

MIGRATION '07

(München, Germany)

Programme

SUNDAY (26.08.07)

12:00	REGISTRATION
16:30	OPENING SESSION
19:00	RECEPTION

MONDAY (27. August)

8:15 CONFERENCE ANNOUNCEMENTS

SESSION 1 A3: COMPLEXATION WITH INORGANIC AND ORGANIC LIGANDS

Chair: J.I. Kim (Germany) and R. Guillaumont (France)

- 8:30 MODERN ACTINIDE COORDINATION CHEMISTRY A3-1
D.L. Clark (invited), S.D. Conradson, S.A. Kozimor, D.E. Schwarz (USA)
- 9:15 THEORETICAL STUDY OF THE SPECTROSCOPY OF PROTACTINIUM(IV) IN AQUEOUS SOLUTION A3-2
V. Vallet, B. Schimmelpfenning, C.M. Marquardt, P.J. Panak, R. Klenze, (France, Germany)
- 9:40 THERMODYNAMIC AND STRUCTURAL PROPERTIES OF PROTACTINIUM(V) IN SULPHATE MEDIUM A3-3
M.V. Di Giandomenico, C. Le Naour, C. Fillaux, C. Den Auwer, P. Moisy, C. Hennig, (France, Germany)
- 10:05 STRUCTURE AND SPECIATION OF U(VI) SULFATE IN AQUEOUS SOLUTION A3-4
C. Hennig, K. Schmeide, V. Brendler, H. Moll, S. Tsushima, A. Ikeda, A.C. Scheinost, S. Skanthakumar, R. Wilson, L. Soderholm, K. Servaes, R. Van Deun, C. Görrler-Walrand, (Germany, USA, Belgium)
- 10:30 BREAK

SESSION 2 B3: COLLOID MIGRATION

Chair: W.-H. Kim (Korea) and A. Kersting (USA)

- 10:50 LABORATORY BENTONITE COLLOID MIGRATION EXPERIMENTS TO SUPPORT THE ÄSPÖ COLLOID PROJECT B3-1
P. Vilks, N.H. Miller, A. Vorauer, (Canada)
- 11:15 PLUTONIUM CONTAMINATION CHEMICAL & COLLOIDAL BEHAVIOR: COMPOSITION AND ISOTOPICS AS TRACERS AT ROCKY FLATS (USA) B3-2
D.R. Janecky, D.L. Clark, G.R. Choppin, L.J. Lane, C.S. Dayton, I. Paton, (USA)
- 11:40 TOOLS FOR PREDICTING ADHESION OF COLLOIDAL PARTICLES, SORPTION AND MIGRATION OF RADIONUCLIDES B3-3
M. Fédoroff, G. Lefèvre, (France)
- 12:05 GROUNDWATER COLLOID EVOLUTION IN THE FAR-FIELD CONDITIONS OF "MAYAK" SITE B3-4
St.N. Kalmykov, A.P. Novikov, A. Kirishima, B.F. Myasoedov, S.I. Rovniy, (Russia, Japan)
- 12:30 BREAK

SESSION 3 A2: SOLID SOLUTION AND SECONDARY PHASE FORMATION

Chair: J. Bruno (Spain) and S.L.S. Stipp (Denmark)

- 14:00 SOLID SOLUTION – AQUEOUS SOLUTION SYSTEMS: A2-1
 RADIONUCLIDE CO-PRECIPITATION WITH SECONDARY PHASES
 D. Bosbach (invited), (Germany)
- 14:45 COPRECIPITATION OF TECHNETIUM-99 WITH SIDERITE: A STRUCTURAL A2-2
 STUDY.
 I. Llorens - Alliot, M. Fattahi, P. Deniard, J.M. Greneche, E. Gautron, S. Jobic,
 B. Grambow, (France)
- 15:10 SITE-SELECTIVE TRLFS INVESTIGATIONS ON Eu(III) DOPED CALCITE A2-3
 M. Schmidt, M. Marques-Fernandes, Th. Stumpf, C. Walther, R. Klenze, Th. Fanghänel,
 (Germany, Switzerland, EU)
- 15:35 INTERACTION OF THE LIGHT ACTINIDES WITH PEROXIDE: A2-4
 TERNARY ACTINIDE PEROXIDE-CARBONATE COMPLEXES IN SOLUTION
 AND SOLID STATE
 W.H. Runde, G.S. Goff, F.L. Taw, S.M. Peper, L.F. Brodnax, S.E. Field, (USA)
- 16:00 BREAK

SESSION 4 B6+B5: NATURAL ANALOGUES FIELD AND LARGE SCALE SCALE EXPERIMENTS

Chair: P. Toulhoat (France) and T. Payne (Australia)

- 16:20 STABILITY OF COFFINITE, $USiO_4$, UNDER REDUCING AND OXIDIZING B6-1
 CONDITIONS
 A.P. Deditius, V. Pointeau, S. Utsunomiya, C. Poinssot, R.C. Ewing, (USA, France)
- 16:45 BARIUM ISOTOPIC STUDY TO SEARCH FOR FISSIONGENIC CESIUM AROUND B6-2
 THE NATURAL FISSION REACTORS AT OKLO AND BANGOMBE
 H. Hidaka, F. Gauthier-Lafaye, (Japan, France)
- 17:10 IN SITU TRACER DIFFUSION EXPERIMENTS AT VARIOUS DEPTHS IN THE B5-1
 CALLOVO-OXFORDIAN ROCK FORMATION
 S. Dewonck, V. Blin, M. Descostes, J. Radwan, C. Poinssot, J. Eikenberg,
 (France, Switzerland)
- 17:35 IDENTIFICATION OF URANIUM ENRICHMENT SCENARIOS BY B6-3
 MULTI-METHOD CHARACTERIZATION
 U. Noseck, Th. Brassler, J. Suksi, V. Havlova, M.A. Denecke,
 (Germany, Finland, Czech Republic)
- 18:00 END

SESSION 5**POSTER SESSION I (19:00 – 22:00 h)**

Chair: C.L. Liu (China) and H. Geckeis (Germany)

PA1 SOLUBILITY AND DISSOLUTION

- PA1-1** CORROSION STUDY OF GARNET-BASED ACTINIDE WASTE FORMS:
LEACHING AND ALTERATION PRODUCTS EXAMINATION
T.S. Livshits, (Russia)
- PA1-2** THE EFFECT OF HUMIC ACID ON THE SOLID PHASE STABILITY AND SOLUBILITY
OF $\text{UO}_2(\text{OH})_2$
C. Kolokassidou, I. Pashalidis, (Cyprus)
- PA1-3** LEACH RATES OF URANIUM AND THORIUM FROM MURATAITE CERAMICS
S.V. Stefanovsky, G.A. Varlakova, I.V. Startseva, B.S. Yudinsev, I.V. Varlakova, (Russia)
- PA1-4** DISCREPENCIES IN THORIUM OXIDE SOLUBILITY VALUES:
A NEW EXPERIMENTAL APPROACH TO IMPROVE UNDERSTANDING OF OXIDE
SURFACE AT SOLID/SOLUTION INTERFACE
J. Vandenborre, A. Abdelouas, B. Grambow, (France)
- PA1-5** Ba, Zr, U, Th AND REE ANALYSES IN STRONGLY REACTIVE LEACHATES
BY MEANS OF ICP-OES
M.I. Ayrarov, J. Cobos, K. Popa, V.V. Rondinella, (EU)
- PA1-6** MODELING Pu SOLUBILITY FOR YUCCA MOUNTAIN PERFORMANCE ASSESSMENT
Y. Chen, F.J. Pearson, (USA)
- PA1-7** PROPERTIES OF NUCLEAR WASTE GLASS FORM AND THEIR EVOLUTION DURING
LONG TERM BURIAL TESTING
A.C. Barinov, G.A. Varlakova, I.V. Startseva, S.V. Stefanovsky, M.I. Ojovan, (Russia, UK)
- PA1-8** EVIDENCE OF DIFFERENT STOICHIOMETRIES FOR THE LIMITING CARBONATE
COMPLEXES AMONG THE LANTHANIDE(III) SERIES BY CAPILLARY
ELECTROPHORESIS-MASS SPECTROMETRY
V. Philippini, T. Vercoeur, C. Ambar, S. Topin, J. Aupiais, P. Vitorge, A. Chaussé, (France)
- PA1-9** GAMMA IRRADIATION EFFECT ON (Cs,Ba)-HOLLANDITE TYPE ALTERED AT 90°C:
ALTERATION STUDIES AT THE SOLID / SOLUTION INTERFACE.
T. Suzuki, A. Abdelouas, J. Vandenborre, B. Grambow, (France)
- PA1-10** HEAVY ION RUTHERFORD BACKSCATTERING SPECTROMETRY (HIRBS) STUDY
OF DIFFUSION IN BOROSILICATE GLASS.
B.S. Tomar, S. Kumar, R.K. Mishra, C.P. Kaushik, K. Raj, V.K. Manchanda, (India)
- PA1-11** THE SOLUBILITY PRODUCT FOR Na, SO_4^{2-} -CONTAINING GREEN RUST
*E. Davesne, K. Dideriksen, B.C. Christiansen, H.C.B. Hansen, S.L.S. Stipp,
(Denmark, France)*
- PA1-12** EFFECT OF CARBONATE ON U(VI) SOLUBILITY IN WIPP BRINE
*J.-F. Lucchini, S. Ballard, H. Khaing, M. Borkowski, S. Pepper, M.K. Richmann, D.T. Reed,
(USA)*
- PA1-13** DISSOLUTION BEHAVIOR OF ACTINIDE CONTAINING INERT MATRIX FUEL
K. Holliday, K. Czerwinski, (USA)
- PA1-14** SYNTHESIS AND BEHAVIOR OF METALLIC TECHNETIUM WASTE FORMS
F. Poineau, G. Jarvinen, K. Czerwinski, (USA)

- PA1-15** UO₂ DISSOLUTION IN THE PRESENCE OF HYDROGEN PEROXIDE AT pH >11
S. Meca, V. Martí, J. de Pablo, J. Giménez, I. Casas, (Spain)
- PA1-16** ACTINIDE SPECIATION IN THE WIPP
M.K. Richmann, J.F. Lucchini, M. Borkowski, S.E. Pepper, S. Ballard, H. Khaing, D.T. Reed, (USA)
- PA1-17** A COMPREHENSIVE THERMODYNAMIC MODEL FOR THE SOLUBILITY AND HYDROLYSIS OF Nd(III) AND Am(III) IN DILUTE TO CONCENTRATED NaCl, MgCl₂ AND CaCl₂ SOLUTIONS
V. Neck, M. Altmaier, J. Lützenkirchen, E. Korthaus, Th. Fanghänel, (Germany)
- PA1-18** A TRLFS STUDY OF Cm(III) HYDROXIDE COMPLEXES IN ALKALINE CaCl₂ SOLUTION
Th. Rabung, M. Altmaier, V. Neck, Th. Fanghänel, (Germany)
- PA1-19** A COMBINED XAFS AND LIBD STUDY ON THE FORMATION OF POLYNUCLEAR Pu COMPLEXES AND COLLOIDS IN ACIDIC SOLUTION
J. Rothe, C. Walther, V. Neck, M. Altmaier, S. Büchner, J.-I. Yun, (Germany)

