

Depleted oil fields considered for CO₂ storage

Evaluation of seal integrity and the effect of CO₂ injection on the residual oil

Prof. Henrik I. Petersen

Geological Survey of Denmark
and Greenland (GEUS)

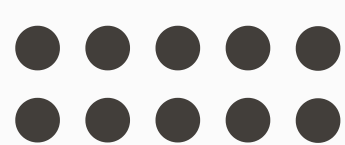


14th April 2026 10:00

lecture room 220

Institute of Geological Sciences UWr
9, Maks Born Square, Wrocław

online Teams



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Prof. Henrik I. Petersen

Geological Survey of Denmark and Greenland (GEUS)

Professor in carbon storage at the Geological Survey of Denmark and Greenland (GEUS); hold a Doctor of Science degree (highest Danish academic degree). By background he is a geologist, organic petrologist, and organic geochemist with 35 years – including 7½ years as petroleum geochemistry specialist in the oil industry – of global experience in characterizing organic matter in relation to biochar, paleo-wildfires/climate, thermal maturation, CO₂ storage (caprock analysis), source rocks, and petroleum. He has first-hand experience from heading laboratories, project creation and management of projects, and working from basic research to regional scale. Recent work includes cutting-edge research in biochar permanence and characterization of the effect of CO₂ injection on residual oil in depleted oil fields considered for CO₂ storage. He has published about 122 articles in peer-reviewed journals together with numerous reports and conference presentations, and in 2012 he was the recipient of the Ralph Gray Award 2012 (awarded by TSOP) for best publication (Petersen & Ratanasthien 2011, *Int. J. Coal Geol.*, 87, 2–12) in organic petrology published in 2011. He was Vice-President of the International Committee for Coal and Organic Petrology from 2011–2014 and He is a member of the editorial board of *Journal of Petroleum Geology* (JPG) and *International Journal of Coal Geology* (IJCG). In addition, He has taught training courses and supervised MSc and PhD students.

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Summary

Carbon capture and storage (CCS) in depleted oil fields is growing in importance. In particular, depleted fields in the North Sea have been targeted by Denmark as potential CO₂ storage sites. Professor Henrik I. Petersen, from the Geological Survey of Denmark and Greenland (GEUS), will give a talk on the effects of CO₂ injection on residual oil. He will also provide insights into the evaluation of seal integrity, a critical factor for successful, long-term CO₂ storage.

Streszczenie

Sekwestracja CO₂ w wyczerpanych złożach ropy naftowej zyskuje na znaczeniu. Dania planuje użyć wyeksploatowane złoża na Morzu Północnym jako potencjalne miejsca magazynowania CO₂. Profesor Henrik I. Petersen z Duńskiej i Grenlandzkiej Służby Geologicznej (GEUS) wygłosi wykład na temat wpływu zatłaczania CO₂ na rezydualną ropę pozostałą w takich złożach. Przedstawi on również szczegółowe informacje dotyczące oceny szczelności kompleksu izolującego, co jest niezbędne dla sukcesu długoterminowego magazynowania dwutlenku węgla.

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