

EFC NEWSLETTER

FÉDÉRATION EUROPÉENNE DE LA CORROSION
EUROPEAN FEDERATION OF CORROSION
EUROPÄISCHE FÖDERATION KORROSION



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EUROCORR 2018

Cracow, Poland, 9-13 September 2018

Invitation to EUROCORR 2018

As the 2018 hosts of the renowned annual corrosion congress **EUROCORR**, the Polish Corrosion Society, **PSK**, together with the **European Federation of Corrosion** and **DECHEMA**, cordially invite you to attend EUROCORR 2018.

The conference will take place on the 9th to 13th of September 2018, in the state-of-the-art ICE Congress Centre in Cracow (Kraków), Poland. This modern venue is ideal for prestigious international congresses and conferences, with 36000 square metres of conference space, including a multi-purpose foyer suitable for exhibitions and showrooms.

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Wawel Hill in Cracow

Cracow is the second largest and one of the oldest cities in Poland. Poland's capital from 1038 till 1795, the city suffered only minor damage during the World War II and is a treasure house of architecture and art, collected since the 10th century. Cracow holds a quarter of Poland's total museum resources and it is on the UNESCO heritage list.



Jagiellonian University in Cracow

The noteworthy former Jewish District of Kazimierz was the centre of Jewish life in Cracow for over 500 years. Well-known for its associations with Schindler and Spielberg, traces of Kazimierz's Jewish history have not only survived, but abound in the form of numerous synagogues and Jewish cemeteries.

The Cracow region, or Lesser Poland, also offers many historical attractions for the participants of the Congress. The medieval Wieliczka salt mine with underground tourist route through miner's corridors, chambers, chapels and saline lakes, the Częstochowa sanctuary, the Auschwitz-Birkenau martyrdom museum and the Benedictine Abbey in Tyniec founded by King Casimir the Restorer in 1044.



Salt Mine in Wieliczka

The **scientific programme** of EUROCORR gives you an opportunity to catch up with the most recent and reliable scientific results and the latest industrial achievements, and to take part in the development of new standards and regulations in the subject of corrosion control. Last, but not least, the famous names in the field will be present and available for discussion.

The EUROCORR 2018 Congress has the motto "**Applied Science with constant Awareness**". As always during EUROCORR, each day 10 to 12 parallel sessions will run, some dealing with the most important general corrosion problems and some focusing on those specific to each branch of industry. This year, special attention will be given to coatings, with 149 presentations from the Working Party on Coatings, covering Metallic Coatings, Inorganic Coatings, Organic Coatings, Pretreatments, Bioinspired, Biobased and Bioapplied Coatings, and Chromate Replacement.

A poster presentation of the achievements and cooperation proposals of the most important Polish scientific universities and institutes is planned.

It is the tradition of EUROCORR to invite the outstanding small and large industries in the field to exhibit their products, technologies, test methods and experience. The Exhibition will be fully inserted in the environment of the Congress, so that there will be continuous full contact between exhibitors and participants. Wine and cheese parties will enhance the networking spirit.

Topics:

Working Party (WP) / Task Force (TF) sessions as follows:

Corrosion and Scale Inhibition (WP 1)
Corrosion by Hot Gases and Combustion Products (WP3)
Nuclear Corrosion (WP4)
Environment Sensitive Fracture (WP5)
Surface Science and Mechanisms of Corrosion and Protection (WP6)
Corrosion Education (WP7)
Physico-chemical Methods of Corrosion Testing (WP8)
Marine Corrosion (WP9)
Microbial Corrosion (WP10)
Corrosion of Steel in Concrete (WP11)
Corrosion in Oil and Gas Production (WP13)
Coatings (WP14)
Corrosion in the Refinery Industry (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)
CO₂-Corrosion in CCS-Applications (TF1)
Corrosion Reliability of Electronics (TF2)

Workshops:

Painting control - training for future inspectors
Electrochemical bases of corrosion for non electrochemists
Anticorrosion in sustainable building industry



Key Dates:

Submission of abstracts:

16 January 2018

Notification of acceptance to authors:

30 April 2018

Submission of full manuscripts:

19 June 2018

Contact:

Local Organising Committee
Polish Corrosion Society (PSK)
133A Elbląska Street
80-718 Gdansk, Poland
Tel.: +48 661 964 144
E-mail: eurocorr@eurocorr2018.org
Website: www.eurocorr2018.org

Organised by:



A FEW WORDS FROM THE EFC PRESIDENT

To all the members of the European Federation of Corrosion

Dear members,

EUROCORR is the flagship event of the European Federation of Corrosion. For the first time the EFC's annual conference, the most renowned corrosion event in Europe, has been organised in conjunction with the 20th edition of the triennial International Corrosion Congress of the International Corrosion Council and with the 2017 Process Safety Congress of the Center for Chemical Process Safety (CCPS).

The International Corrosion Council (ICC) was founded in 1961 and is well respected by the corrosion community. Its objectives are broadly similar to those of the EFC viz (i) to stimulate research in corrosion science and engineering and to encourage broad dissemination of the results, (ii) to promote cooperation and friendship among and between corrosion scientists and engineers, (iii) to foster corrosion education, (iv) to facilitate communication between corrosion specialists and engineers. Merging EUROCORR 2017 and the 20th International Corrosion Congress is a major opportunity to bring together researchers, engineers and experts in corrosion science and engineering.

Holding the 2017 Process Safety Congress in conjunction with the 2017 EUROCORR is also a major opportunity to emphasise the links between corrosion issues, safety and the chemical and process industries.

So the whole international corrosion community is converging on Prague for EUROCORR 2017, giving a world visibility to the event. It is a great challenge and a fine opportunity for the EFC to establish an interactive platform providing scientific and technological knowledge, exchanges, cooperation and collaboration. One must remember that the EFC is a society of societies, and I would like to express my gratitude to the European and International member societies as well as to the Affiliate members. They provide the basis and the support of the Federation. The dynamic and powerful mix of science and technology within our Federation is of significant benefit to these member societies and also to you as an individual member of your national corrosion

society. Of course many other services are provided by the EFC, including reduced fees to the EFC congress and its workshops and discount rates for EFC publications.

The heart of the EFC beats strongly due to its many active volunteers. I would like to thank the chairpersons of the twenty EFC

working parties who have been involved in the scientific preparation of the congress together with their ICC correspondents. The EFC working parties form the backbone of the Federation, being responsible of the scientific and technical works. My encouragement and thanks goes to Dr. Wolfram Fürbeth, Chairman of the EFC Science and Technology Advisory Committee (STAC), and to Dr. Roman Bender, EFC Scientific Secretary, who coordinate the working party activities, including those needed for EUROCORRs.

The *Young EFC* network is also contributing a lot to this EUROCORR with dynamism, motivation and talents. These new initiatives together with the EUROCORR Young Scientist Grant provide strengthening of EFC in the European corrosion community.

Many thanks to this network and also to our hosts and particularly to Dr. Tomáš Prošek, President of the Congress and Dr. Milan Kouril, Chairman of the local organizing committee.



I would like also to express my gratitude to the EFC Past-President (Prof. Fatima Montemor) and to the EFC Vice-President (Prof. Arjan Mol) for their availability and support. My appreciation also goes to the EFC secretariat in Paris, London and Frankfurt for handling day to day EFC issues and their high professional level.

I cannot finish this letter without sending my most sincere thanks to Ines Honndorf, compositor of this EFC Newsletter, and to Dr. Douglas Mills and Ruth Bingham, respectively Editor and Assistant Editor of this EFC Newsletter.

I look forward to meeting you in Prague. I wish you an interesting time when reading the present EFC Newsletter and even more of an interesting time during EUROCORR 2017.