PA5 SOLID-WATER INTERFACE REACTIONS

- PA5-1** DETERMINATION OF K_d-VALUES -A KINETIC APPROACH
M. Jansson, M. Jonsson, J. Mohlén, (Sweden)
- PA5-2** SORPTION OF RADIOACTIVE IODINE, CAESIUM AND STRONTIUM ON LAYERED DOUBLE HYDROXIDES FROM WATER PHASE
S.A. Kulyukhin, E.P. Krasavina, L.V. Mizina, I.A. Rumer, (Russia)
- PA5-3** EFFECT OF pH, IONIC STRENGTH AND TEMPERATURE ON SORPTION OF Eu(III) ON ANATASE AND RUTILE STUDIED BY BATCH, SEM AND SPECTROSCOPY METHODS
X. Tan, X. Wang, (China)
- PA5-4** Am(III), Eu(III) AND Co(II) SORPTION PROPERTY ON NATURAL ROCK UNDER REDOX ENVIRONMENT
Y.Y. Yoon, K.Y. Lee, S.G. Lee, S.Y. Cho, Y. Kim, (Korea)
- PA5-5** INFLUENCE OF HUMIC ACID ON THE Am(III) SORPTION ONTO KAOLINITE
A. Krepelová, S. Sachs, G. Geipel, G. Bernhard, (Germany)
- PA5-6** SORPTION OF SELENIUM ON Mg-Al AND Mg-Al-Eu LAYERED DOUBLE HYDROXIDES
H. Curtius, Z. Pappas, (Germany)
- PA5-7** STUDIES OF THE TERNARY SYSTEMS HUMIC SUBSTANCES - KAOLINITE - Pu(III) AND Pu(IV)
R.A. Buda, N.L. Banik, J.V. Kratz, N. Trautmann, (Germany)
- PA5-8** RETENTION OF U(VI) AND Eu(III) ON SILICA IN PRESENCE OF SIMPLE ORGANIC MOLECULES
T.T.H. Pham, F. Mercier-Bion, R. Drot, J. Roques, E. Simoni, (France)
- PA5-9** ISOTOPIC EXCHANGE AND MIGRATION OF DOSE DETERMINING NUCLIDES
P. Toulhoat, O. Grosso, N. Toulhoat, N. Moncoffre, (France)

- PA5-10** INFLUENCE OF PLUTONIUM OXIDATION STATE TRANSFORMATIONS ON SUBSURFACE TRANSPORT
B.A. Powell, M.C. Duff, R.A. Fjeld, D.I. Kaplan, A.B. Kersting, M. Zavarin, (USA)
- PA5-11** A COMPARATIVE STUDY ON SORPTION OF INDIVIDUAL AND COEXISTING CESIUM AND SELENIUM ON BENTONITE AND QUARTZ SAND MIXTURES
C.-P. Lee, Y.-Y. Wei, S.-P. Teng, C.-N. Hsu, (Taiwan)
- PA5-12** SURFACE CHARACTERISATION OF VARIOUS FORMS OF TiO₂ FOR RADIONUCLIDE SORPTION STUDIES
M.J. Comarmond, T.E. Payne (Australia)
- PA5-13** SELENITE RETENTION BY IRON OXY-HYDROXIDES: ROLE OF ADSORPTION, REDUCTION AND DISSOLUTION/CO-PRECIPIATION
T. Missana, U. Alonso, A.C. Scheinost, N. Granizo, M. García-Gutiérrez, (Spain, Germany)
- PA5-14** SORPTION OF SELENITE IONS ON SOLID SOIL COMPONENTS USING DIALYSIS MEMBRANES
J. Muller, A. Abdelouas, B. Grambow, (France)
- PA5-15** TRLFS FINGERPRINTING FOR URANYL(VI) SURFACE SPECIES ON CLAY MODEL SUBSTANCES
V. Brendler, P. Trepte, A. Krepelová, N. Baumann, (Germany)
- PA5-16** UPTAKE OF SELENATE BY DEGRADED CEMENT
I. Rojo, M. Rovira, V. Martí, J. de Pablo, L. Duro, X. Gaona, E. Colàs, M. Grivé, (Spain)
- PA5-17** SORPTION OF Se(-II) ONTO PYRITE UNDER REDOX POTENTIAL CONDITIONS
X. Liu, Massoud-Fattahi, G. Montavon, B. Grambow, (France)
- PA5-18** CESIUM UPTAKE BY Ca/Mg BENTONITE: EVALUATION BY A MULTICOMPONENT TWO-SITE ION-EXCHANGE MODEL
D. Vopálka, Z. Klika, L. Kraus, J. Vejsada, (Czech Republic)
- PA5-19** MEASURING SORPTION COEFFICIENTS, CATION EXCHANGE CAPACITY AND BET SURFACE AREAS ON LARGE GRANITE SAMPLES
M. André, I. Neretnieks, (Sweden)
- PA5-20** THE SORPTION CHARACTERISTICS OF SELENIUM ON LATERITE IN GROUNDWATER
Y.-L. Jan, F.-M. Chang, S.-C. Tsai, S.-P. Teng, (Taiwan)
- PA5-21** SORPTION OF CARBONATE SPECIES ONTO SUSPENSIONS OF HEMATITE, α -Fe₂O₃
M. Kohler, D.B. Kent, J.A. Davis, (USA)
- PA5-22** INFLUENCE OF HUMIC ACID ON THE SORPTION OF URANIUM(IV) TO KAOLIN
P. Warwick, N.D.M. Evans, T.M. Lewis, (UK)
- PA5-23** THE DISPOSAL OF RADIOACTIVE MEDICAL WASTE AT THE WASTE REPOSITORY IN SOUTH AFRICA
W.C.M.H. Meyer, (South Africa)
- PA5-24** ACID-BASE, RETENTION OF SILICA AND TRANSPORT PROPERTIES OF COMPACTED MAGNETITE
C. Mayant, B. Grambow, A. Abdelouas, S. Leclercq (France)
- PA5-25** HYDRATION AND HYDROLYSIS OF Sm³⁺ IN CLAY INTERLAYER
O. Sobolev, L. Charlet, G. J. Cuello, A. Gehin, J. Brendle, (France)

- PA5-26** ADSORPTION OF URANIUM ONTO MONODISPERSE SILICA PARTICLES COATED WITH ORGANIC LIGAND
M.H. Lee, S.B. Yoon, Y.J. Jung, J.Y. Kim, E.C. Jung, W.H. Kim, K.Y. Jee, (Korea)
- PA5-27** SORPTION OF IODINE ONTO KAOLINITE
B. Kuczewski, G. Knapp, (Austria)
- PA5-28** EFFECTS OF ORGANIC LIGANDS ON THE ADSORPTION OF Eu(III) ONTO OXIDES
K.K. Park, H.-R. Cho, Y.J. Park, E.C. Jung, W.H. Kim, (Korea)
- PA5-29** Pu(V) SORPTION-DESORPTION ONTO HUMIC COATINGS IMMOBILIZED ONTO SILICAGEL
N.S. Shcherbina, I.V. Perminova, S.N. Kalmykov, L.A. Karpiouk, S.A. Ponomarenko, K. Hatfield, (Russia, USA)
- PA5-30** EFFECTS OF CEMENT SUPERPLASTICISERS ON Eu SORPTION ONTO GRANITE
S. Holgersson, M. Andersson, A. Mårtensson, (Sweden)
- PA5-31** CARBONATE EFFECTS ON SURFACE SPECIATION OF URANYL AT THE FERRIHYDRATE-WATER INTERFACE: NEW INSIGHTS FROM ADVANCED EXAFS DATA ANALYSIS
A. Rossberg, S. Tsushima, K.-U. Ulrich, A. C. Scheinost, (Germany, USA)
- PA5-32** EXAFS STUDY OF NEPTUNIUM(V) SORPTION ONTO HEMATITE (α -Fe₂O₃)
S. Amayri, M. Breckheimer, J. Drebert, T. Reich, (Germany)
- PA5-33** Np(V) SORPTION ONTO γ -Al₂O₃ AND α -Al(OH)₃: THE EFFECT OF CO₂
S. Dierking, V. Vicente Vilas, S. Amayri, T. Reich, (Germany)
- PA5-34** DISTRIBUTION OF ACTINIDES ON THE SURFACE OF GRANITIC ROCKS DURING SORPTION TESTS
S.I. Shabalev, D.A.T. Harper, Y.M. Rogozin, E.A. Smirnova, R.V. Bryzgalova, M.A. Zuykov, N.L. Alexejev, (Russia, Denmark)
- PA5-35** SELECTIVE SORPTION OF ACTINIDES BY KAOLINITE AND HUMIC-KAOLINITE COLLOIDS
V.A. Kholodov, A.P. Novikov, T.A. Goriachenkova, I.E. Kazinskaja, I.V. Perminova, (Russia)
- PA5-36** SORPTION OF Np(V), Cs AND U(VI) ONTO BENTONITE IN THE PRESENCE OF HUMIC ACIDS
M.N. Sabodina, St.N. Kalmykov, K.A. Artem'eva, E.V. Zakharova, (Russia)
- PA5-37** REDOX BEHAVIOUR AND SORPTION OF Pu(V) AND Np(V) BY GOETHITE IN THE PRESENCE OF DIFFERENT HUMIC ACID
A.B. Petrova (Khasanova), St.N. Kalmykov, I.V. Perminova, N.S. Shcherbina, Th. Schäfer, F. Claret, (Russia, Germany, France)
- PA5-38** KINETICS OF Cs, Pu AND Am SORPTION TO CLAY MINERALS
G. Lujanienė, K. Mažeika, J. Šapolaite, A. Amulevicius, Ž. Kamarauskas, (Lithuania)
- PA5-39** ACCUMULATION OF ZIRCONIUM BY SERRATIA SP.: A NOVEL SYSTEM FOR THE REMOVAL OF RADIONUCLIDES FROM AQUEOUS FLOWS
C. Mennan, M. Paterson-Beedle, J.E. Readman, J.A. Hriljac, E. Valsami-Jones, L.E. Macaskie, (UK)
- PA5-40** THE INFLUENCE OF CARBONATE COMPLEXATION ON ACTINIDE SORPTION ON MONTMORILLONITE AND ILLITE
M. Marques Fernandes, B. Baeyens, M.H. Bradbury, (Switzerland)

- PA5-41** UNDERSTANDING MINERAL/WATER INTERACTION AT THE MOLECULAR LEVEL BY MEANS OF NONLINEAR OPTICS AND QUANTUM CHEMISTRY
M. Flörsheimer, K. Kruse, R. Polly, A. Abdelmonem, B. Schimmelpfennig, R. Klenze, Th. Fanghänel, (Germany)
- PA5-42** SORPTION OF RADIONUCLIDES ONTO NATURAL CLAYS
E. Hartmann, H. Geckeis, Th. Rabung, B. Kienzler, Th. Fanghänel, D. Bosbach, (Germany)
- PA5-43** Gd/Cm(III) SORPTION ONTO ALUMINIUM OXIDES/HYDROXIDES
N. Huittinen, Th. Rabung, J. Lützenkirchen, H. Geckeis, J. Lehto, (Finland, Germany)
- PA5-44** DENSITY FUNCTIONAL STUDIES OF URANYL SORPTION AT MINERAL SURFACES
A. Kremleva, L. V. Moskaleva, S. Krüger, N. Rösch, (Germany)
- PA5-45** ADSORPTION AND COMPETITIVE ADSORPTION OF METALS IONS FROM AQUEOUS SOLUTION ONTO SAND AND SILICA COLLOIDS
S. Morandi, F. Giacobbo, M. Mariani, M. Da Ros, (Italy)
- PA5-46** IMMOBILIZATION OF TRIVALENT ACTINIDES BY SORPTION ONTO QUARTZ AND INCORPORATION INTO A SILICEOUS GEL: INVESTIGATIONS BY TRLFS
S. Stumpf, Th. Stumpf, J. Lützenkirchen, C. Walther, Th. Fanghänel, (EU, Germany)
- PA5-47** SORPTION AND DESORPTION EXPERIMENTS OF EUROPIUM AND GADOLINIUM ON KAOLINITE
R. Kautenburger, K. Nowotka, H.P. Beck, (Germany)
- PA5-48** XANES-EXAFS ANALYSIS OF Se(+IV) SOLID PHASE: REACTION PRODUCTS WITH FeS₂ AND FeS
C. Bruggeman, A. Maes, E. Breynaert, (Belgium)

