

LTC 2019

NANCY, France

November 19-21, 2019

7th International Workshop on Long-term
Prediction of Corrosion Damage in Nuclear Waste
Systems

Tentative schedule

October 15, 2019



Monday, November 18, 2019

7:30 am - 6:30 pm	Visit of the underground laboratory of Andra in Bure (limited to 27 people - departure and arrival at the Mercure hotel)
6:00 pm – 7:00 pm	Registration and distribution of documents

Tuesday, November 19, 2019

8:00 am – 9:00 am	Registration and distribution of documents - Welcome coffee
9:00 am – 9:30 am	Opening
9:30 am – 10:30 am	Session 1 « National programs overview »
<i>Calsyn Laurent</i>	<i>Cigéo</i>
<i>Salonen Timo</i>	<i>Status report of the Finnish spent fuel geologic repository programme and ongoing corrosion studies</i>
10:30 am – 11:00 am	Networking
11:00 am – 12:30 pm	Session 1 « National programs overview »
<i>Keech Peter</i>	<i>An overview of the Canadian nuclear waste corrosion program</i>
<i>James J. Noël</i>	<i>Comparison of high level radioactive waste disposal approaches in different countries</i>
<i>Kursten Bruno</i>	<i>Overview of anaerobic corrosion of carbon steel radioactive waste packages in alkaline media in support of the Belgian supercontainer concept</i>
12:30 pm – 2:00 pm	Lunch break
2:00 pm – 3:30 pm	Session 2 « Carbon steel »
<i>Ogawa Yusuke</i>	<i>Corrosion resistance of cast steel overpack for the HLW Disposal Concept of Japan</i>
<i>Diomidis Nikitas</i>	<i>Repository-induced effects and their implications for the lifetime of the disposal canister</i>
<i>Smart Nick</i>	<i>Further studies on the anaerobic corrosion of carbon steel In alkaline media in support of the Belgian supercontainer concept</i>
3:30 pm – 4:00 pm	Networking
4:00 pm – 5:30 pm	Session 2 « Carbon steel »
<i>Macdonald Digby D.</i>	<i>General corrosion of carbon steel in synthetic concrete pore solution</i>
<i>Lotz Hélène</i>	<i>Impact of environment and metal microstructure on the iron corrosion</i>

	<i>mechanisms in anoxic media.</i>
Rémazeilles Céline	<i>Understanding the corrosion of steel promoted by sulfides through the study of archaeological waterlogged composite wood-iron assemblies</i>
5:30 pm – 7:00 pm	Session posters + reception

Wednesday, November 20, 2019

8:30 am – 10:00 am	Session 2 « Carbon steel »
Padovani Cristiano	<i>The anaerobic corrosion of carbon steel and copper in compacted bentonite exposed to natural granitic porewater containing native microbial populations</i>
Bulidon Nicolas	<i>Stress corrosion cracking susceptibility of P285 NH and API 5L X65 steel grades in the nuclear waste repository multi-barriers concept</i>
Macdonald Digby D.	<i>Pitting of Carbon Steel in Synthetic Concrete Pore Solution</i>
10:00 am – 10:30 am	Networking
10:30 am – 12:30 pm	Session 2 « Carbon steel »
Robineau Mathieu	<i>Characterization of corrosion product layers formed on carbon steel in a specific cement slurry at 80°C</i>
Kitayama Ayami	<i>Electrochemical behavior of carbon steel with bentonite/sand in saline environment</i>
Diler Erwan	<i>Potential influence of microorganisms on the corrosion of the carbon steel in the French high and intermediate level long-lived nuclear waste disposal context</i>
Fujiwara Kazutoshi	<i>Estimation of corrosion products of iron at low level radioactive waste disposal facility in Japan</i>
12:30 pm – 2:00 pm	Lunch break
2:00 pm – 4:00 pm	Session 3 « Copper »
Lilja Christina	<i>Canister integrity issues in the Swedish spent nuclear fuel programme – a summary of supplementary corrosion studies</i>
Chen Jian	<i>The mechanism of copper corrosion in anoxic aqueous sulphide solutions</i>
Briggs Scott	<i>Probabilistic model for pitting of copper canisters under aerobic, saturated conditions</i>
Forsström Annti	<i>Sulphide stress corrosion cracking of copper</i>
4:00 pm – 4:30 pm	Networking
4:30 pm – 6:30 pm	Session 3 « Copper »
Fujimoto Shinji	<i>Stress corrosion cracking of copper in simulated disposal environment</i>

