

Insights into CO₂ storage processes, plume dynamics and effective monitoring

In this talk Phil Ringrose summarizes the development of industrial-scale CCS in Norway, starting with the Sleipner project in 1996. The long timescales of operational experience and the associated monitoring datasets (especially time-lapse seismic) provide important insights into how CO₂ storage in saline aquifers actually works. For example, the Sleipner project can be used to assess the storage efficiency and used to calibrate theoretical estimates based on fluid dynamics. The observed speed of lateral and vertical plume expansion can also be quantified, helping to calibrate forward models at other sites. Likely rates of pressure increase and the factors controlling formation pressurization can also be quantified. This experience is vital as we attempt to achieve global scale-up of CCS technology.

Biography

Philip Ringrose is (part-time) Professor in CO₂ Storage at the Norwegian University of Science and Technology (NTNU) and a leader in the *Centre for Geophysical Forecasting* based at NTNU. He is also a specialist in CO₂ storage and reservoir geoscience at the Equinor Research Centre, Trondheim, Norway. He has published widely on reservoir geoscience and flow in rock media and has published textbooks on 'Reservoir Model Design' and 'How to Store CO₂ underground.' He was elected as the 2014-2015 President of the European Association of Geoscientists and Engineers (EAGE) and in 2018 he was appointed as Honorary Professor (Sustainable Geoenergy) at the University of Edinburgh, School of Geosciences, Edinburgh, UK.



Academic profile at [Philip Ringrose - NTNU](#)