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Community research

BELBaR

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Development of a publication plan for the publication of peer-reviewed project results in high-quality journals

DELIVERABLE (D-N°:6.6)

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Dissemination Level

PU	Public

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DISTRIBUTION LIST

Name	Number of copies	Comments
Christophe Davies (EC) BELBaR participants		

Introduction

According to the BELBaR communication plan (D6.4) all partners will have responsibility to disseminate outputs from their own work via peer-reviewed scientific publications. It is anticipated that each member will produce at least one journal publication during the project. The purpose of this document is to collect and document the submitted and planned publications from the project. This will form a background for the determination of the scientific impact of the BELBaR project.

List of publications:

#	Partner	Title	Authors	Suggested journal	Status
1	SKB	Summary of the findings from BELBaR	Rebecca Beard, Patrik Sellin, Christian Nyström, Lucy Bailey, Kari Koskinen, Seppo Kasa	MRS Proceedings	Planned
2	Ciemat	Colloid erosion from confined and compacted natural bentonites	Ursula Alonso, Tiziana Missana, Miguel García Guitierrez, Ana María Fernandez	Applied Geochemistry	Planned
3	Ciemat	Destabilization of montmorillonite colloids by addition of Alumina Nanoparticles	Natalia Mayordomo, Ursula Alonso, Tiziana Missana	Environmental Science & Technology	Planned
4	Ciemat	Size distribution of bentonite colloids upon fast disaggregation in low ionic strength water	Natalia Mayordomo, Claude Degueldre, Ursula Alonso, Tiziana Missana	Journal of the Geological Society	Planned
5	Ciemat	Transport of Uranium and Cesium in a granite fracture in the presence of bentonite colloids: effects of sorption irreversibility	Tiziana Missana, Ursula Alonso, Miguel García	Journal of Contaminant Hydrology	Planned
6	Ciemat	Irreversibility of cation adsorption from bentonite colloids	Tiziana Missana, Ursula Alonso,	Applied geochemistry	Planned

			Miguel García		
7	UJV	Effect of grain size on the sorption and desorption of SeO_4^{2-} and SeO_3^{2-} in columns of crushed granite and fracture infill from granitic water under dynamic conditions	Videnská, K., Palágyi, Š., Štamberg, K., Vodičková, H., Havlová, V.	Journal of Radioanalytical and Nuclear Chemistry, DOI :0.1007/s10967-013-2429-7.	Published 2013
8	UJV	Migration of ^{85}Sr in crushed granite in presence of bentonite colloids	Videnská K., Červinka R., Havlová V	Journal of the Geological Society	Planned
9	UJV	Coagulation behaviour of clay dispersions in simple electrolytes	Gondolli J., Červinka R.	Applied Clay Science	Planned
10	KIT	Montmorillonite colloids. I: Characterization and stability of suspensions with different size fractions	Knapp Karin Norrfors, Muriel Bouby, Stephanie Heck, Nicolas Finck, Rémi Marsac, Thorsten Schäfer, Horst Geckeis and Susanna Wold	Applied Clay Science	Accepted
11	KIT	Montmorillonite colloids. II: Dependency of Colloidal size on Sorption of Radionuclides	Knapp Karin Norrfors, Muriel Bouby, Rémi Marsac, Stephanie Heck, Thorsten Schäfer and Susanna Wold	Applied Clay Science	Planned
12	KIT	Montmorillonite colloids. III: Influence of colloidal size on the sorption reversibility of radionuclides	Knapp Karin Norrfors, Muriel Bouby, Rémi Marsac and Susanna Wold	Applied Clay Science	Planned
13	KIT	Latex colloid agglomeration at high ionic strength: experiments and simulations	Michal Olejnik, K. Karin Norrfors, Muriel Bouby, Christophe Henry, Johannes	Powder technology	Planned