Prof. Damien Féron
11th EFC President (2017-2018)

EFC ADMINISTRATION UPDATE

President:	Damien Féron, Gif-Sur-Yvette, France
Vice-President:	Arjan Mol, Delft, The Netherlands
Science and Technology Advisory Committee Chairman:	Wolfram Fürbeth, Frankfurt am Main, Germany
Managing Officer:	Hélène Illaire, Lyon, France
Scientific Secretary:	Roman Bender, Frankfurt am Main, Germany
Frankfurt Office:	Willi Meier / Ines Honndorf
Paris Office:	Marcel Roche / Pascale Bridou Buffet
London Office/Honorary Treasurer:	Julija Bugajeva
EFC Newsletter Editor:	Douglas Mills
Assistant Editor:	Ruth Bingham

LAUREATE OF THE EUROPEAN CORROSION MEDAL

Professor Mario Ferreira



Mario Ferreira

gained his diploma at the Technical University of Lisbon, Portugal, in 1971, his PhD at the University of Manchester, United Kingdom, in 1981, and his Habilitation at the Technical University of Lisbon in 1993. He began his career as Assistant Lecturer at the Technical University

of Lisbon later becoming Associate Professor. He moved to UMIST, UK, to serve as Adjunct Professor (1991-1996). He then returned to the Technical University of Lisbon as Associate Professor (1993-2001), subsequently becoming Adjunct Full Professor (2001-2010) at the University of Aveiro, Portugal, where he founded a research group of 20 people (Group of Studies in Corrosion and Environmental Effects), which he co-ordinated until 2010.

His major research interest during the 90's was the development of both electrochemical (EIS and ENM) and physical (Auger and XPS) spectroscopy techniques to study metallic corrosion. In the 2000's he applied these to the study of sol-gel coatings for the pretreatment of various substrates, pioneering the development of various types of nano-containers doped with inhibitors and modelling the kinetics of targeted inhibitor release. Most recently, his group has been investigating the applicability of both EIS and Scanning Vibrating Technique (SVET) to study the self-healing properties of protective coatings. He has supervised thirty-one PhD students and post doctoral researchers in the field of corrosion at both the Technical University of Lisbon and the University of Aveiro. From 2003 to 2007, he was Deputy

Director General for Higher Education in Portugal. He is co-author of 4 patents including selective electrodes for localised corrosion measurements and nano-containers for active corrosion protection.

Ferreira has previously been awarded the H. H. Uhlig Award (The Electrochemical Society, 2013) and the Cavallaro Medal (European Federation of Corrosion, 2014). He is a Member of many scientific and professional societies. He has been or is a Member of the Editorial Board or Advisory Board of no less than eight journals, including "Revista Corrosão e Proteção de Materiais" and "Portugaliae Electrochimica Acta". He has co-authored over 300 articles in international scientific peer-reviewed journals, as well as 17 book chapters, and has presented over 350 communications in conferences - often by invitation. He is the editor of 3 books.

He has organised a range of international corrosion events, including Electrochemical Methods for Corrosion Research (EMCR) in 1994 and EUROCORR 2005. He was also a member of the Board of Administrators of the European Federation of Corrosion (2010-2013), and a Member of the Coordinating Commission of the Institute of Surfaces, Materials Science and Engineering (ICEMS) (2000-2012).

Mario Ferreira has led the University of Aveiro to a position among the world leaders in the development of a range of nano-containers doped with inhibitors for active corrosion protection and self-healing. It is an impressive achievement which, on top of all his other activities, makes him a very worthy recipient of the European Corrosion Medal.

Professor Mario Ferreira will be awarded his European Corrosion Medal by the EFC President at the opening session of the joint EUROCORR 2017/20th International Corrosion Congress in Prague.

EUROCORR YOUNG SCIENTIST GRANTS



The EUROCORR Young Scientist Grant aims at stimulating interaction and collaboration within the international corrosion community by providing financial support to junior corrosionists, thus enabling them to visit and interact with other corrosionists at their respective institutes abroad.

The conditions of eligibility for the junior corrosionist are to be not older than 30 years of age and to participate in the EUROCORR taking place in the year when the award is granted. The co-applicant should be a member of an EFC Member Society and should preferably participate in the EUROCORR when the award is granted.

Each year a maximum of three EUROCORR Young Scientist Grants, up to a maximum of 1,500 Euros each, are to be awarded.

EUROCORR Young Scientist Grant 2016

In 2016, the EUROCORR Young Scientist Grant was awarded for the first time to three young corrosionists. The recipients will share the experiences from their scientific mission during the *Young EFC* meeting which will take place on **Wednesday, 6th September** at **EUROCORR 2017** in Prague.

The grant enabled Mrs. Elisabetta Di Francia to visit the CEA Laboratory and, later, Lille University, to carry out research aimed at the optimisation of a non-invasive laser cleaning procedure, under the supervision of Dr. Delphine Neff.

The grant enabled Dr. Beatriz Mingo to spend one month at the Corrosion and Surface Technology Group at Helmholtz Zentrum Geesthacht, where she acquired knowledge and experience, under the supervision of Prof. Mikhail Zheludkevich, about active surface treatments for aluminium-based composites.

The grant was also awarded to Mr. Balwei Zhu to enable him to visit Prof. Flavio Deflorian.

EUROCORR Young Scientist Grant 2017

The winners of the EUROCORR Young Scientist Grant 2017, along with the topics they will study and the institutions they will visit, are as follows:

- **Ms. Anissa Céline Bouali** (University of Kiel, Germany) will visit Dr. Alexander Lutz (Vrije Universiteit Brussel, Belgium), in the frame of her studies "*Smart coating optimization and enhancement of their components compatibility*";
- **Ir. Berk Özdirik** (Vrije Universiteit Brussel, Belgium) will visit Dr. Patrik Schmutz (EMPA, Switzerland), in the frame of his studies "*Assessment of electrochemical H-sorption properties in steel by micro-cell technique*";
- **Mr. Hongchang Qian** (University of Science and Technology Beijing, China) will visit Dr. Yaiza Gonzalez-Garcia (Delft University of Technology, The Netherlands), in the frame of his studies "*Shape memory polymer (SMP)-based self-healing coatings*".

Further information about the EUROCORR Young Scientist Grant and the detailed reports of the EUROCORR Young Scientist Grant winners 2016 can be found on the EFC website at:

<http://efcweb.org/EUROCORR+Young+Scientist+Grant.html>



EFC HONORARY FELLOWSHIPS

Professor Pier Luigi Bonora and Professor Michael Schütze

Pier Luigi Bonora received his degree in Chemistry in 1963 and undertook a post-graduate study on the theory and technology of corrosion. He began his teaching career at the University of Ferrara, Italy (1966-1971), before taking up the position of teacher of Chemistry and of Advances in Chemistry at the University of Genoa, Italy. At Genoa he took the position of Professor of Corrosion and Corrosion Control in Industry (1978-1986). He moved to University of Trento, Italy, in 1986 where he was appointed full Professor of Materials Corrosion and Protection (1986-2010).

Bonora's field of research and activity has included: materials corrosion and corrosion control; cathodic protection; materials protection for the transportation industry; paints and coatings (metallic, organic, inorganic); surface pretreatments; reliability, protection, quality control and maintenance procedures for both materials and plants during design, construction, and operation; and electrochemistry and corrosion behaviour of light alloys. He holds patents for an Improved spendable anode for anticorrosion protection of off-shore structures, and the process for manufacturing it.

During this illustrious career, Pier Luigi Bonora has been a Golden Medallist of CEFACOR, France, (2001) and received the European Corrosion Medal of the European Federation of Corrosion (EFC) in 2003.

