

APRIL 2023

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CELEBRATING CORROSION SCIENCE AND A NEW VISION

Dear corrosionists,
Welcome to the first EFC Newsletter of 2023, which I'm pleased to say is celebrating World Corrosion Awareness Day on 24 April. Co-founded by EFC and other leading corrosion protection societies, the World Corrosion Organization day is recognised by the United Nations and serves as a timely reminder of the safety, health, environmental and financial impacts of corrosion on our lives.

Young EFC and EFC member societies have been busy announcing initiatives to inform material experts, architects, students, and the wider public about our efforts in preserving industrial, transport and power generation infrastructure, vehicles, objects of cultural heritage, electronics and other assets from corrosion degradation.

No matter if it's scientists investigating mechanisms of corrosion processes, researchers looking for improved anticorrosion measures, practitioners developing and selling ready-to-use solutions for corrosion protection, painters protecting structures, teachers sparking interest in corrosion in youngsters, or students preparing themselves for one of these carrier paths, we are all proud to belong to the community of corrosion fighters.

As corrosionists we will never be celebrated as much as firefighters, astronauts, or physicians, and we are fine with that. However, without our patient work, this world would be a much more dangerous, poorer, and gloomier place to live. Therefore, Monday 24 April is a day to thank corrosionists from all over the world

for their tremendous efforts. And for those young corrosionists out there: Believe me, you have made a good choice to select a highly rewarding and pleasant career path. Unhappy, depressed, unemployed, or poor corrosionists are as rare as lustrous pieces of carbon steel washed up from the sea.

Since its foundation in 1955, EFC has strived to help corrosionists meet, exchange, learn and efficiently serve the community. Working Party Chairs, members of the Board of Administrators, as well as various members of different committees all work on a voluntary basis, organising events, preparing books and training courses, selecting the best abstracts for EUROCORR, assessing applications for financial support, and much more besides.

Together we do our best to foster and value this spirit. Still, we know that some aspects of our daily business could be done better if we only had a professional with us. So, I am happy to announce that from 1 April, Mr Pascal Collet with waste experience in business development will join us as Chief Operating Officer (COO), a new position approved recently by General Assembly of EFC. He will be responsible for improving our services to Member Societies and the whole corrosion community, making EFC and EUROCORR more attractive to industry, and also helping to drive further growth and internationalisation. Pascal, welcome on board.

Yours,
Tomáš Prošek, EFC President



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BRUSSELS READIES TO WELCOME CORROSIONISTS

EUROCORR will transform Brussels into the capital of corrosion with a focus on the new generation of corrosion engineers



The 2023 EUROCORR conference in Brussels will focus on the new generation of corrosion engineers through plenaries, keynote lectures, oral and poster presentations

EUROCORR 2023 in Brussels is only months away and this year will focus on the new generation of corrosion engineers, who will have the floor throughout the congress. The organisers, VOM asbl in collaboration with the University of Mons (UMONS), the Vrije Universiteit Brussel (VUB), Materia Nova, and DECHEMA are expecting more than 800 delegates to EUROCORR 2023, which will address the latest industry talking points.

Currently, there is a huge impact on metal selection on topics like the Greenddeal and Circular economy. New metal surfaces and substrates like recycled metals, additive manufactured metals, new coatings, and new inhibitors are

rapidly finding their way to market to meet these essential challenges. It puts the corrosion society (both academia and industry) under pressure to define research strategy better, focusing on the implementation of improved corrosion protection systems supported by predictive models.

The congress aims to reduce the gap between academia and industry, especially in the field of corrosion prediction by advanced measuring, modeling, and monitoring. EUROCORR 2023 will provide opportunities to create global contacts, facilitate networking to exchange knowledge and the latest findings between scientists, academics, researchers, students, and industry related to corrosion.

MEET THE DELEGATES

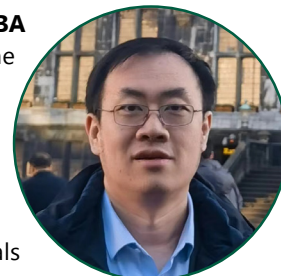


→ **SOFIE NØRAGER, BELGIUM**
**Safe and Sustainable by Design
 Chemicals & Materials**
 Sofie is currently the Deputy Head of the Industrial Transformation of DG Research and Innovation unit at the European Commission

→ DAWEI ZHANG, CHINA

Lecture TBA

Dawei is Deputy Director of the National Materials Corrosion and Protection Data Center at the University of Science and Technology Beijing, and Associate Director of the Beijing Advanced Innovation Center for Materials Genome Engineering



→ **NIAMH HOSKING, USA**
**Real-World Applications of
 Corrosion Science: Perspectives
 from the Automotive Industry**
 Niamh is a Research Engineer at Ford Motor Company who specializes in corrosion protection for automotive materials

→ SVIATLANA LAMAKA, GERMANY

**Light alloys: unravelling mechanisms
 for degradation control**
 Sviatlana is Head of the Department of Electrochemistry and Big-Data at the Institute of Surface Science of Helmholtz Zentrum Hereon, Germany



WELCOME TO BRUSSELS

Brussels will become the capital of corrosion as hosts of EUROCORR 2023, which this year will take place close to the Grand-Place (below), in the historic heart of the city. EUROCORR will provide the perfect opportunity to discover the charming 11th century square, in between lectures.

CONFERENCE PROGRAMME

- Corrosion and Scale Inhibition (WP1)
- Corrosion by Hot Gases and Combustion Products (WP3)
- Nuclear Corrosion (WP4)
- Environment Sensitive Fracture (WP5)
- Corrosion Mechanisms, Electrochemical Methods in Corrosion Research and Modelling of Corrosion Processes (WP6 and WP8)
- Corrosion Education (WP7)
- Marine Corrosion (WP9)
- Microbial Corrosion (WP10)
- Corrosion of Steel in Concrete (WP11)
- Corrosion in Oil and Gas Production (WP13)
- Coatings (WP14)
- Corrosion in Refinery and Petrochemistry (WP15)
- Cathodic Protection (WP16)
- Automotive Corrosion (WP17)
- Tribo-Corrosion (WP18)
- Corrosion of Polymer Materials (WP19)
- Corrosion and Corrosion Protection of Drinking Water Systems (WP20)
- Corrosion of Archaeological and Historical Artefacts (WP21)
- Corrosion Control in Aerospace (WP22)
- Corrosion Reliability of Electronics (WP23)
- CO₂ - Corrosion in Industrial Applications (WP24)

- Atmospheric Corrosion (WP25)
- Medical Implants and Devices (TF)
- Corrosion of Green & Low Carbon Energy Technologies (TF Green)
- and numerous Joint Sessions and Workshops on hot topics

BE PART OF EUROCORR 2023

There's still time to be a part of EUROCORR 2023 and give yourself access to a range of new scientific resources, join a community of world-renowned specialists, and discuss the latest breakthroughs in corrosion.

