

# **E-Newsletter**

#### Issue December 2018

http://www.efcweb.org

#### Dear Readers,

The continuing expansion and success of the EFC is of course good news, But it does mean more work for your Editors! (Which we do not mind as long as it is not too "last minute".) This interim electronic newsletter is bigger than previous editions with a range of reports, upcoming events, and pen profiles. Just drawing your attention to a couple: Damien Féron, our President rounds off his time in charge with a comprehensive and interesting President's letter. There is a brief report on the very successful Krakow EUROCORR. A fuller report will be available in the New Year over four issues of the Journal Corrosion Engineering Science and Technology. One other thing: as happened in 2018, there will be a chance to advertise in the paper copy of the 2019 EFC newsletter (see opposite). This will be distributed to all delegates in Seville and will have a print run of at least 2000. Please try to support this, as it helps keep costs down and hence prevents rises in membership and conference fees.

We hope you enjoy reading this newsletter.

Douglas Mills
EFC Newsletter Editor
Ruth Bingham
Assistant Editor

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#### **OPPORTUNITIES FOR ADVERTISEMENT**

The printed issue of the EFC Newsletter distributed in September to all participants of EUROCORR 2019 is open for advertisement. To order advertisement space please contact the publisher.

#### A FEW WORDS FROM THE EFC PRESIDENT

### To all the members of the European Federation of Corrosion

For the first time, the flagship event of the European Federation of Corrosion, EUROCORR, was in Poland. The Polish Corrosion Society selected the wonderful city of Kraków, with much historical and cultural heritage, and a modern first-class venue, ICE Kraków Congress Centre. Many thanks to our Polish hosts and particularly to Pr Agnieszka Królikowska, President of the Congress, and her team: EUROCORR 2018 has been a fantastic event. It was not only a very successful European Congress, but also became an international major corrosion event, providing scientific and technological knowledge, exchanges, cooperation and collaboration. I had the privilege with Dr. Wolfram Fürbeth, EFC STAC Chairman, and with Pr Agnieszka Krolikowska, to plant a plane tree in memory of the



"European Corrosion Congress Eurocorr 2018", as written on the commemorative plaque. Many thanks to the City of Krakow for this very nice opportunity. I do not doubt that the growth of this plane tree will illustrate the EFC and the EUROCORR developments.

I would like to underline also the support of the DECHEMA team for the continuity of the EUROCORR event and of the Working Party Chairs involved in the scientific preparation of the congress. The increasing success of EUROCORR is also based on the papers they attract for their sessions. The selection of the papers is made with care and attention, based on scientific and technical criteria: the heart of the EFC beats strongly due to these active WP volunteer Chairs.

Next year, EUROCORR will be back to Spain after more than 25 years (having taken place in Barcelona in 1993). EUROCORR 2019 (September 9-13) will be in the prestigious city of Seville, organised by SOCIEMAT. As usual, the congress will seek to promote the transfer of knowledge and experience between research centres, industry and universities. With Pr Juan José de Damborenea González, SOCIEMAT President, we hope that the event will act also as a bridge between Latin America and Europe. As for 2018, "The Young EFC" network (YEFC) will also be contributing a lot to EUROCORR 2019 with dynamism, motivation and talent. Networking, communication, innovation and learning are key motivations for your participation.

I would like also to take the advantage of this EFC e-Newsletter to invite all of you to be proactive for the Corrosion Awareness Day (April 24th). In Europe, this day is not so popular as it is in the rest of the world. I encourage all of you to take initiatives for the next April 24<sup>th</sup> with the objective to increase public awareness concerning the need to control corrosion for safety and financial considerations and also for environmental issues. Do not hesitate to report your intended actions for mention in the next EFC e-Newsletter!

I cannot finish this letter without sending my most sincere thanks to Ines Honndorf, compositor of this EFC e-Newsletter, and to Douglas Mills and Ruth Bingham, respectively Editor and Assistant Editor. I really appreciate their initiatives and their professionalism. E-newsletters are important avenues of exchange between us; thank you for giving your opinion, which interests us strongly.