He was a member of the Board of Administrators (1994-2004) and President of the EFC (1996-1999), as well as being a founder and past-Chairman of the Working Party "Coatings". He is Fellow of both the Institute of Materials and the Institute of Corrosion (United Kingdom), a Member of ISE and of the Associazione Italiana di Metallurgia (AIM), and an Honorary member of the Associazione Italiana Tecnici Industrie Vernici e Affini (AITIVA) and of the Associazione Italiana Finitura Metalli (AIFM), of which he is also one of the founding Members.

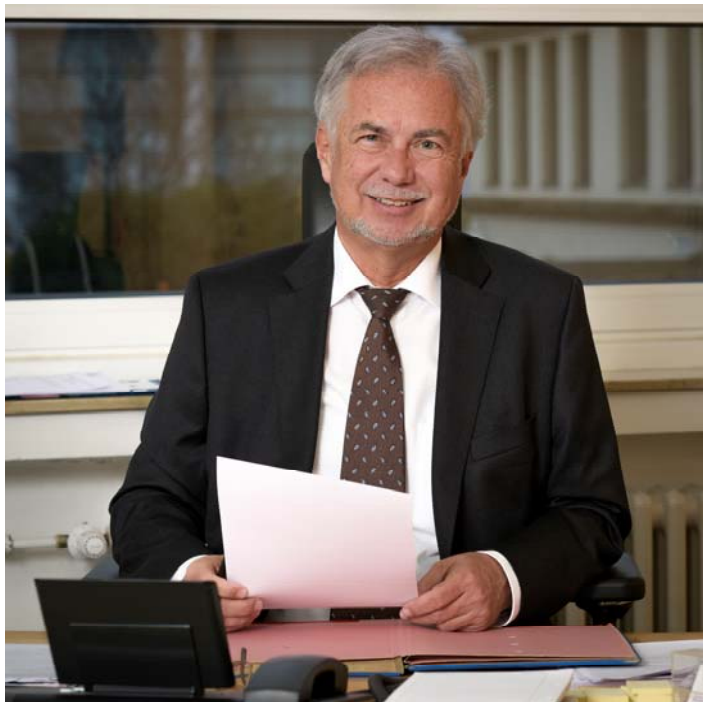
He has organised many international conferences, published more than 250 papers and made 60 communications at Congresses, 35 of which were by invitation.



Pier Luigi Bonora (left) and Lorenzo Fedrizzi
(photography by Ruth Bingham)

In 2009 just before his retirement, at the AETOC meeting of the EFC Working Party "Coatings" in Grado, his former students Flavio de Florian and Lorenzo Fedrizzi together with Jörg Vogelsang presented him with a (largish) copper still as a token of their appreciation of his dedication over many years particularly in the coatings field. This was well received! He continues in retirement to conduct consultancy work and attend conferences, particularly EUROCORR, and even write them up!

So overall Pier Luigi is a most worthy EFC Fellowship laureate!



Michael Schütze gained his Engineering Diploma in Materials Science at the University of Erlangen-Nürnberg, Germany, in 1978, and his doctorate in Engineering Sciences at the Technical University of Aachen (RWTH), Germany, in 1983. Also at RWTH, he was awarded a habilitation in 1991 and a Professorship in High Temperature Materials in 1998. He has served as Director of Materials at the Karl-Winnacker-Institut (1996-2007), Executive Director of the Karl-Winnacker-Institut (2008-2012), and Chairman of the Executive Board of the DECHEMA-Forschungsinstitut (2012-March 2017).

He is an internationally leading person in the field of High Temperature Corrosion Science, and one of very few to combine this study with mechanical aspects. He has generated a large number of publications including a standard textbook on the mechanical aspects of oxidation (*Protective Oxide Scales and Their Breakdown*, John Wiley Chichester, 1997).

Michael Schütze has served as co-editor of *Materials and Corrosion*, Wiley VCH, Weinheim, since 1995. He is a Member of the Board of many prestigious journals including *Oxidation of Metals*, since 1995, and *Corrosion Engineering, Science and Technology*, since 2003.

His teaching activities have included *Corrosion, Materials Science and Damage Evaluation* since 1983, *High Temperature Corrosion and Mechanical Stresses* since 1991, *High Temperature Corrosion for Managers in Steel Industry* since 1992, and courses in *Corrosion Science and Surface Technology* at RWTH since 1993.

Michael Schütze has served as EFC President (2005-2008) and Working Party Chairman of WP 3 “Corrosion by Hot Gases and Combustion Products” and Member of the Science and Technology Advisory Committee (1998-2016), as well as co-opted Member of the Board of Administrators (2005-2012). He has also been active in other committees, including: the World Corrosion Organization (WCO), the International Standards Organisation (ISO), the European Commission, and the Society for Corrosion Protection (GfKORR).

He has received a number of awards, including the Rahmel-Schwenk-Medal of GfKORR – Society for Corrosion Protection (2000), the Cavallaro Medal (2010), the U.R. Evans Award (2012), the Khwarizmi Award (2013), and the UNIDO Award (2015).

A nice man, he is very dedicated to his subject area to which he and his group have made major contributions, Michael Schütze is a very worthy EFC Fellowship laureate.

Professor Pier Luigi Bonora and Professor Michael Schütze will be awarded the Honorary Fellowship of the Federation at the opening session of the joint EUROCORR 2017/20th International Corrosion Congress in Prague.

OBITUARY

Professor Graham Wood, DSc, FEng, FRS

(6th February 1934 - 4th November 2016)

Graham Wood was born in Farnborough, Kent, England and went on to become a towering figure in the somewhat arcane subject that we know of as corrosion science. As a child he attended the local village school, walked and explored the nearby woods and fields, and helped in his parent's large garden. This early experience developed his lifelong love of hiking and for the vegetables and soft fruit that he grew in his garden. At the age of 11, Graham attended Bromley Grammar School excelling at cricket and football as well as academically. He obtained a state scholarship to attend Christ's College, Cambridge University, the first of his family to attend university, where he graduated in Natural Sciences and narrowly failed to obtain a "blue" (i.e. represent the University) in cricket. He subsequently undertook a Ph.D with T.P. (Sam) Hoar, collaborated with Ulick Evans and continued as a postdoctoral researcher with Alan Cottrell.

He met his wife Freda in Cambridge in 1958 while she was working as a teacher and subsequently moved in 1961 to the then Manchester College of Science and Technology as Lecturer in Corrosion Science in the Dept. of Chemical Engineering.

The UMIST Chemical Engineering department was run by Frank Morton and T.K. (Ken) Ross. The latter recognised that corrosion and materials degradation of chemical plant was a major threat to operations and so built up a strong research group in corrosion science. When the "Committee on Corrosion and Protection" under Sam Hoar published its findings in 1971, one of its main recommendations was the establishment of a "National Corrosion and Protection Centre". Ken Ross immediately saw this as an opportunity for Manchester and strongly supported Graham's appointment in 1972 at Britain's first Professor of Corrosion Science with a remit to establish and grow an academic-based "Corrosion and Protection Centre".

From 1972 to 1982 Graham built this up to a steady state of around ten academic (faculty) staff with associated support staff, with the M.Sc programme in Corrosion Science and Engineering feeding into Ph.D research.



Picture: © Freda Wood licensed under CC-BY-ND

He also set up CAPCIS (now part of Intertek), under the direction of David Gearey, when it became apparent that the demand from industry for consultancy services far exceeded the capacity of academic staff to deliver.

As Head of the Corrosion and Protection Centre, Graham was a demanding taskmaster on colleagues but even more so on himself. However, away from the direct focus of work, he always had time on a personal basis for even the most junior of technical staff, ensuring that he was on first name terms with everyone who contributed to his work. From Manchester he kick-started, mentored and supported the careers of innumerable people and was in touch with a world-wide network of corrosionists. After 1982 Graham started to focus more on academic administration. He became Vice-Principal for Academic Development, then Dean of Faculty and finally Deputy Principal. Nonetheless he always ensured that he kept his hand in guiding and mentoring research students and directing novel research. He retired in 1999.