Take the chance to get an early bird price and **save up to €170**. The last minute **poster deadline is 30 April 2023**, while the **early registration deadline is 29 May 2023**, so act fast. The full registration fee includes:

- Refreshments and congress materials
- Admission to the scientific sessions
- Admission to the exhibition and poster area
- Welcome reception on Sunday 27 August 2023
- Exhibition opening and poster party on Monday 28 August 2023

CONGRESS SECRETARIAT CONTACT:

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190 00 Prague 9, Czech Republic
Phone: +420 284 001 444,
Web: eurocorr2023@guarant.cz, guarant.cz

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Phone: +32 (0)16 40 14 20 Web: info@vom.be, vom.be
EUROCORR2023.ORG



One of the world's most beautiful squares, the Grand-Place in Brussels (right) boasts Baroque and neo-Gothic architecture and is within a short walk of the Bourse/Beurs underground tram station

Wikimedia Commons / Vase Petrovski

YOUR EUROCORR 2023 HOSTS

UMONS

VOM
BEYOND TREATMENT OF SURFACES

VUB VRIJE
UNIVERSITEIT
BRUSSEL

**MATERIA
NOVA** Materials
R&D Center

DECHEMA

"IT'S KEY TO CREATE A STRONG LINK BETWEEN THE INDUSTRY AND ACADEMIA"

Pascal Collet's arrival as COO heralds an exciting time of change for the EFC



Whether it's establishing his own company, setting plans for the future, or competing in a triathlon, EFC's new Chief Operating Officer (COO), Pascal Collet, is determined to succeed in everything he undertakes, "otherwise without any objective it's very difficult to plan something," he explains.

Speaking from his home in Senlis, north of Paris, Collet's appointment with the EFC comes at an exciting time of change for the Federation. Having established his own consulting company in 2016, Markote, Collet has two decades of experience in international business development and management and is now focused on transferring that experience to the EFC - and he has a clear objective in mind.

"For me, what will be very important is to create really a strong link between the industry and the academia," explained Collet, who started out as an Inks and Coatings Technologist for Francolor Pigments, a division of ICI.

Having spent the first few weeks of his tenure with the EFC in meetings, speaking to his new colleagues, and absorbing feedback, Collet knows what his new role involves and has big plans for the future.

"I must be a facilitator between the EFC and the members, meaning to help them in their activities, the affiliate members and society members. We need to support them when they organise events, when they organise training, or education seminars and so on. But, also to communicate about their activities, because for me EFC is a hub of services, communication, and education.

"So, the first mission is to develop the EFC. We cannot really extend the number of society members because there is more or less one society per country and all of them are members of the EFC. But we can develop the number of affiliate members. And we can also develop the number of events to promote the EFC. At the moment there is EUROCORR, but there is also the opportunity to take World Corrosion Awareness Day and embrace it as an EFC event in

Europe, and also find other ideas to make the EFC better known within the community."

Raising the profile of the EFC is high on Collet's list of priorities. He has experience in this field, having introduced a new protective coating to oil and gas pipeline operators for a Dutch contractor and generated cumulative sales of €500k in his role with Markote. And he knows just where to start when it comes to making the EFC better known in the corrosion community and beyond.

"When I talk with people about the EFC, very often they say they don't know much about the Federation and its activities," explains Collet of the challenge of promoting the EFC. "They know about the activities of their national society, but when it comes to the European Federation, they are not really aware of its activities, apart from EUROCORR, which is very famous. But again, mostly for academia. For instance, I discussed EUROCORR with a good contact working at a gas operator and he told me that, for him, it's too much research and development oriented.

"So, I think there is a lack of something for him to learn. There is a scientific programme and probably we should have more technical aspect of experience in the field from operators or from industry to really create more links between the academies, the institutes or the research centers, and the industry. For me, it's key for the EFC to succeed, to create this link between the industry and academia."

Linking all aspects of the corrosion community is a clear objective for the incoming COO and it's not just Europe's foremost corrosion conference that Collet has identified as a potential area of expansion.

"It's not only EUROCORR, but World Corrosion Awareness Day too," says Collet. "And I would say we don't use it, so what I propose is to make this event or this day a new flagship of the EFC. To create events, spread knowledge, and participate in the education of people by preparing

seminars and so on. But also at the same time to find sponsors in the industry. So to make, again, a connection between the scientist presenting papers and the industry sponsoring the event, and to create the link between the two communities. I think it'll also be useful for the industry because to be in contact with the institute of the research centres, not only for the content of the papers presented, but also to establish a communication link between the industry and students to propose jobs. Really, this event would become an opportunity for students to meet the industry and find jobs or internships.

"The idea for me is to breed some new ideas related to the development of the EFC, because I consider the EFC as a hub of services and events and products, but not only for academia, but also for the industry. And really to participate in the growth of the EFC by having more affiliate members. It's typically companies, but there are around only 15 affiliate members. It has big potential to develop the EFC."

Next year marks Collet's 35th year in the industry after graduating from the School of Higher Studies in Engineering (Hautes Etudes Industrielles) in Lille and taking a job in 1989 with Francolor Pigments. However, his decision to join the industry perhaps comes from an unlikely source, as art was his somewhat surprising inspiration. Corrosion and art don't always cross paths, but inspired by the colours of Fauvist art (a highly colourful form of Impressionism from the early 20th century) and the depictions of light in Flemish art, the choice for Collet was clear.

"It's so wonderful. Absolutely nobody has been able to repeat that," explains Collet of the emotional impact that Flemish art has on him. "And because I like the colors in Fauvism I started to work in the colour industry. I started to work for ICI and then for a French company that was part of the Colours and Fine Chemicals division of ICI.

"I still make some drawings myself. I liked it a lot when I was young and I started again to draw during the Covid period because I was at home so much."

Colourful art isn't Collet's only means of expression, as he's also a keen athlete.

