

Minutes

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

September 12, 2018

Krakow Congress Centre, Krakow, Poland

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 (23):

Vaclav Bystriansky (UCT Prague), Nikitas Diomidis (NAGRA), Dirk Engelberg (Univ. Manchester), Damien Féron (CEA), Hannu Hänninen (Aalto Univ.), En-Hou Han (IMR), M. Hanafi (IIUM), Renata Latypova (Univ. Oulu), Christina Lilja (SKB), Tom Majchrowski (NDA), Laure Martinelli (CEA), Yamamoto Moshino (JAEA), Michal Novak (UCT Prague), Raul Rebak (GE-GRC), Stefan Ritter (PSI), Petr Sajdl (UCT Prague), Michel Schlegel (CEA), Sato Tomonori (JAEA), Aleksandra Treichel (PSI), Kamila Wilczynska (CEA), Toshio Yonezawa (Tohoku Univ.), Kaji Yoshiyuki (JAEA), Bojan Zajec (ZAG)

Apologies for absence received from:

Walter Bogaerts (KU Leuven), Séverine De Vroey (Engie), Catherine Guerre (CEA), Renate Kilian (Framatome GmbH), Stuart Lyon (Univ. Manchester), Jan Macak (UCT Prague), Hans-Peter Seifert (PSI)

Agenda:

- 1) Opening of the meeting, apologies for absences, approval of the agenda
- 2) EFC WP4 prize award ceremony
- 3) Approval of the minutes of the 2017 Fall Meeting (in Prague)
- 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

Annex:

Annex 1) Meeting slides presented by S. Ritter*

Annex 2) NuCoSS-19 slides*

**) Document available only on the private space of the EFC WP4 website, for WP4 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 by all (see above and Annex 1).

2. EFC WP4 prize award ceremony

The ceremony began with the Henrie Coriou Award given every year to a corrosion expert especially recognized in the field of nuclear corrosion. The Jury, composed of the Chairman and Vice-Chairman of the EFC WP4 and three members nominated during the Fall Meeting of the EFC WP4 (the year before the Honorary Medal is awarded) has selected Dr. Gérard Pinard Legry (France) in recognition of the outstanding contributions to corrosion science and engineering in the nuclear field. Due to the absence of Dr. Pinard Legry, the Medal will be awarded at the CEFACOR General Assembly in Paris, on September 21 by Damien Féron. The Medal is sponsored by CEA.

Then S. Ritter and L. Martinelli continued with the award ceremony of the two other prizes given during each EUROCORR. Each prize included a diploma, a book sponsored by CEA and a knife sponsored by Cormet (as well as some excellent Swiss chocolate). The Juries for these prizes are composed of WP4 members, a member of the Young EFC, and the WP 4 Chair & Vice-Chair. To be eligible for the oral prize a full paper needed to be included in the conference proceedings:

- The best oral presentation award has been attributed to Kamila Wilczynska (CEA & INP Grenoble, France) for her presentation on "Simulation of C-Ring, O-Ring and tensile ring specimens for iodine induced SCC experiments on zirconium alloy".
- The Best poster presentation award has been assigned to Sato Tomonori (Japan Atomic Energy Agency, Japan) for his poster on the "Investigation of the effects of irradiation on corrosive environments using in-situ electrochemical measurements during gamma-ray irradiation".

- Moreover, a special poster prize has been awarded to Joakim Halldin Stenlid (Fysikum, Stockholm University, Sweden) for his poster on “Modelling the electrochemical interface by DFT – The case of aqueous copper corrosion”. This poster was clearly related to nuclear corrosion, but not registered under WP4, and finished in the top 5 of the overall EFC poster prize competition. For this reason, WP4 decided to congratulate Joakim Halldin Stenlid adding a special prize.

Finally, a discussion came up about possible reasons that only few persons registered for the oral prize in advance (4 candidates for the oral prizes). S. Ritter proposed to further improve the communication activity about those WP4 prizes for future EUROCORRS (e.g., to add the prize rules to the EUROCORR website).

3. Approval of the minutes of the Prague meeting 2017

No comments were received and no corrections have been asked for. Therefore, the 2017 minutes were approved by all.

4. EFC WP4 internal matters

S. Ritter explained the rules for being WP4 member (= delegates nominated by the EFC member societies and individuals nominated by the Chairman) or “friend” (= those who are interested by the WP but not member of an EFC member society and not nominated by the Chairman). He also asked all attendees to check and sign the membership list, which circulated in the meeting room.

S. Ritter reminded the WP4 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.

S. Ritter proposed that the Jury for the 2019 Coriou Award would consist of the Chair, Vice-Chair, the 2018 Coriou winner (G. Pinard Legry), Damien Féron (EFC past president) and Christina Lilja (SKB; she served already in 2018 as Jury member). In case G. Pinard Legry would not be willing to act as Jury member, S. Ritter would nominate a suitable replacement. The assembly approved this proposal.

