

Issue April 2021

<https://www.efcweb.org>

Dear Readers,

This newsletter is being produced a few days earlier than its normal publication date. This is so that we can publicize here the half dozen or more events that are taking place on Corrosion Awareness Day. To remind the date of this is traditionally April 24th. But this year that is Saturday and the events are mainly on the Friday 23rd. There are quite a number mainly seminars (see the **events overview**, a few pages into this newsletter) So if you are free on Friday, I recommend you partake in one or more of them.

Beyond that we have the virtual EUROCORR 2021 to look forward to from 19th-23rd September. It is still not too late to submit a poster! This will be the same format as the successful 2020 virtual EUROCORR (briefly reported here) but promises to be a larger event overall.

Also in this newsletter we have a short article about women in corrosion which contains a very nicely put together collage; and information about the Inaugural Corrosion Awareness award.

So although we are still being heavily restricted in our face to face activities by the Pandemic nonetheless, corrosion is going on and the EFC is doing its very best to fight it just as another group of clever scientists are fighting the Covid. They I am sure will be successful in the end. But like the overcoming of Corrosion it may be a while yet!

We hope you enjoy reading this newsletter.

Douglas Mills

EFC Newsletter Editor

Louise Atkin

Assistant Editor

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A FEW WORDS FROM THE EFC PRESIDENT

To all the members of the European Federation of Corrosion

Dear colleagues, dear friends,

Corrosion awareness is certainly a big step toward a more sustainable way of living. Only when we know how materials can degrade can we take counter measures for protection of assets and in catastrophic scenarios we can save lives. Although corrosion is not always visible, or in some industries corrosion issues

seem to be solved, new technologies like additive manufacturing or low CO₂ – concrete are creating interesting challenges with



regard to durability and degradation of structures. Also green energy production requires durable materials in order to keep the eco balance positive. I am sure that you all know these facts, however we have to keep active in disseminating knowledge and foster awareness for our common field of research.

Therefore, we are celebrating the Corrosion Awareness Day worldwide. Please also read the “few words from Damien Feron, the President of WCO” where you can find links to dedicated activities in the context of the Corrosion Awareness Day. In addition, you can follow EFC and its activities on LinkedIn (with great support from YoungEFC).

EFC is now certifying training programs from our member societies based on an evaluation scheme. This course labelling was approved by the Board of Administrators of EFC and is now ready to be used by our member societies. For obtaining the label “EFC approved course” a member society should submit an application which will be evaluated by the EFC Course Endorsement Committee. This process will assure a

high level of professional training activities in the field of corrosion and corrosion protection across Europe.

As you certainly already heard, this year’s EUROCORR will again be a virtual event. We thoroughly regret that we will not be able to meet in person this year. And we regret that we can’t travel to the beautiful city of Budapest and enjoy the warm hearted hospitality of our Hungarian member society and the Hungarian local organizing committee. We are all lacking networking opportunities and face-to-face discussions, and we hope that next year we will have a “real” EUROCORR again.

Please enjoy reading this EFC newsletter and I hope that you all stay safe and healthy so that we can meet again hopefully soon, at the latest in Berlin on the occasion of EUROCORR2022 next year.

Kind regards

Jörg Vogelsang
EFC President



EUROCORR 2021 NEWS

Virtual event, 19-23 September 2021

Motto: Materials science and advanced technologies for better corrosion protection.

As the 2021 hosts of the renowned annual corrosion congress EUROCORR, HUNKOR, together with the European Federation of Corrosion, EFC, and DECHEMA, we cordially invite you to attend the virtual EUROCORR 2021.

Under the motto “*Materials science and advanced technologies for better corrosion protection*”, the scientific programme of **EUROCORR 2021** gives you an opportunity to catch up with the most recent and

reliable scientific results and the latest industrial achievements.

To reach this aim, the organisers of EUROCORR 2021 will provide high-level scientific presentations via the EUROCORR platform, scheduled in 9-10 parallel sessions for five days based on **650** abstracts submitted for the event so far.

Submission of abstracts for late posters is open until 30 April 2021.

Confirmed plenary speakers:

- Trace element influence of surface treatment and corrosion properties in recycled 6xxx aluminium alloys
Dr. Jan-Olov Nilsson
- Humidity induced failures and corrosion reliability problems in the electronics
Prof. Rajan Ambat
- European Corrosion Medal Lecture: Application of advanced electrochemical and spectroscopical techniques to study the atmospheric corrosion of metals
Prof. Dominique Thierry

For their CVs, see:

<https://eurocorr.org/EUROCORN+2021/Programme>

Special joint sessions in addition to the traditional EUROCORN sessions:

Corrosion in molten salts and ionic liquids for energy applications (WP3 & WP4); Microbial corrosion in marine environment (WP9 & WP10); Microbial corrosion – battling bugs in Oil & Gas production (WP10 & WP13); Corrosion in Concrete and Cathodic Protection (WP 11 & WP16); Polymers in Organic Coatings (WP14 & WP19); Corrosion and corrosion protection of additive manufactured metals (VUB, WP6, WP14 & WP22); Corrosion issues in electric vehicles and e-mobility systems (WP17 & WP23); Corrosion in green and low carbon technologies (WCO, WP10, WP13 & WP15); Corrosion of medical implants and devices (WP6, WP8, WP18 & WP23); Understanding into Accelerated Atmospheric Corrosion Tests (WP17, WP22 & WP25).