During one of his overseas trips a chance remark led to the Corrosion and Protection Centre 20th Anniversary conference as the excuse for a reunion cricket match with former students. The match was held, by special permission of the His Grace the Duke of Devonshire, at the cricket ground of Chatsworth House in Derbyshire. While history has failed to record the final score the conference was the most successful ever held in Europe at that time with over 500 delegates.

This is not the place to list all his achievements (academic or otherwise). He was however principal consultant to the Electric Power Research Institute (EPRI) in collaboration with John Stringer for many years and was the first Chair from outside North America of the Gordon Research Conference on Corrosion. He spent two periods as President of the predecessor bodies to the UK Institute of Corrosion and was Chair of the International Corrosion Council for many years. His most notable work at Manchester was carried out in collaboration with Howard Stott (in oxidation and hot corrosion) and George Thompson (in passivity and the properties of anodic films). Amongst other prizes and awards, he received the Beilby Medal and Prize from the Society of Chemical

Industry in 1972 and in 1983 was presented with the U.R. Evans award of the Institute of Corrosion. In the same year he obtained the Carl Wagner Memorial Award of the Electrochemical Society and was appointed a Life Member.

In 1987 the European Federation of Corrosion presented Graham with its premier prize, the Cavallaro Medal and, in 1990, he was elected to the Fellowship of Engineering (now the Royal Academy of Engineering) as FREng. Finally, and following on from Davy, Faraday, Bengough and Evans, in 1997 Graham was elected to Fellowship of the Royal Society (FRS) the highest UK scientific honour.

Graham is survived by his wife Freda and children, Louise and David. Rather unassuming, intensely private, but almost unbelievably talented and conscientious, Graham was a true "gentlemen scientist". His passing deserves reflection on a life well lived.

Edited by Douglas Mills for length and style from the original version written by Stuart Lyon, UK Licensed under CC-BY-NC- The fuller version can be found in Corrosion Engineering, Science and Technology Vol 52, Issue 2, p 158-159 (2017)

MEMBER SOCIETY AND AFFILIATE MEMBER NEWS AND PROFILES

DANISH CORROSION SOCIETY

17th Nordic Corrosion Congress
Technical University of Denmark, 23-25 May 2018



You are cordially invited to the 17th Nordic Corrosion Congress/Nordisk Korrosionsmøde (NKM 17) to be held at the Technical University of Denmark (DTU), Lyngby, north of Copenhagen on 23-25 May 2018.

The Congress seeks to combine scientific knowledge, industrial experiences and innovative developments to solve the corrosion problems of today and tomorrow.

Submission of abstracts are invited for the following topics:

- Monitoring and testing for research and industrial control,
- Concrete and steel constructions – corrosion and protective strategies,
- Degradation of non-metallic materials,
- Durable materials in aggressive environments (chemical industry, HTHP),
- Environmental and health consequences of corrosion,
- Corrosion protection of marine constructions (coatings, offshore wind turbines),
- Advanced analysis techniques for corrosion investigations,
- Water and building installations (atmospheric corrosion, metal release, materials selection),
- Corrosion and reliability of electronics and micromechanics (testing, failure analysis, corrosion prevention),
- Corrosion in the energy sector,
- Corrosion properties of advanced materials, surface coatings and new manufacturing techniques.

Prospective authors are requested to submit a short abstract (200-300 words) before **15 October 2017**, following the instructions on www.atv-semapp.dk.

Abstracts must be submitted to semapp@atv-semapp.dk. Presentations from oral sessions will be available to download after the congress.

We welcome you to Greater Copenhagen in May 2018.

Further information:

Charlotte Leser: Phone +45 4525 4899 /

E-mail: cleser@mek.dtu.dk

Jytte Laursen: Phone +45 4525 4898 /

E-mail: jvla@mek.dtu.dk

Dates to remember:

15 October 2017

Deadline for abstract submission

15 December 2017

Notification of abstract approval

15 February 2018

Deadline for registration of presenters, poster and technical exhibition booths

23-25 May 2018

Nordic Corrosion Congress

HUNKOR establishing links with new domestic industrial corrosion laboratories

The Hungarian Corrosion Society (HUNKOR) was founded in 1992 and was headquartered from the Chemical Research Center (CRC) of the Hungarian Academy of Sciences (HAS) in Budapest.

Due to major modernisation of the HAS research centers in the country, recently the CRC became part of the Research Centre for Natural Sciences (RCNS) at a new site and in imposing new buildings, but still in Budapest.



The old and new sites of the HUNKOR's headquarters are both close to the river Danube

(Photography of Budapest by Tamás Thaler)

Almost concurrently with that, the HUNKOR's headquarters have moved to a new location, also close to the Danube, but a little south of the capital city, at Százhalombatta, where the Hungarian oil and gas company, MOL Group, is operating its Danube Refinery and its industrial corrosion laboratory. Rationally, the new HUNKOR headquarters have found their new place nearby, in the newly established modern industrial park, Batta-Intech.

Outside of Budapest, although there are several other smaller corrosion research laboratories and research groups, most of them are working at different universities in the country in smaller cities like Veszprém, Szeged, Kecskemét, Miskolc. Moreover, they are often doing corrosion-type research activities connected to their graduate engineering training and/or PhD programmes.

Nevertheless, outside the universities, nowadays in the changing and developing industrial sector in Hungary, one can also observe some new trends in the field of corrosion, such as the newly settled materials and chemical industries, e.g. Wanhua BorsodChem Ltd., several building and construction industries, steel and other metals' processing companies, as well as the electrical parts producers, e.g. the Bosch Group, and the larger car manufacturers, like Audi, Mercedes, PSA, and Suzuki. All such enterprises and manufacturers either have established or need to establish their own corrosion and/or corrosion related testing laboratories. Hence, in the present days, in Hungary, a domestic corrosion

society, such as HUNKOR, should be able to explore new situations, try to establish fresh links and offer new collaboration schemes for the newly arriving manufacturing and assembling international companies.

Towards that aim, the Hungarian Corrosion Society is launching a new initiative in which it would like to involve more young engineers, university students and PhD candidates who are interested in or are dealing with problems related to corrosion and the numerous protective measures to decrease the risk of corrosion. In this effort the European Federation of Corrosion is a valuable source of expert information and networking partner for HUNKOR, upon which it would like to rely in the future as well. Two years ago EFC effectively supported HUNKOR in organising the 16th HUNGAROKORR Conference and Exhibition held in Törökbálint, Hungary, and HUNKOR is getting ready to bid for hosting EUROCORR 2021 to be organised again in Budapest.

THE AUSTRALASIAN CORROSION ASSOCIATION (ACA)

News July 2017



Corrosion & Prevention 2017



In November 2017, industry experts and leading researchers from around the world who combat corrosion on a daily basis will be meeting in Sydney, Australia, for the annual Corrosion & Prevention Conference and Exhibition - C&P2017, organised by the Australasian Corrosion Association (ACA). Taking place in Australia's 'Harbour City' Sydney, between 12th and 15th November 2017, the four-day gathering will feature a programme of keynote speakers and technical presentations and is expected to attract more than 400 delegates. As always, C&P2017 will be a source for the latest information concerning corrosion prevention, control and repair, in addition to being a premium networking event.

An extensive exhibition of key industry suppliers will run in conjunction with the conference. Substantially reducing both direct and indirect corrosion costs requires more than just technology; it requires

integrating corrosion management policies and procedures into the overall management system of an organisation. To this end, diverse technical streams will showcase the latest developments in the field, ranging from fundamental corrosion science to hands-on application.