PA6 COLLOID FORMATION

- PA6-1** ESTIMATING THE FORMATION AND DISSOLUTION OF INORGANIC PSEUDO-COLLOIDS
K. Tsukimura, (Japan)
- PA6-2** INFLUENCE OF ORGANIC MATERIAL ON THE SOLUBILITY OF Eu(OH)₃: COMPLEXATION VERSUS COLLOID FORMATION
D.J. Liu, N. Maes, C. Bruggeman, (Belgium)
- PA6-3** SORPTION BEHAVIOR OF AMERICIUM ONTO BENTONITE COLLOIDS
K. Iijima, Y. Shoji, T. Tomura, (Japan)
- PA6-4** SIZE FRACTIONATION AND SORPTION PROPERTIES OF MAGNESIUM HYDROXIDE COLLOIDS: RELEVANCE TO NUCLEAR FUEL STORAGE POND MANAGEMENT
A. Pitois, P. Ivanov, L. Abrahamsen, D. Farelly, N. Bryan, C. Gregson, H. Sims, (UK)
- PA6-5** FEBEX BENTONITE COLLOID STABILITY AND RADIONUCLIDE SPECIATION IN THE GROUNDWATER/POREWATER MIXING ZONE
H. Seher, T. Schäfer, P. Kunze, M. Bouby, W. Hauser, P.J. Panak, H. Geckeis, Th. Fanghänel, (Germany)
- PA6-6** INTERACTION OF ACTINIDES(III, IV, V, VI) WITH HYDROXYALUMINOSILICATE AND -POLYSILICATE COLLOIDS STUDIED BY TRLFS AND EXAFS
D.C. Breban, P.J. Panak, M.A. Kim, J. Rothe, K. Dardenne, M.A. Denecke, J.I. Kim, Th. Fanghänel, (Germany)

PA7 EXPERIMENTAL METHODS

- PA7-1** EVALUATION OF POSITRON-EMISSION-TOMOGRAPHY FOR VISUALIZATION OF MIGRATION PROCESSES IN GEOMATERIALS
J. Kulenkampff, M. Gründig, M. Richter, F. Enzmann, (Germany)
- PA7-2** IMPROVEMENTS IN THE CE-DAD-ICP-MS TECHNIQUE FOR THE SPECIATION OF ACTINIDES AND LONG LIVED FISSION PRODUCTS
B. Kuczewski, H. Wiltsche, R. Buda, D. Kutscher, G. Knapp, J.V. Kratz, (Austria, Germany)
- PA7-3** BONDING IN F-ELEMENT COMPLEXES STUDIED BY SOFT X-RAY SCANNING TRANSMISSION X-RAY MICROSCOPY (STXM) AT THE ADVANCED LIGHT SOURCE - MOLECULAR ENVIRONMENTAL SCIENCE BEAMLINE
D.K. Shuh, T. Tylliszczak, P.S. Nico, R. Dähn, (USA, Switzerland)
- PA7-4** A NEW FIBRE CONNECTED OPTICAL DETECTION CELL FOR TIME-RESOLVED LASER-FLUORESCENCE SPECTROSCOPY AT ELEVATED TEMPERATURE
W. Hauser, R. Götz, A. Skerencak, P.J. Panak, T. Rabung, H. Geckeis, T. Fanghänel, (Germany)

PB2 DIFFUSION AND OTHER MIGRATION PROCESSES

- PB2-1** MIGRATION OF CHLORINE IN GRAPHITE AND URANIUM DIOXIDE : CONSEQUENCES FOR PERFORMANCE ASSESSMENT
N. Toulhoat, N. Moncoffre, N. Béreud, Y. Pipon, H. Jaffrèzic, A. Perrat-Mabilon, L. Raimbault, C. Guy, J. Comte, (France)
- PB2-2** STUDIES OF THE SPATIAL WATER FLOW DISTRIBUTION AND COLLOID TRANSPORT IN GRANITE WITH POSITRON EMISSION TOMOGRAPHY
M. Gründig, M. Richter, J. Kulenkampff, A. Seese, (Germany)
- PB2-3** ESTIMATION OF THE EFFECTS OF CENTRIFUGAL HYDRAULIC CONDUCTIVITY OF IMPERMEABLE ROCKS UNDER CONSTANT HEAD CONDITIONS AND TIME DEPENDENT VARIATIONS ON THE CONCENTRATION OF CHEMICAL ELEMENTS
M. Takahashi, M. Manaka, W. Lin , S. Sutou, (Japan)
- PB2-4** INFLUENCE OF INITIAL IODIDE CONCENTRATION ON THE IODIDE UPTAKE BY THE ARGILLITE OF TOURNEMIRE
C. Wittebroodt, S. Savoye, P. Gouze, (France)
- PB2-5** STUDY OF THE UP-SCALING EFFECT BY MEANS OF THE RADIAL DIFFUSION METHOD APPLIED TO OPALINUS CLAY SAMPLES
S. Savoye, J.L. Michelot, A. Mifsud, M. Piedevache, (France, Switzerland)
- PB2-6** THE EFFECT OF REDOX CONDITIONS ON THE CHEMICAL FORMS OF MULTIVALENT ELEMENTS AND THEIR MIGRATION ON BENTONITE
H. Vinšová, V. Jedináková-Křížová, (Czech Republic)
- PB2-7** EXPERIMENTAL AND MODELING STUDY ON POTENTIAL VARIATIONS IN DIFFUSIVITY OF RADIONUCLIDES IN BENTONITE BUFFER MATERIALS UNDER Na-RICH ALKALINE GROUNDWATER CONDITIONS
Y. Iida, T. Yamaguchi, T. Tanaka, S. Nakayama, (Japan)
- PB2-8** EFFECTS OF pH AND CONCENTRATION ONTO Cs DIFFUSION IN GRANITE: A IN-DIFFUSION STUDY BY MODIFIED CAPILLARY METHOD
S.C. Tsai, T.H. Wang, S.P. Teng, (Taiwan)

- PB2-9** MODELLING LARGE-SCALE LABORATORY DIFFUSION EXPERIMENTS IN MONT TERRI AND BURE CLAY ROCKS
J.L. Cormenzana, M. García-Gutiérrez, T. Missana, Ú. Alonso, (Spain)
- PB2-10** DETERMINATION AND COMPARISON OF RETARDATION FACTORS OF Se ON CRUSHED GRANITE IN SEAWATER AND GROUNDWATER FROM BATCH, THROUGH DIFFUSION AND ADVECTION-DISPERSION TESTS
Y.-L. Jan, S.-C. Tsai, T.-T. Wang, Y.-Y. Wei, S.-P. Teng, (Taiwan)
- PB2-11** THE DIFFUSION OF 125-I IN DEEP GRANITE FROM BEISHAN, GANSU PROVINCE
C.J. Lv, C.L. Liu, J. Wang, T. Chen, R. Su, J.Y. Sun, R.X. Yang, X.S. Zhang, (China)
- PB2-12** USING THE LASER ABLATION INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER TO ANALYZE THE NUCLIDE DISTRIBUTION IN BENTONITE
Q. Lih-Wen, L. Cheng-I, (Taiwan)
- PB2-13** LASER ABLATION MICROPROBE INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY STUDY ON DIFFUSION OF URANIUM INTO CEMENT MATERIALS
D. Sugiyama, T. Chida, M. Cowper, (Japan, UK)
- PB2-14** AN APPROACH TO RADIONUCLIDE DIFFUSION MODELLING IN PERFORMANCE ASSESSMENT
A. Vokál, D. Vopálka, J. Vejsada, D. Lukin, B. Drtinová, (Czech Republic)
- PB2-15** LONG TERM TEST OF BUFFER MATERIAL - IN SITU Co²⁺ DIFFUSION EXPERIMENT
S. Nilsson, T.E. Eriksen, (Sweden)
- PB2-16** IONIC STRENGTH EFFECTS ON ANION DIFFUSION IN COMPACTED FEBEX BENTONITE
M. García-Gutiérrez, J.L. Cormenzana, T. Missana, M. Mingarro, Ú. Alonso, (Spain)
- PB2-17** Cs MIGRATION IN FRACTURED ROCKS
J. Kyllönen, M. Hakanen, A. Lindberg, (Finland)
- PB2-18** RETARDATION OF MOBILE RADIONUCLIDES IN GRANITIC ROCK FRACTURES BY MATRIX DIFFUSION
P. Hölttä, M. Siitari-Kauppi, A. Leskinen, A. Poteri, (Finland)
- PB2-19** ANALYSIS OF PORE-SCALE ANISOTROPY AND HETEROGENEITY OF TRANSPORT PROPERTIES OF POROUS ROCKS: X-RAY COMPUTED TOMOGRAPHY BASED DIFFUSION SIMULATIONS
Y. Nakashima, (Japan)
- PB2-20** SORPTION AND DIFFUSION OF Cs AND Se ON SEDIMENTARY ROCK UNDER AEROBIC AND ANAEROBIC CONDITIONS
S.C. Tsai, P.L. Lan, C.P. Lee, Y.L. Jan, S.P. Teng, C.N. Hsu, (Taiwan)
- PB2-21** SIMULATION OF MATRIX DIFFUSION ON CONDUCTIVE PORE SPACE VISUALIZED BY IN SITU 14C-PMMA IMPREGNATION
M. Kelokaski, J.-C. Robinet, P. Sardini, A. Möri, W. Kickmaier, K.-H. Hellmuth, M. Siitari-Kauppi, (Finland, France, Switzerland)
- PB2-22** INFLUENCE OF MICROSTRUCTURE IN ANION TRANSPORT IN ARGILITES
N. Diaz, F. Goutelard, D. Menut, P. Turq, (France)
- PB2-23** NORMALIZED SENSITIVITIES AND PARAMETER IDENTIFIABILITY OF IN SITU DIR DIFFUSION EXPERIMENTS ON COX CLAY AT BURE SITE
J. Samper, S. Dewonck, L. Zheng, Q. Yang, A. Naves, (Spain, France)

- PB2-24** ESTIMATING THE ANISOTROPY OF ³⁶Cl AND HTO DIFFUSION IN CALLOVO-
OXFORDIAN ARGILLITE
M. Descostes, V. Blin, J. Radwan, C. Latrille, F. Claret, E. Tevissen, C. Poinssot, S. Dewonck, (France)
- PB2-25** IMAGING OF MIGRATION CHANNEL IN GRANITE
H. Takahashi, M. Yuki, Y. Seida, K. Suzuki, (Japan)
- PB2-26** RESULTS ON Pu DIFFUSION EXPERIMENTS IN THE OPALINUS CLAY
A. Bauer, B. Fiehn, Ch. Marquardt, J. Römer, A. Görtzen, B. Kienzler, (Germany)
- PB2-27** THE EFFECT OF COMPACTION ON THE RETENTION OF SODIUM, STRONTIUM AND
CAESIUM IN Na-BENTONITE
L.R. Van Loon, J. Mibus, S. Brockmann, M.A. Glaus, (Switzerland, Germany)