			Luetzenkirchen, Mats Jonsson, Susanna Wold, Jean-Pierre Minier		
14	KIT	Results of two years erosion experiments performed on MX80 bentonite clay pellets of different compositions, under quasi-stagnant flow and glacial melt water type conditions	Muriel Bouby, Stephanie Heck, Thorsten Schäfer	Journal of colloids and Interface Science or Applied Clay Science	Planned
15	KIT	AMS of actinides in ground-and sea-water: a new method for simultaneous analysis of U, Np, Pu, Am and Cm isotopes below ppq levels	Francesca Quinto, Robin Golser, Markus Lagos, Markus Plaschke, Thorsten Schäfer, Peter Steier, Horst Geckeis	Analytical Chemistry	DOI: 10.1021/acs.analchem.5b00980 Publication Date (Web): May 4, 2015
16	KIT	Migration of contaminants in fractured-porous media in the presence of colloids: effects of kinetic interactions	Tatiana Reiche, Ulrich Noseck, Ingo Blechschmidt, Thorsten Schäfer	Journal of Contaminant Hydrology	In review
17	KIT	Influence of mineralogical and morphological properties on the cation exchange behavior of dioctahedral smectites	Laure Delavernhe, Annett Steudel, Gopala K Darbha, Thorsten Schäfer, Rainer Schuhmann, Christof Wöll, Horst Geckeis, Katja Emmerich	Colloids & Surfaces A	In review
18	KIT	Pu, Np, Am transport under near-natural flow conditions at the Grimsel Test Site (Switzerland): Influence of earth-tide effects	Thorsten Schäfer, Markus Lagos, Wolfgang Hauser, Stephanie	Environmental Science & Technology	planned

			Heck, Florian Huber, Muriel Bouby, Francesca Quinto, Horst Geckeis, Claude Degueldre, Mazuki Yamada, M. Suzuki, Karam Kontar, Ingo Blechsmidt		
(same as 1)	Posiva	Summary of the findings from BELBaR	Rebecca Beard, Patrik Sellin, Christian Nyström, Lucy Bailey, Kari Koskinen, Seppo Kasa	MRS Proceedings	Planned
19	Posiva	Development of models for bentonite erosion within the BELBaR project	Kari Koskinen, Seppo Kasa	MRS Proceedings	Planned
20	VTT	Chemical erosion as a function of flow velocity and size of source – scaling study by modelling	Markus Olin, Kari Koskinen	Applied Clay Science	Planned
21	VTT	Influence of the sample preparation on bentonite microstructure	Michał Matuszewicz, Veli-Matti Pulkkanen, Markus Olin	Clay Minerals	Planned
22	VTT	Microstructure of Na-montmorillonite	Michał Matuszewicz, Jussi-Petteri Suuronen, Andrew Root, Markus Olin	tbd	Planned
23	VTT	NMR investigation of MX-80 microstructure (tentative)	Michał Matuszewicz, Andrew Root, Markus Olin	tbd	Planned
24	VTT	Modelling bentonite behaviour in spent nuclear fuel disposal	Veli-Matti Pulkkanen		Planned

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(D-N°:6.6) – Development of a publication plan for the publication of peer-reviewed project results in high-quality journals

Dissemination level: PU

Date of issue of this report: **05/05/2015**

		conditions (Dr. Sc. (Tech.) Thesis)			
25	Clay Technology	Colloidal pastes, gels and sols: State diagrams of three different Na-montmorillonites	Emelie Ekvy Hansen & Magnus Hedström	Applied Clay Science	Planned
26	Clay Technology	Rheology of attractive and repulsive montmorillonite/bentonite gels	Magnus Hedström & Ulf Nilsson & Rasmus Eriksson	Applied Clay Science	Planned
27	Clay Technology	Erosion of colloidal clay particles in Hele-Shaw cells	Emelie Ekvy Hansen & Magnus Hedström	J. Colloid Interface Sci.	Planned
28	Clay Technology	Thermoreversible behaviour in smectite clay gel	Emelie Ekvy Hansen and Magnus Hedström	Scientific Reports	Submitted and under peer review
29	JYU	X-ray imaging method for monitoring one-dimensional free swelling of bentonite	Tero Harjupatana, Jarno Alaraudanjoki and Markku Kataja	Applied Clay Science	Planned
30	KTH	Prediction of swelling pressures of different types of bentonite in dilute solutions	Liu L.C	<i>Colloids and Surfaces A: Physicochem. Eng. Aspects</i> , 434, 303 – 318 (2013)	Published
31	KTH	The Swelling pressure of Na-bentonite: Study with a density functional approach	Wang Z. and Liu L.C	<i>Chem. Lett.</i> , 41, 1346 – 1348 (2012)	Published
23	KTH	Weighted correlation approach: An extended version with applications to the hard-sphere fluid	Wang Z. and Liu L.C	<i>Phys. Rev. E</i> , 86, 031115 (2012)	Published
33	KTH	Modelling bentonite erosion and comparison with experiments	Neretnieks I., Moreno L., Liu L		Planned
34	KTH	Counterion-only electrical double layers: an application of the density functional theory	Longcheng Liu		Planned
35	KTH	A systematic comparison of different approaches of	Guomin Yang and Longcheng		Planned

