

Minutes

Fall Business Meeting of the EFC Working Party 4 'Nuclear Corrosion'

September 12, 2019

Seville, Spain

Written by:

Laure Martinelli and Stefan Ritter

Diffusion:

Attendees and apologies
WP4 members & friends
Roman Bender (EFC Scientific Secretary)
Hélène Illaire (EFC Managing Officer)
Ines Honndorf (EFC website)
Wolfram Fürbeth (EFC STAC Chairman)
J.M.C. Arjan Mol (EFC President)

Attendees (21):

Sophie Bosonnet (CEA), Damien Féron (CEA), Reuben Holmes (NNL), David Kumar (Univ. of Bristol), Pierre Laghoutaris (CEA), Marion Le Flem (CEA), Estelle Marc (ORANO), Laure Martinelli (CEA), Stacy Moore (Univ. of Bristol), Aaron Penders (SCK•CEN), Juha Piippo (Cormet), Raul Rebak (GE Research), Stefan Ritter (PSI), Sriharitha Rowthu (PSI), Michel Schlegel (CEA), Dana Tonarova (UJV Rez), Aleksandra Treichel (PSI), Jan Wielant (LABORELEC), Xingiang Wu (IMR), Toshio Yonezawa (Tohoku Univ.), Bojan Zajec (ZAG)

Apologies for absence received from:

Catherine Guerre (CEA), Stuart Lyon (Univ. of Manchester), Christina Lilja (SKB)
Jan Macak (UCT Prague), Hans-Peter Seifert (PSI)

Agenda:

- 1) Opening of the meeting, apologies for absences, approval of the agenda
- 2) EFC WP 4 prize award ceremony
- 3) Approval of the minutes of the 2018 Fall Meeting (in Krakow)
- 4) EFC WP 4 internal matters
- 5) EFC WP 4 publications
- 6) EFC WP 4 past events
- 7) EFC WP 4 future events
- 8) EUROCORR's
- 9) Any other business (website, next meeting, EU-projects, etc.)
- 10) Closure

Appendix:

Appendix 1) Meeting slides presented by S. Ritter*

Appendix 2) Winter school slides presented by L. Martinelli*

Appendix 3) NuCoSS-19 slides presented by B. Zajec*

Appendix 4) 7th LTC WS slides presented by D. Féron*

**) Document available only on the private space of the EFC WP 4 website, for WP 4 members only.*

1. Opening of the meeting, apologies for absences, approval of the agenda

S. Ritter opened the Fall Meeting and thanked the audience for coming. The agenda was presented and has been approved (see above and Appendix 1).

2. EFC WP 4 prize award ceremony

The ceremony began with the two prizes that are given during each EUROCORR: a poster prize (all posters are candidates for the prize) and an oral prize given for a young researcher (below 35 years) who submitted a full paper for the proceedings of the conference. This year 13 posters and 5 orals were in competition for the poster and the oral prizes, respectively. S. Ritter proposed to enlarge the oral prize eligibility criterion to young scientists who submit either an extended abstract (new option from next year on) or a full paper to the proceedings. This proposal has been accepted by the audience.

Each prize included a diploma, a box of Swiss chocolate, a book sponsored by CEA and a knife-set sponsored by Cormet. The juries for these two prizes are composed of WP 4 members and the WP 4 leadership.

The best oral presentation award has been attributed to Annesha Das (Homi Bhabha National Institute, Mumbai, India) for her presentation on the “Effect of surface preparation on oxidation of austenitic SS 304L in high temperature water”.

The best poster presentation award has been attributed to Sriharitha Rowthu (Paul Scherrer Institute, Switzerland) for her poster on the “Assessment of the Pt nanoparticle distribution on oxidized stainless steel surfaces by electrochemical techniques”.

WP4's honorary award, the Henri Coriou Medal, that is given every year to an expert, recognized in the nuclear corrosion field, has already been handed over earlier this year at the occasion of the Nuclear Corrosion Summer School in Slovenia. The jury, composed of the Chairman and the Vice-Chairman of the EFC WP4 and three members nominated during the Fall Meeting of the EFC WP4 (the year before the prize is awarded), has selected Hans-Peter Seifert (Paul Scherrer Institute, Switzerland). Together with the medal, also a diploma and a book ("Stress corrosion cracking of Ni-based alloys in water cooled reactors – the Coriou effects"), all sponsored by CEA, were given to Hans-Peter Seifert.

3. Approval of the minutes of the 2018 Fall Meeting in Krakow

No comments were received and no corrections have been asked for. Therefore, the 2018 minutes were approved by all.