PB3 COLLOID MIGRATION

- PB3-1** COLLOIDAL GREEN RUST BEHAVIOUR: ADHESION, TRANSFORMATION AND
MOBILITY
E.B. Hansson, S.L.S. Stipp, (Denmark)
- PB3-2** BENTONITE COLLOIDS RETENTION UNDER FLOW CONDITIONS IN GRANITE
NATURAL FRACTURE FROM THE GRIMSEL TEST SITE (GTS, SWITZERLAND).
T. Missana, U. Alonso, M. García-Gutiérrez, M. Mingarro, (Spain)
- PB3-3** IMPACT OF KINETIC EFFECTS ON COLLOID FACILITATED RADIONUCLIDE
TRANSPORT AT GRIMSEL.
U. Noseck, S. Keesmann, H. Geckeis, T. Schaefer, P. Kunze, H. Seher, (Germany)
- PB3-4** HETEROGENOUS COLLOID /ROCK INTERACTION STUDY BY MICROPROBE
TECHNIQUES
U. Alonso, T. Missana, A. Patelli, D. Ceccato, M. Siitari-Kauppi, A. Leskinen, N. Albarran, M. García-Gutiérrez, V. Rigato, (Spain, Italy, Finland)
- PB3-5** pH AND TEMPERATURE EFFECTS ON THE STABILITY OF BENTONITE COLLOIDAL
SUSPENSIONS
S. García-García, S. Wold, M. Jonsson, (Sweden)
- PB3-6** LABORATORY STUDY ON COLLOID STABILITY AND RADIONUCLIDE-COLLOID
INTERACTION UNDER ÄSPÖ GROUNDWATER CONDITIONS
M. Bouby, H. Geckeis, T. Schäfer, J. Lützenkirchen, H. Seher, A. Bauer, M. Plaschke, W. Hauser, B. Kienzler, (Germany)
- PB3-7** PRESSURE-INDUCED FLOW FIELD APPLIED TO THE STUDY OF SOIL COLLOIDAL
MOBILIZATION AND DEPOSITION
I. Ko, S.-Y. Lee, K.-W. Kim, J.S. Lee, (Korea)
- PB3-8** INVESTIGATION ON THE COLLOIDAL AND AQUEOUS SPECIATION OF ⁶⁰Co AND
¹³⁷Cs IN CONTAMINATED GROUNDWATER
F. Caron, C. Simister, A. Scott, S. Smith, (Canada)
- PB3-9** DIFFUSION OF PAMAM DENDRIMERS IN OPALINUS CLAY
J. Mibus, M.A. Glaus, L.R. Van Loon, (Switzerland)
- PB3-10** INTERACTION OF CARBOXYLATED LATEX COLLOIDS WITH MINERAL SURFACES
A. Filby, M. Plaschke, H. Geckeis, Th. Fanghänel, (Germany)

PB4 EFFECTS OF BIOLOGICAL AND ORGANIC MATERIALS

- PB4-1** ANALYSIS OF PROTEINS EXPRESSED IN *Saccharomyces cerevisiae* EXPOSED BY URANIUM(VI)
F. Sakamoto, T. Nankawa, T. Ohnuki, A.J. Francis, (Japan, USA)
- PB4-2** COMPLEXATION OF ACTINIDES WITH BIOLIGANDS SECRETED BY A SUBSURFACE STRAIN OF PSEUDOMONAS FLUORESCENS
H. Moll, A. Johnsson, M. Schäfer, M. Glorius, K. Pedersen, H. Budzikiewicz, G. Bernhard, (Germany, Sweden)
- PB4-3** MIGRATION BEHAVIOUR OF ARTIFICIAL RADIONUCLIDES IN SEDIMENT AND SUBMERGED PLANTS OF THE YENISEI RIVER
A. Bolsunovsky, L. Bondareva, (Russia)
- PB4-4** EVALUATION OF IN-SITU MICROBIOLOGICAL CONDITIONS IN DEEP SUBSURFACE USING SEDIMENTS SAMPLED WITH ASEPTIC AND DEOXYGENATED DRILLING METHOD
T. Suko, Y. Suzuki, K. Ito, N. Takeno, (Japan)
- PB4-5** REMOBILIZATION OF SORBED PLUTONIUM(IV) BY EXTRACELLULAR POLYMERIC SUBSTANCES (EPS)
R.M. Tinnacher, B.D. Honeyman, (USA)
- PB4-6** THERMALLY AND RADIATION INDUCED STRUCTURAL CHANGES IN ORGANOCATIONS: INVESTIGATION OF VIBRATIONAL SPECTRA
H. Wicke, A. Meleshyn, (Germany)
- PB4-7** INFLUENCE OF GAMMA-IRRADIATION ON THE ANION SORPTION CAPACITY OF MODIFIED MX-80 BENTONITE
B. Riebe, A. Meleshyn, S. Dultz, C. Bunnenberg, (Germany)
- PB4-8** SORPTION BEHAVIOUR OF Am(III) AND Th(IV) ON BOOM CLAY
S. Salah, N. Maes, L. Wang, (Belgium)
- PB4-9** ADSORPTION OF URANIUM(VI) ON SILICA PARTICLES MODIFIED WITH PROTEIN
N. Kozai, T. Nankawa, T. Ohnuki, A.J. Francis, (Japan, USA)
- PB4-10** LONG-TERM IMMOBILIZATION OF SELENIUM IN THE SUBSURFACE ENVIRONMENT BY BIOREDUCTION COMBINING ABIOTIC REACTION WITH MINERAL
X. Xia, Y. Enokida, S. Akasaka, T. Ohnuki, K. Sawada, I. Yamamoto, (Japan)
- PB4-11** THE REDOX CYCLING OF Tc, U, Np, AND Pu: A JOINT BIOGEOCHEMICAL AND GEOMICROBIOLOGICAL STUDY
G.T.W. Law, I.T. Burke, C. Boothman, A. Geissler, F.R. Livens, J.R. Lloyd, K. Morris, (UK)
- PB4-12** THE EFFECT OF NATURAL ORGANIC MATTER ON THE RELEASE OF PLUTONIUM FROM, AND TRANSPORT WITHIN, SILICA SAND AND CONTAMINATED SOIL
A.D. Diaz, B.D. Honeyman, (USA)
- PB4-13** ACTINIDE INTERACTION WITH BACTERIA SEPARATED FROM NUCLEAR WASTE SITE
T.N. Nazina, E.A. Lukyanova, A.V. Mikhaylina, E.V. Zakharova, St.N. Kalmykov, (Russia)
- PB4-14** DOES MICROBIAL IRON REDUCTION INDUCE REDUCTION OF U(VI) TO U(IV)?
T. Behrends, P. Van Cappellen, (The Netherlands)
- PB4-15** SPECIATION OF Np(IV) IN FULVIC ACID SOLUTION
N.L. Banik, C.M. Marquardt, (Germany)

TUESDAY (28. AUGUST)

SESSION 6 SPECIAL SESSION - ORGANIC MATTER MODELLING

Chair: *P. Merdy (France) and S. Huclier (France)*

- 8:30 ION BINDING TO HUMICS, MINERALS AND THEIR COMPLEXES **S-1**
L.K. Koopal, (The Netherlands)
- 8:55 MODELLING COPPER AND CHROMIUM MIGRATION IN SOILS BASED ON COLUMN, BATCH AND FLUORESCENCE EXPERIMENTS **S-2**
L. Tarchouna Gharbi, P. Merdy, Y. Lucas, (France)
- 9:20 THE COMPLEXATION OF U(VI), Pu(IV) AND Np(V) WITH NATURAL ORGANIC LIGANDS USING THE AFFINITY DISTRIBUTION APPROACH **S-3**
B.D. Honeyman, R. Harper, C. Kantar, P. Moran, J.A. Davis, (USA, Turkey)
- 9:45 CONDITIONAL STABILITY PARAMETERS FOR THE ACTINIDES(IV)-HUMIC ACID SYSTEM: A SEARCH FOR CONSISTENCY **S-4**
P. Reiller, N.D. Evans, G. Szabó, (France, UK, Hungary)
- 10:10 MEASURING AND MODELING URANIUM BINDING BY NATURAL ORGANIC MATTER **S-5**
L. Marang, P. Reiller, M.F. Benedetti, (France)
- 10:35 BREAK

SESSION 7 A7: EXPERIMENTAL METHODS

Chair: *A. Campbell (USA) and J.V. Kratz (Germany)*

- 10:55 CONFOCAL μ -XRF AND μ -XAFS STUDIES OF FRACTURED GRANITE FOLLOWING A RADIOTRACER MIGRATION EXPERIMENT **A7-1**
M.A. Denecke, K. Janssens, G. Falkenberg, B. Brendebach, J. Römer, (Germany, Belgium)
- 11:20 USE OF THE ELECTROCHEMICAL QUARTZ MICROBALANCE (ECQM) IN CORROSION STUDIES OF UO₂ THIN FILM MODELS **A7-2**
A. Seibert, D.H. Wegen, T. Gouder, J. Römer, T. Wiss, J.-P. Glatz, (EU, Germany)
- 11:45 DIRECT MEASUREMENT OF ABSOLUTE DISSOLUTION RATES OF UO₂(cr) **A7-3**
R.S. Arvidson, J.P. Icenhower, A. Lüttge, (USA)
- 12:10 MASS SPECTROMETRY OF ACTINIDE-OLIGOMERS BY ESI TOF MS **A7-4**
C. Walther, M. Fuß, J. Rothe, S. Büchner, H. Geckeis, (Germany)
- 12:35 BREAK

SESSION 8 A6: COLLOID FORMATION

Chair: H. Nitsche (USA) and St.N. Kalmykov (Russia)

- 14:00 ACTINIDE AGGREGATION AND AGGREGATE FORMATION IN AQUEOUS SOLUTION **A6-1**
L. Soderholm (invited), S. Skanthakumar, R.E. Wilson, (USA)
- 14:45 XAFS INVESTIGATION OF THORIUM AND URANIUM OXIDE NANOPARTICLES INCORPORATED INTO MESOPOROUS SILICA **A6-2**
O.N. Batuk, M.A. Denecke, D.V. Szabó, St.N. Kalmykov, (Russia, Germany)
- 15:10 INVESTIGATIONS INTO THE FORMATION OF REAL COLLOIDS AND PSEUDOCOLLOIDS OF URANIUM(IV) **A6-3**
H. Zänker, K. Opel, S. Weiß, S. Hübener, G. Bernhard, (Germany, Norway)
- 15:35 EROSION OF BENTONITE BUFFER MATERIAL BY LOW SALINITY GROUNDWATER **A6-4**
I. Neretnieks, M. Jansson, (Sweden)
- 16:00 BREAK

SESSION 9 A5: SOLID-WATER INTERFACE REACTIONS

Chair: C. Poinssot (France) and J.A. Davis (USA)