For the complete listing of the topics, see:

<https://eurocorr.org/EUROCORN+2021/Sessions>

Key dates:

Submission of late posters deadline:	30 April 2021
Notification of acceptance to authors:	mid-May 2021
Early registration deadline:	31 May 2021
Authors Registration (registration of the presenter required):	30 June 2021
Authors Payment (payment of the presenter required):	15 July 2021

Virtual EUROCORN 2021 exhibition

As part of this year's virtual EUROCORN 2021 conference, we are organising a virtual trade exhibition where companies can showcase and demonstrate their latest products and services, meet with industry partners and customers, and examine recent market trends and opportunities.

Advantages for your company:

- No travel time - no travel or hotel expenses
- More than 800 conference participants expected
- Your virtual exhibition booth will be online from 19-23 September 2021
- We provide 5 templates to choose from for your individual booth
- Space is available for your videos, picture galleries, documents, external links
- Live chat function and webinars (recording possible)
- All contact details of visitors to your stand will be delivered to you

Further information and including attractive sponsorship packages will be available soon.

For general information concerning EUROCORN 2021, please visit the local congress website at:

<http://www.eurocorr2021.org> .

We look forward to meeting you virtually in September!



SUMMARY OF VIRTUAL EUROCORR 2020

REPORTS PUBLISHED IN CORROSION ENGINEERING SCIENCE AND TECHNOLOGY JOURNAL

by D.J. Mills, D. Nuttall & L. Atkin

Below is a minorly edited version of the introduction to the reports on this conference being published in Corrosion Engineering Science and Technology Journal. All twenty eight sessions are being reviewed there across four issues.

Two parts have already been published covering technical sessions on Corrosion mechanisms, methods and modelling, Corrosion reliability of electronic materials and devices, Cathodic protection and Cathodic protection in the marine environment, corrosion in oil and gas production, corrosion in the refinery and petrochemical industry, Corrosion control in low carbon energy technologies particularly solar in (Part 1 -

<https://www.tandfonline.com/doi/full/10.1080/1478422X.2020.1870094?src=recsys>) and Corrosion by hot gases and combustion products, Corrosion of heritage and archaeological artefacts, Corrosion and corrosion protection of additive manufactured metals, Atmospheric corrosion and corrosion monitoring to predict atmospheric corrosion and Environmentally sensitive fracture and environmentally assisted crack initiation (Part 2 - <https://www.tandfonline.com/doi/full/10.1080/1478422X.2021.1910193?src=>)

The remaining sessions. will be covered in parts 3 and 4 being published in May and July.

For further information, go to:

<https://www.tandfonline.com/toc/ycst20/current>

The flagship congress of the European Federation of Corrosion (EFC), EUROCORR 2020 was held under the above theme from the 7th -10th September 2020. Due to the pandemic, this was held as a virtual conference organised by DECHEMA. Thanks must be extended to Willi Meier and his team for making the event such a great success. Great support was also provided by colleagues from Belgium (where the event should have taken place) and from all the Scientific Committees of the EFC. At this inaugural virtual congress there were 605 attendees from all across the

globe with four plenaries, 381 lectures, 70 posters and ten exhibitors. Each of the thirty-three sessions was visited by up to 200 visitors. A charming welcome to EUROCORR 2020 was given by the EFC President and continued with the first plenary lecture which was the European Corrosion Medal Award Lecture by Professor Stuart Lyon, the Laureate of the medal in 2020. He reviewed his work in corrosion over the last thirty-five years. On the Tuesday morning, the plenary was given by Prof. Maria Forsyth (Deakin University, Australia) on “Environmentally friendly multifunctional corrosion inhibitor systems”. On the Wednesday afternoon the plenary lecture was given by Dr. Carol Frances Glover (University of Virginia, USA) on “The many colours of metal-based primers: corrosion protection mechanisms and latest developments”. And on the Thursday, the plenary was delivered by Dr. Oumâima Gharbi (Sorbonne Université, France) on “The additive manufacturing of high strength Al alloys: a new challenge in corrosion science”. Recordings of the plenary lectures are freely available on the Virtual EUROCORR 2020 YouTube channel at: https://www.youtube.com/channel/UCZj_ydPWZhtcFlw6a20gzg There followed the traditional split into about half a dozen parallel session where many interesting papers were given across twenty-eight different topic areas. The conference this year will follow much the same format.



CORROSION AWARENESS DAY 2021

A FEW WORDS FROM THE PRESIDENT OF THE WORLD CORROSION ORGANIZATION



I hope that all of you are well despite the COVID-19 crisis that not only affects our health but also our professional and personal activities. However, be sure that corrosion does not stop and still corrosion degradation is going on

even with the pandemic situation!

The World Corrosion Organization (WCO) is an original organization as it is the only one in the corrosion field recognized as a Non-Governmental Organization (NGO) by the United Nations (UN).

The WCO has a major role in

- (i) raising the corrosion awareness of governments, corporations and the public,
- (ii) Identifying the world's best practices of corrosion mitigation, and
- (iii) facilitating provision of corrosion control expertise.

To reach these goals, the **Corrosion Awareness Day, 24th of April each year**, is of major importance for raising public awareness of corrosion and corrosion protection, spreading the awareness of corrosion in our society and industries.

Since 2010, the European Federation of Corrosion edits an EFC e-newsletter for the 24th of April and several national societies inform their members. Many thanks to EFC and to the national societies for these actions.