C&P2017 will be of value to people working in a wide range of industries, including construction, oil & gas, mining, cultural and historical materials preservation, power generation, maritime, asset management, food processing and defence. The Technical Program can be viewed at www.conference.corrosion.com.au



Sydney Opera House

EFC MEMBER SOCIETIES AND AFFILIATE MEMBERS

A full listing of our European and International EFC Member Societies and Affiliate Members can be found on the EFC website at:

Member Societies: [http://www.efcweb.org/Who we are/Member Societies](http://www.efcweb.org/Who%20we%20are/Member%20Societies)

Affiliate Members: [http://www.efcweb.org/Who we are/Affiliate Members](http://www.efcweb.org/Who%20we%20are/Affiliate%20Members)

YOUNG EFC IS ONE YEAR OLD



Young EFC is an initiative created by the European Federation of Corrosion (EFC) to support young researchers and engineers in the field of corrosion and protection of materials. This is accomplished by

- Building a bridge between young corrosion researchers and senior experts
- Creating a network of young corrosionists
- Organising and participating in conferences, workshops and other events
- Promoting the interests of young researchers to the European Federation of Corrosion and the European Commission
- Supporting the career at an early stage

More than 40 participants attended the first meeting of *Young EFC* held at EUROCORR 2016 in Montpellier, France, to promote exchange between younger and more senior corrosionists. The meeting became a platform for designing new activities intended to start during EUROCORR 2017/20th International Corrosion Congress in Prague, Czech Republic, as listed below.

Young EFC meeting:

During EUROCORR/ICC 2017 a special meeting will be held on **Wednesday, 6 September 2017 between 14:00 and 15:40**, during which a summary of activities during the first year of *Young EFC* will be presented. The winners of the 2016 EUROCORR Young Scientist Grants will give short presentations of their activities, and a senior scientist, Prof. Christofer Leygraf, will give a short talk about personal reflections and guidance on research activities, ending by inviting the audience to questions. The meeting will continue with a discussion on future activities within *Young EFC*.

Young EFC member list:

This list is continuously updated and contains currently 94 names, mostly within Europe. Since EUROCORR 2017 in Prague is jointly arranged with the 20th International Corrosion Congress the intent is to broaden the member list to include countries from outside Europe as well.

Further promotions of Young EFC members:

The conference in Prague will include a Poster Prize to be announced and selected during EUROCORR 2017/20th International Corrosion Congress.

The **Young EFC Board** currently includes the following members:

Yaiza Gonzalez-Garcia, *Delft University of Technology, The Netherlands*

Marta Mohedano, *Complutense University of Madrid, Spain*

Michele Fedel, *University of Trento, Italy*

Cem Örnek, *KTH Royal Institute of Technology, Sweden*

Christofer Leygraf, *KTH Royal Institute of Technology, Sweden*

Young EFC contact: YoungEFC@efcweb.org

Website: <http://efcweb.org/YoungEFC.html>



NEWS FROM THE EFC WORKING PARTIES

EFC WORKING PARTY 15: CORROSION IN THE REFINERY INDUSTRY BRIEF: WP 15 SPRING MEETING, APRIL 2017

The annual spring meeting of Working Party 15, "Corrosion in the Refinery Industry", took place on 13th April 2017 and was kindly hosted by DECHEMA in Frankfurt, Germany. The meeting was attended by 30 participants from Europe and the Middle East. Exchange of information and discussions took place on corrosion failures in specific refinery conditions: waste heat boiler in an H₂SO₄ alkylation unit, cracks in dissimilar welds at primary reformer outlet, heat exchangers in naphtha hydrotreatment plant and other failures. Various aspects of corrosion under insulation were also discussed in terms of mitigation, detection and monitoring. Welding and cladding procedures were debated.

Points were raised regarding the activities of the joint WP13-WP15 task force which works on the updating of the EFC publication 46 "Amine unit Corrosion in Refineries": a survey questionnaire has been distributed and a revised version of the document incorporating updated chapters is being prepared.

The next WP15 meeting will be held during the joint EUROCORR 2017 and 20th International Corrosion Congress & Process Safety Congress 2017 in Prague, Czech Republic, on the 6th of September 2017 and will cover the "hot topics" affecting corrosion in the refinery industry.

If you wish to have more information on the activities of the group (including all the minutes and presentations of the last meetings) please visit our homepage at <http://www.efcweb.org/WP15.html>



Presentation during the spring meeting of WP15 "Corrosion in the Refinery Industry"

EFC – WP4: 50 YEARS OF WORKING PARTY NUCLEAR CORROSION

50 years ago Henri Coriou, Head of the “Corrosion Department” at the CEA – Centre d’Etudes de Saclay, France, was asked by Prof. D. Behrens (DECHEMA, Germany) to create a Working Party (WP) on “Nuclear Corrosion”. Thereupon WP4 was officially established in 1967 with 12 countries being the founding members: Austria, Belgium, Denmark, France, Germany (Federal Republic), Hungary, Italy, the Netherlands, Spain, Sweden, Switzerland, and the United Kingdom.

This 50th anniversary will be celebrated with a workshop comprising eleven invited talks from renowned experts covering almost the full range of nuclear corrosion topics. The workshop will be held during EUROCORR 2017 /20th International Corrosion Congress on Monday September 4th, followed by the regular Nuclear Corrosion session. On this occasion, this year’s Henri Coriou Medal for outstanding contributions to corrosion science and engineering in the nuclear field will be awarded to Prof. Hannu Hänninen (Aalto University, Finland).

CHANGE OF CHAIRMANSHIP: WP13 “CORROSION IN OIL AND GAS PRODUCTION”

In May 2017, **Marc Wilms**, Group Lead Materials Performance Testing, Shell Projects & Technology, Amsterdam, The Netherlands, succeeded Steve Paterson in the position of Chair of the EFC Working Party on Corrosion in Oil and Gas Production (WP13).



Mission of WP13:

The Working Party meetings shall be a meeting place for industry and research to informally share and exchange ideas and results.

- Develop guidelines and documents for new topics related to corrosion in oil and gas production:
 - Sour environments
 - Material selection
 - Prediction, mitigation and monitoring solutions for all weight loss corrosion modes in oil and gas environments (CO₂ corrosion, H₂S + CO₂ corrosion, MIC, erosion-corrosion, ...).

ADDITIONS TO THE EFC PUBLICATIONS SERIES



ENGINEERING TOOLS FOR CORROSION: DESIGN AND DIAGNOSIS (EFC 68)

Luciano Lazzari

Key Features:

- Presents a rational approach to the corrosion prediction and evaluation dilemma
- Illustrates new models and algorithms for quantitative estimation of corrosion related factors and parameters
- Includes the design and interpretation of accelerated corrosion tests

Description:

Engineering Tools for Corrosion: Design and Diagnosis proposes models and equations derived from theory. It includes discussions of the estimation of main corrosion parameters for corrosion rate, electrochemical constraints, thresholds limits and initiation time. The algorithms proposed are the conjugation of theory and engineering practice resulting from research and professional activities carried out by the author for almost four decades.

Readership:

Corrosion engineers, materials scientists, researchers in the areas of oil and gas, chemical and refinery, industrial plants

Hardcover ISBN: 9780081024249

Imprint: Woodhead Publishing

Published Date: 15th August 2017

Page Count: 190

The EFC publications series, published for the EFC by Woodhead Publishing, includes a series of state-of-the-art reviews, covering a wide range of topics, including microbial effects, reinforcement in concrete, automotive engineering and the oil, gas, petrochemical and nuclear industries.

