

Minutes

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

September 7, 2017

Prague Congress Centre, Prague, Czech Republic

Written by:

Laure Martinelli and Stefan Ritter

Diffusion:

Attendees

WP4 members and friends

Roman Bender (EFC Scientific Secretary)

Hélène Illaire (EFC Managing Officer)

Ines Honndorf (EFC Website)

Damien Féron (EFC President)

Attendees:

Anne-Cécile Bach (CEA), Léa Bataillon (CEA), Quentin Bignon (CEA), Sophie Bosonnet (CEA), Tomas Cernousek (CVR), Sara Chakri (ANDRA), Véronique Dewynter (CEA), Cecilie Duhamel (MINES ParisTech), Ulla Ehrnstén (VTT), Salma El Euch (AREVA NP), Elena Fedorova (Siberian Federal Univ.), Damien Féron (CEA), Hannu Hänninen (Aalto Univ.), Wenle He (Sandvik), Tadeja Kosec (ZAG), Aneta Krausova (UCT Prague), Miroslav Krepec (UJV Rez), Andraz Legat (ZAG), Michael Lowden (Rolls-Royce), Jan Macak (UCT Prague), Dimitry Marchenkov (NIKIET), Laure Martinelli (CEA), Sophia Necib (ANDRA), Juha Piippo (CORMET), Stefan Ritter (PSI), Timo Saario (VTT), Michel Schlegel (CEA), Hans-Peter Seifert (PSI), Kirill Shutko (NIKIET), Konsta Sippilä (VTT), Jana Tonarova (UJV Rez), Lukas Tuma (UCT Prague), Bojan Zajec (ZAG)

Apologies for absence received from:

Séverine De Vroey (Engie Laborelec), Dirk Engelberg (Univ. Manchester), Mirka Ernestova (UJV), Benoit Gwinner (CEA), Renate Kilian (AREVA GmbH), Christina Lilja (SKB), Stuart Lyon (Univ. Manchester), Cristiano Padovani (AMEC FW)

Agenda:

- 1) Opening of the meeting, apologies for absences, approval of the agenda, and WP4 Poster and Oral Prizes award ceremony
- 2) Approval of the minutes of the 2016 Fall Meeting (in Montpellier)
- 3) EFC WP4 internal matters
- 4) EFC WP4 publications
- 5) EFC WP4 past events
- 6) EFC WP4 future events
- 7) EUROCORR's
- 8) Any other business (website, next meeting, EU-projects, etc.)
- 9) Closure

Annex:

Annex 1) Slides presented by S. Ritter*

Annex 2) CV of L. Martinelli*

Annex 3) New versions of the WP4 Prize rules*

** Document available only on the private space of the EFC WP4 website, for WP4 Members*

1. Opening of the meeting, apologies for absences, approval of the agenda, and WP4 Poster and Oral Prizes award ceremony

S. Ritter opened the Fall Meeting and thanked the audience for coming and announced some apologies received. The agenda was presented and has been approved by all (see above and the slides in Annex 1).

Two prizes are given during each EUROCORR. Each prize includes a diploma and, thanks to generous sponsorship, this year also a book (sponsored by CEA, www.cea.fr) and a beautiful “Finish-style” knife (sponsored by Cormet, www.cormet.fi). The poster prize included also a voucher for a € 100.- purchase at Wiley (sponsored by Wiley, www.wiley.com). S. Ritter recalled that the juries for these two prizes consist of three to five persons, including the WP4 Chairman and/or Vice-Chair and, to be eligible for the prizes, a full paper had to be submitted for the conference proceedings. The best poster presentation award has been attributed to Kazutoshi Fujiwara (Central Research Institute of Electric Power Industry, Japan) for his poster on the “Effect of dissolved oxygen on flow-accelerated corrosion in neutral and alkaline solutions”. The best oral presentation prize has been awarded to Anne-Cécile Bach (CEA, France) for her presentation on “Hydrogen trapping by irradiation-induced defects in 316L stainless steel”.