As last year, there will be no large meeting in persons for the 2021 Corrosion Awareness Day, but a lot of various activities are already planned like dissemination talks, photo competition, articles in scientific and technical journals or in newspapers, exhibition of corrosion experiments, webinars, Master class in Universities, information links on organisation webpage... For animation of your event, you may use also one or several of the videos that are on the WCO platform: they are here to be used <https://corrosion.org/Corrosion+Resources/Videos.html>

In this 2021 EFC E-newsletter edited for the Corrosion Awareness Day, I would like to highlight a few events

linked to this day, which show that our community is active, imaginative and full of resources, despite the COVID-19 crisis:

- The initiative of the young EFC of a certificate of participation, increasing the visibility of the researcher, groups of laboratories participating to the event (<https://efcweb.org/YoungEFC.html>)
- The first theatre show on corrosion which is planned on April 23rd at Arles (France, see the announcement on <https://vimeo.com/492190722>).
- The initiative of a publisher to give free access, around the corrosion awareness day, to five engineering papers dealing with nuclear corrosion, seawater corrosion, coatings, inhibitors and tribocorrosion (see the link on the WCO website).
- A forum is planned in conjunction with 2021 NACE Corrosion on "corrosion in low-carbon energies (renewables, nuclear and carbon capture) – issues and solutions" on April 26th.

An inventory of the various actions taken in different countries will be helpful to give more visibility to the extent of these events. So, do not hesitate to inform WCO of these activities, we will help you to advertise and make visible your activity all around the world on the WCO platform. I invite all of you to be proactive for the Corrosion Awareness day, to increase the awareness of the public concerning the need to control corrosion for safety and financial considerations. Please, do not hesitate to inform or to report if you participate or if you initiate a specific event for the 24th of April. We need to know all the efforts made in various countries. If you, or your society, were planning activities, it would be nice if you could inform us so that we can promote your activities within the WCO community.

The heart of the WCO beats strongly due to the support and the efforts of the corrosion community, researchers and engineers, post-docs and PhD and Master students. I would like to express my thanks to all of them. With their help, I look forward to these coming years with confidence.

Stay well and be careful. We will meet again.

Damien Féron

CORROSION AWARENESS DAY, 24TH APRIL 2021 - EVENTS OVERVIEW

The COVID-19 crisis has made the traditional way of partaking in events - travelling, setting up a booth, and talking with as many people as possible - almost impossible right now, but that doesn't mean we have to give up on these opportunities.

Virtual events, events taking place over Zoom or on the internet, are more important than ever and Corrosion Awareness Day (24th April) has also jumped on board and this year will be based on virtual events.

- **EFC WP4 (Nuclear Corrosion) Online Seminar** (Friday, 23rd April)
- **Webinar - SWERIM**, Sweden (Friday, 23rd April)
- **Webinar and photo competition - HUNKOR** (in Hungarian), Hungary (Friday, 23rd April)
- **"Iron and Rust"** (*Faire-Fer* in French) theatre production in Arles, France (Friday, 23rd April)
- **Online Technical Session & Corrosion Physical Model Competition** - NACE Islamabad, Pakistan (Saturday, 24th April)

- **WCO Forum** at CORROSION 2021 (Monday, 26th April)

Further details are provided at: <https://corrosion.org/>

VIRTUAL AWARD CEREMONY - EUROPEAN CORROSION MEDAL 2020

In addition to the events listed above, a virtual award ceremony of the European Corrosion Medal 2020 will be organised on

Monday, 26th April 2021 at 11:00 h CET.

[Click HERE to join the Ceremony free of charge](#)

UPCOMING EFC WEBINARS



On the occasion of the CORROSION AWARENESS DAY 2021 the EFC Working Party 4 will hold its 2nd online seminar on Nuclear Corrosion:

Journey to the heart of the corrosion processes involved in a spent nuclear fuel recycling plant

Benoit Gwinner

Université Paris-Saclay, CEA, Service de la Corrosion et du Comportement des Matériaux dans leur Environnement, Gif-sur-Yvette, France

Friday, 23 April 2021, 9:00 to 10:15 CEST (16:00 to 17:15 JST)

Online via Zoom

Please register (free of charge) to receive the link to the virtual meeting room:
https://dechema.zoom.us/webinar/register/WN_C_w7rSEyRhixtgMP9i0KvA

Abstract

The durability and safe operation of the spent nuclear fuel recycling plant in La Hague are major industrial challenges. Among other criteria, a key point is the assessment of corrosion of the structural materials (mainly stainless steel and zirconium) in contact with the oxidizing dissolution medium (hot and concentrated nitric acid with impurities). This goal is achieved both

by a continuous and precise control of the evolution of the wall thickness of the plant equipment and by a detailed investigation of the corrosion processes involved. The aim of this talk is to give an insight on both, cathodic and anodic processes occurring in such systems, including oxide film characterization and modelling results.

For more activities of the WP 4, please visit www.efcweb.org/wp4.html !

“Remote Teaching in Corrosion Education”

– Learnings from professionals in the field –

May 21, 2021

From 10 - 12 (Central European Time, GMT+1)

From 10 - 12 (Central European Time, GMT+1)

FREE INTERACTIVE WEBINAR ORGANISED BY THE EFC WORKING PARTY 7 „EDUCATION“

21 May 2021, 10:00 to 12:00 CEST

Online via Zoom

Education has moved beyond the traditional norms: Physical classrooms are now exchanged with online video calls. Teachers and students are confronted with new challenges.