4. EFC WP 4 internal matters

S. Ritter explained the rules for being WP 4 member (= delegates nominated by the EFC member societies and individuals nominated by the Chairman) or "friend" (= those who are interested in the WP but not member of an EFC member society and not nominated by the Chairman). He also asked all attendees to check the attendee and membership list, which circulated in the meeting room.

S. Ritter reminded the WP 4 objectives for the 2018-2020 period, which are the following:

- To provide links between European teams and EU-funded programs in the nuclear corrosion field, with an opening on to the world.
- To initiate and stimulate opportunities of exchange of scientific and technical subjects related to nuclear corrosion, particularly on today's main nuclear research areas (waste systems, water reactors, generation IV and fusion reactors).
- To promote corrosion science and technical developments through events such as seminars, workshops, publications, etc.

Then S. Ritter proposed to extend the eligible candidates for the Coriou prize to EFC Board of Administrator members. D. Féron preferred not to change the rules in order to avoid the possibility of being judge and judged. Therefore it has been decided not to change the rules. The jury for the next Coriou award, proposed by S. Ritter, will be the Chair, Vice-Chair, D. Féron (EFC past president, WCO president), the 2019 winner (H.P. Seifert) and Ch. Lilja. The assembly approved the proposed persons. Everyone can nominate candidates (persons or groups) for the 2020 Henri Coriou Award until February 28.

The proposal made by D. Féron during the 2018 Fall Meeting to give two Coriou Medals in 2020, one "regular" and one for an active member of the ICG-EAC (as the meeting takes place in Europe in 2020), was approved.

5. EFC WP 4 publications

An EFC "green book" based on the 50 years WP4 anniversary workshop (held during EUROCORR 2017) is still under preparation. Only few chapters are missing and it is expected that the book will be published before EUROCORR 2020. Because the author of the Zircaloy chapter failed to deliver, L.

Martinelli will ask one person at CEA if he can “jump in”. In case this would not be possible, R. Rebak proposed to ask someone at GE. *(Update: Marc Tupin (CEA) has submitted this chapter.)*

Then S. Ritter suggested to publish the best papers from next year’s special session (EAC initiation) as a special issue in a journal and asked for volunteers to take the lead and for other suggestions for any publications. Unfortunately no comments or ideas were received.

6. EFC WP 4 past events

S. Ritter mentioned two great events, which were co-organised by WP 4 in 2019:

- Winter School on “Modelling of Corrosion”, January 28 – February 1, 2019, at CEA Saclay, France. L. Martinelli summarized: This winter school focused on multi-scale modelling of corrosion and was a combination between courses in the morning and demonstrations or computer tutorials in the afternoon. It has been organised by D. Féron (CEA Saclay), L. Martinelli (CEA Saclay) and C. Meis (INSTN) and was a great success with many attendees (see Appendix 2).
- The 2nd edition of the Nuclear Corrosion Summer School “NuCoSS-19”, July 7 – 12, 2019, Gozd Martuljek, Slovenia. B. Zajec summarized: This summer school has been organised by the European H2020 research project MEACTOS (Mitigating Environmentally-Assisted Cracking Through Optimization of Surface Condition, <https://meactos.eu/>) and the WP 4. Fifty participants attended these lectures including teachers. The EFC sponsored 3 grants for students waiving the full registration fee for them. All participants enjoyed the excellent lectures and social activities (see Appendix 3).

7. EFC WP 4 future events (other than EUROCORRs)

S. Ritter listed a future event which is co-organized by WP 4 and D. Féron showed some slides: 7th Int. WS on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems (LTC 2019), November 19 – 21, 2019, in Nancy, France. The proceedings will probably be published in the CEST journal or in a green book. D. Féron also presented some new regulations for the series of LTC WSs which also involves the WP 4 (by approving the chairman of LTC’s int. scientific committee and the location and organiser of the LTC WS). Those rules were approved by the WP 4 and will be decided during the 7th LTC WS (see Appendix 4).

8. EUROCORRs

S. Ritter presented some facts for EUROCORR 2019. He underlined the very reasonable attendance during the nuclear corrosion (sub-)sessions (36 – 60 persons) and the large number of presentations: 46 oral presentations and 13 posters! The only negative point was that we had two “no-shows” during one sub-session.