2. Approval of the minutes of the 2016 Fall Meeting (in Montpellier)

No comments were received by S. Ritter and no corrections have been asked for. Therefore the 2016 meeting minutes were approved.

3. EFC WP4 internal matters

S. Ritter informed the participants that members of the Working Party include delegates nominated by the member societies of the EFC and individuals nominated by the Chairman. Those who are interested in the WP activities but not member of an EFC member society can get "Friends" of the EFC and can fully participate in the activities of the EFC. Everyone was reminded to fill the meeting attendee sheets.

Because the current WP4 Vice-Chairman D. Féron has been elected President of the EFC for the period 2017 and 2018, a new Vice-Chairman has been proposed by S. Ritter: Laure Martinelli (CEA, France). S. Ritter asked if there would be any other candidates for this position, but no additional nominations were raised. Thereupon L. Martinelli introduced herself showing a few slides (see Annex 2). After this, all WP4 members present were invited to elect a new Vice-Chairman. With no vote against, L. Martinelli has been elected Vice-Chairman of the EFC WP4, her term starting on January 1, 2018.

Thereupon, S. Ritter briefly presented the WP4 objectives for the 2018-2020 period. The objectives remained unchanged and 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.

No comments were received and the objectives were approved.

Then S. Ritter proposed slight adjustments of the rules for the WP4 awards:

- Poster Prize: Beside some minor amendments, S. Ritter proposed to mention the "Young EFC Board" possibly nominating a jury member and to remove the eligibility criterion that a full paper needs to be included in the proceedings (usually this eliminates almost all posters from the nomination list).
- Poster Prize: Beside some minor changes, S. Ritter suggested also here to mention the "Young EFC Board" possibly nominating a jury member.
- Henri Coriou Award: S. Ritter proposed some minor adjustments to the rules.

After a short discussion the assembly approved all proposed adjustments (see the new versions in Annex 3).

The jury of the 2018 Henri Coriou Award will consist of the WP4 Chair, Vice-Chair and the 2017 winner (H. Hänninen), plus two more experts. S. Ritter asked for suggestions to complete the jury. Christina Lilja (SKB, Swedish Nuclear Fuel and Waste Management Co.) was suggested (*update: she*

confirmed her participation). The fifth jury member will be assigned by S. Ritter during the next few weeks. Finally, he asked all attendees to nominate candidates for the prize no later than February 28, 2018.

4. EFC WP4 publications

On behalf of the EFC WP4, two special issues were published in the Corrosion Engineering, Science and Technology journal:

- Proceedings of the 6th Int. workshop (WS) on ‘Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems’ (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 9 papers from the Nuclear Corrosion sessions of EUROCORR 2015 & 2016 will be published online soon in the Corrosion Engineering Science and Technology journal (*update: in the meantime it is published in: Corrosion Engineering, Science and Technology, 2017, Vol. 52, No 8, <https://doi.org/10.1080/1478422X.2017.1388591>*).

S. Ritter then presented plans for the publication of a green book of the EFC, based on the 50 years WP4 anniversary WS. It would be a nice “follow-up” on the very first EFC book named “Corrosion in the Nuclear Industry” from 1989. Publication is anticipated in early-mid 2019.

No further ideas or suggestions for future WP4 publications were received.

5. EFC WP4 past events

During EUROCORR/ICC 2017, WP4 organized a ‘50 years WP4 anniversary WS’ in which nine very interesting lectures were given covering many aspects of nuclear corrosion (see photographs on slide 12 of Annex 1):

- 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 (AMEC FW)
- FAC in PWRs, S. Trevin
- Corrosion in Zr alloys, M. Preuss (Uni. Manchester)
- Corrosion in supercritical water reactors, R. Novotny (JRC)
- (*MIC, R. Kilian (AREVA GmbH): had to cancel due to sickness*)
- (*Corrosion in reprocessing, R. Robin (CEA): cancelled*)

S. Ritter proposed to prepare a green book with chapters based on these lectures (see EFC WP4 publications). It was discussed to possibly add two chapters, one on irradiation effects (e.g., IASCC) and one on Generation IV systems (e.g., corrosion in liquid metals, Na and PbBi).