Program:

- We will hear different examples of how to prepare and teach a successful online/virtual course.
- An interactive session (via breakout rooms) will follow, in which the participants will have the opportunity to share experiences (do's & don'ts) and best practices for online teaching.
- At the end of the meeting, we will share together the conclusions.
- A memo of the A memo of the webinar will be shared afterwards with participants and EFC community.

You can **sign up** to this free webinar through the WP7 website at: <https://www.efcweb.org/WP7>

You will receive the Zoom link for accessing the webinar following the registration.

INAUGURAL CORROSION AWARENESS HONOUR

an annual award to an outstanding individual corrosionist

In association with the World Corrosion Organization (WCO), the Chinese Society of Corrosion and Prevention (CSCP) and the European Federation of Corrosion (EFC) have collaborated to create an international award to celebrate outstanding achievement in raising public awareness of corrosion.

The inaugural annual CORROSION AWARENESS HONOUR is now open for submissions.

The Corrosion Awareness Honour recognises pioneering individuals who have made a substantial contribution to increasing awareness of the importance of corrosion and corrosion protection amongst government, industry and the general public. The award consists of a certificate and the sum of 1,000 EUR.

In their award submissions, nominees should meet some, but not necessarily all, of the following **criteria**:

- a meaningful contribution to promotion of public awareness of corrosion and corrosion protection
- leadership of initiatives with government and/or industry to highlight the importance of corrosion and corrosion protection
- marked impact on the practice of corrosion control through educational, outreach and dissemination activities
- affiliation to CSCP, EFC or WCO.

The closing date for applications is **May 31, 2021.**

The award winner will be notified by **July 15, 2021** and will have the possibility to present a lecture at the award ceremony during the EUROCORR event in September 2021.

Nominations must be addressed to the WCO office:

Dr. Rick Durham
c/o DECHEMA e.V.

E-mail: rick.durham@dechema.de

About WCO:

The World Corrosion Organization promotes education and best practices in corrosion control for the socio-economic benefit of society, preservation of resources, and protection of the environment. Its members are involved in the dissemination of corrosion information, corrosion research, education, mitigation, and/or materials selection.

<https://corrosion.org>

EFC APPROVED COURSE LABEL

Education and training of corrosion protection professionals and technical public is recognized to have a large potential in reducing the societal costs of corrosion. All studies of socio-economic impact of corrosion agree that around a quarter to a third of corrosion costs can be spared if already known principles of corrosion protection are systematically applied in practise.

Since many Member Societies of the EFC provide, develop, or collaborate in training activities and courses, the EFC decided to support them by developing the **EFC Approved Course Label**.

The purpose of the Label is to support the education and training of corrosion professionals in limiting the detrimental impacts of corrosion on assets, the environment, and health. The Label is granted to courses reviewed in detail and proposed by European Member Societies of the EFC, or supported by the European Member Societies, who are responsible for the course content and delivery. The course has to be focused on corrosion, corrosion prevention, or corrosion protection.

The application of a Member Society comprises submission of a questionnaire on the course governance, which will be examined by the *EFC Course Endorsement Committee* composed of four

volunteers and the EFC Scientific Secretary. The Committee will consider if the course outcomes, content, and governance are appropriate in regard of the Label objectives stated above.

The Label will assure high professional standards of any training activity, thus helping Member Societies to attract more attendees. All labelled courses will be listed on the EFC website, which will simplify the access of corrosionists to the appropriate training.

The labelling scheme was ratified by BoA on 24 March 2021 and Member Societies are now welcome to submit their applications.

More information about the scheme and the questionnaire are available on the EFC webpage at: <https://efcweb.org/Events/EFC+Approved+Course+Label.html>.



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“CEA - CORROSION Service”

FRENCH ALTERNATIVE ENERGIES AND ATOMIC ENERGY COMMISSION (CEA)
ENERGY DIVISION (DES)
APPLIED SCIENCES AND SIMULATION
INSTITUTE FOR LOW CARBON ENERGY (ISAS)
DÉPARTEMENT DE PHYSICO-CHIMIE (DPC)
SERVICE DE LA CORROSION ET DU COMPORTEMENT
DES MATÉRIAUX DANS LEUR ENVIRONNEMENT (SCCME)

CORROSION IN THE NUCLEAR CYCLE AND IN LOW-CARBON ENERGIES

CEA-SCCME - Centre de Saclay, Bâtiment 458, PC 50 - 91191 Gif-sur-Yvette cedex, France - Email : emmanuel.herms@cea.fr

NEWS FROM THE WORKING PARTY 4 ON NUCLEAR CORROSION

WP4

Nuclear Corrosion

Henri Coriou Award 2021

This year the prestigious honorary medal of the WP 4, awarded for outstanding contributions to corrosion science and engineering in the nuclear field, will be given to Grace Burke (University of Manchester – Materials Performance Centre, UK). Grace is an industry-recognized scientific leader in the fields of advanced microstructural characterization, irradiation damage and environment-sensitive behaviour (e.g., SCC) of materials for nuclear applications. She has extensive experience in the application of advanced characterization techniques such as analytical electron microscopy, atom probe field ion microscopy, and quantitative microanalysis to structure-properties investigations in a wide variety of power generation and technologically-important materials. Grace is also very active in the field of education and has published more than 130 scientific papers.