Then S. Ritter reminded on the future EUROCORRs:

- EUROCORR 2020, September 6 – 10, 2020, Brussels, Belgium: There will be the regular nuclear corrosion session and a special joint session on EAC initiation in co-operation with the MEACTOS H2020 project, WP 5 (Environment Sensitive Fracture) and WP 22 (Aerospace).
- EUROCORR 2021, September 19 – 23, 2021, Budapest, Hungary: Regular nuclear corrosion session and special joint session on corrosion in molten salts and ionic liquids for energy applications in co-operation with WP 3 (Corrosion by Hot Gases and Combustion Products).

- EUROCORR 2022, September 9 – 13, 2022, Berlin, Germany: Regular nuclear corrosion session and eventually a special session on corrosion issues during decommissioning (suggested by T. Yonezawa).

9. Any other business

S. Ritter presented the WP4 website: www.efcweb.org/WP4 and reminded people to pass by there from time to time to get the latest information and news on WP 4 activities.

S. Ritter announced that the next WP meeting will be the Fall Meeting in Brussels during EUROCORR 2020.

Finally he reminded that there is a possibility of asking for some money from the EFC to support WP 4 activities (e.g., WP meetings, grants, support of the young colleagues, etc.). Any ideas are always very welcome!

10. Closure

As no other point was raised, the meeting was closed. S. Ritter thanked the assembly for attending the meeting and for their support of the WP 4 activities. Again he animated the audience to further participate in the WP4 activities and to send any wishes, suggestions or ideas to the Chair or Vice-Chair.



Fall Business Meeting of the EFC Working Party 4 'Nuclear Corrosion'

September 12, 2019, 16:50 – 17:50

Meeting Room Espana 1 +2, Seville, Spain



Agenda

- 1) Opening of the meeting, apologies for absences, approval of the agenda
- 2) EFC WP4 awards ceremony (poster and oral prizes)
- 3) Approval of the minutes of the 2018 Fall Meeting (in Krakow)
- 4) EFC WP4 internal matters
- 5) EFC WP4 publications
- 6) EFC WP4 past events
- 7) EFC WP4 future events
- 8) EUROCORR's
- 9) Any other business (website, next meeting, EU-projects, etc.)
- 10) Closure

1) Opening

- Welcome
- Appologies received from:
Catherine Guerre (CEA), Jan Macak (UCT Prague), Hans-Peter Seifert (PSI), Stuart Lyon (Uni. Manchester), Christina Lilja (SKB)
- Approval of the meeting agenda

12 September 2019

EFC-WP4 Fall Meeting 2019

3

2) Oral & poster prize ceremony

- Best oral presentation award 2019 (in recognition of the excellence of the contribution to the oral sessions of the WP4):



- Best poster presentation award 2019 (in recognition of the excellence of the contribution to the poster session of the WP4):



12 September 2019

EFC-WP4 Fall Meeting 2019

4

Oral prize winner 2019

Effect of surface preparation on oxidation of austenitic SS 304L in high temperature water

Annesha DAS¹, Supratik ROYCHOWDHURY², Vivekanand KAIN³

¹Homi Bhabha National Institute, Mumbai, India, anneshad@barc.gov.in

²Materials Processing & Corrosion Engineering Division, Bhabha Atomic Research Centre, Mumbai, India, supratik@barc.gov.in

³Materials Processing & Corrosion Engineering Division, Bhabha Atomic Research Centre, Mumbai, India, vivkain@barc.gov.in

Annesha Das,
Homi Bhabha National
Institute, Mumbai, India

Effect of surface preparation
on oxidation of austenitic SS
304L in high temperature
water