6. EFC WP4 future events (other than EUROCORRs)

S. Ritter listed a few future events dedicated to corrosion and nuclear systems:

- A WS (contact person: D. Féron): 7th Int. WS on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems (LTC 2019), 2019, Nancy, France.
- The 2nd edition of the Nuclear Corrosion Summer School ‘NuCoSS-19’, which will be co-organized by WP4 in cooperation with the H2020 project MEACTOS. The date and location will probably be July 7-12, 2019, in Slovenia (the 1st edition of this summer school was held in Bled, Slovenia in July 2015).
- A new edition of the school/course dedicated to “Modelling of corrosion” is proposed by CEA for the end of 2018. The location could be France or USA (Berkeley).

7. EUROCORRs

S. Ritter summarized the WP4-related events during EUROCORR/ICC 2017. He underlined the high number of attendees during all sessions (between 40 and 80 persons) and that, together with the 50 years anniversary WS, this has been the largest Nuclear Corrosion session ever (9 invited talks, 46 regular talks and 15 posters = 70 presentations in total)!

Thereafter, S. Ritter presented the future EUROCORRs:

- EUROCORR 2018, September 9 – 13, 2018, Krakow, Poland: will include a regular Nuclear Corrosion session. So far no specific workshop is planned, but proposals can still be submitted during the next two weeks.
- EUROCORR 2019, September 9 – 13, 2019, Seville, Spain: will include a regular Nuclear Corrosion session and maybe a WS on EAC initiation, co-organized by the H2020 project MEACTOS. Further suggestions for WSs are welcome.
- EUROCORR 2020, September 6 – 10, 2020, Brussels, Belgium.

8. Any other business

S. Ritter presented the WP4 website (www.efcweb.org/WP4) and reminded the attendees to regularly visit it. It is always up-to-date and contains some news, meeting minutes, future and past WP4 events, links to related EU-projects, and other useful information. The password for the internal area is available for WP4 members and friends upon request from the WP4 Chairman.

Then three H2020 EU-projects, related to nuclear corrosion activities were briefly mentioned:

- Mitigating environmentally-assisted cracking through optimisation of surface condition – MEACTOS (www.meactos.eu)
- Increasing safety in NPPs by covering gaps in environmental fatigue assessment – INCEFA+ (www.incefaplus.unican.es)
- Safe long-term operation of LWRs through the improved understanding of radiation effects – SOTERIA (www.soteria-project.eu)

Then Kirill Shutko (NIKIET, Russia) briefly introduced some activities related to EPR-testing and sensitization of stainless steel. It was discussed if a task force and/or workshop at a EUROCORR could be organized. It was concluded that this would be interesting and that K. Shutko should take

the initiative to form such a task force, which would be supported by WP4. In case a WS should be conducted already during the EUROCORN 2018, a one-page proposal needs to be sent to S. Ritter by the end of September at the latest.

As last item, S. Ritter announced that the next business meeting of the WP4 will be held in Krakow, during EUROCORN 2018.

9. Closure

Finally the meeting was closed, as no other point was raised, by S. Ritter thanking all attendees for their attendance and support. He kindly reminded all to actively participate in the activities of the WP4 and to send any suggestions or ideas for future tasks to the WP4 Chair or Vice-Chair!

