

# KORESI-Workshop

## Programme

### Sunday, 19 June 2005

Afternoon (15:00 – 18:30)      **Registration at the hotel reception**

18:00                      **Get-together drinks**

18:30                      **Dinner**

### Monday, 20 June 2005

08:30                      **Registration at the workshop desk**

09:00                      **Opening and welcome**

### Topic: (Bio-) Colloid Characterisation

09:30-10:10      Rainer Köster<sup>a</sup>, Wolfgang Ferstl<sup>b</sup>, Tobias Wagner<sup>a</sup>, Tobias Bundschuh<sup>a</sup>  
<sup>a</sup> Research Centre Karlsruhe, Germany, <sup>b</sup> Fraunhofer Institute for Chemical Technology, Germany  
**Detection of Aquatic Colloids and Some Aspects of Their Mobilisation from Bottom Ashes**

10:10-10:50      Ronald Beckett  
Water Studies Centre and School of Chemistry Monash University, Melbourne, Australia  
**Characterisation of Soil Colloids by Field-Flow Fractionation**

10:50-11:20      **Coffee break**

11:20-11:50      Frank von der Kammer  
Vienna University, Austria  
**Applicability of SedimentationFFF and FlowFFF Coupled to Light Scattering Detectors for the Determination of Size and Shape of Environmental Colloids**

11:50-12:20      Şerif Altan Süphandağ, Miray Bekbölet  
Boğaziçi University, Turkey  
**Post-adsorption Spectroscopic Characteristics of Natural Organic Matter**

12:30                      **Lunch**

**KORESI-block: “Colloidal Transport of Substances During the Seepage of Rainwater”**

- 14:00-14:30      George Metreveli, Fritz Hartmann Frimmel  
Universität Karlsruhe (TH), Germany  
***Influence of Natural Colloids on the Transport of Heavy Metals in Porous Media***
- 14:30-15:00      Martin Strathmann<sup>a</sup>, Carlos Felipe Leon-Morales<sup>a</sup>, Andrew Leis<sup>b</sup>,  
Hans-Curt Flemming<sup>a</sup>  
<sup>a</sup> University of Duisburg-Essen, Germany, <sup>b</sup> Max Planck Institute of  
Biochemistry, Germany  
***Biofilms and the Mobility of Colloids***
- 15:00-15:30      Ralf Siepmann<sup>a</sup>, Frank von der Kammer<sup>b</sup>, Ulrich Förstner<sup>a</sup>  
<sup>a</sup> Technical University Hamburg Harburg, Germany, <sup>b</sup> Vienna  
University, Austria  
***Monitoring of Colloids and Contaminants in Effluents from Laboratory- and Pilot-Scale Run-off Filtration Columns***
- 15:30-16:00      Alexander Schriewer, Konstantinos Athanasiadis, Peter Wilderer,  
Brigitte Helmreich  
Technical University of Munich, Germany  
***The Role of Colloids in Roof Runoff***
- 16:00-16:30      ***Coffee break***

Topic: **Colloid Mobilisation and Transport**

- 16:30-17:10      Nathalie Tufenkij  
McGill University, Canada  
***Breakdown of Classical Colloid Filtration Theory – Implications to Microbial Transport***
- 17:10-17:50      A.D. Karathanasis, D.M.C. Johnson, C. J. Matocha  
University of Kentucky, USA  
***Subsurface Transport of Heavy Metals in Waste-Amended Soils Mediated by Biosolid Colloids***
- 17:50-18:20      Peter Klauth, Carla Ralfs, Harry Vereecken, Erwin Klumpp  
Research Centre Jülich, Germany  
***Transport and Deposition of Metabolic Active Bacteria in Soils***
- 18:30              ***Dinner***