<i>Taxen Claes</i>	<i>Stress corrosion testing of copper in sulfide solutions with different pH-buffers and strain rates</i>
<i>Turnbull Joseph</i>	<i>Implications of radiolytically produced nitric acid on the corrosion résistance of used nuclear fuel copper coated containers</i>
<i>Behazin Mehran</i>	<i>Effect of gamma-radiation on copper corrosion</i>
7:30 pm – 11:00 pm	Workshop dinner – The “Grands Salons” of Nancy City Hall, Place Stanislas 

Thursday, November 21, 2019

9:00 am – 10:00 am	Session 4 « Copper, steels, alloys & coatings »
<i>Martin Alice</i>	<i>Corrosion behavior of thermal spray Zn-Al coated carbon steel in conditions simulating deep geological storage of radioactive waste at 80°C and influence of sulfide concentration</i>
<i>Finck Nicolas</i>	<i>Stainless steel corrosion under anaerobic, highly saline and elevated temperature conditions</i>
10:00 am – 10:30 am	Networking
10:30 am – 12:00 pm	Session 4 « Copper, steels, alloys & coatings »
<i>Martino Taylor</i>	<i>The corrosion of mild and stainless steel in alkaline anaerobic conditions representing the Belgian supercontainer concept and the swiss L/ILW repository</i>
<i>Reddy Bharti</i>	<i>Further results on the in situ anaerobic corrosion of carbon steel and copper in compacted bentonite exposed to natural Opalinus Clay porewater containing native microbial populations</i>

Mendibide Christophe	<i>Corrosion behaviour of aluminum alloy 5754 in cement-based matrix simulating nuclear waste disposal conditions</i>
12:00 pm – 12:30 pm	Session 5 « Monitoring, modelling & design »
Castagnola Giovanni	<i>Low and intermediate level waste containers durability test experiences according to Italian norms</i>
12:30 pm – 2:00 pm	Lunch break
2:00 pm – 4:00 pm	Session 5 « Monitoring, modelling & design »
Gao Kewei	<i>Design and research of online monitoring system for corrosion of metal components in Beishan underground laboratory</i>
Senior Nicholas	<i>Methods for measuring the corrosion rates of metals in anoxic environments</i>
Comas Chloé	<i>Corrosion of carbon steel casing foreseen in the high level waste facility monitored by acoustic and electrochemical techniques</i>
Suzuki Saturo	<i>The design of copper coating overpack for the HLW disposal concept of Japan</i>
4:00 pm – 4:30 pm	Networking
4:30 pm – 5:30 pm	Session 5 « Monitoring, modelling & design »
Halldin Stenlid J.	<i>Modeling the electrochemical interface during copper corrosion</i>
King Fraser	<i>Modelling microbial sulfate reduction and the consequences for the corrosion of copper canisters</i>
5:30 pm – 6:00 pm	Cloture session

Friday, November 22, 2019

7:30 am - 6:30 pm	Visit of the underground laboratory of Andra in Bure (limited to 27 people - departure and arrival at the Mercure hotel)
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Poster Session

