

Minutes

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

August 30, 2023, 17:10 – 18:10

Brussels, Belgium

Written by:

Laure Martinelli & Stefan Ritter

Diffusion:

WP 4 Members & Friends

Roman Bender (EFC Scientific Secretary)

Stefan Ritter (EFC STAC Chair)

Tomáš Prošek (EFC President)

Attendees (27):

F. Balbaud (CEA), J. Caballero (Framatome), A. Das (PSI), D. Féron (CEA), G. Gregori (SCK CEN), J. Hesketh (Jacobs), E. Huttunen Saarivirta (VTT), L. Laffont (ENSIACET), E. Lopes Maia (SCK CEN), A. Mackiewicz (PSI), L. Martinelli (CEA), M. Matulova (Surao), T. Millman (Univ Manchester), J. Piippo (Cormet), K. Prijatelj (ZAG), I. Proriol Serre (CNRS), R. Rebak (GE Research), S. Ritter (PSI), J. Salgado Giampaoli (Univ Lille), D. Stein (SCK CEN), C. Schroer (KIT), A. Singh (KIT), J. Stoulil (UCT Prague), A. Trentin (VTT), V. Tsisar (SCK CEN), K. Yuan (Univ. of Bristol), B. Zajec (ZAG).

Apologies for absence received from:

B. Kursten (SCK CEN), M. Zecho (Framatome GmbH), C. Guerre (CEA), Ch. Lilja (SKB), H.P. Seifert (PSI).

Agenda:

- 1) Opening of the meeting, apologies for absences, approval of the agenda
- 2) WP 4 awards ceremony
- 3) Approval of the minutes of the 2022 Fall Meeting
- 4) EFC WP 4 internal matters
 - Members and “friends”
 - Election of Chair and Vice-Chair (for 2024-2026)
 - Confirmation of WP 4 objectives (for 2024-2026)
 - WP 4 prizes (rules)
 - Call for nominations for the 2024 Coriou Award and Jury selection
- 5) EFC WP 4 publications
 - Books & special issues published or under publication
 - Future publications
- 6) EFC WP 4 past events
 - 4th Nuclear Corrosion Online Seminar
 - NuCoSS-23
- 7) EFC WP 4 future events (other than EUROCORRs)
- 8) EUROCORR's
- 9) Discussion about other WP 4 activities
- 10) Any other business (website, next meeting, EU-projects, etc.)
- 11) Closure

Appendix:

Appendix 1) Meeting slides presented by Stefan Ritter.*

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

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

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

2. EFC WP 4 awards ceremony

The ceremony began with presenting the prizes, which were the same for the best poster and best oral presentation. They consisted of a Green Book (“Nuclear corrosion: research, progress and challenges”, No. 69) kindly sponsored by Elsevier, a backpack sponsored by PSI, a drinking bottle again sponsored by PSI, a Swiss army knife (engraved with “EUROCORR 2023” and “WP4: Best...”) sponsored by Stefan, and a 100.- € AMAZON gift card sponsored by Cornet.

Stefan Ritter emphasized that all presentations of the young presenters were on a very high level, but that finally one needed to be selected and this was Giacomo Gregori (SCK CEN, Belgium) for his presentation on “Electrochemical determination of thermodynamic properties of corrosion products in lead-bismuth eutectic cooled nuclear systems”.

The poster prize was given to Annesha Das (PSI, Switzerland) who presented an excellent poster, titled “Assessing the role of surface conditions in SCC susceptibility of Alloy 182 in simulated LWR environments”.

WP 4's honorary medal, the Henri Coriou Award, which is given every year to an expert (or group), highly recognized in the nuclear corrosion field, has also been awarded this year. A Jury, composed of the Chair, Vice-Chair of the WP 4 and three members nominated during the Fall Meeting (the year before the medal is awarded), was selecting the recipient from a number of excellent nominees. In 2023, the Coriou Award has been attributed to Damien Féron from CEA (France). The prize, which consists of a medal, a diploma and the scientific-art book "Living Iron", has been handed over by Stefan Ritter. The sponsorship of the medal and book by CEA has been gratefully acknowledged. Damien Féron explained that the Coriou Medal, which he himself implemented when he was Chair of WP 4, represents the first published Coriou crack, illustrated by the artist Juliette Plisson. The medal is, of course, made of a Ni-base alloy.