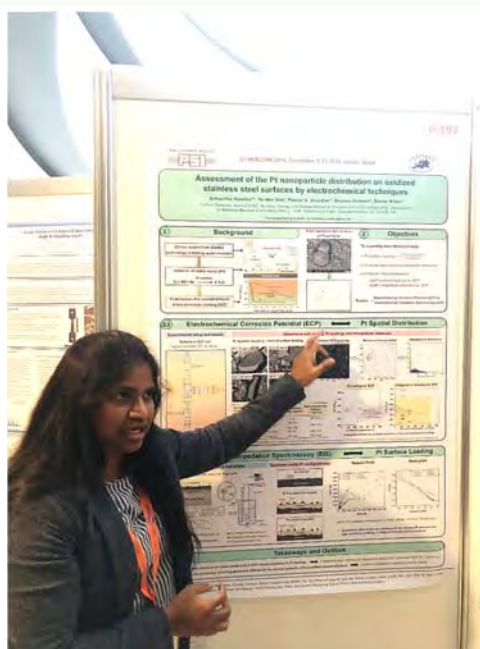
Abstract

Oxide passive film formed on austenitic stainless steel exposed to high temperature high pressure (HTHP) water simulating light water reactor (LWR) conditions have been widely investigated for their electronic properties, morphology and chemical composition. The effects of surface finishing operations (machining, milling, grinding, electropolishing, mechanical grinding by emery paper and diamond polishing) on these oxides formed in different HTHP water chemistries have been characterised for differences in oxide film thickness, chromium content and film resistance (to breakdown) due to difference in surface and sub-surface deformations developed as a result of these operations. The nature of oxides formed on surface machined specimens in HTHP water have been reported to be either protective (higher chromium content in inner layer due to enhanced chromium diffusion possibly making it more impervious and protective) or non-protective (nonuniform, porous and thick oxides over machined surfaces anticipated to facilitate rupture under stress). Chromium enrichment in oxides was reported to have formed over electropolished surfaces, thus forming a better protective oxide. Thus, a consensus over the effect of surface working on the protective nature of the oxide formed in HTHP water on austenitic stainless steel is lacking. Also, few studies have compared effect of surface working during long term HTHP water exposures on the oxide film development and its properties.

Poster prize winner 2019

Sriharitha Rowthu
Paul Scherrer Institute, Switzerland

Assessment of the Pt nanoparticle
distribution on oxidized stainless
steel surfaces by electrochemical
techniques



2) 2019 Coriou Award

- The Jury has selected **Hans-Peter Seifert** in recognition of the outstanding contributions to corrosion science and engineering in the nuclear field.
- The medal has been awarded during NuCoSS-19 in Slovenia on July 9.



The sponsoring of the medal & book by CEA is gratefully acknowledged!

12 September 2019

EFC-WP4 Fall Meeting 2019

7

3) Approval of the minutes of the 2018 Fall Meeting (in Krakow)

- Approval? → [2018 minutes](#)

12 September 2019

EFC-WP4 Fall Meeting 2019

8

4) EFC WP4 internal matters

- Members and “friends”

Please check or add your name/address on the attendee list!

- WP4 objectives 2018 – 2020 (*approved in 2017*):

- To provide links between European teams and EU-funded programs in the nuclear corrosion field, with an opening on to the world.
- To initiate and stimulate opportunities of exchange of scientific and technical subjects related to nuclear corrosion, particularly on today's main nuclear research areas (waste systems, water reactors, generation IV and fusion reactors).
- To promote corrosion science and technical developments through events such as seminars, workshops, publications, etc.

4) EFC WP4 internal matters (cont'd)

- WP4 awards:

- Adjustment of the prize rules?
 - → [Oral](#): add “extended abstract”?
 - → [Poster](#): no change?
 - → [Coriou](#): “Serving members of the ~~EFC Board of Administrators~~, the Chairman of the Science and Technology Advisory Committee (STAC), the Chairman, the Vice-Chairman and the Secretary of the EFC WP4 are not eligible to be awarded the Honorary Medal of the EFC WP4.”
- Jury for the 2019 Henri Coriou Award: Chair, Vice-Chair, J. Stairmand, Ch. Lilja, D. Féron
- Jury for the 2019 poster prize: Vice-Chair, T. Yonezawa, C. Örnek (Young EFC)
- Jury for the 2019 oral prize: Chair, Vice-Chair, R. Rebak, M. Le Flem, T. Prosek
- Jury for the **2020** Henri Coriou Award: Chair, Vice-Chair, 2019 winner (H.P. Seifert), Ch. Lilja, **1 more needed!**
- How about giving two awards for 2020, one “regular” plus one among the ICG-EAC (2020 meeting in Europe)?
- **Please nominate candidates (persons or groups) for the 2020 Henri Coriou Award until February 28!**

5) EFC WP4 publications



- Books & special issues published or under publication:
 - EFC Green Book based on the 50 years WP4 anniversary WS: 1 chapter still missing and 1 still under review; it is expected to be submitted to the publisher in November 2019; issued around mid 2020.
- Future publications:
 - Special issue on next year's special session on EAC initiation? **Volunteers needed!**
 - Any other suggestions, ideas?

5) EFC WP4 publications (cont'd)

EFC 'Green Book': 50 Years of (EFC Working Party) Nuclear Corrosion – a Review

Status: Chapters are almost complete; publication expected around mid-2020.