**Tuesday, 21 June 2005**

Topic: **Colloid Mobilisation and Transport**

- 08:30-09:10      Ruben Kretzschmar  
ETH Zurich, Switzerland  
***Colloid Transport in Porous Media: The Role of Colloidal Stability***
- 09:10-09:50      Thilo Hofmann, Alexandra Christ, Frank von der Kammer  
Vienna University, Austria  
***Assessing the Relevance of Colloidal Carriers in Contaminant Transport by Experiment and Modeling***
- 09:50-10:30      Joseph N. Ryan<sup>a</sup>, Nicole M. DeNovio<sup>b</sup>  
<sup>a</sup>University of Colorado at Boulder, USA, <sup>b</sup>Stoller-Navarro Joint Venture, USA  
***Effect of Simulated Rainfall on the Transport of Metals, Organic Matter, and Colloids in a Metal-Contaminated Flood Plain Soil***
- 10:30-11:00      ***Coffee break***

Topic: **Colloid Mobilisation and Transport**

- 11:00-11:40      Daniel Grolimund<sup>a</sup>, Kurt Barmettler<sup>b</sup>, Michal Borkovec<sup>c</sup>  
<sup>a</sup>Paul Scherrer Institute, Switzerland, <sup>b</sup>Swiss Federal Institute of Technology, Switzerland, <sup>c</sup>University of Geneva, Switzerland  
***Colloid Facilitated Transport in Natural Porous Media: Phenomena and Modelling***
- 11:40-12:10      Thomas Baumann, P. Fruhstorfer, T. Klein, R. Nießner  
Technical University Munich, Germany  
***Colloid Transport in Contaminated Areas***
- 12:30              ***Lunch***
- 14:00              ***Excursion***
- 18:30              ***Conference Dinner***

**Wednesday, 22 June 2005**

**Topic: Interactions between Colloids and Contaminants**

08:30-09:10 Martin Hassellöv, Björn Stolpe, Kajsa Palmers, David Turner  
Göteborg University, Sweden  
***Trace Metal Association with Colloids in Natural Waters and Urban Stormwaters Studied by Flow Field-Flow Fractionation Coupled to High Resolution ICPMS***

09:10-09:50 Willem H. van Riemsdijk, Li Ping Weng  
Wageningen University, The Netherlands  
***Colloid-Colloid-Ion Interaction***

09:50-10:30 Mary-Lou Tercier-Waeber  
University of Geneva, Switzerland  
***Metal Speciation and Transport by Colloids***

10:30-11:00 ***Coffee break***

**Topic: Interactions between Colloids and Contaminants**

11:00-11:30 Steffen Bold, Peter Grathwohl, Rudolf Liedl  
University of Tübingen, Germany,  
***Non-Equilibrium Contaminant-Particle Interaction – Model Validation and Practical Assessment of Long-Term Groundwater Pollution***

11:30-12:00 Daniel Grolimund  
Paul Scherrer Institute, Switzerland  
***Chemical Phenomena at the Colloid-Solution Interface: ‘Enlightenment’ through Synchrotron Radiation***

12:00 ***Ending of workshop***

12:30 ***Lunch***

## Posters

Carlos Felipe Leon-Morales<sup>a</sup>, Martin Strathmann<sup>a</sup>, Andrew Leis<sup>b</sup>, Hans-Curt Flemming<sup>a</sup>

<sup>a</sup> University of Duisburg-Essen, Germany, <sup>b</sup> Max Planck Institute of Biochemistry, Germany

***Influence of Salts on the Mobility of Colloids and Stability of Biofilms in Porous Materials***

Frank-Andreas Weber, Andreas Voegelin, Ruben Kretzschmar  
ETH Zurich, Switzerland

***Colloid-Facilitated Transport of Contaminants in Riparian Wetland Soils under Variable Redox Conditions – A Microcosm Study***

Ralf Wege<sup>a</sup>, Tobias Wagner<sup>b</sup>, Norbert Klaas<sup>a</sup>, Rainer Köster<sup>b</sup>

<sup>a</sup> University of Stuttgart, Germany, <sup>b</sup> Research Centre Karlsruhe, Germany

***Contribution of the Particulate Transport of PAH in Groundwater at a Creosote-Contaminated Site***

Tobias Wagner<sup>a</sup>, Markus Delay<sup>b</sup>, Rainer Köster<sup>a</sup>, Fritz Hartmann Frimmel<sup>b</sup>

<sup>a</sup> Research Centre Karlsruhe, Germany, <sup>b</sup> Universität Karlsruhe (TH), Germany

***Coupling of a Column Leaching Unit and a Nano-Particle Analyzer (NPA)***