3. Approval of the minutes of the 2022 Fall Meeting

No comments were received and no corrections have been asked for. Therefore, the 2022 minutes were approved by all.

4. EFC WP 4 internal matters

Stefan Ritter reminded that the list of members and friends is visible in the internal area of the WP 4 website (password protected). Then he informed the participants about members and friends of the WP 4. The members of the WP include delegates nominated by the member societies of the EFC and individuals nominated by the Chair. Those who are interested in the activities of the WP but not member of their national EFC member society are called 'Friends'. People who currently have no national EFC member society can create a local branch (information about it can be found on the website of the EFC).

The three-years term of Chair and Vice-Chair are ending this year and new elections were held. The vote was carried out by the present assembly by a show of hands. No other candidate than the current Chair and Vice-Chair presented themselves. Then, they were reappointed in their positions.

Stefan Ritter explained that from now on, the rules for the Chair change. The Chair is elected for a period of three years and cannot be reappointed for more than six consecutive years, starting in 2024. No specific rule is given for the re-election of the Vice-Chair.

Thereafter, Stefan presented the WP 4 objectives for the 2024-2026 period. These objectives are the same as those of the 2018-2020 period, which were approved in 2017, confirmed in 2020 and again in 2023 (during the current meeting):

- 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.

Stefan Ritter proposed to change the rules for the selection of the best young presenter. After discussion with the assembly, it has been decided that the people eligible to apply for the best presentation of young researchers must have less than 13 years of professional experience (incl. time of the PhD) upon time of the EUROCORR (other candidates may also be considered if there are extraordinary grounds for doing so; extraordinary grounds refer to illness, parental leave or similar

circumstances). Formerly it was “<35 years”. The “full paper condition” has also been removed. The discussion about the low number of full papers being submitted to the conference proceedings continued for a while. Only one has been submitted a full paper this year. To increase this number, Laure Martinelli proposed to continue also during the next year with offering to publish the papers in a journal, but advertising at the inscription on the website or directly to authors when the abstract submission is closed. Stefan Ritter said that the first proposal is difficult to set up as the chairs do not have control of the website, but the second proposal could be done. Raul Rebak agreed, one more year, to publish the EUROCORR full papers in a special issue of the Corrosion Reviews journal (edited by R. Rebak). Publication in a reviewed journal could attract young scientists and encourage them to write a full paper but advertising must be done in advance. *(Update: The full paper option will no longer be available at the EUROCORRs.)*

No change have been applied to the Poster and the Coriou award rules.

Thereafter Stefan Ritter introduced the composition of the Juries of the prizes and Coriou Award for this year (see slide 10 in Annex 1) and proposed the Jury composition for next year’s Coriou Award: Chair, Vice-Chair, the 2023 winner (Damien Féron) and 2 other seats. Stefan proposed to Andrew Hoffman (GE) to be part of the jury and he accepted. Lydia Laffont (ENSIACET) proposed her candidacy that has been accepted. The meeting attendees silently approved the candidacy of Andrew Hoffman and Lydia Laffont. Stefan recalled that all members and friends can nominate candidates (persons or groups) for the 2024 Henri Coriou Award until end of February 2024.

5. EFC WP 4 publications

Stefan Ritter reminded all on the latest WP 4 publication: some papers have been published as special issue “EUROCORR 2022 - Nuclear Corrosion” papers in the Corrosion Reviews journal. Publications planned for 2024 are:

- A Green Book on “Corrosion modelling with cellular automata”, edited by D. Féron (CEA) and D. Di Caprio (Chimie ParisTech) that is planned for publishing around February-March 2024,
- A special journal issue from the LTC 2022 in Materials & Corrosion that is planned for publishing in early-2024.

If anyone has ideas for other publications, the WP Chair is happy to support such actions or Green Book proposals.

6. EFC WP 4 past events

Since the last EUROCORR, the fourth Nuclear Corrosion Online Seminar took place on April 25, 2023. A very interesting talk was given by Damien Féron on “Stress corrosion cracking of austenitic alloys: From the Coriou effect to the stress corrosion cracking of stainless steel”. Approx. 65 participants from 18 countries attended and the talk and the video is available via the WP 4 website or EFC Hub.