Content:

1. Fifty years of nuclear corrosion: from a pioneer period to a mature industry and science, Damien Féron, CEA, France
2. Environmentally-assisted cracking of stainless steels in LWRs, Ulla Ehrnstén, VTT, Finland
3. Irradiation-assisted stress corrosion cracking in LWRs, Gary Was, University of Michigan, USA
4. Environmentally-assisted cracking of nickel-base alloys in LWRs, Lola Gomez Briceno, CIEMAT, Spain
5. Environmentally-assisted cracking of carbon and low-alloy steels in LWRs, Hans-Peter Seifert, PSI, Switzerland
- ~~6. Corrosion of Zirconium alloys in LWRs effect of Sn, Michael Prauss, University of Manchester, UK~~
- ~~7. Microbiological-induced corrosion in nuclear power plants – an underestimated interactive material and environment process, Renate Kilian, Framatome GmbH, Germany~~
8. Flow-accelerated corrosion in PWR secondary circuits, Elodie Gipon, Stéphane Trevin, EdF, France
9. Corrosion issues for spent nuclear fuel reprocessing, Pierre Laghoutaris, N. Gruet, B. Gwinner, R. Robin, F. Balbaud, P. Fauvet, CEA, France
10. Corrosion of radioactive waste containers, Cristiano Padovani, Wood plc
11. The corrosion of radioactive waste disposal canisters based on in-situ tests, Nikitas Diomidis, NAGRA, Switzerland & Fraser King, Integrity Corrosion Consulting, Canada
12. Copper behaviour in geological nuclear waste disposals, Hannu Hänninen, Aalto University, Finland
13. Corrosion issues in supercritical water-cooled reactors, Radek Novotny, Joint Research Centre Petten, The Netherlands
14. Corrosion issues of structural materials by liquid metals in fusion, fission and spallation reactors, Damien Féron, Jean-Louis Courouau, CEA, France



6) EFC WP4 past events

- Winter School on “Modelling of Corrosion”, January 28 – February 1, 2019, CEA-Saclay, France → [Laure](#)
- 2nd edition of the Nuclear Corrosion Summer School ‘NuCoSS-19’, July 7 – 12, 2019, Gozd Martuljek (close to Kranjska Gora), Slovenia → [Bojan](#)

7) EFC WP4 future events (other than EUROCORRs)

- 7th Int. WS on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems (LTC 2019), November 19 – 21, 2019, Nancy, France → [Damien](#)
- Other events:
 - ?

8) EUROCORRs

- EUROCORR 2019
 - Excellent Nuclear Corrosion session: 46 oral presentations + 13 posters (= 59 pres.)
 - Sessions were mostly running smoothly (but 2 “no shows”) and were well attended (36 – 60 persons)
- EUROCORR 2020, September 6 – 10, 2020, Brussels
 - Regular nuclear corrosion session
 - Joint session on EAC initiation in coop. with MEACTOS (H2020 project), WP5 & WP22
- EUROCORR 2021, September 19 – 23, 2021, Budapest, Hungary
 - Regular nuclear corrosion session + HT corrosion in energy generation
- EUROCORR 2022, September 9 – 13, 2022, Berlin, Germany
 - Regular nuclear corrosion session + Corrosion issues during decommissioning? (suggestion by T. Yonezawa)

9) Any other business

- WP4 website → www.efcweb.org/WP4
- Related H2020 EU-projects:
 - MEACTOS (www.meactos.eu)
 - INCEFA+ (www.incefaplus.unican.es)
 - SOTERIA (www.soteria-project.eu) *finished!*
- Next WP4 meeting:
 - Fall meeting during EUROCORR 2020
 - Spring meeting?
- We could (should) apply for small financial support from the EFC (e.g., for WP meetings, grants, support of young folks, etc.)
- Anything else?



10) Closure

Thank you for attending and for your support!

**Any ideas, suggestions or contributions are
very welcome! Please contact
Stefan (stefan.ritter@psi.ch) or
Laure (laure.martinelli@cea.fr).**

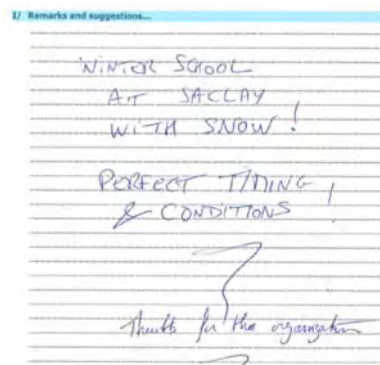
Hope to see you in Brussels next year!