D. Féron proposed that in 2020, when the annual meeting of the ICG-EAC (International Cooperative Group on Environmentally-Assisted Cracking of Water Reactor Materials) will take place in Europe, two medals could be awarded: the “regular” one and one at the ICG-EAC meeting to one of its members. The idea was well received and the final decision will be made during the 2019 Fall Meeting. The discussion then shifted towards the selection criteria for the Coriou Medal: it was mentioned that it is given to exceptionally recognized experts or groups in the field of nuclear corrosion and that also younger persons, who are not yet in the retirement age, should be considered (for those the Award might still have a small impact on their career). It was also added that not only Europeans can be selected as winners.

5. EFC WP4 publications

On behalf of the EFC WP4, two special issues were published in the "Corrosion engineering, science and technology" journal:

- LongTermCorr 2016: published online on August 23, 'open access' in: Corrosion Engineering, Science and Technology, 2017, Vol. 52, No. S1, 1, <https://doi.org/10.1080/1478422X.2017.1344415>
- Special issue on 'Corrosion of Nuclear Materials', consisting of 8 papers from the Nuclear Corrosion sessions of EUROCORR 2015 & 2016 in: Corrosion Engineering Science and Technology, 2017, Vol. 52, No. 8, <https://doi.org/10.1080/1478422X.2017.1388591> + 1 paper in CEST, 2018, Vol. 53, No. 1 (by D. Tice)

An EFC "green book" based on the 50 years WP4 anniversary workshop (held during EUROCORR 2017) is under preparation. If all the chapters could be finalized before February 2019, the book could be issued before EUROCORR 2019.

S. Ritter asked for other suggestions for any publications, but no comment or ideas were received.

6. EFC WP4 past events

S. Ritter looked back to EUROCORR/ICC 2017, where WP4 organized the 50 years WP4 anniversary workshop in which nine very interesting lectures were given, covering most aspects of nuclear corrosion:

- General overview/history, D. Féron (CEA)
- EAC in stainless steels, U. Ehrnstén (VTT)
- EAC in Ni-base alloys, D. Gomez-Briceno (Ciemat)
- EAC of C & LAS, H.P. Seifert (PSI)
- Cu behaviour in nuclear waste disposal, H. Hänninen (Aalto Uni.)
- Modelling of corrosion in nuclear waste containers, C. Padovani (Wood)
- FAC in PWRs, S. Trevin
- Corrosion in Zr alloys, M. Preuss (Uni. Manchester)
- Corrosion in supercritical water reactors, R. Novotny (JRC)

7. EFC WP4 future events (other than EUROCORRs)

Other WP4 co-organized future events dedicated to corrosion and nuclear systems were presented:

- A winter school dedicated to "Modelling of corrosion" (not only nuclear corrosion) is organized by CEA (D. Féron, C. Meis, L. Martinelli) on January 28 – February 1, 2019. Deadline for registration is November 30. The location will be France at CEA-Saclay (close to Paris).
- The 2nd edition of the Nuclear Corrosion Summer School 'NuCoSS-19' will be co-organized by WP4 in co-operation with the H2020 project MEACTOS. The date is July 7 – 12, 2019 (the 1st edition was in 2015). It will take place in Slovenia, similar to the 1st edition, but in a different area (close to Kranjska Gora).
- A workshop is organized by D. Féron (et al.): 7th Int. WS on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems (LTC 2019), in November 19 – 21, 2019, in Nancy, France. Proceedings will be published in CEST or in a green book.

S. Ritter proudly announced that the EFC is sponsoring three student grants, worth 2000.- € (in total), for NuCoSS-19. Students can apply for those grants via the NuCoSS-19 website until January 31, 2019.

8. EUROCORRs

S. Ritter summarized some facts of EUROCORR 2018. He underlined the very reasonable number of attendees during the many nuclear corrosion (sub-)sessions (25 – 50 persons) and the very good level of presentations constituted of 38 oral presentations and 4 posters.

Then S. Ritter went over to future EUROCORRs:

- EUROCORR 2019, September 9 – 13, 2019, Seville, Spain: So far “only” the regular nuclear corrosion session is planned. S. Ritter asked all to propose ideas for a special session/workshop (e.g., on EAF, Gen IV, etc.). Ideas for proposals will still be accepted until early October. S. Ritter promised to ask the H2020 INCEFA+ project leader if they might be interested (*update: no interest*).
- EUROCORR 2020, September 6 – 10, 2020, Brussels, Belgium: There will be the regular nuclear corrosion session and a workshop on EAC initiation in co-operation with the MEACTOS H2020 project and WP5 (Environment Sensitive Fracture).
- EUROCORR 2021, September 19 – 23, 2021, Budapest, Hungary.

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 WP4 activities. In this context D. Féron announced that the whole EFC website will be modernized probably in 2019, including some social media presence. Quite some discussions occur on this topic.

Thereafter some WP4-related H2020 EU-projects were mentioned:

- MEACTOS (www.meactos.eu)
- INCEFA+ (www.incefaplus.unican.es)
- SOTERIA (www.soteria-project.eu)

S. Ritter announced that there is no WP4 spring meeting planned and that the next meeting will be the fall meeting in Sevilla during EUROCORR 2019.

Finally he informed that there is a possibility of asking for some money from the EFC to support WP4 activities (e.g., WP meetings, grants, etc.). Any ideas are 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 WP4 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.