Joint session of WP 3 & 4 on 'Corrosion in molten salts and ionic liquids for energy applications' during EUROCORR 2021

Additional to the 'regular' nuclear corrosion session, a joint session on corrosion in molten salts and ionic liquids for energy applications is being organised during this year's EUROCORR together with WP 3 (Corrosion by Hot Gases and Combustion Products). The aim of this joint session is not only to bring together academics and industrialists concerned with material subjected to degradation by molten salts but

also to gather scientists and engineers from different industry sectors. Regardless of the varying structural materials and heat-transfer media in different industrial applications, the approaches and methods used to gain new insights on the molten salt-induced corrosion may be of interest to different kinds of industries and academic fields.

Working Party website: <https://efcweb.org/WP4.html>

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- Non-destructive testing of the corrosion protection provided on metal substrates. Examples: Bridges, tanks, pipelines, ships, aeroplanes, monuments, museum artefacts.
- Used for quality testing metal substrates that have been applied recently.
- Gives you an idea of how many years the coating will last.



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NEWS FROM THE EFC MEMBER SOCIETIES

NEWS FROM THE CROATIAN SOCIETY FOR MATERIALS PROTECTION

It is our pleasure to invite you to the 3rd International Conference on Materials „MTECH 2021“ (EFC Event No. 471). from 6th to 9th October 2021.

MTECH is International scientific conference organized by the Croatian Society for Materials Protection, the Croatian Center for Non-destructive Testing, the Croatian Society for Materials and Tribology and the Croatian Society for Heat Treatment and Surface Engineering. It will take place in Šibenik in Croatia and hopefully will be held in-person,

With this conference, we want to bring scientists, students, engineers, and industry experts together into an inspiring environment for exchanging experience in the field of corrosion, heat treatment, materials testing and tribology. Participants will also have the opportunity to visit the professional exhibition held during the conference.

Topics of the conference:

- Corrosion and corrosion protection methods
- Corrosion resistant materials
- Non-destructive and destructive testing methods
- In-service inspection
- Certification and accreditation
- Measurement and quality assurance
- Materials and processes
- Materials characterization



- Nanomaterials and nanotechnology
- Metallurgy
- Friction, wear and lubrication
- Coatings
- Advanced surface modification and coating technologies
- Vacuum heat treatment
- Heat treatment equipment
- Quenchants and quenching technology
- Mathematical modelling and process simulation of heat treatment

Looking forward seeing you in Šibenik!

<https://mtech-conf.hr/>

POLISH CORROSION SOCIETY ACTIVITIES

07.2020 - 03.2021

During the time of the Pandemic, the Polish Corrosion Society has kept in touch with its members, organizing contests, webinars, developing the website and being present in social media.

In 2020, the Polish Corrosion Society with the Polish Chamber of Steelwork announced a **photo contest "Corroded bridge structures - how far to catastrophe"**. 24 works were submitted, containing 70



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photos. These presented very interesting objects and in addition to many being beautiful shots they showed with great expertise the most endangered element of the structure. 14 works related to railway structures. The authors also sent photos of road bridges. Another group of photos concerns footbridges.

Corrosion processes in all the presented objects pose a threat to the durability of the structure, and in many cases a threat to the lives of users. Unfortunately, most often lack a proper approach to the problem of anti-corrosion. This can lead to lowering their class, narrowing the width of the passage and other limitations of utility functions. The consequences can be time-consuming and cost-consuming detours, greater environmental pollution, irritation and frustration for everyone. In the objects shown, the degree of corrosion is everywhere greater than 50% of the surface, and in many places you can already see the perforation of the elements or large corrosion losses. Such a degree of damage can mean a complete renovation, not just of anti-corrosion protection, but sometimes the entire structure and its replacement with a new one.

In October 2020 the contest was ended and prizes went to:

- 1st prize: **Tomasz Wierzbicki**, work no. 15, showing a footbridge in Lidzbark Warmiński.
- 2nd prize: **Łukasz Rabiej**, work no. 11, presenting the Średnicowy Bridge in Warsaw.
- 3rd prize: **Paweł Rogóż**, work no. 2, presenting the bridge over the Bóbr river, in Siedlęcín.

The first webinar “Protection of reinforced concrete structures” took place on **19.10.2020**. The participants took part in three interesting lectures concerning the following topics: shotcreting in engineering repairs and new construction, the importance of structural, material-structural and surface protection for the durability of reinforced concrete and concrete corrosion problems caused by the influence of the marine environment.

The second webinar "Zinc coatings" took place on **17.10.2020**. Five lectures were presented. The following issues were raised: is it possible to reduce the amount of zinc in paint primers? 10 years of experience with primers from the AVANTGUARD group, epoxy powder paints with high zinc content as an option to protect steel against corrosion, changes in the standards for zinc coatings and a new generation of zinc-aluminum wires for the production of protective coatings by spray metallization.

Each year, PSK runs the **contest for the best engineering Doctoral, Master's, or Bachelor thesis.**

In **2020** the results of the competition were presented during the **third PSK webinar**, which took place on **27.11.2020**. Works performed in **2019** were assessed. In the doctoral dissertations category, the award went to **Agnieszka Giemza**, for her doctoral dissertation supervised by prof. dr. hab. Henryk Bala entitled “Shaping the hydrogenation properties of the active La(Ni,Co)₅ powder by magnetron deposition of high-entropic coatings”.

In the Master thesis category the prize was not awarded.