Annex 1) Slides presented by S. Ritter

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

September 7, 2017, 12:10 – 13:40

Meeting Hall IB, Prague Congress Centre,
Prague, Czech Republic

Agenda

- 1) Opening of the meeting, apologies for absences, approval of the agenda, and WP4 Poster and Oral Prizes award ceremony.
- 2) Approval of the minutes of the 2016 Fall Meeting (in Montpellier)
- 3) EFC-WP4 internal matters
- 4) EFC-WP4 publications
- 5) EFC-WP4 past events
- 6) EFC-WP4 future events
- 7) EUROCORR's
- 8) Any other business (website, next meeting, EU-projects, etc.)
- 9) Closure

1) Opening

- Welcome & apologies:
Apologies received from: Renate Kilian (AREVA GmbH), Mirka Ernestova (UJV), Stuart Lyon (Univ. Manchester), Cristiano Padovani (AMEC FW), Christina Lilja (SKB), Séverine De Vroey (Engie Laborelec), Benoit Gwinner (CEA), Dirk Engelberg (Univ. Manchester).
- Attendees:
Tadeja Kosec (ZAG), Timo Saario (VTT), Aneta Krausova (UCT Prague), Lukas Tuma (UCT Prague), Konsta Sippilä (VTT), Sophia Necib (ANDRA), Sara Chakri (ANDRA), Salma El Euch (AREVA NP), Wenle He (Sandvik), Hannu Hänninen (Aalto Univ.), Ulla Ehrnstén (VTT), Juha Piippo (CORMET), Miroslav Krepec (UJV Rez), Jana Tonarova (UJV Rez), Quentin Bignon (CEA), Anne-Cécile Bach (CEA), Léa Bataillon (CEA), Dmitry Marchenkov (NIKIET), Bojan Zajec (ZAG), Michael Lowden (Rolls-Royce), Hans-Peter Seifert (PSI), Jan Macak (UCT Prague), Damien Féron (CEA), Tomas Cernousek (CVR), Kirill Shutko (NIKIET), Laure Martinelli (CEA), Véronique Dewynter (CEA), Elena Fedorova (Siberian Federal Univ.), Cecile Duhamel (MINES ParisTech), Sophie Bosonnet (CEA), Michel Schlegel (CEA), Andraz Legat (ZAG), Stefan Ritter (PSI)
- Approval of the meeting agenda

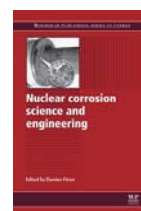
1 September, 2017

EFC-WP4 Fall Meeting 2017

3

1) Oral & poster prize ceremony

- Best oral presentation award 2017 (in recognition of the excellence of the contribution to the oral sessions of the WP4):



- Best poster presentation award 2017 (in recognition of the excellence of the contribution to the poster session of the WP4):

€ 100.- Voucher
WILEY



The sponsoring of the prizes by Cormet, CEA and Wiley is gratefully acknowledged!



1 September, 2017

EFC-WP4 Fall Meeting 2017

4

Anne-Cécile Bach,
CEA, France

Hydrogen trapping by
irradiation-induced defects
in 316L stainless steel

HYDROGEN TRAPPING BY IRRADIATION-INDUCED DEFECTS IN 316L STAINLESS STEEL

Anne-Cécile BACH^{1,2}, Frantz MARTIN¹, Cécile DUHAMEL², Stéphane PERRIN³, François JOMARD⁴, Jérôme CREPIN²

¹DEN-Service de la Corrosion et du Comportement des Matériaux dans leur Environnement (SCCME), CEA, Université Paris-Saclay, F-91191, Gif-sur-Yvette, France

²MINES ParisTech, PSL Research University, MAT-Centre des matériaux, CNRS UMR 7633, BP 87, 91003 Evry, France

³CEA, DEN, DE2D, SEAD, Laboratoire d'étude des Ciments et Bitumes pour le Conditionnement, F-30207 Bagnols-sur-Cèze, France