View all volumes in the European Federation of Corrosion (EFC) Series published by Woodhead Publishing at:

<https://www.elsevier.com/books/book-series/european-federation-of-corrosion-efc-series>

RECENT EFC SPONSORED EVENTS

10th International Workshop "Application of Electrochemical Techniques to Organic Coatings" (AETOC)

Billerbeck, Germany, 25-28 April 2017

EFC Event No. 420

The 10th Jubilee edition of this international AETOC 2017 workshop took place from 25th to 28th April 2017 in Billerbeck near Münster, Germany. The purpose of this workshop, run under the auspices of the EFC Working Party on Coatings, is to provide a platform for intense discussion of the latest results in coatings research obtained with mainly electrochemical methods. It offers a unique occasion for all the major experts in this field to meet.

After initiation in Schliffkopf (Germany) in 1999, this workshop has been organised every two years and has previously been hosted in Jurata (Poland), Sintra (Portugal), Villard de Lans (France), Bayona (Spain), Grado (Italy), Mons (Belgium), Emmetten (Switzerland) and Ile de Ré (France). For the 10th jubilee edition it was decided to return to Germany. It was organised by the chairman of the Working Party on Coatings, Wolfram Fürbeth (DECHEMA Research Institute) together with Patrick Keil (BASF Coatings) and Roman Bender, GfKORR e.V (the German Society for Corrosion Protection), Frankfurt. They were supported by Jörg Vogelsang from Sika.

This particular workshop was attended by 57 people from fifteen countries. This high level of interest in the workshop comes from its original concept as a gathering of participants in an isolated place to create conditions for the occurrence of a kind of "brainstorming" session.

The arrival for the participants, and the workshop starting place, was the Museum für Lackkunst (Museum of Lacquerery) in Muenster, where a very interesting and artistic view on paints and lacquers could be gained. The conference hotel was a short transfer away in the congenial setting of Billerbeck, where the workshop convened on the following morning.

Participants experienced a highly qualified lecture programme with 27 presentations, mainly focusing on the development of new protective coatings using innovative approaches.

A growing interest was observed in protection systems to substrates such as aluminium or magnesium alloys, especially based on sol-gel technology. There was also great interest in the presentations covering more theoretical themes related to the interpretation of the phenomena of coating degradation, which has yet to be fully explained. Other topics included: water uptake of coatings, self-healing phenomena, coating degradation and biological systems in corrosion protection.

There was a small exhibition which particularly helped delegates to familiarise themselves with the latest achievements of companies producing measuring equipment (Metrohm, C3, Belltec, IPS Elektroniklabor). All presentations, as well as the exhibition, gave rise to intense and fruitful discussions. As usual a special issue of Progress in Organic Coatings has been organised to publish the papers afterwards.

The main social event was a 30 km tour in a covered wagon pulled by horses.



Covered wagon tour

This took place around the pleasant local German villages and included tasting visits at a distillery Sasse producing so-called Lagerkorn which is quite typical for the Münsterland region.

All participants enjoyed the excellent products of this factory.

As it was the 10th jubilee edition, the dinner on the final evening was enriched by a speech given by AETOC founder Jörg Vogelsang, who showed pictures and told some stories from all editions held so far. However, the history will continue, with the 11th AETOC workshop to be held in 2019 in Valencia, Spain, organised by Julio Suay.

See you in Spain!

Thanks are expressed to the organiser Wolfram Fürbeth and to delegate Andrzej Misczyk for providing the material for this report.



Participants at the distillery tour



The AETOC participants before starting the covered wagon tour

11th Annual Conference of the Polish Corrosion Society “State-of-the-Art Anticorrosion Technologies”

Rawa Mazowiecka, Poland, 10-12 May 2017

EFC Event No. 423

On 10th -12th May, the Ossa Congress Centre near Rawa Mazowiecka hosted the 11th Annual Conference of the Polish Corrosion Society titled “State-of-the-Art Anticorrosion Technologies”, the 423rd Event of the European Federation of Corrosion (EFC). This year's slogan was: New capabilities, proven solutions, qualified workforce – THAT'S US! The conference brought together a record 200 people and 18 exhibitors, with 50 papers (including 2 plenaries) being presented in 9 thematic sessions.

In addition to last year's sponsors the event gained two new benefactors - *Graco* and *Vistal Construction*. The conference was organised under the honorary patronage of The Road and Bridge Research Institute, the Polish Chamber of Steel Structures and the Polish Zinc Society.

The conference opened with the 13th Grand Corrosionist Medal being presented to Kazimierz Raduszkiewicz, and the Polish Corrosion Society's “Red Kite” prize for the best product/technology/event in the field of corrosion protection being presented to the company TORKRET Sp. z o.o. in the Best Job category and to GT Poland Ltd Sp. z o.o. in the Best Product Category.

The results of this year's competition for the best engineering, master's and doctoral dissertations were announced after the plenary session. In the doctoral dissertations category, the award went to Martyna Dymek of the Faculty of Production and Materials Technology of the Częstochowa University of Technology for her paper entitled “Encapsulation of LaNi₅ powder molecules by modified nickel coatings as a means of enhancing the corrosion resistance of a hydride electrode”. In the engineering dissertations category, the prize went to Małgorzata Gonet for her work titled “Polyurethane anticorrosion lacquers”. The research work was carried out at the Polymer and Biopolymer Department of the Rzeszów University of Technology.

In the first plenary paper, Kazimierz Szadkowski from the Railways Office of the PKP Polskie Linie Kolejowe SA (*Polish Railways*) spoke about maintenance instructions and technical conditions for designing the railway engineering facilities managed by the company, which owns approximately 96% of the entire railway network in Poland.

The second plenary paper, “Why do new generation coatings peel?”, was read by Agnieszka Królikowska from the Road and Bridge Research Institute. Based on the results of research on delaminated coatings, the authors concluded that as well as the many common causes, such as bad substrate preparation, tensile forces, sudden temperature changes, late overpainting, and prolonged use without renovation, a frequent cause of delamination was inappropriate paint formulation.

The thematic papers were read in the following parallel sessions: Protective coatings, Anticorrosion and the environment, Energy and transmission networks, Corrosion and reinforced concrete protection, Electrochemical session, Problems of supervision inspectors, Transportation, warehousing and refining, Coating application technologies. Selected papers will be published in the “Ochrona przed Korozją” journal.

The largest session was on protective coatings, with topics including the types and applications of powder coatings in industry, development of new coatings used in immersed environments, use of the stereological analysis in corrosion protection, the protection mechanism and areas of application of steel coated with Zn-Mg and Zn-Al-Mg coatings, application of a high-pressure water stream for preparation of new and renovated surfaces, and properties of galvanised coatings depending on the chemical composition and surface preparation of steel.

The session on corrosion protection and environmental protection included the search for an effective replacement for Cr(VI) compound-based aviation primers, modern systems for preventing emissions used in galvanizing, and issues connected with anticorrosion work on structures inhabited by birds. The energy and transmission networks session dealt with sulphur removal installations, protection of steel structures in the commercial power industry, and the hybrid method as an innovative technique for thermal spraying by means of a device for generating a supersonic stream of coating material.

The session on corrosion and protection of reinforced concrete structures included papers dealing with the repair and inspection of reinforced concrete structures, the modification of construction mortar and composites, and surface preparation using pressurised water.

The session on electrochemical protection included papers on the current status of cathodic protection normalisation, defect-free insulating coatings used in underground pipelines, the influence of pitting corrosion on the evaluation of resistance measurements of the corrosion rate, and the remote monitoring of cathodic protection parameters.

Regarding surface preparation issues, the topics discussed included surface preparation technologies of galvanised elements, abrasive-blasting using a dual-shot chamber, a modified process of zinc coating electrodeposition, chemical cleaning and hot-dip galvanising.

The final session of the second day concerned the daily problems encountered by supervision inspectors and experts. Various research methods used in the quality control of galvanised steel structures were also covered.

Issues relating to automation and robotisation of anticorrosion operations, the minimum level of knowledge of painters on the use and maintenance of equipment, and a liquid agent for reducing dust formation in dry abrasive-blasting were discussed in the coating application session.