"I used to do the Olympic triathlon distance," he said. "I wanted to test on myself and to discover how I was able to manage it on longer distances. And, what I was excited by was the race management. How to balance the efforts between the three sports - swimming, cycling, and running. Because I love outdoor sports, generally speaking, and especially those three sports. It was something I did 30 or 35 years ago, and then rediscovered in about 2015 at a triathlon in the grounds of the Château de Chantilly."

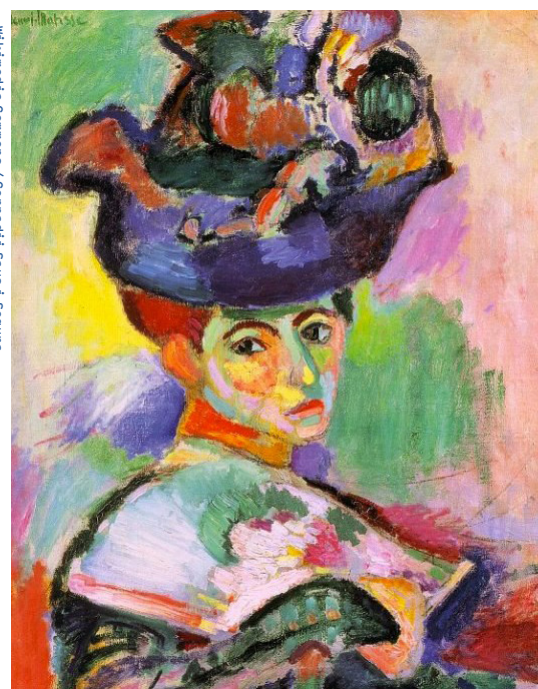
And while triathlon has no direct link to the corrosion industry, the way Collet approaches each challenge reflects his determination and focus, and hints at what EFC members can expect from him.

"I was experiencing a difficult situation at work, so I decided to practice more sports, like running, cycling and so on. And it was the opportunity to have an objective, otherwise without any objective it's very difficult for me to plan something. So, it was interesting to define targets and make an action plan, a training program, and to execute it."

PASCAL COLLET'S CV
 → **2016 - PRESENT**
 Markote Founder and President
 → **2009 - 2016**
 Marketing & Business
 Development Director and
 Strategic Marketing Manager
 at SIPCO, KSA / BS Coatings
 → **2008 - 2009**
 Dacral Marketing Director
 → **1997 - 2007**
 Francolor Pigments Sales &
 Marketing Manager
 → **1989 - 1997**
 Francolor Pigments Inks &
 Coatings Technologist



Inspired by the colours of Fauvist art like Henri Matisse's Woman with a Hat (far right) and depictions of light in the Flemish art of Jan van Eyck's The Arnolfini Portrait (right), Pascal Collet joined the Colours and Fine Chemicals division of ICI after graduating from engineering school

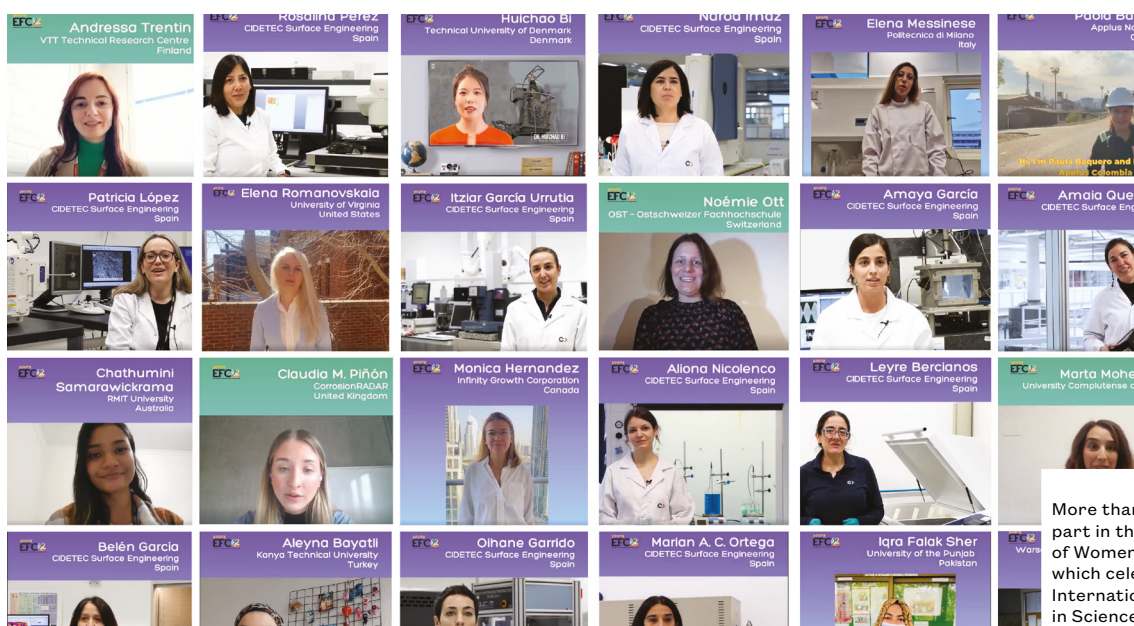


Wikimedia Commons / Seemadil Sava i Sava

YOUNG EFC KICK OFF BUSY YEAR IN STYLE



From empowering webinars to scientific initiatives, awards, and presenting at EUROCORR, the young corrosionists have begun the year in another flurry of activity



The YEFC began what is sure to be another busy year for the young corrosionists with the third edition of the Women in Corrosion webinar (pictured above), which attracted more than 20 women from industry, research institutes, and universities, who raised their voices to celebrate the International Day of Women in Science on 11 February.

The YEFC and EFC EDI Task Force are grateful to all of the corrosionists who participated in this initiative and shared their passion. They show the diverse breadth of careers available in corrosion, while also contributing to female empowerment and gender equality. Their short videos are on [LinkedIn](#) and can also be found on the [YEFC website](#).

DESIGNING COMMUNICATION

The Young EFC launched the exciting YEFC Science Communication Initiative with a webinar focused on mastering scientific poster design on Thursday 6 April, which featured Mike Morrison, an expert in scientific communication.

In partnership with Metrohm Schweiz AG, YEFC will offer two professional workshops on improving oral communication and using effective visuals with Barry Fitzgerald in May and June. Plus, Andrew Akbasheu will host a talk about the use of social media for self-promotion in June. The events are open to all of the corrosion community, regardless of experience in science communication.