My EFC presidency will stop at the end of this year. It has been a great honour. Some hard work too at times; but a lot of satisfaction and pleasure: the EFC team is great, diverse and creative, professional and friendly... my English is too poor to express my gratitude to all of them. But as EFC Past-President, I will be pleased to continue to work with them. I have no doubt that with Pr Arjan Mol as the next EFC President (2019-20), and with Dr. Jörg Vogelsang as the next EFC Vice-President, the EFC will continue to develop and increase for the benefits of our member societies.

I look forward to meeting you in Seville, next year.

#### Pr Damien Féron

11<sup>th</sup> EFC President (2017-2018)

#### REPORTING FROM EUROCORR 2018

We would like to congratulate and thank our Polish Member Society PSK for organising such a successful **EUROCORR 2018** in Kraków.

With more than 1400 attendees from 77 countries, 568 oral presentations in up to 14 parallel sessions, 171 posters and 47 exhibitors, EUROCORR 2018 has set another record in the history of the annual event of the Federation. These numbers again prove that EUROCORR is of the highest interest for the worldwide corrosion community and an important platform for dialogue and networking amongst all engineers, scientists, researchers and technologists working in this cutting-edge field. This time, in memoriam of EUROCORR 2018, a plane tree has been planted by the leaders of PSK and EFC.

The Federation congratulates the winner of the EFC Young Authors Poster Award 2018, Ms Urša Tiringer and Mr. Gavrilo Šekularac (Jožef Stefan Institute, Ljubljana, Slovenia) for the outstanding poster contribution on "The self-healing effect of hybrid sol-gel coatings based on CeO<sub>2</sub> nanoparticles filled with Ce<sup>3+</sup> applied on AA7075".

In addition, various specific prizes in the field of nuclear corrosion were presented by the respective Working Party (WP4) during their session. For details, see "News from Working Parties and Task Forces".



#### YOUNG EFC MEETING 2018

On September 10th 2018, in the frame of the EUROCORR 2018 Conference in Kraków, the **Young EFC** Meeting 2018 took place. The meeting was attended by about 70 participants, mainly PhD students, post-doc research fellows and young scientists at the early stage of their carrier in the industry. Senior scientists attended the meeting as well, to support the **Young EFC** activity and to promote a fruitful discussion with junior scientists. The meeting consisted of a short introduction from the Young EFC board followed by the speeches from the **Young EFC** Grant winners 2017 and two lectures from senior scientists. The Young EFC board introduced the event and briefly described the progress of the **Young EFC** community and the forthcoming activities. The EFC mentoring program was officially launched and information about the activity was provided by the mentoring board (http://efcweb.org/YoungEFC Mentoring).

After the opening, the winners of the EUROCORR Young Scientist Grant 2017 Ms. Anissa Célina Bouali (University of Kiel) and Mr. Hongchang Qian (University of Science and Technology Beijing) presented their experience abroad as visiting PhD students financially supported by the prize from the EFC. They highlighted the value of the opportunity given by the EFC and how the visit abroad, as well as the interaction with corrosionists from other institutes, improved their professional and personal skills. Prof. Jinshan Pan (KTH Royal Institute of Technology) and Dr. Jan-Olov Nilsson (Hydro Extruded Solutions Ltd) gave two speeches devoted to the hard and soft skills needed for making careers in academia and industry, respectively. They provided the attendees with several suggestions as well as interesting anecdotes and examples coming from their professional experience.



Participants in the **Young EFC** Meeting during EUROCORR 2018



Prof. Pan presents his lectures

## UPCOMING EUROCORR 2019 - SEVILLE, SPAIN - 9-13 SEPTEMBER 2019

#### INVITATION AND CALL FOR PAPERS

As the 2019 hosts of the renowned annual corrosion congress EUROCORR, the Sociedad Española des Materiales, SOCIEMAT, together with the European Federation of Corrosion and DECHEMA, cordially invite you to attend EUROCORR 2019, which will be held in Seville, Spain from 9th to13th September 2019 (EFC Event No. 445). Do not miss the chance to contribute to <u>EUROCORR 2019</u>!



