kai Stricker , Jens Grimmer, Joerg Meixner, Ali Dashti, Robert Egert, Maziar Gholamikorzani, Katharina Schaetzler, Eva Schill, and Thomas Kohl	Utilization of abandoned hydrocarbon reservoirs for deep geothermal heat storage
11:31	D991	Gabriele Biccocchi , Andrea Orlando, Giovanni Ruggieri, Daniele Borrini, Andrea Rielli, and Chiara Boschi	Towards zero emission geothermal plants in the framework of the H2020 GECO project: Insights on gas re-injection in geothermal reservoir and serpentinite carbonation from batch reactor experiments

Salt research (Skype chat from 12:30 <https://join.skype.com/nPYcOvp8wqUW>)

11:45	D994	Martin Zimmer and Bettina Strauch	Origin and evolution of gas in salt beds of a potash mine
11:53	D997	Heike Richter , Rüdiger Giese, Axel Zirkler, and Bettina Strauch	Seismic surveys at an artificially created field-test cavern within a salt pillar
12:01	D988	Tobias Baumann , Boris Kaus, Anton Popov, and Janos Urai	The 3D stress state within typical salt structures
12:09	D999	Alexander H. Frank , Robert van Geldern, Anssi Myrntinen, Axel Zimmer, Martin Zimmer, Johannes A. C. Barth, and Bettina Strauch	Detection of mantle CO₂ in an underground salt mine via long-term and high-resolution monitoring by laser-based isotope techniques
12:17	D1001	Bettina Strauch , Martin Zimmer, and Axel Zirkler	The hidden CO₂ – The occurrence, distribution and composition of fluids in various salt minerals