

DATES AND DEADLINES

November 8, 2019	Deadline for abstract submission
December 31, 2019	Notification of abstract acceptance
January 31, 2020	Registration deadline
February 5 - 7, 2020	Workshop

To submit an abstract please go to the online submission form at the website www.hzdr.de/smartkd.

REGISTRATION FEE AND ACCOMMODATION

The participation fee of the workshop will be 200 € and includes bus service between Dresden city and HZDR, lunches, coffee breaks & joint dinner. Please be aware that accommodation and travel expenses are not included.

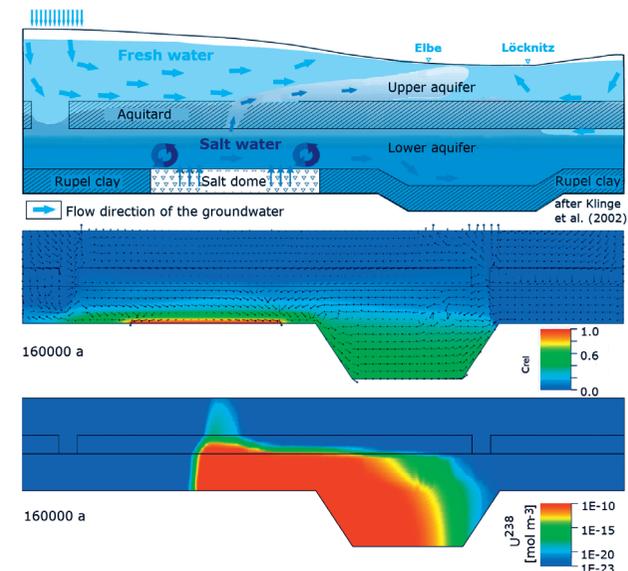
CONTACT

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For more information please visit:
www.hzdr.de/smartkd or write an email.

COVER PICTURE: 2D model for groundwater flow and radionuclide transport (example U-238) through a typical sedimentary rock system covering potential repository host rocks, namely salt and clay formations in Northern Germany.



LOCATION

Helmholtz-Zentrum Dresden-Rossendorf (HZDR)
Institute of Resource Ecology
Bautzner Landstrasse 400
01328 Dresden, Germany

The main campus of the Helmholtz-Zentrum Dresden-Rossendorf is a 10-kilometers drive to the Northeastern outskirts of Dresden (details can be found under www.hzdr.de).

Supported by:



on the basis of a decision
by the German Bundestag



The workshop is partially supported by the German Federal Ministry for Economic Affairs and Energy (BMWi) under Contract Nos. 02E11668A-C.

International Workshop on

How to integrate geochemistry
at affordable costs into reactive
transport for large-scale systems

FEBRUARY 5 - 7
2020

Dresden, Germany

HZDR
HELMHOLTZ ZENTRUM
DRESDEN ROSSENDORF

OBJECTIVES AND GOALS

Understanding and appropriate modelling of geochemical processes is essential for predicting contaminant transport in groundwater systems.

Typical application areas are nuclear waste disposal, environmental remediation, mining and milling, carbon capture & storage, or geothermal energy production.

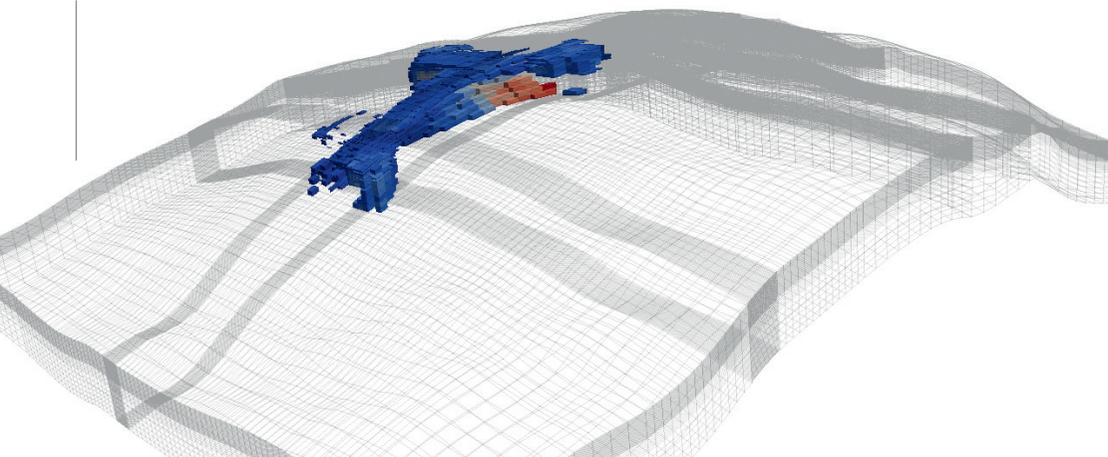
Experts from these fields shall be brought together to discuss large-scale reactive transport modelling because:

- The scales covered by such predictions are up to one million years and dozens of kilometers.
- Full-fledged incorporation of sorption, precipitation, or redox reactions (to name just a few important basic processes) will thus create unacceptable long computing times.

Geochemical approaches to overcome these difficulties are discussed. One example is the smart- K_d concept, a mechanistic approach mainly based on surface complexation modelling.

For more information please visit:
www.smartkd-concept.de

Reactive transport simulation of the potential spatial distribution of mineralised CO_2 in the anticline of the Ketzin pilot site after 10,000 years.



The focus of the workshop will be:

- To provide and discuss existing geochemical concepts in reactive transport modelling to describe sorption and related retardation processes of contaminants on a variety of sediments and rocks.
- To explicitly set focus on large-scale natural systems as experienced, e.g., in nuclear waste disposal, carbon capture & storage, environmental remediation, or geothermal applications.
- To explore how the discussed approaches can be integrated at affordable costs into current paradigms in THMC models and long-term safety assessments in general.
- To promote the exchange of scientific knowledge and practical experience between the workshop participants in an efficient way.

For attendance an abstract is mandatory (oral presentation or poster). The capacity of the workshop is limited, thus participants will be selected according to the abstracts submitted.

INVITED SPEAKERS

Allan Leal	ETH Zurich <i>Switzerland</i>
Haibing Shao	UFZ Leipzig <i>Germany</i>
Carl Steefel	LBLN <i>USA</i>
Paolo Trinchero	Amphos21 <i>Spain</i>

SCIENTIFIC ADVISORY COMMITTEE

Madlen Stockmann	HZDR <i>Germany</i>
Vinzenz Brendler	HZDR <i>Germany</i>
Ulrich Noseck	Gesellschaft für Anlagen- und Reaktorsicherheit <i>Germany</i>
Michael Kühn	GFZ German Research Centre for Geosciences Potsdam <i>Germany</i>
Jorge Molinero	Amphos21 <i>Spain</i>
Wilfried Pfingsten	PSI <i>Switzerland</i>
Sabine Attinger	Helmholtz Centre for Environmental Research - UFZ Leipzig <i>Germany</i>

Multidimensional lookup table for distribution coefficients (K_d -values) for uranium(VI) sorption in a sandy aquifer as a function of pH, calcium (Ca) and dissolved inorganic carbon (DIC) (K_d in $\text{m}^3 \text{kg}^{-1}$, logarithmic scale).