Appendix 2



4th international school on corrosion modelling - January 28th to February 1st, 2019- CEA Saclay France

- This winter school focused on multi-scale modelling of corrosion: combination between courses in the morning and demonstrations or computer tutorials in the afternoon.
- The program included: atomistic and molecular simulation, the modelling of passivation and depassivation, the modelling of atmospheric corrosion and high temperature corrosion, galvanic corrosion and cathodic protection, models & simulations for damage prediction and safety
- The **speakers** were experts in modelling and in corrosion phenomena, coming from France with CEA Saclay, University of Burgundy and ChimieParisTech, from USA with Berkeley and Penn State Universities, and from Japan with Tohoku University.
- The **attendees**: 35 registered - limited number by computer stations available-; two thirds were French and the last third gathered Korean, Japanese, and Europeans people.
- This school was supported by the EFC (European Corrosion Federation) and the World Corrosion Organization (WCO) and organised by D. Féron (EFC Past-President and WCO Vice-President, CEA Saclay), L. Martinelli (Vice-Chair of EFC-WP4, CEA Saclay) and C. Meis (Head of the MSE chair, INSTN)



Very good feedback:
evaluation questionnaire
shows 100% satisfaction



General data:

- 37 attendees (25 students / 12 non-students) [max. capacity]
- 13 lecturers
- Major topics that were covered:
 - Electrochemistry & corrosion
 - General overview on nuclear corrosion
 - Corrosion in LWR plants
 - Corrosion in nuclear waste disposals
 - Corrosion in Gen-IV systems
 - Exercises (hands-on experiments)

Fee: 990€ / 710€ (non-student / student). All inclusive

Three student grants from EFC (3x 710€), sponsorship from Cormet and IPS (1500€)

Morning & afternoon lecture sections → free time for various (organized) activities after the lunch

Attendees by country & institution

Country	Institution	# of attendees	
Belgium	SCK•CEN	1	
Canada	Western University	1	
Czech Republic	CVŘ	2	
Finland	VTT	1	
France	CEA	5	
Germany	GRS gGmbH	1	
Israel	NRCN	1	
Romania	RATEN-ICN	1	
South Korea	KAIST	2	KR 3
South Korea	KEPCO E&C	1	
Spain	CIEMAT	2	
Sweden	KTH	1	
Switzerland	NPP Leibstadt	1	CH 4
Switzerland	PSI	3	
UK	Lancaster University	2	
UK	NNL	1	
UK	The University Of Manchester	7	UK 13
UK	University of Bristol	2	
UK	University of Sheffield	1	
USA	Missouri University of Science and Technology	1	

Female/male: 13/24

Lecturers

Name	Last name	Institution	Country
Fabio	Scenini	The University Of Manchester	UK
Dirk	Engelberg	The University Of Manchester	UK
Damien	Féron	CEA	France
Hans-Peter	Seifert	PSI	Switzerland
Renate	Kilian	Framatome GmbH	Germany
Elodie	Gipon	EDF	France
Stefan	Ritter	PSI	Switzerland
Rik-Wouter	Bosch	SCK•CEN	Belgium
Pål	Efsing	Vattenfall	Sweden
Jamie	Noël	Western University	Canada
Laure	Martinelli	CEA	France
Peter	Schrems	IPS	Germany

Local organizing team:			
Bojan	Zajec	ZAG (Slovenian National Building and Civil Engineering Institute)	Slovenia
Tadeja	Kosec	ZAG	Slovenia
Andraž	Legat	ZAG	Slovenia