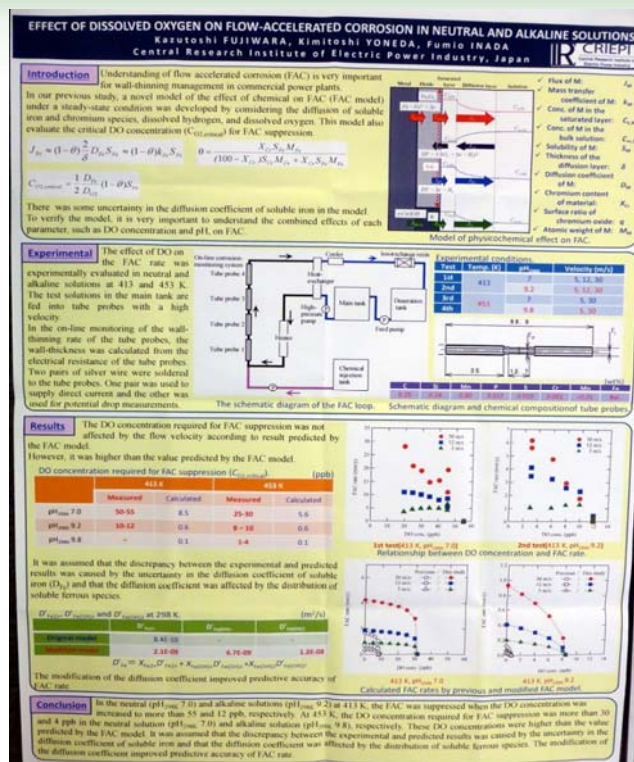
⁴Groupe d'Etude de la Matière Condensée, CNRS, UVSQ, 45 avenue des Etats-Unis, 78035 Versailles cedex, France

Abstract

The irradiation-induced defects in stainless steel internal components of pressurized water reactors combined with hydrogen uptake during the oxidation process could be a key parameter in the mechanism for Irradiation-Assisted Stress Corrosion Cracking (IASCC). The ultimate aim of this study is to characterize the effects of irradiation defects on hydrogen uptake during the oxidation of an austenitic stainless steel (SS) in primary water. The focus was made on the interactions between hydrogen and these defects. A heat-treated 316L SS containing a low amount of defects is compared with ion implanted samples. Both materials were characterized by Transmission Electron Microscopy (TEM). Hydrogen uptake was then promoted by cathodic charging using deuterium as isotopic tracer for hydrogen. The deuterium distribution was first characterized by SIMS (Secondary Ion Mass Spectrometry) profiles. This technique highlighted some deuterium segregation in link with the localization of implantation-induced defects, i.e. dislocation loops and cavities. Using TDS (Thermal Desorption Spectrometry) experimental results and literature data, a numerical model was used to simulate the deuterium profiles, providing diffusion and trapping/detrapping information associated with irradiation defects in the 316L SS.

Kazutoshi Fujiwara,
Central Research Institute of
Electric Power Industry, Japan

Effect of dissolved oxygen on
flow-accelerated corrosion in
neutral and alkaline solutions



2) Approval of the minutes of the 2016 Fall Meeting (in Montpellier)

- Approval? → [2016 minutes](#)

3) EFC WP4 internal matters

- Members and “friends” (please fill out the attendee sheets)
- Election of a new WP4 Vice-Chairman:
 - Laure Martinelli, CEA, France → [CV](#)
 - Any other suggestions/volunteers?
- WP4 objectives 2018 – 2020:
 - 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.

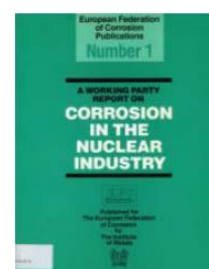
3) EFC-WP4 internal matters (cont'd)

- WP4 awards:
 - Slight adjustment of the rules: → [Oral](#) → [Poster](#) → [Coriou](#)
 - Jury for the 2017 Henri Coriou Award: Chair, Vice-Chair, 2016 winner (D. Tice), S. Lyon, N. Smart
 - Jury for the 2017 poster prize: L. Martinelli, B. Zajec, C. Örnek (Young EFC)
 - Jury for the 2017 oral prize: Chair, Vice-Chair, U. Ehrnstén, H.P. Seifert, J. Macak
 - Jury for the 2018 Henri Coriou Award: Chair, Vice-Chair, 2017 winner (H. Hänninen), **2 more?**
 - **Please nominate candidates** for the 2018 Henri Coriou Award until February 28!

