

Preliminary program for the 3rd international Summer school in underground hydrogen storage

Masterclasses

8th July – Masterclass sessions in the afternoon

- Overview of the role of hydrogen
- Introduction to salt cavern storage
- Introduction to porous rock storage
- Introduction to additional geological storage technologies

Conference day 1: 9th July 2024

Day 1 9 th July	Topic	Presenter
Wider perspective and overview		
08:45- 09:10	Arrival, check-in	
09:10 - 09:15	Opening statements	Katriona Edlmann (University of Edinburgh)
09:15 - 09:40	Scotland's hydrogen ambitions	Stuart McKay (Scottish Government)
9:40 - 10:05	Hydrogen: Scotland in Europe	Dr Nigel Holmes (SHFCA)
10:05- 10:30	Hydrogen: an export commodity, possible cooperation with DE	Rieke Arendt, DE embassy London
10:30 - 10:40	Coffee break	
10:40- 11:05	UK hydrogen policy, Hydrogen storage and transport business model	Nick Morgan, DEZNES
11:05- 11:30	Integration and importance of UHS in our future energy system for net zero	Dr. Grant Wilson (University of Birmingham)
11:30- 11:55	Technology overview (TRL's and way to go) targets how will we get there.	Martyn Tulloch (Net Zero Technology Centre)
11:55 – 12:05	Coffee break	
12:05- 12:30	Hydrogen production	Scottish Power
12:30 – 12:55	Hydrogen risk assessment	Tom Sample (Crain Risk)
12:55- 13:45	Lunch	

Case studies		
13:45 – 14:05	Surface/Chemical Storage	Prof. Chris Sootweg (University of Amsterdam)
14:05-14:25	Silo's (bedrock ventures)	TBC
14:25-14:45	Lined caverns	Louis Londe (GeoStock)
14:45 – 15:15	Panel discussion – intermediate storage & scaling up storage	Dr Katriona Edlmann
15:15-15:25	Coffee break	
15:25 – 15:45	Porous rock onshore (RAG)	Marcus Pichler (RAG, AT)
15:45 – 16:05	Porous rock offshore (Rough, Centrica)	Chris McLane (Centrica Storage)
16:05 – 16:30	Salt cavern UK (SSE Thermal Aldborough)	Patryk Tomaszewski (Atkins), Victoria Spooner (SSE Thermal)
16:30-17:00	Panel session – challenges – onshore/offshore?	Eric Mckay (Heriot Watt University)
17:00	Finish of the day	
	19:00 Welcome dinner with Ceilidh in Ghillie Dhu	

Conference day 2: 10th July 2024

Day 2 10 th July	Topic	Presenter
Technicalities of UHS 1		
08:45 – 9:15	Arrival and coffee	
09:15-09:40	Multiphase flow (what's new)	Dr. Maartje Boon (University of Stuttgart)
09:40-10:00	Cushion gas and gas mixing	Dr. Niklas Heinemann (University of Edinburgh)
10:00-10:15	Simulation	Gang Wang (Heriot-Watt University)
10:15-10:30	Simulation of families of gas fields	EBN
10:30-10:45	Coffee break	
10:45-11:05	Salt Geomechanics	Prof. Karl-Heinz Lux (TU Clausthal)
11:05-11:25	Development challenges of UHS in salt caverns	Eddy Kuperus (H2Cast)
11:25-11:45	What's new/what do we need to know in salt caverns	Dr. Carla, Atkins

11:45-12:15	Panel discussion on salt caverns	Dr. Evan Passaris (BP)
12:15-12:40	Posters intro session	
12:40-13:25	Lunch	
Technicalities of UHS 2		
13:25-14:05	Microbiology vs hydrogen (what's new)	Dr.Nicole Dopffel (NORCE)
14:05-14:25	Geochemistry vs hydrogen (what's new?)	Lauren Beckingham (Auburn University)
14:25-14:45	Coupled microbial activities and geochemistry	Ahmadreza Shojaee (Heriot Watt University)
14:45 - 15:00	Q&A session	Prof. Catherine Peters, (Princeton University)
15:00-15:15	Coffee break	
15:15-15:40	Caprocks integrity and sealing capacity	Prof. Anthony Kavscek (Stanford University)
15:40-16:05	Well integrity	Ming Ongwan (Halliburton)
16:05 – 16:30	Geomechanics of porous rocks	Vincent Soustelle (TNO)
16:30-17:00	Panel discussion on storage integrity	Dr.Sam Xie (Curtin University, AU)
17:00	Beers and posters (more poster intro)	
Free evening		

Conference day 3: 11th July 2024

Day 3; 11 th July	Topic	Presenter
Hydrogen in nature		
08:45 – 9:15	Arrival and coffee	
9:15-9:40	Naturally occurring hydrogen	Prof. Isabella Moretti (The University of Pau et Pays de L'Adour)
9:40-10:05	Hydrogen tracing in subsurface	Dr. Ruta Karolyte (Oxford University)
10:05 – 10:30	Implications of atmospheric concentrations	Hannah Bryant (University of Edinburgh)
10:30 – 11:00	Q&A session	Dr. Juergen Groetsch (Friedrich Alexander University, Shell)
11:00-11:10	Coffee break	
Hydrogen site screening and monitoring		

11:10 – 11:35	Site Screening	Karin de Borst (Shell)
11:35 – 11:50	Monitoring of hydrogen storage	Stanislav Glubokowskikh (Barkley Laboratory)
11:50 – 12:15	Screening ranking and selection	Josh White (LLNL USA)
12:15- 12:45	Panel session on suitability of existing tools, different approaches, etc..	Silke van Klaveren (EBN)
12:45- 13:30	Lunch	
Policy, regulations and Investment		
13:30 – 13:50	Techno-economics of H2 Storage	Dr. Remco Groenenberg (TNO)
13:50 – 14:10	Screen for TE and cost modelling	Bastiaan Jaarsma (EBN)
14:10 – 14:30	Planning for UHS	Barend Engelenburg (SodM)
14:30- 14:35	Coffee break	
14:35 – 14:55	IEA TCP 42	Serge van Gessel (TNO)
14:55 – 15:25	Panel session hydrogen storage implementation	TBC
15:25- 15:55	New hydrogen projects on the way.....	TBC (3 projects)
15:55- 16:05	Coffee break	
Social aspect and social licence		
16:05 – 16:25	Public perception and communication	Connor Smith (university of Edinburgh)
16:25- 16:45	Just transition	Jen Roberts TBC
16:45 – 17:05	Panel discussion – what can we do better?	Karen Turner Strathclyde University TBC
17:05	Finish of the day	
19:00 Good-bye dinner in Scottish Café (Gallery)		

Conference day 4: 12th July 2024

Field trips including (still to be confirmed):

- Visit to SGN H100 hydrogen for heat neighbourhood trial.
- Visit to Logan Energy hydrogen electrolyser and system manufacturing.
- Geology field trip to Siccar Point
- Laboratory tours at the University of Edinburgh
- Geology field trip to Arthur's seat