

Czech-Norwegian Research Programme



Matchmaking event
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CO₂ storage capacity of coal matter
— petrographic, textural and sorption properties —

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THE ACADEMY
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Department of Geochemistry

- composition, structure and properties of rocks including coal and derivatives
- methods of surface chemistry, organic geochemistry and petrology
- sources and processes of accumulation and transformation of organic substance in rocks
- characteristics of biological sources and palaeoenvironment of coal deposits
- products of incomplete combustion in relation to contamination of environment
- problems of carbon dioxide as a greenhouse gas

One prospective project

- Factors influencing CO₂ storage capacity of coal matter from the point of view of its petrographic, textural and sorption properties
- *The members of our team have rich and long-term experience with multidisciplinary research, planning, leading and implementing experiments and special analyses, which form basis for comprehension and interpretation of the properties of coal relevant to CO₂ storage processes*

Objectives of the project

- determining mutual interrelationships between:
 - petrographic *and*
 - textural characteristics of coal
- in relation to its carbon dioxide sorption capacity relevant to the CCS technology

The major purpose of the project:

- explain the role of individual properties of coal in CO₂ sorption behaviour
- with the use of model compounds
- systematic approach
- possibly attempt to predict it

Outcomes of the project

- a complex breakdown of *the effect of ... on the sorption of CO₂*:
 - rank,
 - petrographic,
 - structural and porous characteristics of natural (original) coals (considered in concert with model materials)

⇒ **formulation of a sorption model**

- supported by a broad sample base
- The detailed evaluation of sorption behaviour will be obtained by using a wide range of petrographic and physico-chemical methods.
- The outcomes can significantly contribute to knowledge of feasibility and efficiency of the technology of CO₂ storage in coal matter.
- The results will be published mainly in international reviewed journals and in proceedings of prestigious international conferences.

Thank you for your attention!

Tusen takk for Deres oppmerksomhet.

På gjensyn. ☺