4) EFC WP4 publications



- Books & special issues published or under publication:
 - Proceedings of the 6th Int. WS on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems (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 9 papers from the Nuclear Corrosion sessions of EUROCORR 2015 & 2016 will be published online soon in the Corrosion Engineering Science and Technology journal.
- Future publications:
 - EFC Green Book based on the 50 years WP4 anniversary WS (publication anticipated early 2019)
 - Any other suggestions, ideas?



5) EFC WP4 past events

- 50 year WP4 anniversary workshop during EUROCORR/ICC 2017
- 9 very interesting lectures covering many 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 (AMEC FW)
 - FAC in PWRs, S. Trevin
 - Corrosion in Zr alloys, M. Preuss (Uni. Manchester)
 - Corrosion in supercritical water reactors, R. Novotny (JRC)
 - (MIC, R. Kilian (AREVA GmbH), *had to cancel due to sickness*)
 - (Corrosion in reprocessing, R. Robin (CEA) *cancelled*)

1 September, 2017

EFC-WP4 Fall Meeting 2017

11



1 September, 2017

EFC-WP4 Fall Meeting 2017

12

6) EFC WP4 future events (other than EUROCORRs)

- 7th Int. WS on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems (LTC 2019), 2019, Nancy, France → Damien
- 2nd edition of the Nuclear Corrosion Summer School 'NuCoSS-XX'
 - Will be co-organized by WP4 in cooperation with the H2020 project MEACTOS
 - Possible date: summer 2019? (1st edition was in 2015)
 - Location: Slovenia, Switzerland, or ...?
 - Covering all aspects of nuclear corrosion with focus on EAC (initiation)
- Other events?
 - “Modelling of corrosion” course in France (?)

7) EUROCORRs

- EUROCORR/ICC 2017
 - Largest nuclear corrosion session ever: 9 invited talks (50 years WP4 WS) + 46 regular talks + 15 posters (= 70 presentations in total)
 - Sessions were well attended (40 – 80 persons)
- EUROCORR 2018, September 9 – 13, 2018, Krakow, Poland
 - Regular nuclear corrosion session
 - Workshop?
- EUROCORR 2019, September 9 – 13, 2019, Seville, Spain
 - Regular nuclear corrosion session
 - MEACTOS workshop on EAC initiation (?)
- EUROCORR 2020, September 6 – 10, 2020, Brussels, Belgium

8) 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)
- Next WP4 meeting:
 - Fall meeting during EUROCORR 2018
- Anything else?



9) 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 Krakow next year!

Annex 2) CV of L. Martinelli

DE LA RECHERCHE À L'INDUSTRIE cea den CURRICULUM VITAE French Nuclear Research Centre	Area of expertise in nuclear field: GEN IV reactors, waste management <u>High temperature corrosion:</u> • Liquid metal corrosion • Liquid glass & molten salts • Hot gases • Modelling Skills in <u>low temperature corrosion:</u> Corrosion in concentrated acids & complex media
Laure Martinelli Senior Researcher, CEA 40 years old ■ Since 2015: Laboratory of Modelling, Thermodynamics and Thermochemistry / Department of Corrosion → corrosion in complex liquids: glass, UF₆ → Modelling corrosion in hot gases ■ 2005-2015: Laboratory of Non Aqueous Corrosion / Department of Corrosion → corrosion in heavy liquid metals → corrosion in hot gases: steam & complex atmospheres → corrosion in high temperature liquids (glass, molten salts) ■ 2005: PhD on corrosion mechanisms of Fe-9Cr steel in liquid lead-bismuth eutectic. Application: Accelerator Driven Systems (CEA)	Scientific outreach: <u>Scientific management:</u> 5 PhD students, 3 post docs, About 15 internship students <u>Scientific production:</u> circa 20 papers, 15 scientific reports, 45 oral presentations, Books : 4 chapters, 1 book as editor <u>Organisation of workshop:</u> 1 spring school (organizing comity) 3 spring schools (speaker), 1 workshop (organizing comity) <u>Academic association:</u> Cefracor (French association for Corrosion), SFEN (French association for nuclear activities)