SCIENTIFIC WRITING

On Wednesday 12 April, YEFC held the Advanced Scientific Writing webinar in partnership with Elsevier, which focused on how to share and promote articles. Marlene Silva, from Elsevier-Publisher Materials Science, as well as the Editors of Corrosion Science, Prof. Arjan Mol and Prof. Dawei Zhang, all provided useful insights on the subject while discussing their experience.

All previous webinar presentations are available for the Young EFC members upon request. Just send an email to youngcorrosion@gmail.com.

ONLINE EFC CAREER WEBINAR

The online EFC Career Webinar provides an overview of the diversity of careers within the corrosion community and helps to demystify some career pathways. After two webinars dedicated to academic pathways, YEFC turned towards industrial career pathways for their next webinars. On 17 March they hosted an inspiring interactive session with Elizabeth Szala (Aluminum Duffel, Belgium) and Carolina Schneiker (RISE, Sweden) about their respective career paths and the future prospects within the automotive corrosion field.

The YEFC will welcome Peter Visser (AkzoNobel, Netherlands) for the next EFC career webinar at the beginning of June.

YEFC CELEBRATES ITS NINTH CORROSION AWARENESS DAY WITH LECTURES AND AWARDS

The World Corrosion Organization has designated 24 April as Corrosion Awareness Day and the YEFC will be supporting activities to raise awareness of the impact of corrosion in our societies and industries. Among the activities, there will be a corrosion themed photo competition at Corrosion@Manchester (University of Manchester, UK) and at Max-Planck-Institute for Iron Research in Germany.

There will be lectures on Building TRUST against RUST by NITK (India) and Chemistry Behind Corrosion at the University of the Punjab (Pakistan). There are also workshops on the basics of corrosion testing (Saudi Aramco Research & Development Center, Saudi Arabia), as well as seminars on Discussing Data-Driven Analysis of Pitting Corrosion at SURF (VUB, Belgium), Swiss Corrosion Science Day 2023 (Switzerland) and the fourth online seminar on nuclear corrosion (EFC WP4).

So, mark Monday 24 April in your calendar, join an activity, and work together towards increasing awareness of corrosion.

YEFC AT EUROCORN

The ninth annual meeting of the Young EFC will take place on Tuesday 29 August at EUROCORN in Brussels. The conference will be a busy few days for the young corrosionists, who are looking forward to discussing the YEFC and its activities to a broad audience.

PLENARY LECTURE COMPETITION

The 3M Plenary Lecture Competition for early career researchers was organised to select the YEFC plenary.

After a first screening based on a one minute video, CV, and motivation letter, three participants were selected for the second and last round. It was Slava Shkirskiy (left) (ITODYS, Université Paris Cité, France) who was selected as YEFC plenary by a jury of YEFC board members and seven external jury members based on a three minute video about his research. As a recipient of the CNRS 2021 competition, Slava Shkirskiy currently works in the ITODYS laboratory at Université Paris Cité. His plenary lecture on Unsupervised Discovery of Corrosion Mechanisms by Optical Microscopies will take place on Wednesday 30 August.



Corrosion Awareness Day
24 April 2023

WHY?
To disseminate the awareness of corrosion in our society and increase the visibility of your research, group and expertise

HOW TO PARTICIPATE?

REGISTRATION
VIA GOOGLE FORM (BEFORE 15 APRIL)

PARTICIPATION
FROM 24 APRIL TO 24 MAY

CERTIFICATES
ATER 24 MAY

young EFC
EUROPEAN FEDERATION OF CORROSION

ORAL PRESENTATION AWARDS

Two oral presentation prizes that recognise the outstanding communication skills of early career corrosionists will be awarded at EUROCORN. A preselection of 10 candidates will take place prior to the conference based on a three minute video. Up to the challenge? Register [here](#) and send your video to youngcorrosion@gmail.com by 28 July. The awards are donated by the Materials Institute of UMONS (Belgium).

KEY DATES

30 April: Registration opens
28 July: Three minute video due
14 August: Finalists informed
31 August: Award winners announced

ABOUT THE YEFC

The YEFC board consists of **Leonardo B. Coelho** (VUB, Belgium), **Claudia Martinez** (CorrosionRADAR, UK), **Marta Mohedano** (Universidad Complutense de Madrid, Spain), **Noémie Ott** (OST, Switzerland), **Can Özkán** (Delft University of Technology, Netherlands), **Andressa Trentin** (VTT, Finland) and **Aytac Yilmaz** (Ore energy, Netherlands). YEFC is also thankful to **Maryna Taryba** (Technical University of Lisbon, Portugal) for organising the YEFC-Elsevier webinar series.

DEFIANT SPIRIT AT UKRAINIAN CONFERENCE

Ongoing military situation in Ukraine doesn't deter corrosion scientists from the Corrosion-2022 conference in Lviv



More than 100 scientists from 17 countries attended Corrosion-2022 and presented reports alongside 50 scheduled oral presentations (20 offline) and more than 30 poster presentations

The XVI International Conference Problems of Corrosion and Corrosion Protection of Materials (Corrosion-2022) was held in Lviv, Ukraine from 15th to 17th November 2022 in a hybrid format. Jointly organised by the Ukrainian Association of Corrosionists and the Karpenko Physico-Mechanical Institute of the National Academy of Sciences of Ukraine, with the support of the European Federation of Corrosion, and the National Academy of Sciences of Ukraine, the conference was held at a difficult time for Ukrainian corrosion scientists and Ukrainian science.

Despite the military situation in the country, scientists from 14 institutions of the National Academy of Sciences of Ukraine and 21 Ukrainian universities took part in the conference. The presented reports covered fundamental aspects of corrosion and corrosion-mechanical destruction of materials, modern developments of new corrosion-resistant materials, coatings and corrosion inhibitors for the protection of industrial structures, as well as alternative energy equipment.

Former EFC President, Dr Joerg Vogelsang and Dr Agnieszka Krolikowska, President of the Polish Corrosion Society, welcomed participants at the conference opening.