- 16:20 TEMPERATURE EFFECTS ON THE INTERACTION MECHANISMS BETWEEN URANYL OR EUROPIUM ION AND PHOSPHATE COMPOUNDS **A5-1**
M.G. Almazan-Torres, N. Finck, R. Drot, F. Mercier-Bion, E. Simoni, M.C. Charbonnel, (France)
- 16:45 237U(VI) - HUMIC ACID - HEMATITE TERNARY SYSTEM **A5-2**
P.I. Ivanov, L.G. Abrahamsen, D.H. Farelly, A. Pitois, N.D Bryan, G.A. Bozhikov, O.D. Maslov, S.N. Dmitriev, (UK, Russia)
- 17:10 GREEN RUST INTERACTION WITH NEPTUNYL (NpO_2^+) AND SELENATE (SeO_4^{2-}) **A5-3**
B.C. Christiansen, L.L. Skovbjerg, H. Geckeis, C. Marquardt, D. Schild, M. Plaschke, S.L.S. Stipp, (Denmark, Germany)
- 17:35 BREAK

SESSION 10**POSTER SESSION II (19:00 – 22:00 h)**

Chair: T. Ohnuki (Japan) and P.J. Panak (Germany)

PA2 SOLID SOLUTION AND SECONDARY PHASE FORMATION

- PA2-1** THERMODYNAMIC AND KINETIC CONTROLS ON COPRECIPITATION OF ACTINIDES IN SECONDARY URANYL MINERALS
W.M. Murphy, B. Grambow, (USA, France)
- PA2-2** STABILITY OF SYNTHETIC URANIUM(VI) PEROXIDE HYDRATES UNDER IONIZING RADIATION
A. Rey, S. Utsunomiya, J. Giménez, I. Casas, J. de Pablo, R.C. Ewing, (Spain, USA)
- PA2-3** NICKEL INTERACTION WITH CALCITE: ADSORPTION AND COPRECIPITATION
L.Z. Lakshmanov, S.L.S. Stipp, (Denmark, Russia)
- PA2-4** DETERMINATION OF THE UPTAKE MECHANISM OF Nd(III) ON CRYSTALLINE CALCIUM SILICATE HYDRATES
P. Mandaliev, E. Wieland, R. Dähn, J. Tits, S. Churakov, (Switzerland)
- PA2-5** XAFS INVESTIGATION OF LOCAL STRUCTURE IN URANIUM OXIDES
O.N. Batuk, St.N. Kalmykov, E.V. Zakharova, V.V. Kriventsov, (Russia)
- PA2-6** STRUCTURAL INCORPORATION OF TRIVALENT F-ELEMENTS IN POWELLITE
D. Bosbach, S. Heck, J. Römer, K. Dardenne, H. Stanjek, (Germany)
- PA2-7** STRUCTURAL INCORPORATION OF Np(V) IN CALCITE
F. Heberling, D. Bosbach, M.A. Denecke, (Germany)
- PA2-8** STRUCTURAL INCORPORATION OF TRIVALENT F ELEMENTS INTO THE TRIOCTAHEDRAL CLAY MINERAL HECTORITE
N. Finck, K. Dardenne, M. Schlegel, D. Bosbach, (Germany, France)
- PA2-9** INCORPORATION OF An(III) AND Ln(III) INTO CALCITE: PROCESS UNDERSTANDING ON A MOLECULAR LEVEL
T. Stumpf, M. Marques-Fernandes, C. Walther, M. Schmidt, K. Dardenne, D. Bosbach, Th. Fanghänel, (Germany, Switzerland)
- PA2-10** EXAFS INVESTIGATION OF THE NaLn(MoO₄)₂ - Ca₂(MoO₄)₂ SOLID SOLUTION SERIES LOCAL STRUCTURE
K. Dardenne, D. Bosbach, M.A. Denecke, B. Brendebach, (Germany)

PA3 COMPLEXATION WITH INORGANIC AND ORGANIC LIGANDS

- PA3-1** COMPETITIVE EFFECT OF IRON(III) ON METAL COMPLEXATION BY HUMIC SUBSTANCES: DEPENDENCE ON CONCENTRATION AND TIME
H. Lippold, N.D.M. Evans, P. Warwick, H. Kupsch, (Germany, UK)
- PA3-2** SORPTION BEHAVIOR OF RADIOCONTAMINANTS, ¹³⁷Cs AND ¹³³Ba, AND SOME ORGANIC POLLUTANTS ONTO MODIFIED HUMIC ACID
H.N. Erten, O. Celebi, (Turkey)
- PA3-3** URANIUM(VI) COMPLEXATION STUDIES WITH SELECTED AROMATIC ACIDS - A COMPARISON OF DIFFERENT SPECTROSCOPIC TECHNIQUES
M. Glorius, H. Moll, G. Geipel, G. Bernhard, (Germany)

- PA3-4** A CRYOGENIC FLUORESCENCE SPECTROSCOPIC STUDY OF URANYL CARBONATE, PHOSPHATE AND OXYHYDROXIDE MINERALS
Z. Wang, J. Zachara, C. Liu, P.L. Gassmann, A.R. Felmy, S.B. Clark, (USA)
- PA3-5** A SPECTROSCOPIC STUDY OF THE EFFECT OF LIGAND COMPLEXATION ON THE REDUCTION OF URANIUM(VI) BY AH₂DS
Z. Wang, K.B. Wagnon, C.C. Ainsworth, C. Liu, K.M. Rosso, J.K. Fredrickson, (USA)
- PA3-6** COMPLEXATION OF URANIUM(VI) WITH NITRATE IN NONAQUEOUS AND AQUEOUS SOLUTIONS: SPECIATION AND STRUCTURAL STUDIES
A. Ikeda, C. Hennig, A. Rossberg, S. Tsushima, A.C. Scheinost, G. Bernhard, (Germany)
- PA3-7** THERMODYNAMICS OF AQUEOUS URANYL SULPHATE COMPLEXES
Th. Vercoouter, B. Amekraz, P. Vitorge, C. Moulin, (France)
- PA3-8** SPECIATION OF Np(V) IN AQUEOUS SOLUTION INVESTIGATED BY FT-IR SPECTROSCOPY
K. Müller, H. Foerstendorf, G. Bernhard, (Germany)
- PA3-9** AQUEOUS URANIUM(IV) FLUORIDE COMPLEXES: DETERMINATION OF FLUORESCENCE PROPERTIES BY MEANS OF TRLFS
S. Lehmann, G. Geipel, G. Bernhard, (Germany)
- PA3-10** TIME RESOLVED FLUORESCENCE STUDIES ON COMPLEXATION OF Eu(III) BY ALPHA-HYDROXY BUTYRIC ACID.
A. Jain, M. Mahopatra, S.V. Godbole, B.S. Tomar, (India)
- PA3-11** KINETIC STUDIES ON ELECTRON-EXCHANGE BETWEEN U^VO₂(CO₃)₃⁵⁻ AND U^{VI}O₂(CO₃)₃⁴⁻ AND DISPROPORTIONATION OF U^VO₂(CO₃)₃⁵⁻
K. Takao, Z. Szabo, Y. Ikeda, I. Grenthe, (Japan, Sweden)
- PA3-12** STUDY ON THE TERNARY COMPLEXES OF U(VI)-OH-SALICYLATE BY USING SPECTROSCOPIC TECHNIQUES
H.-R. Cho, E.C. Jung, K.K. Park, Y.J. Park, K.Y. Jee, W.H. Kim, (Korea)
- PA3-13** STUDY OF URANYL INTERACTION WITH SELENITE BY TIME-RESOLVED LASER-INDUCED FLUORESCENCE SPECTROSCOPY (TRLFS)
V. Sladkov, B. Fourest, S. Hubert, G. Lagarde, (France)
- PA3-14** HYDROLYSIS OF Th (IV) AT VARIABLE TEMPERATURES
A. Bismondo, P. Di Bernardo, P.L. Zanonato, G. Tian, L. Rao, (Italy, USA)
- PA3-15** TERNARY COMPLEXES OF HUMIC ACID
K.L. Titley, P. Warwick, N. Evans, (UK)
- PA3-16** INVESTIGATION OF RADIONUCLIDE INTERACTIONS WITH α-ISOSACCHARINIC ACID
C. Heath, P. Warwick, N. Evans, M. Edgar, (UK)
- PA3-17** HYDROLYSIS OF U(VI). AN INFRARED SPECTROSCOPIC VERIFICATION OF URANYL SPECIES
K. Müller, H. Foerstendorf, (Germany)
- PA3-18** THE HYDRATED THORIUM ION AND ITS HYDROLYSIS PRODUCTS
R.E. Wilson, S. Skanthakumar, L. Soderholm, (USA)
- PA3-19** UNDERSTANDING TRIVALENT LANTHANIDE AND ACTINIDE COMPLEXATION IN AQUEOUS AND MIXED AQUEOUS-METHANOL SOLVENTS AS A MEANS TO IMPROVE CAPILLARY ELECTROPHORETIC PRECONCENTRATION AND SEPARATIONS OF THESE ELEMENTS
E. Finn, C. Heathman, S. Clark, J. Friese, (USA)

- PA3-20** HYDROLYSIS CONSTANTS OF TETRAVALENT NEPTUNIUM BY USING SOLVENT EXTRACTION METHOD
K. Fujiwara, Y. Kohara, (Japan)
- PA3-21** NEW INSIGHTS IN THE COMPLEXATION OF ACTINIDE IONS BY HUMIC ACIDS
S. Eidner, M. Freyer, Th. Stumpf, C. Walther, M.U. Kumke, (Germany)
- PA3-22** AN AB INITIO STUDY OF THE PHOTOINDUCED PROTON TRANSFER ON THE URANYL IN AQUEOUS SOLUTION: A FIRST STEP TOWARDS THE UNDERSTANDING OF THE YL-EXCHANGE REACTION
F. Réal, V. Vallet, U. Wahlgren, I. Grenthe, (Sweden, France)
- PA3-23** ON THE DYNAMICS OF TETRAVALENT ACTINIDE (Th/PuIV)-HUMIC ACID INTERACTION
M. Bouby, H. Geckeis, (Germany)
- PA3-24** A SIMPLE APPROACH TO THE An(III) AND An(VI) HUMATE COMPLEXATION
G. Buckau, (Germany)
- PA3-25** AN EXAFS STUDY OF AQUEOUS Zr(IV) AND Th(IV) COMPLEXES IN ALKALINE CaCl₂ SOLUTION: Ca₃[Zr(OH)₆]⁴⁺ AND Ca₄[Th(OH)₈]⁴⁺
B. Brendebach, M. Altmaier, J. Rothe, V. Neck, M.A. Denecke, (Germany)
- PA3-26** COMPLEXATION OF Eu(III) AND Cm(III) WITH NITRATE IN THE TEMPERATURE RANGE OF 20-200°C BY TIME-RESOLVED LASER FLUORESCENCE SPECTROSCOPY
A. Skerencak, P.J. Panak, W. Hauser, V. Neck, P. Lindqvist-Reis, R. Klenze, Th. Fanghänel, (Germany)
- PA3-27** DENSITY FUNCTIONAL STUDIES ON URANYL COMPLEXES WITH ORGANIC LIGANDS
S. Krüger, S.R. Ray, A. Kremleva, O. Zakhariyeva, F. Schlosser, N. Rösch, (Germany)
- PA3-28** INFLUENCE OF "CHEMICAL PRESSURE" ON THE STRUCTURE AND CRYSTAL-FIELD ENERGY LEVELS OF [Cm(H₂O)₉]³⁺ IN [M(H₂O)₉](CF₃SO₃)₃ (M = La, Lu, Y)
P. Lindqvist-Reis, C. Walther, R. Klenze, Th. Fanghänel, (Germany)
- PA3-29** URANIUM(VI) SORPTION AND REDUCTION BY GRANITIC MINERALS IN BICARBONATE SOLUTIONS
S. Regenspurg, T. Schäfer, D. Schild, M.E. Malmström, (Switzerland, Sweden, Germany)
- PA3-30** THE STRUCTURE OF TRIMERIC URANYL HYDROXO COMPLEXES IN AQUEOUS SOLUTION
S. Tsushima, A. Rossberg, C. Hennig, H. Moll, A.C. Scheinost, (Germany)