Group photo in front of the hotel

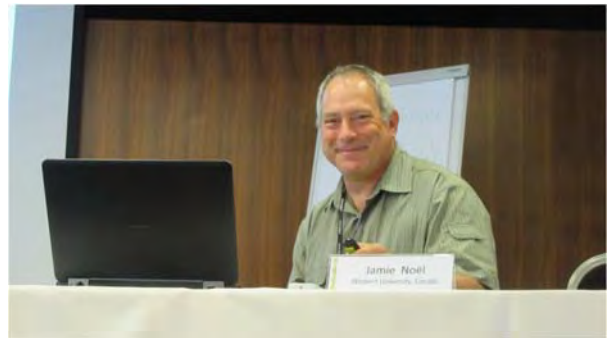


5

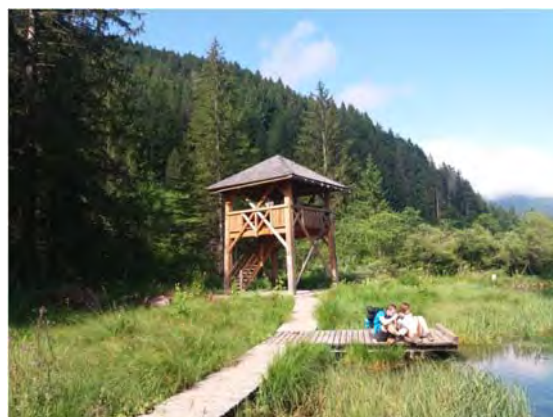
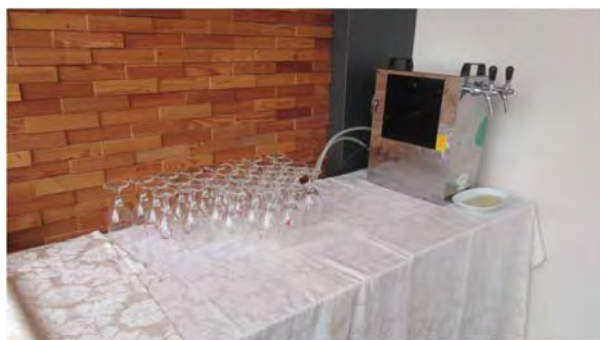
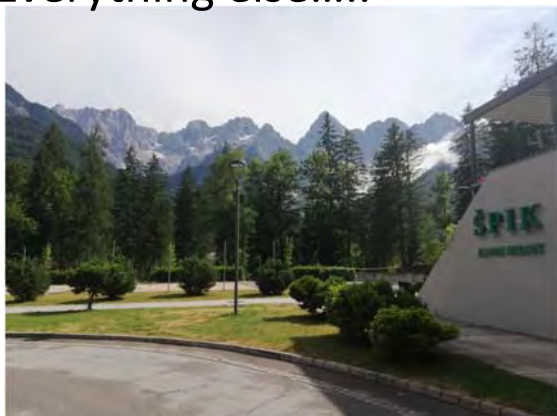
Lectures & science







Everything else.....









LTC 2019



DE LA RECHERCHE À L'INDUSTRIE

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

Nancy, France / November 19-21, 2019

Fall business meeting of the EFC Working Party 4 « Nuclear Corrosion », September 12, 2019 – Seville (Spain)

Damien Féron – damien.feron@cea.fr

Commissariat à l'énergie atomique et aux énergies alternatives - www.cea.fr

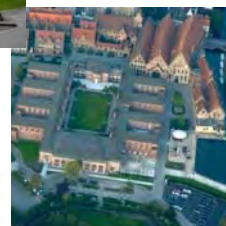


International Workshops on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems

LongTermCorr / LTC workshops founded by Digby Macdonald & Damien Féron

EFC WP4 events

- 2001: Cadarache, France – EFC event N°256
- 2004: Nice, France – session during Eurocorr 2004
- 2007: Penn state University, USA – EFC event N°301
- 2010: Bruges, Belgium – EFC event N°329
- 2013: Asahikawa, Japan - EFC event N°360
- 2016: Toronto, Canada – EFC event N°403
- 2019: Nancy, France – EFC event N°443



LTC 2019

NANCY, France

November 19-21, 2019

First Circular

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

Sponsors:



Supported by:



EFC event N°443

Organised by: **CEFRACOR**

Program

The scope of the program will cover all areas related to the corrosion behaviour of materials in nuclear waste storage and disposal facilities, including:

- National programs
- LLW and HLW/SF containers
- Storage and disposal
- Experimental studies
- Lifetime predictions and performance assessment
- Large-scale tests
- Archaeological analogs
- Regulatory perspectives

The technical program will consist of oral presentations and poster sessions.

Abstracts

Abstracts (maximum 2 pages, including figures and references) should be submitted via the conference website.

A template for the submission of abstracts is available on the website.

Submissions from students are particularly welcome and there will be a prize for the best student poster.



Proceedings

The workshop proceedings will be published after the meeting. Details about submission of papers, the review process, etc. will appear on the website.

Venue NANCY, France



Travel

Nancy is located on a crossroads, which connects to Paris, Strasbourg, Brussels and Lyon, and is easily accessible by car, train, plane, coach... and even boat!

Nancy is located at 1h30 from Paris by TGV (rapid trains)

Information on transportation and accommodation in Nancy are provided on the website.

Those who will require travel visas to enter France should request a letter of invitation and allow sufficient time for visa processing. Details are provided on the website.