The EUROCORR 2019 Congress has the motto "New times, new materials, new corrosion challenges". The scientific programme of EUROCORR gives you an opportunity to catch up with the most recent and reliable scientific results and the latest industrial achievements, and to take part in the development of new standards and regulations in the subject of corrosion control. As always during EUROCORR, each day 10 to 12 parallel sessions will run, some dealing with the most important general corrosion problems and some focusing on those specific to each branch of industry.

Special joint sessions in addition to the traditional EUROCORR topics:

- · Modelling of corrosion using cellular automata
- Management of Corrosion
- Cathodic protection in marine environments (WP9 & WP16)
- Corrosion in Concrete and Cathodic Protection (WP11 + WP16)
- Polymers in Organic Coatings (WP14 + WP19)
- Microbial Corrosion in Marine Environment (WP9 + WP10)
- Progress in Prevention of Microbial Corrosion in Oil & Gas (WP10 + WP13)
- Coatings for High Temperatures (WP3 + WP14)
- Dense Phase Symposium (WP13 + TF)
- Environmentally Assisted Cracking Under Atmospheric Corrosion in Automotive and Aerospace Industries (WP5, WP17, WP22 + TF)
- Organic Coatings for Concrete Structures (WP11 + WP14)
- Pitting corrosion of copper in drinking water installations: Is there a new phenomenon? (WP20 + Ceocor)
- · Durability of photovoltaic modules

For the complete listing of the topics, see: <a href="https://eurocorr.org/EUROCORR+201">https://eurocorr.org/EUROCORR+201</a>9/Sessions.html

## The call for papers is now open.

Deadline for abstract submission: 16 January 2019

Instructions for abstract submission and the online submission form are available on the congress website. For general information concerning EUROCORR 2019, please visit the congress website at: <a href="https://www.eurocorr2019.org">https://www.eurocorr2019.org</a>

We are looking forward to your contribution and participation at EUROCORR 2019!

## **EUROCORR YOUNG SCIENTIST GRANT - CALL FOR APPLICATIONS**

The EUROCORR Young Scientist Grant will be presented for the fourth time during EUROCORR 2019. The grant will provide financial support to junior corrosionists to enable them to visit and interact with other corrosionists at their respective institutes and to discuss research issues of mutual concern relevant to the field. **New:** Thanks to a donation of the Chinese Society for Corrosion and Protection (CSCP), the grant will be augmented to 4 grants of up to €1,500 or 3 grants of up to €2,000; furthermore, the CSCP will grant direct support to one recipient out of the 3 or 4 awarded, if collaboration includes travelling between China and Europe.

The Deadline for submission of applications is 15 February 2019.

For further details, see: https://efcweb.org/YSG.html

#### **NEW EFC PRESIDENT AND VICE-PRESIDENT APPOINTED**

The start of 2019 will bring two changes to the leadership at the European Federation of Corrosion (EFC) with the appointment of **Professor Arjan Mol** as the new EFC President, and **Dr. Jörg Vogelsang**, as the new EFC Vice-President.

**Arjan Mol** obtained his MSc-degree at the Faculty of Aerospace Engineering of the Delft University of Technology (DUT) in 1996. His MSc Thesis focused on the postforming properties (including corrosion properties) of glass fibre-metal laminates (GLARE) after deformation processing. After this, he obtained his PhD degree in 2000 at the Materials Science and Engineering (MSE) Department of the DUT on the study of the effects of microstructural variations in aluminium alloy surfaces on filiform corrosion properties. He continued his career as a project- and team leader for 'Structural lifetime of building and civil engineering structures' for 6 years at the Dutch Applied Research Organisation TNO.



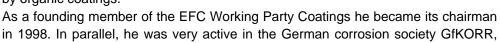
In 2006, Arjan Mol returned to DUT-MSE and now is Full Professor of 'Corrosion Technology and Electrochemistry'. Furthermore, since 2017, he has been Honorary

Professor at the University of Science and Technology Beijing USTB in China. Since 2010, Arjan Mol has also been the Dutch Representative Member of the International Corrosion Council ICC.