PA4 REDOX REACTIONS AND RADIOLYSIS EFFECTS

- PA4-1** OXIDATIVE DISSOLUTION OF Tc(IV)O₂·nH₂O COLLOIDS BY SONOLYSIS
T. Sekine, M. Zakir, (Japan)
- PA4-2** BEHAVIOUR OF TECHNETIUM IN A MICROBIOLOGICALLY REDUCED SOIL EXPOSED TO AIR AND NITRATE
J.D. Begg, I.T. Burke, K. Morris, (UK)
- PA4-3** FORMATION AND STABILITY OF HIGHER ACTINIDE OXIDES: THE NEPTUNIUM
A. Seibert, T. Gouder, F. Huber, (EU)

- PA4-4** EFFECT OF WET AIR RADIOLYSIS ON ZIRCALOY CORROSION
C. Guipponia, C. Pichona, N. Millard-Pinarda, E. Serrisb, M. Pijolatb, V. Wasselin-Trupinc, P. C. Leverdc, (France)
- PA4-5** BIMETALLIC NANOPARTICLES FOR ENVIRONMENTAL REMEDIATION OF URANIUM CONTAMINATED WATERS
O. Riba, T.B. Scott, G.C. Allen, (UK)
- PA4-6** THE INFLUENCE OF HYDROGEN ON SPENT NUCLEAR FUEL DISSOLUTION
E. Ekeroth, M. Granfors, K. Spahiu, (Sweden)
- PA4-7** IN SITU MONITORING OF URANIUM REDUCTION BY SLAB OPTICAL WAVE GUIDE (SOWE) SPECTROSCOPY
T. Nankawa, Y. Suzuki, T. Ozaki, T. Ohnuki, A.J. Francis, (Japan, U.S.A.)
- PA4-8** REDOX BEHAVIOR OF Ce(IV)/Ce(III) IN THE PRESENCE OF ORGANIC ACIDS
Y. Suzuki, T. Nankawa, T. Yoshida, T. Ozaki, T. Ohnuki, A.J. Francis, Y. Enokida, I. Yamamoto, (Japan, U.S.A.)
- PA4-9** RETENTION OF SELENIUM(IV) ON Fe₃O₄ INFLUENCE OF DISSOLVED SILICATES
N. Jordan, C. Lomenech, N. Marmier, J.-J. Ehrhardt, E. Giffaut, (France)
- PA4-10** CURRENT STATE-OF-THE-ART REGARDING SELENIUM GEOCHEMISTRY UNDER BOOM CLAY CONDITIONS
C. Bruggeman, A. Maes, (Belgium)
- PA4-11** STUDY ON REDOX POTENTIALS OF COUPLES Tc(VII) / REDUCED SPECIES IN AN ACIDIC AND NON-COMPLEXING MEDIUM (HTFMS)
N. Vongsouthi, M. Fattahi, (France)
- PA4-12** ON THE RADIONUCLIDE IMMOBILIZATION ON THE IRON CANISTER MATERIAL UNDER NEAR-FIELD CONDITIONS
D. Cui, V. Rondinella, A. Puranne, E. Wieland, K. Spahiu, (Sweden, Germany, Switzerland)
- PA4-13** RADIATION INDUCED DISSOLUTION OF SPENT NUCLEAR FUEL UNDER DEEP REPOSITORY CONDITIONS - INHIBITING EFFECTS OF H₂ AND REDUCTIVE SOLUTES
M. Jonsson, O. Roth, S. Nilsson, F. Nielsen, E. Ekeroth, M. Mohsin Hossain, (Sweden)
- PA4-14** EFFECTS OF GAMMA-RADIATION ON BENTONITE SUSPENSIONS: IMPLICATIONS FOR BENTONITE EROSION
M. Holmboe, S. Wold, M. Jonsson, (Sweden)
- PA4-15** IMMOBILIZATION OF SELENATE (SeO₄²⁻) BY IRON AND IRON CORROSION PRODUCTS IN AQUEOUS SOLUTION UNDER ANOXIC CONDITIONS AND THE INFLUENCE OF URANYL
A. Puranen, M. Jonsson, R. Daehn, D. Cui, (Sweden, Switzerland)
- PA4-16** ROLE OF Fe(II) IN THE ABIOTIC AND BIOTIC REDUCTION OF HIGHER-VALENT PLUTONIUM
D.T. Reed, S.E. Pepper, B.E. Rittmann, R. Deo, (USA)
- PA4-17** REDOX BEHAVIOUR OF PLUTONIUM IN PRESENCE OF HYDROQUINONE OR FULVIC ACID UNDER ANAEROBIC CONDITIONS
C.M. Marquardt, A. Seibert, (Germany)
- PA4-18** INFLUENCE OF REDUCTIVE DISSOLUTION OF IRON OXIDES BY S(II) ON URANIUM MOBILITY
V. Alexandratos, T. Behrends, P. Van Cappellen, (Netherlands)

PB1 SORPTION/DESORPTION PHENOMENA IN DYNAMIC SYSTEMS

- PB1-1** MIGRATION OF SELECTED RADIONUCLIDES IN CRUSHED CRYSTALLINE ROCKS UNDER DYNAMIC FLOW CONDITIONS
Š. Palágyi, H. Vodicková, J. Landa, J. Palágyiová, A. Laciok, (Czech Rep.)
- PB1-2** MIGRATION AND RETARDATION OF URANIUM THROUGH A FRACTURED ROCK CORE IN A REDUCING ENVIRONMENT
M.H. Baik, S.Y. Lee, J.K. Lee, (Korea)
- PB1-3** RETARDATION CAPACITY OF ALTERED DEEP GRANITIC ROCK INEVITABLY DISTRIBUTED ALONG FAULT AND FRACTURED ZONE IN JAPAN
T. Kikuch, H. Takahashi, Y. Seida, K. Suzuki, H. Yoshida, (Japan)
- PB1-4** EXAMINATION OF NEPTUNIUM AND PLUTONIUM DESORPTION KINETICS FROM SYNTHETIC MINERAL SUSPENSIONS
B.A. Powell, A.B. Kersting, M. Zavarin, (USA)
- PB1-5** CESIUM RETARDATION AND BREAKTHROUGH IN A GRANITE ROCK PARTICLES: COLUMN STUDIES
K.Y. Lee, Y.Y. Yoon, S.Y. Cho, K.S. Ko, Y. Kim, (Korea)
- PB1-6** A MODEL TO DESCRIBE POLLUTANT TRANSPORT IN WATER INCLUDING NONLINEAR SORPTION
V. Lutkovsky, S. Yagodinetc, (Ukraine)
- PB1-7** DISTRIBUTION OF Cs BETWEEN ATER-COLLOID-ROCK PHASES ESTIMATED BY DEVELOPED EXPERIMENTAL SYSTEM
K. Nakata, (Japan)
- PB1-8** UPSCALING OF URANIUM(VI) DESORPTION AND TRANSPORT: EXPERIMENTS AT THE INTERMEDIATE SCALE
A. Miller, D. Rodriguez, B. Honeyman, (USA)
- PB1-9** TRANSPORT PROPERTIES OF SELENIUM IN BOOM CLAY FOR LONG-TERM SAFETY ASSESSMENT OF ⁷⁹Se
P. De Cannière, N. Maes, (Belgium)
- PB1-10** RADIOGEOCHEMICAL STUDY OF BEHAVIOUR AND MIGRATION PATHWAYS OF MAN-MADE RADIONUCLIDES IN THE OB-IRTYSH AQUATIC SYSTEM
O. Stepanets, A. Borisov, A. Ligaev, A. Travkina, J. Brown, (Russia, Norway)
- PB1-11** REVERSIBILITY OF ACTINIDE BINDING ON MONTMORRILONITE COLLOIDS
A. Delos, Th. Schäfer, J. Carrera, J. Guimerá, C. Walther, X. Sanchez-Vila, H. Geckeis, (Spain, Germany)
- PB1-12** EFFECT OF TEMPERATURE ON SILICON SORPTION ON VARIOUS CORROSION PRODUCTS. MODELING AND IMPLICATION FOR ALTERATION RATE OF VITRIFIED HIGH LEVEL WASTE
P. Vigne, S. Leclercq, H. Catalette, (France)
- PB1-13** RETARDATION BEHAVIOR OF GRANITE CORE FOR Cs IN UNDERGROUND WATER CONDITION
Y. Seida, H. Takahashi, M. Yamaguchi, K. Suzuki, (Japan)
- PB1-14** RADIONUCLIDE TRANSPORT IN A GRANITE FRACTURE FROM ÄSPÖ (SWEDEN): INSIGHTS FROM MIGRATION EXPERIMENTS AND COMPUTED X-RAY TOMOGRAPHY (XCT)
T. Schäfer, F. Enzmann, M. Kersten, M. Bouby, B. Kienzler, H. Geckeis, (Germany)

PB5 **FIELD AND LARGE SCALE EXPERIMENTS**

- PB5-1** MIGRATION OF PLUTONIUM ISOTOPES IN AQUIFER FROM A TRENCH WITH CHERNOBYL CLEANUP WASTE
S. Levchuk, V. Kashparov, V. Yoschenko, N. Van Meir, C. Ardois, D. Bugai, (Ukraine, France)
- PB5-2** ACCELERATED TRANSPORT OF ⁹⁰Sr AFTER RELEASE OF A HIGH IONIC STRENGTH WASTE SOLUTION
L. Hull, A. Schafer, (USA)
- PB5-3** VERTICAL DISTRIBUTION OF ²³⁸Pu, ²³⁹⁽⁴⁰⁾Pu, ²⁴¹Am, ⁹⁰Sr AND ¹³⁷Cs IN AUSTRIAN SOIL PROFILES
M. Srncik, E. Hrnccek, P. Steier, A. Wallner, G. Wallner, P. Bossew, (Austria)
- PB5-4** REDOX TRANSFORMATIONS AND TRANSPORT OF IODINE AND CESIUM IN TWO GEOCHEMICALLY DISTINCT ZONES OF A SAND AND GRAVEL AQUIFER IN CAPE COD, MA, USA
P.M. Fox, D.B. Kent, J.A. Davis, (USA)
- PB5-5** FATE OF TECHNETIUM IN REDUCED SEDIMENTS
I.T. Burke, F.R. Livens, J.R. Lloyd, A. Brown, J.M. McBeth, B. Ellis, R.S. Lawson, K. Morris, (UK)
- PB5-6** DIFFUSION AND RETENTION OF RADIONUCLIDES IN OPALINUS CLAY: RESULTS FROM A LONG-TERM MIGRATION IN-SITU TEST
P. Wersin, Th. Gimmi, J. M. Soler, S. Dewonck, S. Savoye, L. Van Loon, J. Eikenberg, B. Baeyens, Q. Yang, J. Samper, (Switzerland, Spain, France)
- PB5-7** URANIUM SERIES STUDIES FOR THE SAFETY CASE OF DEEP GEOLOGICAL DISPOSAL OF NUCLEAR WASTES
J. Suksi, K. Rasilainen, A. MacKenzie, E.-L. Tullborg, J. Smellie, S. Azzam, (Finland, UK, Sweden)
- PB5-8** RADIONUCLIDE TRANSPORT IN FRACTURE-GRANITE INTERFACE ZONES
Q. Hu, A. Möri, (USA, Switzerland)
- PB5-9** NEXT GENERATION OF RADIONUCLIDE IN-SITU EXPERIMENTS UNDER REPOSITORY RELEVANT BOUNDARY CONDITIONS, GRIMSEL TEST SITE – PHASE VI
J. Rueedi, I. Blechschmidt, A.J. Martin, A. Möri, (Switzerland)