In the evenings, as a break from the torrent of corrosion topics, entertainments were laid on including the DeGENTLEMEN band and a performance of Krystyna Stańko, a jazz singer, songwriter, lecturer of jazz voice studies and a radio journalist.

Małgorzata Zubielewicz

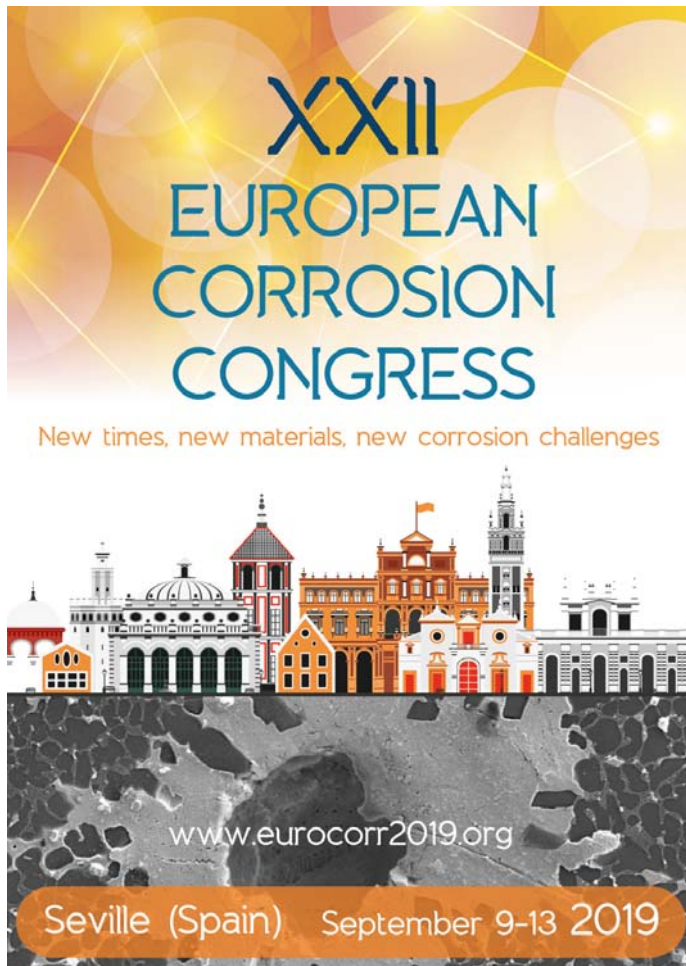


Conference participants in front of the Ossa centre

PREVIEW: EUROCORR 2019 & 2020



NEWS ABOUT EUROCORR 2019 Seville, Spain, 9-13 September 2019



SEVILLE

Famous for its unique atmosphere and the hospitality of its inhabitants, Seville represents the spirit of Andalusian culture. The passing through of various cultures, when this port served as one of the most important gateways to America during the 16th century, has clearly influenced its open character. Centuries of history have transformed Seville into a city with a distinctive charm, with one of the biggest and best conserved historical centres in Europe, as well as a beautiful and important artistic heritage.



Seville Cathedral (Santa María de la Sede)

The Spanish Materials Society (SOCIEMAT) is proud to be the host of EUROCORR 2019 in **Seville, Spain**, from the **9th to the 13th September 2019**.

Motto: ***New times, new materials, new corrosion challenges***

For more than 10,000 years of human experience, metals have always answered to new challenges arising from the needs of society. However, corrosion is definitely the Achilles' heel in most of their applications. For this reason the motto "*New times, new materials, new corrosion challenges*" has been chosen for EUROCORR 2019. Several research areas will be addressed, from corrosion testing in all its possible variants to the improvement of the strategies for preventing corrosion of metallic alloys.



Seville by night

Of course delicious gastronomy can be enjoyed, tapas being available thanks to a magnificent climate, on numerous open-air terraces, as well as in bars and restaurants. Seville is a city open to the past, living in the present, and prepared for the future - a place of meeting, tolerance, and sharing. All of these make Seville an attractive first class destination.

We are looking forward to welcoming you to Seville in September 2019!

Contact (local organiser):

Spanish Materials Society (SOCIEMAT)
Urb. Los Arroyos c/25 n° 78
28292 El Escorial, Madrid, Spain
E-mail: sociemat1996@gmail.com
Website: <http://www.sociemat.es>



NEWS ABOUT EUROCORR 2020 Brussels, Belgium, 6-10 September 2020

Theme: ***Closing the gap between Industry and Academia in corrosion science and predictions***



The EFC's annual conference EUROCORR 2020 will take place at the SQUARE Brussels Meeting Center in Brussels (Belgium), from September 6-10, 2020. Uniquely it will focus on the new generation of corrosion engineers. Hence, young scientists will have an important part to play throughout the congress. The organisers, VOM asbl in collaboration with University of Mons, Vrije Universiteit Brussel, Materia Nova and DECHEMA, are pleased to invite you to participate in the congress.

The academic world is rather specialized in studying degradation mechanisms with highly advanced tools. Industry is looking for support and solutions for corrosion and materials degradation. This congress will present the opportunity to reduce the gap between the academic world and industry, especially in the field of corrosion predictions by advanced measuring, modelling and monitoring.

Brussels is glad to welcome EUROCORR's delegates. Located at the doorstep of the Grand Place, the historical heart of Brussels, EUROCORR will be the occasion for you to discover the charming historical city centre surrounded by Gothic, modern and Art Nouveaux architecture that colours the city.

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

Organisation:



NEWS FROM THE WORLD CORROSION ORGANIZATION (WCO)



Corrosion Awareness Day 2017 has seen the WCO start a new campaign with the release of the Prague Communiqué. This campaign is aimed at highlighting the problems of corrosion and the Member Organizations ongoing commitment to develop and deliver corrosion protection solutions.

WCO Member Organizations are invited to sign the Prague Communiqué at their next meeting in Prague in September 2017.

THE PRAGUE COMMUNIQUÉ

An initiative of the World Corrosion Organization

We, the representatives of 32 organizations representing corrosion scientists and engineers world-wide, subscribe to the following statement:

We, who are active in the corrosion protection profession, renew our commitment to using our skills to strive to improve the quality of life, foster employment, advance economic and social development and protect the environment through sustainable development.

Corrosion protection uses the principles of science to develop and provide technologies that improve the lives of people everywhere. Corrosion protection is relevant for all materials: metals, ceramics, polymers and composites. Food production and processing and water purification rely on corrosion protection to enhance the health of the world's peoples. Similarly, shelter, transport and information technology also rely on sufficient corrosion protection. We develop and deliver the corrosion protection solutions on which communities depend.

In meeting society's needs we are committed to designing processes and products that are innovative, energy-efficient and cost-effective, and that make best use of scarce resources. We are committed to the highest standards of personal and product safety. We seek to eliminate waste and adverse environmental effects in the development, manufacture, use and eventual disposal of the products of society.

In an increasingly global society, we are committed to meeting the collective needs of the world's growing population while working to avoid and eliminate practices that are unsustainable. We recognize the profound concern relating to climate change. We must promote a better understanding of the complex science surrounding climate change, while also striving to develop and implement sound technologies to mitigate its effect.

We commit to developing public understanding of the challenges and choices facing our world, and the role corrosion scientists and engineers can play. We will use our talents, knowledge and organizational skills for the continued betterment of humanity to protect public welfare. We will practice our profession according to its high ethical standards. We will promote lifelong professional development and learning and will enthuse the brightest young people so that they can enter our profession.

We will take this Communiqué to our members, reinforcing their awareness of their obligations to serve society. We also commit to working with industries, governments, universities and other organizations that shape the future of the world.

We acknowledge both our professional responsibilities and the need to work with others as we strive to meet the challenges facing the world in the future.