Scientific and Organizing Committee

International members

AHN Tea, U.S. NRC, USA (to be confirmed)
DIOMIDIS Nikitas, NAGRA, Switzerland
KURSTEN Bruno, SCK-CEN, Belgium
HAN En-Hou, IMR, China,
KEECH Peter, NWMO, Canada
KOBAYASHI Masato, RWMFRC, Japan
LILJA Christina, SKB, Sweden,
MACDONALD Digby, U.C. Berkley, USA
PADOVANI Cristiano, Wood, UK

French members

CRUSSET Didier, Andra
DEYDIER Valérie, Andra
NECIB Sophia, Andra
FERON Damien, CEA
MARCUS Philippe, CEFRACOR & ENSCP
LANARDE Lise, CEFRACOR

Technical Tour

Two visits of the Bure underground laboratory of Andra are planned before and after the workshop: Monday, November 18 and Friday, November 22. The number of visitors is limited to 27 persons for each visit.

Registration

The early-bird registration fee is 650€ (750€ after July 2019), 325€ for students (350€ after July 2019), VAT included.

Registration includes access to all sessions, daily lunches & coffee breaks, the workshop dinner and the technical tour (limited number of places)

Payment details are on the website.

Key Dates

Abstract submission closed	May 2019
Author notification	July 2019
Early-bird deadline	July 2019
Abstract submission for posters	Open - October 2019
Workshop	November 19-21 2019
Papers for the proceedings	February 2020

Website

For all details go to:

<https://www.cefracor.org/fr/manifestations/7th-international-workshop-long-term-prediction-corrosion-damage-nuclear-waste>
(Workshop schedule available on the webpage)

Contacts

Enquiries Related to Technical Issues

Damien FERON, CEA

damien.feron@cea.fr

Valérie DEYDIER & Sophia NECIB, Andra

valerie.deydier@andra.fr

sophia.necib@andra.fr

Enquiries Related to Registration, Travel & Accommodation

Lise LANARDE, CEFRACOR

secretairegeneral@cefracor.org





LTC 2019

NANCY, France

November 19-21, 2019

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

Provisional program

Monday (18 Nov.)

Visit of the underground laboratory (27 people max.)

Tuesday (18 Nov.):

Session 1 "Nationals programs overview"

Session 2 "Carbon steel"

Poster session

Wednesday (19 Nov.):

Session 2 "Carbon steel"

Session 3 "Copper"

Workshop dinner

Thursday (20 Nov.)

Session 4 "copper, steels, alloys & coatings"

Session 5 "monitoring, modelling & design"

Friday (21 Nov.)

Visit of the underground laboratory (27 people max.)

Few generalities regarding the LTC international scientific committee and the decision of the next LTC workshops

1- The International Scientific Committee (ISC) of the 7th International Workshop on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems (LTC 2019) is composed of:

- Digby MacDonald (U. Berkeley, USA) and Damien Féron (CEA, France) as founders.
- Tea Ahn (US NRC) USA, Valérie Deydier (Andra, France), Nitikas Diomidis (Nagra Switzerland), Bruno Kusten (SCK-CEN, Belgium), En-Hou Han (IMR, China), Peter Keech (NWCO, Canada), Masato Kobayashi (RWMFC, Japan), Christina Lilja (SKB, Sweden), Cristiano Padovani (Wood, UK).
- The committee is chaired by Damien Féron.

2- Evolution of the International Scientific Committee (ISC) of the International Workshops on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems:

- If one individual ISC member resigns, he may propose a name to replace him.
- The employer of ISC members may also propose a name to replace his employee.
- The European ISC members need to be EFC members.
- The number of individuals is limited to 12 members.
- The proposed name of new ISC member needs to be approved by 2/3 of the ISC to become ISC member.
- The chairman of the LTC ISC needs to be an EFC Member, assumes the links with EFC WP4, asks for future locations and organisers of the workshops and organises during each workshop a face-to-face meeting of the ISC.
- The chairman of the LTC ISC is proposed by the LTC members and approved by the EFC WP4.

3- The location and organisers of the next LTC workshop:

- is proposed by the International Scientific Committee (ISC).
- Ideally the decision is taken by the ISC during a current LTC for the next one and unanimously. If there is no unanimity, the decision is taken by the majority of the ISC members.
- The proposal location and organisers are submitted to the EFC WP4 for acceptance.
- If EFC WP4 does not agree with the initial proposal, the ISC is invited to propose a new location and organiser.

6- The LTC workshops are EFC events. The organisers of the future LTC ask for an EFC event number and follow the rules of these events.



THE WORLD
CORROSION
ORGANIZATION

April 24th – Corrosion Awareness Day



Thank you for your attention

Commissariat à l'énergie atomique et aux énergies alternatives - www.cea.fr