PB6 **NATURAL ANALOGUES**

- PB6-1** REDISTRIBUTION OF Pb, U AND REE IN ASSOCIATION WITH ALTERATION OF ZIRCON AND TITANITE
K. Horie, H. Hidaka, K. Tanaka, F. Gauthier-Lafaye, (Japan, France)
- PB6-2** GEOCHEMICAL BEHAVIOUR OF RADIONUCLIDES IN HIGHLY ALTERED ZIRCON ABOVE THE BANGOMBÉ NATURAL FISSION REACTOR, GABON
M. Kikuchi, H. Hidaka, K. Horie, (Japan)
- PB6-3** URANIUM FORMS AND THE ROLE OF ORGANIC MATTER ON RUPRECHTOV NATURAL ANALOGUE SITE. MULTIMETHOD APPROACH.
V. Havlova, R. Cervinka, M.A. Denecke, U. Noseck, Th. Brassler, J. Suksi, (Czech Republic, Germany, Finland)

PB6-4 CEMENTITIOUS NATURAL ANALOGUES: SAFETY ASSESSMENT IMPLICATIONS OF THE UNIQUE SYSTEMS IN JORDAN
W.R. Alexander, I.D. Clark, P. Degnan, M. Elie, G. Kamei, H. Khoury, U. Mäder, A.E. Milodowski, K. Pedersen, A.F. Pitty, E. Salameh, J.A.T. Smellie, I. Techer, L. Trotignon, (Switzerland)

PB6-5 UNDERSTANDING THE LONG-TERM STABILITY OF A URANIUM DEPOSIT IN A TECTONICALLY ACTIVE AREA OF JAPAN: NEW INSIGHTS FROM THE TONO NATURAL ANALOGUE PROJECT
K. Ota, (Japan)

PC1 DATA SELECTION AND EVALUATION

PC1-1 DEVELOPMENT OF RADIONUCLIDE MIGRATION DATASETS OF SAFETY ASSESSMENT FOR TRU WASTE DISPOSAL IN JAPAN
M. Mihara R. Sasaki, G. Kamei, (Japan)

PC2 COUPLING CHEMISTRY AND TRANSPORT

PC2-1 REVIEW AND MODELLING STUDY OF COMPLEXES OF TETRAVALENT ACTINIDES WITH ISA AND GLUCONATE.
X. Gaona, V. Montoya, E. Colàs, M. Grivé, L. Duro, (Spain)

PC2-2 REACTIVE-TRANSPORT MODELLING IN A GEOLOGIC STRUCTURE TYPE-1 FROM ÄSPÖ LABORATORY (SWEDEN)
C. Domènech, D. Arcos, J. Guimerà, A. Delos, (Spain)

PC2-3 WATER LEVEL FLUCTUATIONS AS A CONTRIBUTING FACTOR TO ⁹⁰Sr RELEASE FROM A SHALLOW WASTE TRENCH AT THE CHERNOBYL PILOT SITE
N. Van Meir, C. Ardois, D. Bugai, V. Kashparov, S. Levchuk and V. Yoschenko, (France, Ukraine)

PC2-4 INFLUENCE OF TRANSIENT FLOW ON THE MOBILITY OF STRONTIUM IN UNSATURATED SAND COLUMNS
P. Mazet, C. Ardois, N. Van Meir, J.P. Gaudet, (France)

PC2-5 INVERSE COUPLED THERMAL-HYDRO-BIO-GEOCHEMICAL (THBC) MODELS FOR POROUS AND FRACTURED MEDIA
C. Yang, J. Samper, J. Molinero, (USA, Spain)

PC3 DEVELOPMENT AND APPLICATION OF MODELS

PC3-1 ANALYTICAL SOLUTIONS TO A COMPOSITE MEDIA FOR LABORATORY DIFFUSION TESTS: EFFECT OF PAPER OR SINTER FILTERS ON PARAMETER ESTIMATION
M. Takeda, M. Zhang, H. Nakajima, T. Hiratsuka, (Japan)

PC3-2 RADIONUCLIDE TRANSPORT COUPLED WITH BENTONITE EXTRUSION IN A SATURATED FRACTURE SYSTEM
R.A. Borrelli, J. Ahn, (USA)

- PC3-3** MOLECULAR MODELLING OF WATER DIFFUSION IN CLAYS:
COMPARISON OF SIMULATED AND MEASURED QUASI-ELASTIC NEUTRON
SCATTERING (QENS) SPECTRA
G. Kosakowski, F. Gonzales, F. Juranyi, Th. Gimmi, (Switzerland)
- PC3-4** ABSTRACTION OF COLLOID-ASSOCIATED RADIONUCLIDE RELEASE AND
TRANSPORT IN A NUCLEAR WASTE REPOSITORY PERFORMANCE ASSESSMENT
D.A. Pickett, S.L. Painter, (USA)
- PC3-5** EXTENSION OF THE C-S-H AQUEOUS - SOLID SOLUTION MODEL FOR STRONTIUM
RETENTION IN WATER AND IN CEMENT PORE WATER
D. Kulik, J. Tits, E. Wieland, (Switzerland)
- PC3-6** MODELLING OXYGEN SCAVENGING IN GRANITIC ROCKS: GLACIATION
M. Sidborn, I. Neretnieks, (Sweden)
- PC3-7** INVERSE HYDROCHEMICAL MODELS OF AQUEOUS EXTRACT EXPERIMENTS
J. Samper, L. Zheng, L. Montenegro, (Spain)
- PC3-8** MODELLING Ni(II) SORPTION ONTO GRANITIC MATERIAL
IN THE DEEP GROUNDWATER
M.E. Malmström, E. Docampo Cabaleiro, S. Regenspurg, (Sweden, Switzerland)
- PC3-9** MODELLING OF RADIONUCLIDE MIGRATION FROM RADIOACTIVE WASTE
REPOSITORIES
S.A. Korneva, (Russia)
- PC3-10** SORPTION OF DIFFERENT CATIONS ONTO CLAY MINERALS: MODELLING
APPROACH WITH ION EXCHANGE AND SURFACE COMPLEXATION
O.L. Gaskova, (Russia)

PC4 MODEL VALIDATION

- PC4-1** USE OF AN EXPERIMENTAL SORPTION DATABASE FOR PREDICTING THE
SORPTION OF Cs, Np, Th, AND Se UNDER PROJECTED URL-CONDITIONS
M. Ochs, S. Kunze, M. Yui, H. Sasamoto, (Switzerland, Japan)

PS SPECIAL SESSION - ORGANIC MATTER MODELING

- PS-1** INTERACTION OF [65Zn]Zn(II) AND 14C-LABELLED HUMIC ACID WITH A SANDY
SOIL: COLUMN EXPERIMENTS AT VARIED Ph
A. Mansel, (Germany)
- PS-2** COPPER COMPLEX COMPOUNDS IN WATER OF DNIEPER RESERVOIRS (UKRAINE)
N. Osadcha, V. Osadchy, Ju. Nabyvanets, (Ukraine)
- PS-3** MODELING OF THE COMPLEX FORMATION OF CALCIUM ION WITH HUMIC ACIDS
T. Ohnishi, A. Kirishima, N. Sato, O. Tochiyama, (Japan)
- PS-4** EFFECT OF pH, MULTIVALENT CATION, AND NATURAL ORGANIC MATTER ON
COLLOIDAL STABILITY AND MOBILIZATION FROM SEDIMENT
I. Ko, K.-W. Kim, (Korea)

- PS-5** METAL SORPTION ONTO MINERALS AND MIXTURES OF MINERALS IN THE PRESENCE OF HUMIC ACID
T. Lewis, N.D.M. Evans, P. Warwick, N. Bryan, L. Knight, (UK)
- PS-6** KINETIC STUDIES OF MINERAL SURFACE AND HUMIC ACID TERNARY SYSTEMS
D.H. Farrelly, L.G. Abrahamsen, A. Pitois, P. Ivanov, B. Siu, N. Li, P. Warwick, N.D.M. Evans, L. Knight, N.D. Bryan, (UK)
- PS-7** MECHANISMS OF METAL ION HUMIC SUBSTANCE DISSOCIATION KINETICS
N.D. Bryan, R.E. Keepax, D.M. Jones, L.G. Abrahamsen, D.H. Farrelly, A. Pitois, P. Ivanov, P. Warwick, N.D.M. Evans, (UK)
- PS-8** REGULARITIES OF Fe DISTRIBUTION AND MIGRATION IN DNEIPER BASIN SURFACE WATER
N. Osadcha, V. Osadchy, Ju. Nabyvanets (Ukraine)
- PS-9** PSEUDOPOLAROGRAPHY COUPLED WITH LOGARITHMIC ADDITIONS FOR DETERMINATION OF COMPLEXING PROPERTIES OF COPPER WITH DISSOLVED NATURAL ORGANIC MATTER
Y. Louis, D. Omanovi, I. Pižeta, S. Mounier, (France, Croatia)
- PS-10** BEHAVIOR OF NICKEL AND COPPER AT THE SURFACE OF SEDIMENT: INFLUENCE OF ORGANIC MATTER
C. Hurel, N. Culemme, C. Baduel, N. Marmier, (France)

PS2 INTERNATIONAL RESEARCH ACTIVITIES

- PS2-1** IP FUNMIG RTDC-1: WELL ESTABLISHED PROCESSES (WELL DEFINED)
P. Reiller, M.H. Bradbury, (France, Switzerland)
- PS2-2** STUDIES ON "LESS WELL ESTABLISHED PROCESSES" AS COLLOIDS, INFLUENCE OF ORGANICS, REDOX- AND MICROBIAL-PROCESSES WITHIN THE IP "FUNMIG"
Th. Schäfer, (Germany)
- PS2-3** FUNMIG PROJECT RTD COMPONENT 3 "RADIONUCLIDE MIGRATION IN CLAY-RICH HOST FORMATIONS: PROCESS UNDERSTANDING, INTEGRATION AND UPSCALING FOR SAFETY CASE USE"
S. Altmann, Ch. Tournassat, F. Goutelard, J.P. Parneix, T. Gimmi, J. Marivoet, N. Maes, (France, Switzerland, Belgium)
- PS2-4** FUNMIG PROJECT, RTDC4: PROCESSES AND TRANSPORT STUDIES RELEVANT FOR CRYSTALLINE ROCK DISPOSAL CONCEPTS
T. Missana, (Spain)
- PS2-5** IP FUNMIG RTDC 5: PROCESSES AND TRANSPORT STUDIES RELEVANT FOR SALT ROCK DISPOSAL CONCEPTS
U. Noseck, Th. Brasser, V. Havlova, M.A. Denecke, W. Hauser, G. Buckau, J. Suksi, (Germany, Czech Republic, Finland)
- PS2-6** PERFORMANCE ASSESSMENT METHODOLOGIES IN APPLICATION TO GUIDE THE DEVELOPMENT OF THE SAFETY CASE (PAMINA)
J. Mönig, (Germany)

