

Public Customized Training Course on 'Reactive Transport Modeling of Radionuclides'

(Ara room)

<i>Date/Time</i>	<i>Program Description</i>	<i>Remark</i>
9.25 (Mon)	Registration and orientation	IS-Geo
09:50-10:00		
9.25 (Mon)	Fundamentals of solute transport modeling	
10:00-10:30	Introduction, Course overview	<i>Henning Prommer</i>
10:30-11:30	Introduction to flow and transport modeling I	<i>Henning Prommer</i>
11:30-12:10	Introduction to flow and transport modeling II	<i>Henning Prommer</i>
12:10-13:30	Lunch	
13:30-14:30	Introduction to MT3DMS: Theoretical background and solution techniques	<i>Olivier Atteia</i>
14:30-15:15	Introduction to the graphical user interface (GUI) ORTI	<i>Olivier Atteia</i>
15:15-17:15	MT3DMS Exercise: Conservative transport simulation	
17:15-18:00	Conservative transport model calibration: Role for reactive transport modeling	<i>Henning Prommer/Olivier Atteia</i>
9.26 (Tue)	Geochemical and reactive transport modeling	
10:00-11:00	Introduction to geochemical modeling	<i>Doug Kent</i>
11:10-12:10	Introduction to PHREEQC	<i>Doug Kent</i>
12:10-13:30	Lunch	
13:30-15:30	PHREEQC Exercises: water composition, mineral dissolution/precipitation	<i>Doug Kent</i>
15:00-16:00	Introduction to PHT3D: Coupling of transport and chemistry	<i>Henning Prommer</i>
16:00-18:00	PHT3D Exercise: Mineral dissolution/precipitation	<i>Henning Prommer/Olivier Atteia</i>
9.27 (Wed)	Cation exchange and surface complexation reactions	
10:00-11:15	Ion exchange: principles, types of exchangers, modeling with PHREEQC	<i>Doug Kent</i>
11:15-12:10	Redox processes: Principles, modeling with PHREEQC	<i>Doug Kent</i>
12:10-13:30	Lunch	
13:30-14:45	Ammoniacal liquor contamination at the Rexco site/UK	<i>Henning Prommer</i>
14:45-16:45	PHT3D Exercise ion exchange: Ammonium plume at the Rexco site/UK	<i>Olivier Atteia</i>
16:45-18:00	Surface complexation: theory/types of surface complexation models/model applications	<i>Doug Kent</i>
9.28 (Thu)	Mobility of radionuclides in fractured systems	
10:00-11:00	Exercise : geochemical reactions and diffusion of U at kaolinite-granite boundary	<i>Olivier Atteia</i>
11:00-12:10	Long-term fate of uranium after mine closure	<i>Henning Prommer</i>
12:10-13:30	Lunch	
13:30-14:30	Exercise: Reactive transport of uranium in fractured media Pt I - Tracer transport in a dual domain system	<i>Olivier Atteia</i>
14:30-15:30	Exercise: Reactive transport of uranium in fractured media Pt II Pt II - Development of a site-specific surface complexation model	<i>Doug Kent</i>
15:30-17:00	Exercise: Reactive transport of uranium in fractured media Pt II Pt III – Reactive transport in a dual domain system	<i>Henning Prommer</i>
17:00-18:00	Exercise: Reactive transport of uranium in fractured media Pt II Pt IV – Reactive transport in a dual domain system under variable redox conditions	<i>Olivier Atteia</i>
9.29 (Fri)	Advanced topics and team exercises	
10:00-11:30	Selected advanced topics	<i>Doug Kent Olivier Atteia Henning Prommer</i>
11:30-12:10	Introduction Team exercises	
12:10-13:30	Lunch	
13:30-16:00	Team exercises	
16:00-17:00	Presentation of results	
17:00-18:00	Final discussion and course closure	

* The working language is English