More than 100 scientists from 17 countries, including Ukraine, Germany, USA, Poland, Italy, Portugal, Belgium, Great Britain, Czech Republic, Brazil, Kazakhstan, and more presented reports at the conference, alongside 50 oral presentations (20 of them offline), and more than 30 poster presentations. The meeting was attended online by almost

120 scientists, 40 from foreign scientific institutions. Plenary lectures were given by well-known corrosion scientists, including Robert Kelly (USA) 'Search for Electrochemical Similitude in SCC Testing'; Robert Akid (Great Britain) 'Application of cellular automation-extended finite element analysis (CAXFEM) for the prediction of pit-induced fatigue'; Joao Fernandes (Portugal) 'Corrosion protection of magnesium alloys for biomedical applications', and Ivan Zin (Ukraine) 'Corrosion protection of aluminium alloy by composition based on natural biopolymer'.

At the final session, it was emphasised that the Corrosion-2022 conference contributed to new areas of research in the field of corrosion and anti-corrosion protection of materials, the establishment of professional contacts between Ukrainian scientists and their colleagues from other countries, as well as co-operation between scientists and business representatives.

Based on the results of the conference, the collection of abstracts from Corrosion-2022 was published and the best reports were selected for publication in the Materials Science journal. The organisers and Ukrainian participants of the conference received significant support from renowned institutes and global corrosion specialists. Holding the conference became a real symbol for the unity and indomitable spirit of Ukrainian corrosion scientists.

The XVII International Conference Problems of Corrosion and Corrosion Protection of Materials (Corrosion-2024) will return to Lviv in June 2024.

TASK FORCE RETURNS FOR FOURTH EUROCORN

The Corrosion in Green and Low Carbon Energy Technologies Task Force will host a broad range of presentations in Brussels

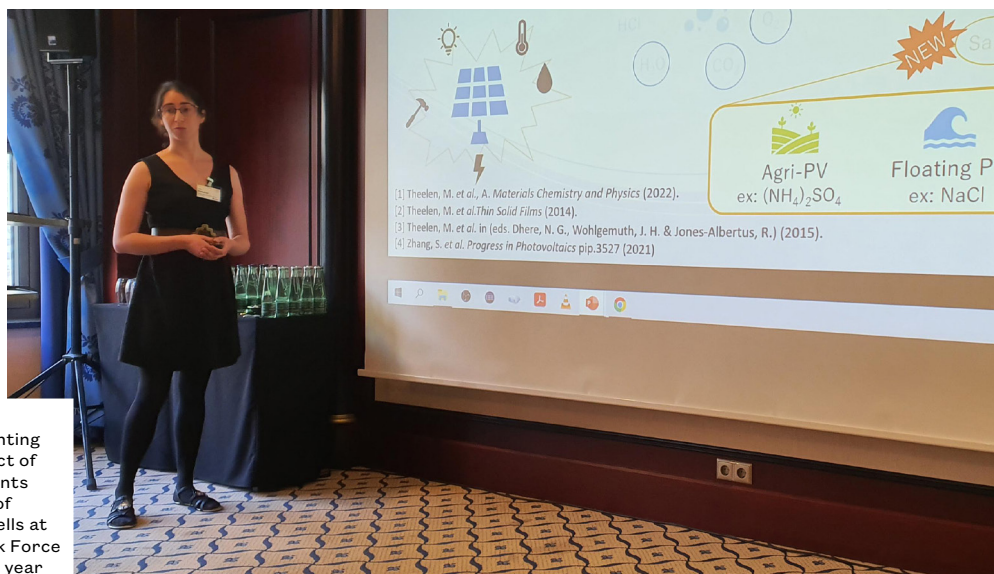
The Task Force for Corrosion in Green and Low Carbon Energy Technologies will once again be in attendance at EUROCORN 2023 in Brussels. This will be the group's fourth session at EUROCORN, following on from a successful session Berlin last year, where numbers were only constrained by the size of the room. Established in 2019, the main Task Force session in Brussels this year will host a broad range of presentations covering solar energy, thermal storage, fuels cells, as well as geothermal and wind energy.

In addition, there will be specific joint sessions together with WP15 (Refinery Corrosion) on Corrosion in Transformation Technologies of Biomass and Waste Oils to Biofuels and Bio Products, and with WP13 (Oil and Gas) and WP24 (CO₂ in Industrial Applications) on CO₂ Corrosion in

Underground Facilities. This year the Task Force will be presenting from a bigger room, so everyone's welcome to contribute to the discussion around these increasingly important technologies.

The Task Force is also involved in a joint session on Hydrogen and Metallic Materials together with WP5 (Environment Sensitive Fracture), WP17 (Corrosion in Automotive), WP 22 (Corrosion Control in Aerospace), WP25 (Atmospheric Corrosion), and the World Corrosion Organization.

This promises to be a groundbreaking series of sessions on the production, transport, storage, and the use of hydrogen, which is an increasingly key technology to help in the transition towards a low carbon energy economy. [Click here](#) to read more about the Task Force.



Adele Debono presenting her paper, The Impact of Atmospheric Pollutants on the Degradation of CIGS-Based Solar Cells at the EUROCORN Task Force session in Berlin last year

NEW EFC APPROVED COURSES REVEALED

The EFC has added four new courses from the French corrosion society, CEFRACOR, to its roster of approved courses.

The four courses approved until the end of 2025 are all in French and are offered alongside a range of other courses from APCE and the Association of Czech and Slovak Corrosion Engineers, AKI.

THE FOUR NEW COURSES ARE:

→ **Industrial water treatments: steam**

boilers and cooling circuits – Basics

→ **Industrial water treatments: steam boilers and cooling circuits – knowledge deepening**

→ **Microbiologically influenced corrosion – Basics**

→ **Material biodeterioration: risk management of microbiologically influenced corrosion of metallic structures**

[Click here](#) to explore EFC's range of approved courses.

WORKING PARTY 11 PUBLISH TASK GROUP REPORT

The Task Group report was published in February and focuses on the application of electrochemical methods for studying steel corrosion in alkali-activated materials

The EFC Working Party 11 started the year by publishing its Task Group report on the Application of Electrochemical Methods for Studying Steel Corrosion in Alkali-Activated Materials in February.

In the report, the Task Group summarises relevant differences between conventional cementitious materials and alkali-activated materials (AAMs) and their consequences for analytical techniques, such as open circuit potential, linear polarisation, and potentiostatic polarisation measurements. Results of the analysis with important implications include that commonly used values for parameters for the calculation of corrosion current densities of steel differ between conventional cementitious materials and AAMs, and that high sulfide concentrations in blast furnace slag-based AAMs lead to results which might be incorrectly interpreted as indicating active corrosion of steel reinforcement, if conventional standards and recommendations are applied. Studies of the steel–concrete interface in AAMs are scarce and, therefore, should be a priority for research in academia and industry.