WEDNESDAY (29. August)

SESSION 11 A5: SOLID-WATER INTERFACE REACTIONS

Chair: *T. Hiemstra (The Netherlands) and I. Grenthe (Sweden)*

- 8:30 INTERFACIAL REACTIVITY: EMERGING PARADIGMS **A5-4**
A.R. Felmy (invited), E. Ilton, K. Rosso, R. Lins, J. Rustad (USA)
- 9:15 THEORETICAL STUDY OF THE URANYL SORPTION ONTO THE (001) FACE OF GIBBSITE, α -Al(OH)₃ **A5-5**
E. Veilly, J. Roques, R. Drot, F. Mercier, E. Simoni, (France)
- 9:40 QUANTUM CHEMICAL DESCRIPTION OF THE INTERACTION OF WATER AND METAL IONS WITH THE SAPPHIRE (001) SURFACE USING CLUSTER MODELS **A5-6**
R. Polly, M. Flörsheimer, K. Kruse, A. Abdelmonem, B. Schimmelpfennig, R. Klenze, Th. Fanghänel, (Germany, EU)
- 10:05 WET CHEMISTRY AND TIME-RESOLVED LASER FLUORESCENCE SPECTROSCOPY INVESTIGATIONS OF THE URANYL RETENTION BY CEMENTITIOUS MATERIALS **A5-7**
J. Tits, G. Geipel, M. Eilzer, D. Kunz, E. Wieland, (Switzerland, Germany)
- 10:30 POLARIZED EXAFS CHARACTERIZATION OF THE MECHANISM OF YTTRIUM SORPTION ON HECTORITE **A5-8**
M. Schlegel, (France)
- 10:55 BREAK

SESSION 12 A3: COMPLEXATION WITH INORGANIC AND ORGANIC LIGANDS

Chair: *N.D. Bryan (UK) and S.B. Clark (USA)*

- 11:15 THERMODYNAMIC STUDY ON THE U(VI) COMPLEXATION WITH CARBOXYLIC ACID BY CALORIMETRY **A3-5**
A. Kirishima, Y. Onishi, N. Sato, O. Tochiyama, (Japan)
- 11:40 STRUCTURE ELUCIDATION AND OCCURRENCE OF Tc(IV) PYROGALLOL COMPLEXES **A3-6**
E. Breyneert, A. Maes, (Belgium)
- 12:05 INTERACTION OF Eu(III)/Cm(III) WITH POLYACRYLIC ACIDS: EFFECT OF pH **A3-7**
S. Markaj, G. Montavon, B. Grambow, Th. Rabung, M. Bouby, H. Geckeis, B. Amekraz, C. Moulin, (France, Germany)
- 12:30 END
- 12:30 FREE

THURSDAY (30. August)

SESSION 13 C: GEOCHEMICAL AND TRANSPORT MODELLING

Chair: *J. Hadermann (Switzerland) and B. Kienzler (Germany)*

- 8:30 THE ROLE OF THE MOLECULAR STRUCTURE OF SURFACE COMPLEXES AND INTERFACES IN GEOCHEMICAL MODELING **C-1**
T. Hiemstra (invited), W. van Riemsdijk, (The Netherlands)
- 9:15 MECHANISTIC SORPTION MODELS INCLUDED IN REACTIVE TRANSPORT CALCULATIONS - NEW INSIGHTS WITH RESPECT TO K_d -SORPTION MODELLING AND COMPETITIVE SORPTION EFFECTS **C-2**
W. Pfingsten, B. Baeyens, A. Jakob, M.H. Bradbury, (Switzerland)
- 9:40 URANYL ADSORPTION AND SURFACE SPECIATION AT THE HEMATITE-WATER INTERFACE: TRIPLE-LAYER MODELING WITH CHARGE DISTRIBUTION OF SURFACE SPECIES **C-3**
J.A. Davis, R. Reitmeyer, M. Kohler, J.R. Bargar, (USA)
- 10:05 DEVELOPMENT AND APPLICATION OF AN INTEGRATED MODEL FOR PERFORMANCE ASSESSMENT OF REPOSITORIES FOR SPENT NUCLEAR FUEL **C-4**
L. Liu, L. Moreno, I. Neretnieks, (Sweden)
- 10:30 BREAK

SESSION 14 A4: REDOX REACTIONS AND RADIOLYSIS EFFECTS

Chair: *K. Spahiu (Sweden) and B. Grambow (France)*

- 10:50 EFFECTS OF WATER RADIOLYSIS ON ZIRCONOLITE DISSOLUTION **A4-1**
M. Tribet, N. Toulhoat, N. Moncoffre, P. Toulhoat, C. Jegou, C. Corbel, G. Leturcq, I. Bardez, (France)
- 11:15 UNDERSTANDING THE FATE OF TECHNETIUM IN NATURAL AND ENGINEERED ENVIRONMENTS, EVIDENCE FROM X-RAY ABSORPTION SPECTROSCOPY EXPERIMENTS **A4-2**
K. Morris, F.R. Livens, J.M. Charnock, I.T. Burke, J.M. McBeth, J.D.C. Begg, C. Boothman, J.R. Lloyd, (UK)
- 11:40 ON THE HYDROGEN CATALYST EFFECT OF NANO-STRUCTURED Mo-Tc-Ru-Rh-Pd-Te ALLOY PARTICLES EXTRACTED FROM SPENT FUEL **A4-3**
D. Cui, J. Low, V. Rondinella, K. Spahiu, (Sweden, EU)
- 12:05 EFFECTS OF HYDROGEN AND BROMIDE ON RADIATION INDUCED $UO_2(s)$ CORROSION IN NaCl BRINE **A4-4**
V. Metz, A. Loida, E. Bohnert, D. Schild, J. Römer, K. Dardenne, (Germany)
- 12:30 BREAK

SESSION 15 B2: DIFFUSION AND OTHER MIGRATION PROCESSES

Chair: *P. de Cannière (Belgium) and U. Berner (Switzerland)*

- 14:00 UNDERSTANDING DIFFUSION OF RADIONUCLIDES IN ARGILLACEOUS MATERIALS: MORE THAN APPLYING FICK'S LAW **B2-1**
L.R. Van Loon (invited), (Switzerland)
- 14:45 MODELLING SOLUTE TRANSPORT IN CLAYS AT THE NANOMETRIC SCALE: A DRAWING UP OF CHARTS OF EFFECTIVE DIFFUSION COEFFICIENT ACCORDING TO THE ROCK-ELECTROLYTE PROPERTIES - A FIRST STEP TOWARD UP-SCALING **B2-2**
F.Goutelard, N. Diaz, P. Turq, (France)
- 15:10 DIFFUSION MECHANISM OF SODIUM IONS IN COMPACTED MONTMORILLONITE UNDER DIFFERENT SALINITY CONDITIONS **B2-3**
T. Kozaki, J. Liu, S. Sato, (Japan, China)
- 15:35 OVERVIEW AND CONSISTENCY OF MIGRATION EXPERIMENTS ON CLAY **B2-4**
M. Aertsens, P. De Cannière, K. Lemmens, N. Maes, H. Moors, (Belgium)
- 16:00 BREAK

SESSION 16 A1: SOLUBILITY AND DISSOLUTION

Chair: *Th. Fanghänel (EU) and J. Fuger (Belgium)*

- 16:20 SOLUBILITY OF Zr(IV), Th(IV) AND Pu(IV) HYDROUS OXIDES AND THE FORMATION OF TERNARY $\text{Ca}_x[\text{M}(\text{OH})_n]^{4-n+2x}$ COMPLEXES IN ALKALINE CaCl_2 SOLUTION **A1-1**
M. Altmaier, V. Neck, B. Brendebach, J. Rothe, Th. Fanghänel, (Germany, EU)
- 16:45 DETERMINATION OF THE Th-MOX INVENTORY LEACHED OUT IN CONTACT WITH WATER **A1-2**
J. Cobos, J. Quiñones, C. Kütahyalı, V.V. Rondinella, J. Somers, R. Konings, (EU, Spain)
- 17:10 NANOSCALE STRUCTURE AND DISSOLUTION KINETICS OF ABIOTIC AND BACTERIOGENIC URANINITE **A1-3**
K.-U. Ulrich, A. Singh, S. Dixon, D.E. Giammar, H. Veeramani, J. Sharp, R. Bernier-Latmani, E. Schofield, J.R. Bargar, S. Chinni, B.M. Tebo, (USA, Switzerland)
- 17:35 BREAK
- 19:00 CONFERENCE BANQUET

FRIDAY (31. August)

SESSION 17 B4: EFFECTS OF BIOLOGICAL AND ORGANIC MATERIALS

Chair: *G. Bernhard (Germany) and B.D. Honeyman (USA)*

- 8:30 Pu(V) REDUCTION AND ENHANCEMENT OF PARTICLE-WATER PARTITIONING BY EXOPOLYMERIC SUBSTANCES **B4-1**
K.A. Roberts, P.H. Santschi, B.D. Honeyman, (USA)
- 8:55 REACTION OF URANIUM(VI) WITH LIPOPOLYSACCHARIDE – A LASER SPECTROSCOPIC STUDY **B4-2**
A. Barkleit, H. Moll, G. Bernhard, (Germany)
- 9:20 PLUTONIUM AND NEPTUNIUM REDUCTION BY METAL REDUCING BACTERIA *GEOBACTER METALLIREDUCTENS* GS15 AND *SHEWANELLA ONEIDENSIS* MR1 **B4-3**
H. Boukhalfa, G.A. Icopini, S.D. Reilly, M.P. Neu, (USA)
- 9:45 MODELING OF THE INTERACTION OF Pu(VI) WITH THE MIXTURE OF MICROORGANISM AND CLAY **B4-4**
T. Ohnuki, T. Ozaki, N. Kozai, F. Sakamoto, T. Nankawa, Y. Suzuki, A. J. Francis, (Japan, USA)
- 10:10 MULTI-LIGAND MODEL SYSTEMS FOR Cm(III)/Eu(III) BINDING ON MICROBIAL SURFACES **B4-5**
M. Calvert, A. Hui, H. Nitsche, (USA)
- 10:35 BREAK

SESSION 18 INTERNATIONAL RESEARCH PROGRAMS

Chair: *P. Zuidema (Switzerland) and D.L. Clark (USA)*

- 10:55 RADIOLOGICAL CAPABILITIES AT THE ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY **I-1**
A.A. Campbell (invited), (USA)
- 11:25 GEOLOGICAL DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES AND RADIONUCLIDE MIGRATION RESEARCH ACTIVITIES IN CHINA **I-2**
C.L. Liu, (invited), Z.Q. Pan, Y.F. Liu, J. Wang, H.L. Zheng, G.A. Ye, (China)
- 11:55 WASTE ISOLATION PILOT PLANT (WIPP) TRANSURANIC REPOSITORY **I-3**
D. Moody, (invited), R. Patterson, D.T. Reed, (USA)
- 12:25 *NN* **I-4**
- 12:55 END