In the engineering bachelor dissertations category, the prize went to Dominika Prokop for her work under the supervision of dr inż Tomasz Borowski, titled “Investigation of the microstructure and properties of nitrided and nitrocarburized layers in low-temperature plasma in terms of application for sternum-rib plates”. The winners briefly presented the awarded works.

The 4th Webinar “Durability of Fire Protection Systems. Declarations and Reality” took place on **02.02. 2021**. It was the longest webinar, with 7 presentations, nearly 70 participants and interesting discussion.

The following issues were presented: declared durability of fire-resistant paint systems, chemical degradation of fire-resistant paint coatings, important aspects of the application of fire-retardant paints, a difficult role of the paint inspector, case study - fire protection coating system after 11 years of operation, the selection of fire protection systems depending on the corrosivity class of the environment, durability of fire-retardant cement sprays on selected examples.

In March 2021 PSK started with short webinars with broader topics. The first one (and 5th in general), titled **“The benefits of corrosion”** took place on **10.03.2021** and was very well received by the participants. Dr inż. Andrzej Królikowski, who led the meeting, pointed out many advantages of the corrosion process. The meeting took about one hour and was a fresh view on corrosion issues.

As far as the social media are concerned, PSK made a progress in Linked In, posting current content and attracting new members.

Summarizing briefly the PSK activity from 07.2020: five webinars, two contests, progress in social media.

WOMEN IN CORROSION

Leonardo B. Coelho, Andressa Trentin, Aytac Yilmaz, Marta Mohedano
The Young EFC (YEFC)



“YOU CAN'T BE WHAT YOU CAN'T SEE”, Marie Wilson

In contribution to the #WomenAndGirlsScienceDay (February 11th, <https://en.unesco.org/commemorations/womenandgirlscienceday>), the Young EFC (YEFC) put female Corrosionists “on the spot”.

Aiming at increasing the visibility of women scientists, the YEFC female members and other female corrosionists were invited to prepare one photo taken at their workplace. Twenty-one participants engaged and shared their daily life from working sites as diverse as offshore platforms, offices (home offices) and lab environments (Universities, companies).

Starting from 11th February 2021, the YEFC published a series of pictures together with short descriptions on LinkedIn. A selection of the Women who participated is shown in the picture below.

The YEFC board thanks the following women researchers for taking part in this initiative:

María Panera, Alicia Montes Poza and Lucía Suárez Fernández (IDONIAL Centro Tecnológico), Fátima Montemor (Instituto Superior Técnico), Maria Victoria Biezma Moraleda (Universidad de Cantabria), Claudia

Martínez Piñón (CorrosionRADAR), Karoline Neumann (Wood and Hamburg University of Technology), Sarah B. Ulaeto (Rhema University), Yolanda Hedberg (Western University), Farzaneh Akvan (FarCorrosion platform), Pauliina Rajala (VTT Technical Research Centre of Finland), Iffah Iesa (National University of Singapore), Dorina Kovács (Budapest University of Technology and Economics), Mahla Seyedi (University of Ferrara), Iryna Kozina (AGH University of Science and Technology), Noemie Ott (Swiss Federal Laboratories for Materials Science and Technology), Sabrina Rosoiu (University Politehnica of Bucharest), Maryam Eslami (Ohio University), Garima Mittal (Material Innovation Centre), Sarita Sahu (Ohio State University), Beatriz Amanda Watts West (Coast University of Applied Sciences).

For following up the YEFC Women in Corrosion (and more) visit the EFC page at LinkedIn:

<https://www.linkedin.com/company/efc-european-federation-of-corrosion/>

Please check the news updates, upcoming activities and networking within the #corrosioncommunity in Europe at the YEFC webpage:

<https://efcweb.org/YoungEFC.html>



OBITUARIES

Professor George Thompson, OBE, DSc, FEng (1946 - 2020)

It is with deep sadness that we share the news that our dear friend and colleague, Professor George Edward Thompson, who passed away after a long illness on the 9th December 2020. George was a towering presence in the light metal corrosion and protection field over his long career, almost entirely based at UMIST, and then at the University of Manchester. His exceptional talents were widely recognized throughout the worldwide corrosion community. His tireless commitment over more than forty years was key to the success of the UMIST Corrosion and Protection Centre, and underpinned its reputation for excellence, both in the UK and internationally. The major financial support he gained from the UK research councils, the European Union, and industry was critical to its longevity.

George was born on the 7th March 1946 in Old Swan in Liverpool. He graduated with a 1st class honours degree in Metallurgy in 1967 at the University of Nottingham. In 1978 he joined the academic staff at the Corrosion and Protection Centre and was promoted to Professor of Corrosion Science and Engineering in 1990. He served as both Head of the Corrosion and Protection Centre and as Deputy Head of the School of Materials at the University of Manchester.

George's research interests were largely focussed on the corrosion and protection of light alloys with applications in the architectural, automotive, aerospace, lithographic and packaging sectors in collaboration with many well-known industrial companies. George was a leading innovator, introducing and developing novel instrumental approaches to material characterisation. He made extensive use of electrochemical, electron-optical and surface analytical techniques to develop a deep understanding of the influence of microstructure and composition on corrosion and its control. This innovative research was recognised by his appointment as an OBE for research services to the Defence Industries and by election as a Fellow of the Royal Academy of engineering and many other prestigious awards. He received the TP Hoar Award from the Institute of Corrosion and, on 3 occasions, the Kape Memorial Medal from the Institute of Metal

Finishing for best papers in journals. He was awarded the Beilby, **European Corrosion**, IOM3 Platinum, Sainte-Claire Deville and **Cavallaro** Medals, and in 2000 the UR Evans Award, by top International Learned Societies. He was the first UK scientist elected to Fellowship of the



US Electrochemical Society and, in 2009, received the Distinguished Achievement Medal from the University of Manchester as Researcher of the Year.

