

10th International DTTG Workshop, 11 - 15 September 2023, Hoehr-Grenzhausen

Day 1: Introduction | Structure | XRD - Practical Training

Mo 11. Sep	08:30	09:00	Registration, Opening and Welcome	Ir. Marcel Engels / Prof. Dr. Olaf Krause	
	01	09:00	09:45	Introduction to Clay Mineralogy	Dr. Georg Grathoff
	02	09:45	10:30	Structure of Clay Minerals	Prof. Dr. Katja Emmerich
		10:30	11:00	COFFEE BREAK	
	03	11:00	11:45	Multianalytical Approach to Studying SMECTITE	Dr. Michael Plötze
	04	11:45	12:30	Concept of Stacking Disorderd Minerals	Dr. Kristian Ufer
		12:30	13:30	LUNCH BREAK	
	05	13:30	14:15	Sample Prep Lecture: Powder & Oriented	Dr. Reinhard Kleeberg
	06	14:15	16:00	Practical training 1: Sample Preparation XRD	Dr. Reinhard Kleeberg
		16:00	16:30	COFFEE BREAK	
	07	16:30	17:30	Practical training 2: Basic Identification of Clay Minerals via XRD	Dr. Reinhard Kleeberg

Day 2: Quantitative Phase Analysis | Rietveld Refinement

Tue 12. Sep	08:45	09:00	Feedback session		
	08	09:00	10:30	Quantitative Phase Analysis (QAP) Basics of Rietveld Refinement	Dr. Reinhard Kleeberg
				COFFEE BREAK	
	09	11:00	12:30	Peak Profile Modeling	Dr. Reinhard Kleeberg
				LUNCH BREAK	
	10	13:30	14:15	Description of Turbostratically Disordered Smectites - Recursive Calculation of Stacking	Dr. Kristian Ufer
	11	14:15	15:00	QPA Problems	Dr. Reinhard Kleeberg
				COFFEE BREAK	
	12	15:30	18:00	Rietveld QPA of Clays BGMN Excercises	Dr. Reinhard Kleeberg / Dr. Kristian Ufer
				Get together with Posters of participants	

Day 3: Electron Microscopy | Spectroscopy | Thermal Properties

Wed 13. Sep	08:45	09:00	Feedback session		
	13	09:00	10:30	Thermal Analysis in Clay Science	Prof. Dr. Katja Emmerich
				COFFEE BREAK	
	14	11:00	12:00	Simultaneous Thermal Analysis (STA)	Prof. Dr. Katja Emmerich
				LUNCH BREAK	
	15	13:00	14:30	Special applications of clays and bentonites of the Westerwald: Building materials, Fillers, Earth substrates	Dr. Christoph Piribauer
				COFFEE BREAK	
	16	15:00	15:45	IR-Spectroscopy	Dr. Michael Plötze
	17	15:45	16:30	Cation Exchange Capacity (CEC) of Clay Minerals	Dr. Reiner Dohrmann
				COFFEE BREAK	
	18	17:00	17:45	Disaggregation of Clay minerals and Particle Size Analysis	Dr. Reiner Dohrmann

Day 4: Rheology | Practical training

Thu 14. Sep	08:45	09:00	Feedback session	
19	09:00	09:45	Influence of clay mineralogy on the processing parameters of ceramics	Ir. Marcel Engels
20	09:45	10:30	Rheological Characterisation of Clay Suspensions	Prof. Dr. Pascal Seffern
	10:30	11:00	<i>COFFEE BREAK</i>	
21	11:00	12:30	Practical training 3: FTIR group 1	Dr. Michael Plötze/ Kathrin Lazer
	11:00	12:30	Practical training 4: CEC group 2	Dr. Reiner Dohrmann/ Andrea Frey
	12:30	13:30	<i>LUNCH BREAK</i>	
22	13:30	15:00	Practical training 3: FTIR group 2	Dr. Michael Plötze/ Kathrin Lazer
	13:30	15:00	Practical training 4: CEC group 1	Dr. Reiner Dohrmann/ Andrea Frey
	15:00	15:30	<i>COFFEE BREAK</i>	
23	15:30	17:00	Practical training 5: Rheological characterisation	Prof. Dr. Pascal Seffern / Ir. Marcel Engels
			<i>WORKSHOP DINNER</i>	

Day 5: Application Cases of Clay Minerals | Practical training

Fri 15. Sep	08:45	09:00	Feedback session	
24	09:00	10:30	Clays in Geotechnics	Dr. Michael Plötze
			<i>COFFEE BREAK</i>	
25	11:00	11:45	Introduction to Scanning Electron Microscopy (SEM)	Prof. Dr. Olaf Krause
26	11:45	12:30	Introduction to Raman Spectroscopy	
			<i>LUNCH BREAK</i>	
27	13:30	15:00	Practical training 6: SEM	Prof. Dr. Olaf Krause/ Johannes Kehren M. Sc.
			<i>COFFEE BREAK</i>	
28	15:30	16:30	Practical training 7: RAMAN Spectroscopy	Sinje Zimmer M.Sc.