Then Bojan Zajec (ZAG) presented a summary and feedback of the summer school NuCoSS-23 (Nuclear Corrosion Summer School 2023) organized by WP 4 and ZAG in Slovenia from July 2 – 7, 2023. This summer school gathered 38 attendees (15 students and 23 scientists or engineers) and 12 lecturers from 15 countries. The School was fully booked and can be regarded as a great and successful event.

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

Stefan Ritter listed some future events that are (co-)organized by the WP 4:

- Stefan Ritter suggested to organize a fifth edition of the Nuclear Corrosion Online Seminar (e.g., around the Corrosion Awareness Day 2023, e.g. again on April 25) and asked for topics or contributors. Some positive feedback was received. Stefan said that the duration of the seminar is approx. 1 hour including questions. He proposed the topic of corrosion of canisters for nuclear waste. J. Stoullil (UCT) proposed to search for possible lecturers after the conference.
- The Int. Conference on Corrosion Protection and Application (ICCPA) that is a European-Chinese conference could be held in China in 2024 again. No information is currently available. The last edition (in 2022) was held both, remotely and face-to-face in China. Stefan Ritter underlined that travel and hotel costs for the session chair are usually financed by China.
- The 9th Int. Workshop on Long-term Prediction of Corrosion Damage in Nuclear Waste Systems (LTC 2025) will be held in Sendai, Japan on November 4-6, 2025.

Stefan Ritter asked to the assembly if other events concerning Nuclear Corrosion are planned. No answers being given, the next subject was discussed.

8. EUROCORRs

Stefan Ritter gave a summary on some facts about EUROCORR 2023. He underlined the rather high number of attendees in the nuclear corrosion session (20 to 50 persons with an average of approx. 35-40) and the very high quality of presentations, constituting of 33 oral presentations and 4 posters. The total number of registered EUROCORR attendees was approx. 1002 (approx. 598 talks and 147 posters).

Then Stefan recalled the future EUROCORRs:

- EUROCORR 2024, Sept 1 – 5, 2024, Paris: Regular nuclear corrosion session is organized as usually. Stefan Ritter asked the assembly to propose ideas for a special joint session. Raul Rebak proposed a session on corrosion in high-temperature liquid media (liquid metal and molten salts). Then Laure Martinelli proposed to join this special session with the future WP “Corrosion in green and low carbon energy” and may be with the WP “Hot Gases”. Laure Martinelli will contact the chairs of these two WPs to propose the idea.
- EUROCORR 2025, Sep. 7 – 11, 2025, Stavanger, Norway: Regular nuclear corrosion session; and a special joint sessions with WP 5 on “EAC of additively manufactured materials” is proposed.
- EUROCORR 2026, Sep. 20 – 24, 2026, Dublin, Ireland: Regular nuclear corrosion session; proposals for special sessions are welcome.

9. Discussion about other WP 4 activities

Stefan Ritter reminded that there is a possibility of requesting some money from the EFC (up to approx. 2000 €) to support WP 4 activities (e.g., WP ‘extra’ meetings, grants, support of young colleagues/students, publications, etc.). But this money, given by the EFC, cannot be used to invite a special guest or lecturer to the EUROCORR. Any ideas are very welcome.

Any other ideas for WP 4 activities are always welcome!

10. Any other business

He reminded that the up-to-date WP 4 website contains lots of information and that also the EFC Hub should be used (was not used too much so far). He encouraged everyone to participate in WP 4 activities and to send any nuclear corrosion-related information to the WP 4 Chair for adding it to the website.

He also mentioned some European projects related to WP 4: MEACTOS (finished), INCEFA-SCALE and POEAM (proposal rejected in 2022 and to be re-submitted in November 2023) and that suggestions for any additional WP 4 meetings are welcome.

Stefan announced the creation of a new WP in the EFC: WP 26 – Corrosion in Green & Low Carbon Energy Technologies

11. Closure

As no other point was raised, the meeting was closed. Stefan Ritter thanked the participants for attending the meeting and for their support of the WP 4 activities. As always, he emphasised that an active participation in the activities of the WP 4 is essential to be able to fulfil its objectives and that any wishes, suggestions or ideas are always welcome.