The aims of EFC Working Party 11, Corrosion of Steel in Concrete include fostering international cooperation, transfer of knowledge, and education. A current advancement in the field of cement and concrete is the development, characterisation, and optimisation of sustainable binder materials, due to the urgent need to reduce the CO₂ emissions caused by cement production and use. One of the most promising candidate materials for a mid- or long-term solution of the problem are AAMs, a

class of cements that are produced by blending reactive aluminosilicates with alkaline solutions or salts of alkali metals. Consequently, there has been extensive research into these materials in the last decades.

Previous research has focused on the properties of the AAMs, and mortars and concretes produced from them, while the behaviour of reinforcing steel in AAMs has received less attention. Nevertheless, a significant number of papers on the topic has accumulated over the years. However, due to differences between conventional cements and AAMs, and the lack of experience with these new materials, the experimental approaches taken were not always appropriate and the interpretation and classification of the obtained data was constrained by considerable knowledge gaps. In parallel, research into the corrosion of reinforcing steel in conventional cementitious materials has progressed significantly, and its focus has shifted from the bulk material to microstructural characteristics of the steel–concrete interface, with possible implications also for studies of steel corrosion in AAMs.

These developments prompted the establishment of Task Group, Steel Corrosion in Alkali-Activated Materials with members from countries in Europe and the United States. The aim of the Task Group was do collate and synthesise the current knowledge about steel protection and corrosion in AAMs, particularly with a view on peculiarities of electrochemical methods commonly used to study steel behaviour in cementitious materials, to aid future studies.

The Task Group report can be [freely accessed here](#).



The EFC WP11 Task Group, Steel Corrosion in Alkali-Activated Materials during the Sheffield meeting in 2018

SOLD OUT NUCOSS-23 SUMMER SCHOOL SELECTS GRANT WINNING PAIR

The students win accommodation and registration at the Slovenian summer school

WP4
Nuclear Corrosion

The two student grant winners for the third edition of the Nuclear Corrosion Summer School (NuCoSS-23) have been announced as Klara Prijatelj, from the Slovenian National Building and Civil Engineering Institute (ZAG), Slovenia and Justice Nwade, Karlsruhe Institute of Technology (KIT), Germany.

Taking place from 2 to 7 July 2023 at the Hotel Špik in Slovenia, the now sold out NuCoSS-23 – which is co-organised by WP4 – follows on from successful events in 2015 and 2019.

And the grant winning pair will have their accommodation and registration paid for at the event.

"I'm elated about the grant," explained Justice Nwade. "I'd been prepping for NuCoSS-23 since last year but wasn't sure about financing. This grant brought me great joy and I'm grateful to EFC for the privilege."

SEASONED EXPERTS

Intended for people from nuclear authorities, industry and research organisations looking for a comprehensive overview of nuclear corrosion, the programme is designed to facilitate networking and knowledge transfer from seasoned experts to the next generation.

"It is a great opportunity to learn about cutting-edge research and development in the field of nuclear corrosion, network with peers and experts, and even do some hands-on experiments as planned," adds Nwade, whose PhD research in the NaMaSK Project at INE addresses corrosion in nuclear reactor decommissioning.

"I believe that discussions with industry representatives and established researchers could help refine my research approach in order to get excellent results, and I look forward to possible collaborations during and after my PhD."

Fellow grant winner, Klara Prijatelj is in the first year of her PhD studies and is relishing the opportunity, "Attending the summer corrosion school NuCoSS-23 is very important for me, because it's an excellent opportunity to meet experts



Klara Prijatelj (above), from the Slovenian National Building and Civil Engineering Institute and Justice Nwade (left), Karlsruhe Institute of Technology have been announced as the lucky grant winners

with whom I could cooperate in the future."

"Getting the scholarship means a lot to me. I am looking forward to meeting experts in this field, to deepen my knowledge about corrosion processes, learn about new current scientific advances, talk about problems of corrosion containers and how to prevent them," added Prijatelj.

Renowned experts (including, D. Féron, F. Scenini, D. Engelberg, R. Kilian, H.P. Seifert, R.-W. Bosch, P. Efsing, J. Noël, L. Martinelli, P. Schrems, and S. Ritter) will all give lectures on electrochemistry and corrosion, corrosion in the nuclear cycle, corrosion in light water reactor plants, corrosion in nuclear waste disposal systems, corrosion in Gen IV systems, and advanced characterisation techniques.

Co-organised by the EFC WP4 on Nuclear Corrosion and ZAG, the Slovenian National Building and Civil Engineering Institute, more information on the Summer School is [available here](#) or by contacting nucoss@ecg-comon.org.

NUCLEAR CORROSION GOES ONLINE AND THEN TO EUROCORR

To celebrate Corrosion Awareness Day 2023, the EFC WP4 will host its fourth edition of the online seminar focused on nuclear corrosion on Tuesday 25 April from 14:00 to 15:15 (CEST/UTC+2).

Professor Damien Féron from the Institut National des Sciences & Techniques Nucléaires is scheduled to present an interesting lecture on *Stress Corrosion Cracking of Austenitic Alloys: From the Coriou Effect to the Stress Corrosion Cracking of Stainless Steel* at the event, which you can [register for here](#), free of charge.

Elsewhere, the WP4 will also host a Nuclear Corrosion Session at EUROCORR 2023, with around 35 oral and poster presentations scheduled to take place in Brussels.

A little more than two days (Monday 28 to Wednesday 30 August) will be dedicated to WP4 activities and interests, while the fall business meeting has been scheduled for Wednesday 30 August.

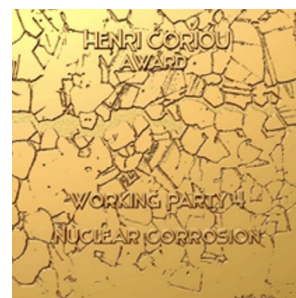
[Click here](#) to find out more about the WP4.

WINNER OF HENRI CORIOU MEDAL HAS BEEN ANNOUNCED

Damien Féron has been announced as the winner of prestigious honorary WP4 Henri Coriou Medal awarded for outstanding contributions to corrosion science and engineering in the nuclear field.

