

Joint 2nd workshop of the German Clay Group DTTG with Federal Institute for Geosciences and Natural Resources BGR, State Authority for Mining, Energy and Geology LBEG, Soil Minerals Commission of the German Soil Soc. DBG, Raw Materials Group of the German Ceramic Soc. DKG, and Deutsche Forschungsgemeinschaft (DFG)

5.03.-9.03.07 in Hannover, 15 participants

total h for: orals 17.5 h, exercises 13 h, communication & breaks 13 h

Lab D = D23-26

Lab E = E222-E218

topic	room	lecturer	date	time	coffee break
Crystal structures, basal reflections of clay minerals, their preparation and identification					
Registration of participants and opening of the workshop	F119	Kaufhold	Monday	8.30-9.00	
Crystal structure of clay minerals and 1 dimensional modelling of XRD patterns	F119	Grathoff	Monday	9.00-10.30	
<u>1 dimensional modelling of clay mineral patterns - Software demonstration</u>	<u>F119</u>	Kleeberg	Monday	11.00-11.45	10.30
Intercalation methods (oriented clays)	F119	Plötze	Monday	11.45-12.30	
<i>lunch break</i>					
<u>Interpretation of clay patterns (oriented clays) - exercise</u>	<u>F119</u>	Grathoff, Plötze	Monday	13.30-14.30	
Quantification of preferred orientation and strategies of sample preparation	F119	Dohrmann	Monday	15.00-16.00	14.30
<u>Sample preparation (disaggregation, XRD sample preparation, spray drying)- Lab exercise</u>	<u>Lab D</u>	Kaufhold, Dohrmann, Kleeberg	Monday	16.00-17.15	
XRD of clay minerals in 3 dimensions and Rietveld refinement					
Modelling of 3-dimensional XRD patterns	PC B1409	Ufer	Tuesday	9.00-10.30	
XRD - intensity, geometry, and sample preparation	PC B1409	Kleeberg	Tuesday	11.00-12.00	10.30
<i>lunch break</i>					
Rietveld refinement - principles, quantification	PC B1409	Kleeberg	Tuesday	13.00-14.00	
<u>Rietveld refinement: program structure, devices, simple mixtures - PC exercise</u>	<u>PC B1409</u>	Kleeberg, Ufer	Tuesday	14.30-16.00	14.00
Handling of turbostratic disorder using the Rietveld method	PC B1409	Ufer	Tuesday	16.30-17.15	
<u>Rietveld refinement of smectites - PC exercise</u>	<u>PC B1409</u>	Ufer, Kleeberg	Tuesday	17.15-18.00	16.00
Physicochemical properties of clay minerals and quantification tools					
CEC	F119	Dohrmann	Wednesday	9.00-9.45	
Layer charge density	F119	Kaufhold	Wednesday	9.45-10.30	
<u>CEC & layer charge density - Lab exercise</u>	<u>Lab D</u>	Dohrmann, Kaufhold	Wednesday	11.00-12.00	10.30
Reactions between solutions and solids: sorption	F119	Dultz	Wednesday	12.00-13.00	
<i>lunch break</i>					
Presentation of posters of participants	F119	Biševac, Herre, Jacquat, Kefšler	Wednesday	13.45-14.30	14.30
Calculation of montmorillonite content from CEC and LCD	PC B1409	Kaufhold	Wednesday	15.00-15.45	
<u>Complex data evaluation for quantification of clays - PC exercise</u>	<u>PC B1409</u>	Kaufhold	Wednesday	15.45-17.15	17.15
Ideas for complex mineral analysis - discussions	PC B1409	Kaufhold	Wednesday	17.45-18.00	
Optical, spectroscopic and thermal characterisation					
Optical characterisation (TEM, SEM, AFM....)	F119	Klinkenberg	Thursday	9.00-9.45	
Infrared (IR) spectroscopy	F119	Kaufhold	Thursday	9.45-10.30	
<u>IR (KBr, ATR, microscopy)/ESEM - Lab exercise</u>	<u>Lab D+E</u>	Kaufhold, Klinkenberg	Thursday	11.00-12.30	10.30
<i>lunch break</i>					
<u>IR (KBr, ATR, microscopy)/ESEM - Lab exercise</u>	<u>Lab D+E</u>	Kaufhold, Klinkenberg	Thursday	13.00-14.30	
Determination of the specific surface area	F119	Kaufhold	Thursday	15.00-15.45	14.30
Spektroskopie: Cathodolum., EPR, NMR, Mössbauer	F119	Plötze / Stanjek		15.45-16.30	
Thermal analysis (TG/DSC, in situ XRD, in situ FT-IR, Karl-Fischer-Titration)	F119	Dultz	Thursday	16.30-17.15	
<i>Workshop dinner, departure 18.00 h main entrance BGR to Restaurant Grapenkieker in Isernhagen, dinner at 18.30 h</i>					
Iron minerals and clays in diagenesis, weathering, and their geotechnical application					
Pitfalls of interpretation of clays in diagenesis and weathering	F119	Grathoff	Friday	9.00-10.00	
Iron minerals - basics, properties, relevance	F119	Stanjek	Friday	10.30-11.30	10.00
Clays and geotechnics	F119	Plötze	Friday	11.30-12.30	
<i>lunch break</i>					
<u>Geotechnical tests, chromameter, thermal analysis - Lab exercise</u>	<u>Lab D+E</u>	Plötze, Stanjek & Dultz	Friday	13.30-16.30	15.00

Speakers

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Dohrmann	Reiner	BGR/LBEG	r.dohrmann@bgr.de
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Klinkenberg	Martina	BGR/LBEG	m.klinkenberg@bgr.de
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Posters

Mineralogy of altered tephra layers in the Upper Jurassic Lemeš deposits near Maovice (Dalmatia, Croatia)
presented by V. Biševac

Sulphate sorption on variable charge surfaces of allophane aggregates,
presented by A. Herre

Speciation of Zinc in rocks and soils using μ -XRF and μ -EXAFS,
presented by O. Jacquat and coworkers

Compressibility behaviour of clays under high stresses: experimental and theoretical approach,
presented by W. Kessler