Annex 3) New versions of the WP4 Prize rules



RULES FOR THE HONORARY MEDAL of THE WORKING PARTY ON NUCLEAR CORROSION of THE EUROPEAN FEDERATION OF CORROSION

(Founded and presented by the Working Party on Nuclear Corrosion of the European Federation of Corrosion – EFC WP4)

AWARD

1. The purpose of the Honorary Medal (Award) of the Working Party on Nuclear Corrosion of the European Federation of Corrosion (EFC WP4) is to recognise achievements by a scientist, an engineer, or group of scientists or engineers, in the application of corrosion science in the nuclear field.
2. The award consists of a medal and a diploma.
3. The medal is sponsored by the EFC WP4. The medal is donated by the CEA “Corrosion Service” (Commissariat à l’énergie atomique et aux énergies alternatives – Service de la corrosion et du comportement des matériaux dans leur environnement). The diploma is donated by the Chairman of the EFC WP4.
4. The Honorary Medal of the EFC WP4 is called “Henri Coriou Award”, in memory of the first Chairman of the EFC WP4 and the first head of the CEA “Corrosion Service”.
5. The “Henri Coriou Award” shall be awarded in principle every year, preferably on the occasion of the EFC WP4 meeting or nuclear corrosion session during the EUROCORR.
6. On the occasion of the award ceremony the recipient(s) of the “Henri Coriou Award” will be asked to give a lecture related to the work for which the medal was attributed.

DESIGNATION OF AWARD RECIPIENT

7. 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.
8. The recipient(s) of the award is (are) designated by a jury presided by the Chairman of the EFC WP4. The jury shall consist 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 Honorary Medal is awarded) or by an e-mail ballot right after the EUROCORR. The jury should include one CEA representative. The jury members stay in office until a recipient has been designated and has accepted the award. The jury meets in person or “virtually” (phone/video conference call or e-mail discussion), preceding the date of the award ceremony by at least 1 month. The decision of the jury is by majority vote of the members. The decision of the jury is final. The STAC is informed of the name(s) of the recipient(s).

EFC WP4 Nuclear Corrosion, www.efcweb.org/WP4.html

Chairman: Stefan Ritter Paul Scherrer Institut, 5232 Villigen PSI, Switzerland
Vice-Chairman: Damien Féron CEA/Saclay, 91191 Gif Sur Yvette Cedex, France
Secretary: N/A

stefan.ritter@psi.ch
damien.feron@cea.fr

9. Any member of EFC WP4 shall make proposals to the jury for recipients of the award. The WP4 Chairman or Secretary should ask EFC WP4 members for proposals. These proposals have to be addressed to the EFC WP4 Chairman no later than February 28 in the year the Honorary Medal is awarded. Proposals must be received and forwarded to the jury members at least one month prior to the jury meeting.

10. If no suitable proposals have been received, the jury may decide not to attribute the Honorary Medal in a given year.

Version 3 - Rules adopted at the Stockholm meeting (2011) and modified at the Graz (2015) and Prague (2017) meetings.