The former EFC President from January 2017 to December 2018 has been working in the field of corrosion for over 40 years, starting with liquid metal, before moving towards work in aqueous media and becoming more generally involved in various fields of nuclear corrosion.

He is the author or co-author of approximately 70 articles in international scientific and technical journals and presented more than 100 papers at a variety of national and international conferences. Congratulations Damien.



EFC TO HOST JOINT SESSION AT ACA CONFERENCE

The Australasian Corrosion Association's conference will focus on Infrastructure in an Age of Sustainability



The EFC is pleased to announce it is partnering with the Australasian Corrosion Association (ACA) to deliver a joint workshop on the theme of Sustainability at the annual ACA conference, which will take place in Perth in November 2023.

EUROCORR participants are strongly encouraged to consider submitting an abstract for this event, which will bring together leading corrosion scientists and engineers from Europe, Australasia, and beyond.

The 2023 Australasian Corrosion Association conference called Corrosion & Prevention will be held from Sunday 12 to Wednesday 15 November in Perth (Western Australia) at the Perth Convention and Exhibition Centre with the theme of Infrastructure in an Age of Sustainability.

The Corrosion & Prevention 2023 conference will feature a full programme of peer-reviewed papers, technical forums, research symposia, as well as networking opportunities. The conference will also provide a platform for industry practitioners who combat corrosion on a daily basis, as well as researchers working in corrosion-related fields to share and exchange ideas.

A focus at the conference will be given to some of the sustainability related issues that corrosion experts encounter on a daily basis, including the corrosion of infrastructure related to renewable energy resources (solar, wind, hydro), optimising the life of assets while considering the whole-life embodied carbon of materials, and the degradation of materials used in hydrogen storage and transport, as well as environmentally responsible and low VOC paints.

This year the ACA has announced that it will be holding a Sustainability Forum as part of the conference, in which leading corrosion practitioners will come together and discuss what sustainability means to them.

To be part of this event applicants will need to submit a brief 500 word abstract outlining the topic of the research that they intend to present. A full paper is not required.

A few dates for your diary include the abstract submission deadline on Monday 1 May 2023, notice of acceptance on Thursday 1 June, and the presentation submission deadline is Sunday 1 October 2023. [Click here](#) to submit an abstract, or [click here](#) to find out more information.

EFC WELCOMES NEW AFFILIATE MEMBERS

Two German companies specialising in automotive coatings and water treatment have announced they are to join the Federation

MANKIEWICZ GEBR. & CO.

Founded in 1895, Mankiewicz Gebr. & Co (GmbH & Co KG) is one of the world's leading manufacturers of coating solutions for industrial series production in the general industry, aviation, and automotive sectors.

Mankiewicz employs more than 1,500 people working at 16 locations worldwide to ensure that coating ideas are implemented. The company celebrated its 125th birthday in 2020 and is driven to combine innovative technologies, customised products and efficient coating processes.

The company made a name for itself around the turn of the century with the production and sale of varnishes for carriages. Since then, Mankiewicz paint

has flown to the moon on a camera lens in 1969 and even appeared in a James Bond film when the interior of the BMW Z3 in GoldenEye was painted with Mankiewicz paint - not shaken, but well stirred by the Mankiewicz experts.

Today, Mankiewicz produces coating systems all over the world from their modern laboratories, technical centres and production lines. Their paint can be found on the blades of wind turbines and in the compartments of high-speed trains. They produce long-lasting aircraft components and have set trends for car interiors as part of the company's aim to use paint to help make surfaces more functional, valuable, and durable.



Today, Mankiewicz produce coating systems all over the world from their modern laboratories, including the interior of James Bond's BMW Z3 in the film Goldeneye

Wikipedia Commons / Vlasjan

AQUA-CONCEPT GMBH



Wasserbehandlung nach Maß

Aqua-Concept GmbH and its subsidiary Schicht GmbH have been developing concepts and products for water treatment and water treatment for over 40 years. Environmental protection is a central responsibility of the company that is certified according to DIN ISO 14001:2015 to guarantee sustainable environmental management. Resource-efficient production, as well as the use of environmentally friendly active ingredients, and low product consumption through the effective combinations of active ingredients help to form the basis of the company's actions.

Among its achievements, Aqua-Concept has been a CO2 neutral company since 2016 that has its own development laboratory with application technology and a range of over 250 chemical products developed in-house. Employing around 60 people with 50% female management, Aqua-Concept have more than 1,600 regular customers and export to over 25 countries, with a focus on Europe, Brazil, Chile, and Pakistan. They received the German Business Award in 2020 and in 2018 were honoured with the Most Innovative Water Treatment Product award at the Global Energy Awards.

MEMBER SOCIETY SPOTLIGHT: AKI

Learning a little more about the Association of Czech and Slovak Corrosion Engineers



ASSOCIATION
OF CZECH AND SLOVAK
CORROSION ENGINEERS

The Association of Czech and Slovak Corrosion Engineers (AKI) has been a member of the EFC for more than two decades. With around 60 individual members and 10 group members, the goal of the association is to bring together companies and researchers, corrosion engineers, technicians and other people in the field of anti-corrosion protection in Czechia and Slovakia.

AKI activities circle around two main goals – an annual scientific conference with a typical attendance of around 100 people. A relatively new idea has been to present a specialised symposia to raise awareness of certain topics for all members, while also inviting experts to give specialised lectures. So far, AKI has organised symposia on Corrosion in Petrochemistry (2018), Automotive (2019), Organic Coatings (2020) and Problematics of Concrete Reinforcement in 2021. Last year, AKI invited Lena Wegrelius (Outokumpu) and followed her keynote Stainless Steels and Corrosion lecture with four more specialised lectures. For the other two days of the programme, lectures covered topics ranging from Energy Generation, to Organic and Metallic Coatings, Case Studies, and Fundamental Corrosion Research.

The second major activity is organising the AKI Corrosion Course. First launched in spring 2019, the course was met with great public interest and to this day, approximately 140 people have passed the course, almost exclusively with very positive feedback. The attendees can receive a certification from the Czech Accreditation Institute, the highest certification authority operating in Czechia.

Two types of courses are offered – a shorter, 40-hour course designed for the technicians and other occupations with a need of very practical education, and a longer, 120-hour course for facility operators, managers, and other attendees headed for overall design and complete care of corrosion issues. In both courses, domestic experts dominate the lectorship base, with several academic experts providing knowledge on more theoretical topics.