Internationally recognised as the “go to” expert in academic circles for all things related to aluminium oxidation and corrosion control, particularly for the fundamentals of aluminium oxide growth mechanisms and his use of advanced characterisation techniques, George took part in collaborations across the world and the demand for him as an invited speaker endured over several decades. He had a longstanding collaboration with Professors Ken Shimizu and Hiroki Habazaki, at Keio and Hokkaido Universities, which led to the extension of the approaches he used so successfully with aluminium to the study of anodic oxide growth on other metals, such as hafnium, niobium, tantalum, titanium, tungsten, and zirconium.

Of all his achievements, perhaps his greatest, was the opportunity he gave to the many MSc and PhD students and postdoctoral workers, to study with him at the Centre, and afterwards to establish themselves in careers in academia, industry and elsewhere. He was renowned for being exceedingly generous with his time and support.

George will be sadly missed by his friends, colleagues and collaborators around the world, leaving many cherished memories that will remain forever in the hearts of everyone he worked with. Our sincerest condolences go to his wife Marilyn, son James and daughter Sarah.

With thanks to Professor Thompson's family and his many friends and colleagues who shared their memories of George and his life. © Geoff Scamans, Peter Skeldon and Xiaorong Zhou: Licensed under CC-BY-NC (Edited by the EFC Newsletter Assistant Editor - THE FULL VERSION, see: <https://efcweb.org/Awards/Cavallaro+Medal/Previous+Laureates+of+the+Cavallaro+Medal.html>)

Venice Kamel Gouda (1934 – 2021)

Egyptian academician and first female Minister of Scientific Research

On 21 March 2021 Venice Kamel Gouda passed away, Venice was an unusual person who was able to combine the interest in science with the political and social commitment. She earned a Bachelor's Degree in Chemistry from Ain Shams University and a Masters and PhD from Cairo University. She was Emeritus Professor at the National Research Centre of Cairo. She was Egypt's first female Minister for Scientific Research from 1993 to 1997. While holding this post, she achieved several important milestones including developing the National Science and Technology Policy, formulating a number of priority technology strategies, revitalizing and reengineering the thirteen research and development institutions affiliated to the MOSR, and establishing a 5-year strategic plan. She represented Egypt as head of several official delegations in Germany, Pakistan, Romania, Switzerland and USA. Venice received several awards and honours, including the International Fellow Award of the National Association for Corrosion Engineers, the Kuwait Foundation for the Advancement of Sciences Award, an Honorary Certificate for Scientific Excellence in Applied Sciences, and the Field of Corrosion (Arab States Level) award. She was also selected as the Best Woman in Science and Technology by the Third World Academy of Sciences and Technology, among ten eminent women scientists in developing countries. On the national level, she was awarded the Medal and Symbol of Sciences and Arts of the 1st order in 1975 from President Anwar El Sadat, and was given the Gold Medal State Prize of Merit in Basic Sciences, in 2004, from President Hosni Mubarak and by the Egyptian State in 2017 with the Order of the Sciences and Arts of the first class.

She contributed to set up a programme for vocational training for young men and women, named *Qualifying for jobs*, based on scientific footing and inspired by job market needs.

In the field of academic research she devoted her attention to materials science, metals, corrosion inhibition and monitoring and the safeguard of cultural heritage. She published more than 140 scientific research papers and has two patents registered in her name. She was an active member of the International Corrosion Council as representative of Egypt, and of the EFC Working Party 21 on Corrosion of Archaeological and Historical Artefacts. She had many special interest and experience in corrosion of steel in concrete, stress corrosion cracking, corrosion fatigue, erosion-corrosion and diagnosis of engineering failure.

She supervised several M.Sc. and PhD theses in corrosion and applied inorganic chemistry. She was invited to deliver scientific lectures and chairing scientific sessions in several universities and research centers in Belgium, Canada, England, Italy, Germany, Kuwait, Pakistan, USA and to deliver general lectures to the national organizations affiliated to the United Nations. She designed and lectured advanced training courses in the area of Corrosion, Corrosion Control and electroplating. She also worked as a scientific consultant for many industrial institutions and she was the organizer and the Chair of Several National Conferences dealing with important issues for Egypt.

The passing of this exceptionally talented Egyptian lady, Venice Kamel Gouda, deserves reflection on a life intensively well lived.

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FUTURE EUROCORR – THE EUROPEAN CORROSION CONGRESS

Each year EUROCORR attracts over one thousand corrosion experts from all over the world. The high level of scientific expertise of the participants has made EUROCORR a permanent fixture on the agenda of experts from universities and industry. For young colleagues the Young EFC provides a platform to exchange ideas with expert colleagues and to become part of a unique network.



EUROCORR 2022

Berlin, Germany, 28th August – 1st September 2022
(EFC Event No. 472)

Motto: Corrosion in a Changing World – Energy, Mobility, Digitalization



Invitation

The EUROCORR local conference organising committee is pleased to invite you to the European Corrosion Congress 2022 which is to be held in Berlin, Germany.