**RULES FOR THE ORAL PRIZE
of
THE WORKING PARTY ON NUCLEAR CORROSION
of
THE EUROPEAN FEDERATION OF CORROSION**

(Founded and presented by the Working Party on Nuclear Corrosion of the European Federation of Corrosion – EFC WP4)

AWARD

The Working Party on Nuclear Corrosion of the European Federation of Corrosion (EFC WP4) established an award for the best oral communication presented in the nuclear corrosion session and in the workshops supported by the EFC WP4 at each EUROCORR Conference. The aim of the award is to encourage the submission of more nuclear corrosion communications of high quality and the submission of associated papers in the EUROCORR proceedings by corrosion scientists and engineers, including PhD students, post-doctoral researchers, etc.

The Prize, consisting of a certificate (and more if sponsors are available), will be awarded each year to the scientist or the engineer who, in the opinion of the Jury, has made the most worthy presentation on nuclear corrosion during the nuclear corrosion session(s) or the workshop(s) supported by the EFC WP4 at EUROCORR.

SELECTION OF THE AWARD WINNER

The Jury for the Award will consist of at least three (preferably five) members and be composed of the Chairman or Vice-Chairman of the EFC WP4 (or a designated representative) and chairs of the nuclear corrosion session(s) or workshop(s) supported by the EFC WP4. Alternatively one Jury member may be suggested by the Young EFC Board.

Eligible authors should be younger than 35 years, have the full paper of their presentation included in the EUROCORR proceedings and should present themselves the oral communication.

The criteria to be used in selecting the winner will include:

- 1) The scientific/technical contribution to the field of corrosion covered by the work presented in the paper and in the oral presentation;
- 2) the clarity with which important concepts are conveyed visually during the presentation;
- 3) the quality of the verbal presentation and of the answers to the questions by the presenter.

PRESENTATION OF THE AWARD

The presentation of the Prize will take place during the EFC WP4 Fall Meeting or during the Nuclear Corrosion session(s) or workshop(s) supported by the EFC WP4.

Version 3 – Rules adopted at the Stockholm meeting (2011) and modified at the Pisa (2014) and Prague (2017) meetings.

EFC WP4 Nuclear Corrosion, www.efcweb.org/WP4.html

Chairman: Stefan Ritter Paul Scherrer Institut, 5232 Villigen PSI, Switzerland
Vice-Chairman: Damien Féron CEA/Saclay, 91191 Gif Sur Yvette Cedex, France
Secretary: N/A

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**RULES FOR THE POSTER PRIZE
of
THE WORKING PARTY ON NUCLEAR CORROSION
of
THE EUROPEAN FEDERATION OF CORROSION**

(Founded and presented by the Working Party on Nuclear Corrosion of the European Federation of Corrosion – EFC WP4)

AWARD

The Working Party on Nuclear Corrosion of the European Federation of Corrosion (EFC WP4) established an award for the best poster presented in the Nuclear Corrosion session and in the workshops supported by the EFC WP4 at each EUROCORR Conference. The aim of the award is to encourage the submission of more nuclear corrosion posters of high quality in the EUROCORR proceedings by corrosion scientists and engineers, including PhD students, post-doctoral researchers, etc.

The Prize, consisting of a certificate (and more if sponsors are available), will be awarded each year to the scientist or engineer who, in the opinion of the Jury, has made the most worthy presentation during the poster session(s) at EUROCORR.

SELECTION OF THE AWARD WINNER

The Jury for the Prize will be composed of three persons including the Chairman or the Vice-Chairman of the EFC WP4 (or a designated representative) and two other members, chosen during the meeting of the EFC WP4 that immediately precedes the conference or by an e-mail ballot prior to the EUROCORR and is preferably organized by the Vice-Chairman. Alternatively one Jury member may be suggested by the Young EFC Board.

Eligible authors should be present by their posters during the relevant poster session.

The criteria to be used in selecting the winner will include:

- 1) The scientific/technical contribution to the field of corrosion covered by the work presented in the paper (if available) and in the poster;
- 2) the clarity with which important concepts are conveyed visually by the poster;
- 3) the quality of the verbal presentation by the author during the poster session.

PRESENTATION OF THE AWARD

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