In 2021, the AKI Corrosion Course received significant recognition and achieved EFC Approval. The current goal is to finish the digitalisation process of the whole course and offer it in video form. The next step is to enter the international stage and offer the courses abroad. The next course series will start later this year in Slovakia.

PSK IMPLEMENT TWIN CORNET INITIATIVES

The Polish Corrosion Society [PSK] is implementing further projects from the CORNET Initiative, including the EcoWaterZinc project titled "Waterbased, Environmentally Friendly Zinc Rich Primer Systems" and the ColourTune project, "Tuning the color of topcoats - method for selection of pigments and safeguarding color stability".

The projects are performed by the Road and Bridge Research Institute [IBDiM], Lukaszewicz Research Network - Institute of Polymer Materials and Dyes Engineering [SBL-MPiB] in co-operation with Forschungsgesellschaft für Pigmente und Lacke e.V. [FPL] and Fraunhofer Institute for Manufacturing Engineering and Automation [IPA]. Both projects are funded from the state budget by the National Centre for Research and Development under the CORNET Initiative.

The aim of the EcoWaterZinc project is to develop effective zinc primers with

a reduced amount of zinc pigments for ecological and economic reasons. For this, zinc pigments of various shapes were used in the formulations being developed: zinc dust and zinc flakes, untreated and surface treated with silanes, wet, with monofunctional alcohol, and dry. Proper surface treatment prevents the evolution of hydrogen, which is a common problem when formulating this type of water-based primers. The developed paints contain 35 wt.% zinc pigments.

The ColourTune project's main objective is to see if, as a result of aging tests of coatings under cyclically varying conditions involving changes in temperature, humidity and UV radiation, it is possible to determine with high probability how surface coatings should be modified to improve their resistance to weathering, with particular emphasis on optical properties (gloss retention, colour).



POLSKIE
STOWARZYSZENIE
KOROZYJNE

UPCOMING EFC EVENTS 2023-2025

Make a date in your corrosion calendar for all the latest EFC events and conferences around the world

NDTCORR2023 WORKSHOP - DETECTION AND MONITORING OF CORROSION PHENOMENA BY NON-DESTRUCTIVE TECHNIQUES

San Sebastián, Spain,
11-12 May 2023

EFC Event No. 496

Organised by the EFC Affiliate Member,
CIDETEC Surface Engineering

Scope: Corrosion management is a major and transversal challenge for different industries worldwide. It has an impact on such important aspects as safety or durability of key assets of all sectors. Surveys estimate the worldwide annual direct cost of corrosion between €1.3 and €1.4 trillion. Many techniques may be used to monitor and detect corrosion, including Vibro-acoustics, electromagnetics, high-frequency imaging, electrochemical, capacitive, etc. Some of them are developed and adapted to many different applications, while others are exploited for specific applications or to detect a specific type of corrosion phenomenon. The workshop aims to show an overview of the non-destructive sensors used or under development in and for the main industries affected by corrosion as Infrastructures, Petrochemicals and Aerospace, together with methods to predict how corrosion will progress.

To find out more, [click here](#).

ALUMINIUM SURFACE SCIENCE & TECHNOLOGY (ASST2023)

Saltsjöbaden, Stockholm, Sweden, 21-25 May 2023

EFC Event No. 489

Organised by the Royal Institute of Technology (KTH) with the support of the Research Institutes of Sweden (RISE) a Swedish member association

Scope: Several scientific topics focused on aluminium, corrosion, surface treatment and applications

To find out more, [click here](#).

3RD NUCLEAR CORROSION SUMMER SCHOOL (NUCOSS-23)

Gozd Martuljek, Slovenia, 2-7 July 2023

EFC Event No. 488



RAWPIXEL

Organised by the EFC Working Party 4 on Nuclear Corrosion

Scope: The summer school will cover all necessary topics, starting with fundamental electrochemistry, to provide a self-consistent understanding of nuclear corrosion issues. Internationally renowned experts will provide a range of interesting lectures.

To find out more, [click here](#).

GIORNATE NAZIONALI CORROSIONE E PROTEZIONE - XV EDIZIONE

Torino, Italy, 5-7 July 2023

EFC Event No. 491

The most important national event on corrosion organised by the Associazione Italiana di Metallurgia (AIM) with the support of APCE, NACE Italy and Politecnico di Torino.

Conference language: Italian

To find out more, [click here](#).

EUROCORR 2023

Brussels, Belgium, 27-31 August 2023

Organised by VOM asbl in collaboration with the University of Mons (UMONS), the Vrije Universiteit Brussel (VUB), Materia Nova, and DECHEMA

To find out more, [click here](#).

MECHANISM OF HIGH TEMPERATURE CORROSION AND OXIDATION

Marktheidenfeld, Germany, 25-29 September 2023

EFC Event No. 493

Scope: High temperature corrosion studies are more relevant than ever to meet today's challenges in energy production. Fundamental and applied research in this field plays an essential role in the successful shift from the conversion or combustion of fossil fuels to heterogeneous renewable fuels and renewable energies. Associated with the shift to renewable and carbon neutral processes are generally higher temperatures, novel process conditions and media such as salt melt exposures.

To find out more, [click here](#).

EUROCORR 2024

Paris, France, 1-5 September 2024

EFC Event No. 495

EFC's annual EUROCORR conference in 2024 is hosted by CEFRACOR, the French Corrosion Society.

Scope: The programme will include plenary lectures, keynote lectures, oral and poster presentations in all the areas covered by the EFC Working Parties. In addition, the

following topics will be included: Corrosion and corrosion protection issues in additive manufacturing; Design and performance of corrosion resistant High Entropy Alloys (Multi-Principal Element Alloys); Durability of materials for hydrogen energy systems; Certification in corrosion and corrosion protection.

To find out more, [click here](#).

EUROCORR 2025

Stavanger, Norway, 7-11 September 2025

EFC's annual EUROCORR conference will be heading to Scandinavia in 2025.

For the complete listings of future corrosion events around the world, visit the [EFCalendar of Events](#).



Mercury From Wikimedia Commons

The fourth largest city in Norway on the Stavanger Peninsula located in the southwest of the country, Stavanger (right) was founded in 1125 and on its 900th birthday it will host EUROCORR 2025

LEGAL NOTICE

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