His specific research focus areas are: Local electrochemical analysis of corrosion mechanisms; Surface treatment and interfacial bonding of organic coatings on metal (oxide) surfaces; Multifunctional and eco-friendly corrosion inhibitors and evaluation of active protective coatings. Currently, he is Editor-in-Chief of Elsevier's journal "Corrosion Science" and Member of the Editorial Boards of "Corrosion Engineering, Science and Technology", "Transactions of the Institute of Metal Finishing" and "Materials and Corrosion".

He is also the Chairman of the EFC Working Party 'Physico-chemical methods for Corrosion Research' and, in the period of 2014-2016, he was Chairman of the EFC Science and Technology Advisory Committee (STAC). In 2016, he was elected to become Vice-President of the EFC for 2017-2018, and as such is Member of the Board of Administrators as from 2017.

Jörg A Vogelsang obtained a Diploma in Chemistry in 1988 and he wrote his PhD thesis in the group of Prof. Dr. M. Hauser at the Institute of Physical Chemistry of the University of Stuttgart entitled "Convolution kinetics treatment of various excimer formation mechanisms with respect to non–stationary diffusion and molecular reaction parameters" (1991). Since 1992 he has worked for Sika, firstly in Stuttgart, Germany and after 2002 in Zurich, Switzerland. In Stuttgart he was responsible for basic research in corrosion of reinforcements in concrete and corrosion protection by organic coatings.





where he was appointed as member of the Scientific Committee in 1999 and he founded also a coatings working party for GfKORR in 2000. From 2001 until 2007 he served as chairman of the Science and Technology Advisory Committee (STAC) of the EFC. In 2001, he was appointed as member of the scientific board of the "Karl-Winnacker" research institute of the DECHEMA e.V. and he was elected to the board of administrators of GfKORR e.V. After his move to Zurich in 2002, he created a surface and material science lab; in 2008 he was placed in charge of all analytical activities in Zurich and, since then, has coordinated Sika's group activities in chemical analysis. In 2012, he was promoted as Corporate Head of Analytics & Testing. Since 2013, he has been an elected member of the EFC Board of Administrators (BoA) and in 2014 he commenced service as the vice president of GfKORR e.V.

He is also very active in standardization; he is member of several standardizing committees in Germany and in ISO, where he was Chair of TC35 SC9 for three terms. His special interest is the standardization of Electrochemical Impedance Spectroscopy and electrochemical methods applied to organic coatings in general. He has published more than 50 papers.

## NEWS FROM WORKING PARTIES AND TASK FORCES

## **NEWS FROM THE WORKING PARTY 4 ON NUCLEAR CORROSION**

#### 2018 Henri Coriou Award:

The **2018 Henri Coriou Award** for outstanding contributions to corrosion science and engineering in the nuclear field will be given to **Dr. Gérard Pinard Legry**, France, during the CEFRACOR General Assembly in Paris, on 21 September 2018.

As engineer from the Ecole Supérieure de Chimie de Paris, **Dr. Gérard Pinard Legry** obtained his PhD in 1969 with a thesis on the corrosion and mechanical properties of martensitic steels. He then joined the Corrosion Department at the CEA (French Atomic Energy Commission) where he was rapidly appointed head of the Aqueous Corrosion Unit. Subsequently he became head of the Corrosion Department in 1984, succeeding Henri Coriou. His work includes not only EAC studies in PWR primary and secondary water, but also the selection of materials for reprocessing plants and nuclear waste overpacks for storage and disposal. He has also been involved in fast breeder reactor issues, as well as in the corrosion behaviour of materials for fusion energy. He has been a key person in nuclear corrosion science and engineering for all the industrial developments in



the nuclear fuel cycle. In 1993 he was awarded the Charles Heichner medal by the SF2M (French Society of Materials and Metallurgy) in recognition of his work. Alongside his extensive research work, he has been an active member of EFC WP4, being its Secretary between 1986 and 1994. Being actively involved in standardization as President of AFNOR commission A05A on corrosion of metallic materials until 2000, he was also President of the CEFRACOR (French Corrosion Society) from 1999 to 2011. At the same time, he was also an associate Professor at the INSTN (National Institute of Nuclear Science and Techniques) and at the EAMEA ("Atomic School") of Cherbourg.