		density functional theory for the study of electrical double layers	Liu		
Same as 1	RWMD	Summary of the findings from BELBaR	Rebecca Beard, Patrik Sellin, Christian Nyström, Lucy Bailey, Kari Koskinen, Seppo Kasa	MRS Proceedings	Planned
Same as 26	B+Tech	Rheology of attractive and repulsive montmorillonite/bentonite gels	Magnus Hedström & Ulf Nilsson & Rasmus Eriksson	Applied Clay Science	Planned
36	B+Tech	Rheological Properties of Clay Material at the Solid/Solution Interface formed under Quasi-Free Swelling Conditions	Eriksson, R. & Schatz, T.	Applied Clay Science 108 (2015) 12-18	Published
37	B+Tech	Negative Normal Stress in Sheared Montmorillonite Suspensions	Eriksson, R. & Schatz, T.	Applied Clay Science (<i>or other</i>)	Planned
38	B+Tech	Response of montmorillonite suspensions to low frequency oscillatory shear	Eriksson, R. & Schatz, T.	Applied Clay Science (<i>or other</i>)	Planned
39	University of Manchester	The effect of humic acid on uranyl sorption onto bentonite at trace uranium levels	Peter Ivanov, Tamara Griffiths, Nick D. Bryan, Gospodin Bozhikov and Serguei Dmitriev	<i>J. Environ. Monit.</i> , 2012,14, 2968-2975	Published
40	University of Manchester	Reversibility in Radionuclide/Bentonite Bulk and Colloidal Ternary Systems	Nick Sherriff, Ragiab Issa, Katherine Morris, Francis Livens, Sarah Heath and Nick Bryan	Min. Mag	Submitted October 2014
41	University of Manchester	Uranium dissociation from bentonite colloids, a kinetic investigation	Nick Sherriff, Francis Livens, Sarah Heath,	Environmental Science-Processes & Impact	In preparation

			Katherine Morris and Nick Bryan,		
42	University of Manchester	Tri- and Tetra-valent actinide interactions with bentonite colloids	Nick Sherriff, Francis Livens, Sarah Heath, Katherine Morris and Nick Bryan,	Environmental Science-Processes & Impacts	Planned
43	Helsinki University	Np-237 sorption onto montmorillonite and corundum	O. Elo, N. Huittinen, K. Müller, A. Ikeda-Ohno, F. Bok, A.C. Scheinost, P. Hölttä, J. Lehto	Geochimica et Cosmochimica Acta	In preparation
44	Helsinki University	Migration of bentonite colloids and their influence on the mobility of Sr-85 and Eu-152 in granitic rock	P. Hölttä, S. Niemiaho and J. Lehto	Journal of Contaminant Hydrology/Physics and Chemistry of the Earth/ Radiochimica Acta	In preparation
45	Helsinki University	Radionuclide sorption on bentonite	colloids P. Hölttä, O. Elo, V. Suorsa, S. Niemiaho and J. Lehto	Physics and Chemistry of the Earth/ Radiochimica Acta	Planned
46	MSU	Radionuclide sorption onto clay colloids	A. Yu. Romanchuk, S.N. Kalmykov	Radiochimica Acta/Geochimica et Cosmochimica Acta	Planned

Comments

The list should be seen as a plan and ambition at the current stage of the project. The final publications will, to some extent, be dependent on the results obtained and may therefore differ from the plan.

It is however very likely that the number of publication in scientific journals based on the work performed in BELBaR will exceed 40. This means that the project will have a significant impact on the understanding of generation and transport of bentonite colloids.