The conference programme will include plenary meetings, keynote lectures, oral and poster presentations, supported by the various EFC Working Parties along with specific workshops.

Berlin stands for freedom, tolerance and diversity of lifestyles. Go on a journey through time and discover the scenes of world history in Berlin. You should therefore note the date and plan a trip to Berlin in autumn 2022.

Exhibition and sponsorship

The exhibition will be a showcase for all participants and a valuable communication tool. Companies are invited to display their full spectrum of instruments, equipment and services to the international congress delegates.

The wide range of congress sponsorship initiatives are designed to increase the visibility of your company and to optimise participation in EUROCORR.

Save the dates:

The call for papers will open in Autumn 2021.

Paper Submission Deadline: **14 January 2022**

Early Bird Registration Deadline: **31 May 2022**

Organiser & contact

DECHEMA e.V.

Andrea Köhl

60486 Frankfurt am Main

E-Mail: eurocorr@dechema.de



Website: www.eurocorr2022.org

SAVE THESE DATES!

EUROCORR 2023

Brussels, Belgium, 27th – 31st August 2023

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 EUROCORR 2023.

Place: Brussels, SQUARE – Brussels Meeting Centre

Information:

- University of Mons, Prof. Marjorie Olivier, marjorie.olivier@umons.ac.be
- VOM, Ir Veerle Fincken, v.fincken@vom.be
- Vrije Universiteit Brussel, Prof. Herman Terryn, herman.terryn@vub.be
- Materia Nova, Dr Mireille Poelman, mireille.poelman@materianova.be

EUROCORR 2024

Paris, France, 1-5 September 2024

EUROCORR 2024 will be organised by CEFRACOR in cooperation with Chimie ParisTech.

Place: PARIS Congress Center

FORTHCOMING EFC EVENTS 2021/2022



Please check the respective event websites for postponements and formats!

EFC Event No. 469

Online, 27-28 April 2021

Training on "Reliability Testing and Protection"

Organised by GfKORR

Language: English

<https://gfkorr.de/Veranstaltungen.html>

EFC Event No. 473

Online, 25 May 2021

Course on "Corrosion and Protection of Materials"

Organised by the Portuguese Society of Materials - Technical Division for Corrosion and Protection of Materials

Scope: Covering several topics, from "Costs and Fundamentals of Corrosion", to "Techniques for prevention and protection" or "Standardization."

Language: Portuguese

<http://www.spmateriais.pt/corrosaoeaprotecao/>

EFC Event No. 468

Torino, Italy, 30 June – 1 / 2 July 2021

GN CORR 2021 - Giornate Nazionali sulla Corrosione e Protezione - XIV edizione

The most important national event on corrosion organised by Associazione Italiana di Metallurgia with the support of APCE, NACE Milano Italia Section and University of Torino

Language: Italian

<http://www.aimnet.it/gncorrosione>

EFC Event No. 455

Antibes Juan-les-Pins, France, 8-10 June 2021 (NEW DATE!)

7èmes Journées Protection Cathodique et Revêtements Associés (7th Cathodic Protection and Associated Coatings meeting)

Organised by CEFRACOR

Scope: This event on cathodic protection and associated coatings is devoted to end users as well as suppliers of equipment, designers, service companies, authorities, laboratories, universities and research centres. Progress accomplished in terms of science and techniques, standardisation, and certification of personnel will be addressed for all application sectors

(buried, marine or concrete structures, internal components of equipment). An exhibition will complete this event.

<https://www.cefracor.org>

EFC Event No. 466

Online 15-16 June 2021

ACHEMA Pulse

The digital flagship event for the global AICHEMA community

<https://www.achema.de/>

EFC Event No. 451

Cambridge, United Kingdom (COVID permitting), otherwise on-line

5-9 September 2021 (NEW DATE!)

Advances in Corrosion Protection by Organic Coatings - ACPOC

Scope: Presentations on latest advances in corrosion protection by organic coatings, including topics on pre-treatments and inhibitors.

<https://www.acpoc-conference.org/>

Contact: stuart.lyon@manchester.ac.uk

EFC Event No. 471

Šibenik, Croatia, 6-9 October 2021

3rd International Conference on Materials „MTECH 2021“

Organized by the Croatian Society for Materials Protection, the Croatian Center for Non-destructive

Testing, the Croatian Society for Materials and Tribology and the Croatian Society for Heat Treatment and Surface Engineering.

Scope: Exchanging experience in the field of innovation, materials development and testing methods, as well as linking all those who are engaged in experimental research with those whose activities include design, production, quality control and other aspects of industrial production.

<https://mtech-conf.hr/>

EFC Event No. 466

Frankfurt am Main, Germany, 4-8 April 2022 (NEW DATE!)

ACHEMA 2022

Scope: Future production: modular, connected and smart; Industrial intelligence and sensor-based process control; Plant design and maintenance; Pumps, compressors, valves and fittings: state of the art in fluid handling; Innovative mixing and separation solutions; Bioprocessing: bioreactors, process development and control; Pharma meets production; Renewing the chemical & pharma supply chain; Materials and material processing; Additive manufacturing; Innovative product design in mechanical process engineering; The digital lab: laboratory and analytical techniques; Raw materials; Water technologies; Future energy use in process industries; Product and process security; Safety First!

<https://www.achema.de/>

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: <https://www.efcweb.org/Events.html>

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

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