## Prizes for the best oral and poster presentation of the 2018 Nuclear Corrosion session have been awarded during EUROCORR 2018:

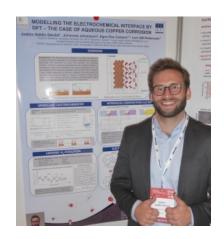
The prize for the best oral presentation has been awarded to **Kamila Wilczynska**, CEA & INP Grenoble, France (see photo) for the presentation *'Simulation of C-Ring, O-Ring and tensile ring specimens for iodine induced SCC experiments on zirconium alloy'*; coauthors: Matthew Bono (CEA, France), David Le Boulch (CEA, France), Marion Fregonese (INSA de Lyon, France), Valérie Chabretou (Framatome, France), Nathanael Mozzani (EdF, France), Martin Rautenberg (EdF, France). The paper can be downloaded from: here.





The prize for the best poster presentation has been awarded to **Tomonori Sato**, Japan Atomic Energy Agency, Japan (see photo) for the poster 'Investigation of the effects of irradiation on corrosive environments using in-situ electrochemical measurements during gamma-ray irradiation'; co-author: Fumiyoshi Ueno (JAEA, Japan). The poster can be downloaded from: here

Because we discovered another excellent nuclear corrosion related poster in a different session, we decided to give a "special prize" to **Joakim Halldin Stenlid**, Stockholm University, Sweden for the poster 'Modelling the electrochemical interface by DFT – The case of aqueous copper corrosion'. The poster can be downloaded from: here.



## Nuclear Corrosion Session and WP4 Fall Meeting during EUROCORR 2018:



Also this year we had an excellent nuclear corrosion session during the EUROCORR conference (38 talks, 4 posters). The Monday focused mostly on nuclear waste disposal corrosion issues (see upper photo), whereas the "cracking Tuesday" comprised 14 talks dealing with environmentally-assisted cracking in LWR environments. The session continued on Wednesday with 9 presentations on different nuclear corrosion topics and concluded with the well-attended WP4 Fall Meeting (see lower photo).

## **ONGOING ACTIVITIES OF WORKING PARTIES AND TASK FORCES**

To view the ongoing activities of all twenty-one of the EFC's working party corrosion specialty areas, please go to the individual Working Party web pages on the EFC website at: <a href="http://www.efcweb.org/wp.html">http://www.efcweb.org/wp.html</a>

#### **EFC EVENT REPORT - NKM 17**

23-25 May 2018, DTU, Lyngby, Denmark (EFC Event No. 428)

## 17th Nordic Corrosion Congress

The 17th Nordic Corrosion Congress (NKM 17) took place at the Technical University of Denmark in Lyngby, and was organized by the Dancorr section of ATV-SEMAPP. The NKM congress dates back to 1954, and is a recurring event which is held in one of the Nordic Countries (Finland, Iceland, Sweden, Norway and Denmark). The Scandinavian countries have a long history of co-operation, networking and exchanging ideas, and this is a tradition which the Nordic Corrosion Congress celebrates. The Congress combines scientific knowledge, industrial experiences and innovative developments to solve the corrosion problems of today and tomorrow. The congress had received sponsorship from Grundfos, FORCE Technology, Elpatek A/S and CRC Press.

On the Wednesday afternoon before the two days of technical sessions, delegates had a tour of the MS Maritime museum at Helsingør. After this, the delegates were given a guided tour of Elpatek A/S (Figure 1) which supplies advanced galvano surface treatments for corrosion protection of small components.

After a guided tour around the factory whilst hearing about the surface treatment challenges of various components, there was time for general discussion and networking over lavish refreshments in the evening sun.



