



Deutsche Ton- und Tonmineralgruppe



4th International Workshop

“Qualitative and quantitative analysis
of clays and clay minerals”



Zurich, February 14 - 18, 2011

Supported by

Deutsche Bodenkundliche Gesellschaft



4. Int. DTTG-Workshop Clays and Clay minerals analysis; 14.-18. Feb 2011 ETH Zurich						
Mo 14.2.	08:30	09:00	Registration and Opening of the Workshop	HIL C10.2	Plötze	
	What is clay? Preparation for analysis and identification of clay minerals					
	09:00	09:45	Crystal structure of clay minerals	HIL C10.2	Warr	
	09:45	10:30	Diagnostic intercalation methods with exercise	HIL C10.2	Plötze	
	10:30	11:00	Coffee break			
	11:00	13:00	1 dimensional modelling of XRD pattern - Software demonstration (Sibylla, Newmod)	HIL C10.2	Warr, Kleeberg	
	13:00	14:00	Lunch break			
	14:00	15:30	Strategies of sample preparation (disaggregation, fractionation, XRD specimens, po, texture)	HIL C10.2	Plötze, Kleeberg	
	15:30	16:00	Coffee break			
16:00	17:30	Sample preparation - Lab exercise	HIF D15	Kleeberg, Plötze		
Tu 15.2.	XRD of clay minerals, QPA of clays with Rietveld method					
	09:00	10:00	XRD with specials in clay analysis	HIL E15.2	Kleeberg	
	10:00	11:00	Rietveld refinement, principles in quantification	HIL E15.2	Kleeberg	
	11:00	11:30	Coffee break			
	11:30	13:00	Modelling of 3-dimensional XRD patterns; handling of turbostratic disorder and mixed layers	HIL E15.2	Ufer	
	13:00	14:00	Lunch break			
	14:00	15:00	Rietveld analyse: Program, device, mixture quantification - PC exercise	HIL E15.2	Kleeberg	
	15:00	15:30	Coffee break			
15:30	17:00	Complex quantitative analysis of clays (in part. Rietveld of bentonites) - PC exercise	HIL E15.2	Ufer, Kleeberg		
We 16.2.	Mineralogical and Physicochemical properties of clay minerals and their quantification					
	09:00	11:00	Thermal Analysis with exercise	HIL C10.2	Emmerich	
	11:00	11:30	Coffee break			
	11:30	13:00	Infrared-Spectroscopy	HIL C10.2	Friedrich	
	13:00	14:00	Lunch break			
	14:00	14:45	Sorption and CEC	HIL C10.2	Plötze	
	14:45	15:30	Layer charge density distribution	HIL C10.2	Kaufhold	
	15:30	16:00	Coffee break			
16:00	17:30	CEC and Layer charge distribution - Lab exercise	HIF D17	Plötze, Kaufhold		
Th 17.2.	Microstructural Characterization					
	09:00	10:30	Surface determination and Porosity	HIL C10.2	Kaufhold	
	10:30	11:00	Coffee break			
	11:00	13:00	Electronoptical characterisation (TEM, ESEM, EDX)	HIL C10.2	Warr	
	13:00	14:00	Lunch break			
	14:00	15:00	Presentation of posters of participants	HIL C10.2		
	15:00	15:30	Coffee break			
	15:30	17:30	FT-IR, ESEM - Lab exercise	HIF D13/ HIF C17.1	Friedrich; Warr, Peschke	
18:36	Departure to Workshop dinner					
Fr 18.2.	Geotechnical properties of clays - their characterisation and quantification					
	09:00	10:00	Rheology of clay suspensions	HIL C10.2	Plötze	
	10:00	11:00	Rheology - Lab exercise	HIF D19	Plötze	
	10:00	11:00	Coffee			
	11:00	13:00	Clays and Geotechnics	HIL C10.2	Laue	
	13:00	14:00	Lunch Break			
14:00	17:00	Geotechnical tests (classification, strength, compression)	HIF D17/ HIF B52	Laue, Plötze		

Speakers

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Posters/Projects

Mass dependent and independent equilibrium fractionation of stable mercury isotopes during laboratory synthesis of metacinnabar and other mercury-bearing phases

Presented by R. Smith

The interaction of microorganisms with clay minerals.

Presented by Z. Wafaa

The formation of "Toneisenstein" and hardened clays of the Inden-Formation in the open lignite cast Hambach, Germany.

Presented by R. Kleinow.

Neolithic pottery from Morocco - raw materials and technology

Presented by H. Müller-Sigmund