<i>Haruna Takumi, Yamamoto Tatsuya, Miyairi Yoji, Shibata Toshio, Taniguchi Naoki, Sakamaki Keiko, Tachikawa Hirokazu, Dobashi Ryuta</i>	<i>Estimation for diffusion coefficient of D₂O in some Fe oxide films produced by high-temperature oxidation</i>
<i>Bulidon Nicolas, Duret-Thual Claude, Mendibide Christophe, Necib Sophia</i>	<i>Study of hydrogen embrittlement susceptibility for the casing and overpack foreseen in the high level waste geological disposal</i>
<i>Ian L. Molnar, Mehran Behazin, Peter G. Keech, Magdalena M. Krol</i>	<i>A Framework for modeling the transport of corrosive species through engineered barrier system</i>
<i>Farhana Chowdhury, Yassaman Babae, Mehran Behazin, Pete Keech, Pulin Mondal, Jitendra Sharma, Magdalena Krol</i>	<i>Diffusion of hydrogen sulphide through MX-80 bentonite</i>
<i>Lalanne Cécile</i>	<i>Impact of atmospheric pollutants on the evaporation of saline sessile droplets: numerical analysis of corrosion under droplets</i>
<i>Kobayashi Masato, Kawakubo Masahiro</i>	<i>Consideration of production process about waste package in terms of productivity and quality assurance for long-term integrity.</i>
<i>Reddy Bharti, Smart Nick, Rance Andrew, Padovani Cristiano, Diomidis Nikitas</i>	<i>Study of the corrosion of SF/HLW disposal canister materials during the oxic to anoxic transition</i>
<i>Carrière Charly, Foy Eddy, Neff Delphine, Dynes James, Linard Yannick, Martin Christelle, Dillmann Philippe</i>	<i>In situ glass-iron alteration experiment at the Andra's Underground Research Laboratory (Bure): iron-silicate identification and impact on glass dissolution rates</i>
<i>Carré Charlotte, Dillmann Philippe, Neff Delphine, Deydier Valérie, Linard Yannick, Necib Sophia, Bataillon Christian, Schlegel Michel</i>	<i>Multiscale analyses of carbon steel corrosion in cement grout for radioactive waste disposal</i>
<i>Senior Nicholas, Martino Taylor, Diomidis Nikitas</i>	<i>The anoxic corrosion behaviour of carbon steel in a simulated swiss repository environment</i>
<i>Wieland Erich, Guillemot Typhaine, Kunz Dominik, Tits Jan, Salazar Gary, Szidat Soenke</i>	<i>Corrosion of irradiated steel in cementitious environment: speciation of carbon-14</i>
<i>Schlegel Michel, Chabanon Angélique, Ougier Michael, Michau Alexandre, Varlet Jérôme, Maskrot Hicham</i>	<i>Protection of low-alloy carbon steel in mildly saline environments by dense ZrO₂ coatings</i>
<i>M. Féart, J.M. Lameille, M. Le Flem, C. Bataillon, D. Féron</i>	<i>Radiolysis influence on water-saturated corrosion of carbon steels at 80°C</i>

Nakayama Gen	<i>Evaluation of the effect of acid wash on corrosion of carbon steel</i>
Dong Junhua	<i>Corrosion study of low carbon steel under simulated geological disposal environments for HLW in China</i>
Guillemot Typhaine, Wieland Erich, Kunz Dominik, Cvetkovic Benjamin	<i>Understanding the carbon speciation during iron corrosion in the alkaline anoxic conditions for safety assessment of radioactive waste repositories</i>
Patrik Sahiluoma, Yuriy Yagodzinskyy, Antti Forsström, Hannu Hänninen, Sven Bossuyt	<i>Hydrogen embrittlement of nodular cast iron</i>
Chen J., Guo M., Martino T., Ramamurthy S., Noël J.J., Shoesmith D.W., Lilja C, Johansson A. J., Behazin M. Binns W.J., Keech P.	<i>The distribution of corrosion damage to copper surfaces exposed to anoxic aqueous sulphide solutions</i>
Momeni Mojtaba, Hayatdovoudi Hadis, Zagidulin Dmitrij, James. J. Noël	<i>Electrochemically induced hydrogen absorption by copper</i>
Halldin Stenlid Joakim, Campos dos Santos Egon, Johansson Johannes, Pettersson Lars GM	<i>On the cathode reaction for sulfide-induced copper corrosion</i>
Senior Nicholas, Keech Peter, Binns Jeff	<i>The anoxic corrosion behaviour of copper in the presence of chloride and sulfide</i>
Lilja Christina, King Fraser, Puigdomench Ignasi, Pastina Barbara	<i>Speciation of copper in high chloride concentrations, in the context of corrosion of copper canisters</i>
W.J. Binns, C. Tully, K. Engel, P. Keech, J. Noel, J. Neufeld	<i>Investigating the synergy of bentonite clay and copper as engineered barriers for nuclear waste disposal</i>
Alina Maltseva, Polina Volovitch	<i>Corrosion products evolution on MgZr (0.5%) in poral solution of geopolymer cement</i>