Figure 1: Guided tour of Elpatek A/S



Figure 2: Conference dinner speech given by Prorektor of DTU, Rasmus Larsen

On the Thursday evening, the congress dinner was held at Brede Spisehus, where the Prorektor of DTU, Rasmus Larsen, made a speech (Figure 2), followed by speeches from representatives of the Scientific Committee of the other Nordic countries, Ragnheidur Thorarinsdottir, Tor Hemmingsen, Olof Forsén, and Christofer Leygraf.

About 80 people attended the Congress, and there were a total of 41 presentations. There were eight thematic sessions, where the first and final sessions were common sessions.

To kick off the congress, a keynote presentation was given by Maria Østergaard from Haldør Topsøe entitled "Corrosion Challenges in the Chemical Industry". The talk gave an overview of corrosion phenomena in a chemical plant and provided examples of corrosion mechanisms, material selection, corrosion prevention and inspection strategies.

Session 1 "Metallurgy: Microstructure and microalloying changes corrosion properties" included presentations on the use of computational studies to predict micro-galvanic corrosion due to the presence of intermetallics in aluminium. Also, results on corrosion issues with aluminium welded tubes, and corrosion behaviour of sintered Nd-Fe-B magnets were presented.

Session 2 "Stainless steel as a corrosion resistant alloy" included a presentation of significant failures of certain stainless-steel types in swimming pool environments, and cleaning strategies in the food industry. Other presentations discussed surface finish of 3D printed components, novel methods of improving corrosion resistance of 316L surgical implants, and how the alloying element tungsten (W) affects the Critical Crevice Corrosion Temperature (CCT) of duplex stainless steel.

Session 3 "Corrosion Risks related to Off-shore Structures" included presentations on cathodic protection, but also on how hydrogen affects steels during pickling. There were also talks on wharf repairs and how steel reinforced concrete is subjected to weathering.

Session 4 "Corrosion challenges in the oil and gas industry" included results of corrosion in an oilfield wellbore, top-of-the-line corrosion and prediction of microbiological corrosion. One presentation "Experimental investigation on the effect of seawater ingress on the corrosion behaviour of production tubings" given by Riccardo Rizzo was awarded the best student presentation prize at the end of the conference (see Figure 3).

Session 5: "Corrosion in Electronics" covered corrosion of conformal coatings, condensation within electronic enclosures, and also corrosion of hearing aids. In addition, some of the challenges involved in using lead free solders in electronics were discussed.

Session 6 "Corrosion in Thermal Power Production" described both low temperature corrosion problems due to deliquescent salts and high temperature corrosion in KCl and particularly how the microstructure of components evolved with longer exposure times.



Figure 3: Riccardo Rizzo received the best student presentation prize from Melanie Montgomery (Dancorr representative)

Session 7 "Corrosion Issues in the geothermal industry" showed not only how to prevent corrosion in hot water storage tanks, but also how carbon steel and coatings could be used in such harsh environments.

Session 8 "Novel and advanced techniques for corrosion assessment" showed how new methods, or a variation of a well-known methods, could be used to assess corrosion. This included synchrotron, electrochemical impedance, scanning Kelvin probe force microscopy and in situ AFM.

The 18<sup>th</sup> Nordic Corrosion Congress will be in 2021 in Turku, Finland, arranged by Åbo Akademi University.

#### FUTURE EUROCORRS THE EUROPEAN CORROSION CONGRESS

#### **EUROCORR 2020**

## 6-10 September 2020, Brussels, Belgium

Uniquely in 2020, EUROCORR will focus on the new generation of corrosion engineers. Indeed, the young scientists will have the floor throughout the congress. The organisers, VOM asbl in collaboration with University of Mons, Vrije Universiteit Brussel, Materia Nova and DECHEMA are pleased to invite you to participate in the congress. The academic world is rather specialized in studying degradation mechanisms with highly advanced tools. The industry is



looking for support and solutions for corrosion and materials degradation. This congress will present the opportunity to reduce the gap between the academic world and industry, especially in the field of corrosion predictions by advanced measuring, modelling and monitoring.

#### Contact:

VOM asbl. Kapeldreef 60, 3001 Leuven, Belgium

Website: http://www.vom.be

#### **EUROCORR 2021**

#### 19-23 September 2021, Budapest, Hungary

EUROCORR 2021 is hosted by the Hungarian Corrosion Society – HUNKOR.

## FORTHCOMING EFC EVENTS

2-5 April 2019, Valencia, Spain (EFC Event No. 444)

## AETOC 2019 - 11th International Workshop on Application of Electrochemical Techniques to Organic Coatings

The workshop will be an opportunity to discuss latest research topics in electrochemical techniques applied to organic coatings and find industrial partners.

Language: English

Website: http://www.aetoc.uji.es

22-24 May 2019, St. Petersburg, Russia (EFC Event No. 446)

#### Corrosion in the Oil and Gas Industry

Scope of the programme: Well construction and operation; Pipelines; Corrosion protection technologies - coatings, inhibition and cathodic protection; Corrosion mechanisms and testing methods; Failure analysis - Marine corrosion.

Language: Russian, English

Website: http://www.corrosionrussia.org

3-5 July 2019, Palermo, Italy (EFC Event No. 439)

## GN CORR 2019 - Giornate Nazionali sulla Corrosione e Protezione - XIII edizione

The most important national event on corrosion organised by AIM with the support of APCE and University of Palermo.

Language: Italian

Website: http://www.aimnet.it/gncorrosione

7-12 July 2019, Slovenia (EFC Event No. 440)

#### NuCoSS-19 - Nuclear Corrosion Summer School 2019

The summer school is primarily intended for people from nuclear authorities, industry and research organisations who would like to get a comprehensive overview on the field of nuclear corrosion. The programme is designed to facilitate networking and knowledge transfer from experienced experts to the younger generation.

This event is co-organised by the EFC Working Party on Nuclear Corrosion and the Horizon 2020 project MEACTOS.

Website: https://icg-eac.org/event/nuclear-corrosion-summer-school-nucoss-19/

9-13 September 2019, Seville, Spain (EFC Event No. 445)

## **EUROCORR 2019**

Website: <a href="http://www.eurocorr2019.org">http://www.eurocorr2019.org</a> See "Upcoming EUROCORR 2019".

19-21 November 2019, Nancy, France (EFC Event No. 443)

# LTC 2019 - 7th International Workshop on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems

The programme of LTC 2019 will cover all areas related to the corrosion behaviour of materials in nuclear waste storage and disposal facilities, including: National programs; LILW and HLW/SF containers; Storage and disposal: Experimental studies; Lifetime predictions and performance assessment; Modelling and simulation; Large-scale tests; Archaeological analogues; Regulatory perspectives.

Website: https://www.cefracor.org/doc/LTC2019-flyer.pdf

6-10 September 2020, Brussels, Belgium

#### **EUROCORR 2020**

Save the date! More detail to follow in subsequent newsletters.

19-23 September 2021, Budapest, Hungary

## **EUROCORR 2021**

Save the date! More detail to follow in subsequent newsletters.

For full details of these and a complete listing of many other future corrosion events held in Europe and throughout the world, go to the EFC Calendar of Events at: <a href="http://www.efcweb.org/Events.html">http://www.efcweb.org/Events.html</a>

## **CONTACTS**

Editor: Douglas Mills, dmills239@gmail.com

Assistant Editor: Ruth Bingham, ruthbinghamfreelance@gmail.com

The statements and opinions expressed in the e-newsletter are those of the contributors; the EFC assumes no responsibility for them.

#### **LEGAL NOTICE:**

European Federation of Corrosion (EFC)
President: Prof. Damien Féron
AISBL
Avenue des Arts 56/4C
1000 Bruxelles
Belgium

Association No. : 0425.591.656 VAT No.: BE 0425.591.656

E-Mail: offices@efcweb.org Website: www.efcweb.org

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