EFC WORKING PARTY INDEX

The EFC currently has twenty active Working Parties (WPs) and two Task Forces, listed below, each concerned with a different aspect of the corrosion of metals, alloys and polymer materials. Activities of the EFC Working Parties/Task Forces include: collaborative research and testing programmes; organisation of workshops, seminars and conferences; preparation of state-of-the-art reports, guidelines and proceedings for publication as volumes in the EFC Series and the organisation of sessions at EUROCORR.

Membership to the EFC Working Parties is available as a right to all EFC members belonging to both European and International EFC Member Societies or to EFC Affiliate Members, including companies or universities/research centres. Anyone wishing to join one of the Working Parties listed below should apply to the appropriate Working Party Chairs. Please refer to the EFC website at <http://www.efcweb.org/wp> for full details on Working Party activities or contact EFC Scientific Secretary, Roman Bender (e-mail: bender@dechema.de).

EFC WORKING PARTY 1: CORROSION AND SCALE INHIBITION

Chair: Prof. Günter SCHMITT, IFINKOR (Institute for Maintenance and Corrosion Protection Technologies nfpLtd.), Iserlohn, Germany; E-mail: guenter.schmitt@ifinkor.de

EFC WORKING PARTY 3: CORROSION BY HOT GASES AND COMBUSTION PRODUCTS

Chair: PD Dr. Mathias GALETZ, DECHEMA-Forschungsinstitut, Frankfurt am Main, Germany; E-mail: galez@dechema.de

EFC WORKING PARTY 4: NUCLEAR CORROSION

Chair: Dr. Stefan RITTER, Paul Scherrer Institut, Nuclear Energy and Safety Research Department, Villigen PSI, Switzerland; E-mail: stefan.ritter@psi.ch

EFC WORKING PARTY 5: ENVIRONMENT SENSITIVE FRACTURE

Chair: Dr. Krzysztof WOLSKI, Centre SMS - UMR CNRS 5146, École des Mines de Saint-Etienne, Saint-Etienne, France; E-mail: wolski@emse.fr

EFC WORKING PARTY 6: SURFACE SCIENCE AND MECHANISMS OF CORROSION AND PROTECTION

Chair: Prof. Philippe MARCUS, École Nationale Supérieure de Chimie de Paris, Paris, France; E-mail: philippe-marcus@chimie-paristech.fr

EFC WORKING PARTY 7: CORROSION EDUCATION

Chair: Prof. Daniela ZANDER, Gießerei-Institut, RWTH Aachen, Aachen, Germany; E-mail: D.Zander@gi.rwth-aachen.de

EFC WORKING PARTY 8: PHYSICAL-CHEMICAL METHODS OF CORROSION TESTING

Chair: Prof. J.M.C. Arjan MOL, Delft University of Technology, Department of Materials Science and Engineering, Delft, The Netherlands; E-mail: j.m.c.mol@tudelft.nl

EFC WORKING PARTY 9: MARINE CORROSION

Chair: Dr. Ulf KIVISÄKK, AB Sandvik, Materials Technology R&D, Sandviken, Sweden; E-mail: ulf.kivisakk@sandvik.com

EFC WORKING PARTY 10: MICROBIAL CORROSION

Chair: Dr. Pierangela CRISTIANI, RSE - Ricerca sul Sistema Energetico S.p.A., Milano, Italy; E-mail: pierangela.cristiani@rse-web.it

EFC WORKING PARTY 11: CORROSION OF STEEL IN CONCRETE

Chair: Prof. Michael RAUPACH, RWTH Aachen, Institute for Building Materials Research, Aachen, Germany; E-mail: raupach@ibac.rwth-aachen.de

EFC WORKING PARTY 13: CORROSION IN OIL AND GAS PRODUCTION

Chair: Mr. Marc WILMS, Shell Projects & Technology, Mechanical, Material & Integrity (MMI), Amsterdam, Netherlands; E-mail: marc.wilms@shell.com

EFC WORKING PARTY 14: COATINGS

Chair: PD Dr.-Ing. Wolfram FÜRBETH, DECHEMA-Forschungsinstitut, Frankfurt am Main, Germany; E-mail: fuerbeth@dechema.de

EFC WORKING PARTY 15: CORROSION IN THE REFINERY INDUSTRY

Chair: Dr. François ROPITAL, IFP Energies nouvelles, Direction Chimie et Physico Chimie Appliquées, Département Electrochimie et Matériaux, Solaize, France; E-mail: francois.ropital@ifpen.fr

EFC WORKING PARTY 16: CATHODIC PROTECTION

Chair: Mr. Jérôme CROUZILLAC, BAC Corrosion Control, Voisins-le-Bretonneux, France; E-mail: j.crouzillac@bacfrance.com

EFC WORKING PARTY 17: AUTOMOTIVE CORROSION

Chair: Ms. Elizabeth SZALA, R & D - Innovation Centre Duffel, ALERIS ALUMiNUM DUFFEL BVBA, Duffel, Belgium; E-mail: elizabeth.szala@aleris.com

EFC WORKING PARTY 18: TRIBOCORROSION

Chair: Dr. Stefano MISCHLER, École Polytechnique Fédérale de Lausanne (EPFL), Tribology and Interface Chemistry Group, Lausanne, Switzerland; E-mail: stefano.mischler@epfl.ch

EFC WORKING PARTY 19: CORROSION OF POLYMER MATERIALS

Chair: Dr.-Ing. Jürgen HEINEMANN, DIN CERTCO Gesellschaft für Konformitätsbewertung mbH, 12103 Berlin, Germany; E-mail: juergen.heinemann@dincertco.de

EFC WORKING PARTY 20: CORROSION AND CORROSION PROTECTION OF DRINKING WATER SYSTEMS

Chair: Dr. Johann Wilhelm ERNING, Bundesanstalt für Materialforschung und –prüfung, Berlin, Germany; E-mail: wilhelm.erning@bam.de

EFC WORKING PARTY 21: CORROSION OF ARCHAEOLOGICAL AND HISTORICAL ARTEFACTS

Chair: Dr. Delphine NEFF, Archaeomaterials and Alteration Prediction Laboratory, SIS2M/LAPA CEA/CNRS, CEA Saclay, Gif-sur-Yvette, France; E-mail: delphine.neff@cea.fr

EFC WORKING PARTY 22: CORROSION CONTROL IN AEROSPACE

Chair: Mr. Theo HACK, EADS Innovation Works, Munich, Germany; E-mail: theo.hack@eads.net

In addition:

EFC TASK FORCE ON CO₂-CORROSION IN CCS-APPLICATIONS




Chair: Dr. Ralph BÄSSLER, Bundesanstalt für Materialforschung und –prüfung, Berlin, Germany; E-mail: ralph.baessler@bam.de

EFC TASK FORCE ON CORROSION RELIABILITY OF ELECTRONICS DEVICES



Chair: Prof. Rajan AMBAT, Technical University of Denmark (DTU), Materials and Surface Engineering, Lyngby, Denmark; E-mail: ram@mek.dtu.dk

EFC CALENDAR OF FORTHCOMING EVENTS AND COURSES (AS OF AUGUST 2017)



DATE/VENUE	CONFERENCE / COURSE	CONTACT
2017		
<p>12-15 September 2017 Tara Mountain, Serbia</p> 	<p>19th YUCORR International conference</p> <p>EFC Event No. 424</p>	<p>Serbian Society of Corrosion and Materials Protection E-mail: yucorr@sitzam.org.rs Website: http://sitzam.org.rs/YUCORR/</p>
<p>17-22 September 2017 Thessaloniki, Greece</p>	<p>EUROMAT 2017 <i>European Congress and Exhibition on Advanced Materials and Processes</i></p>	<p>AFEA S.A. Travel & Congress Services E-mail: euromat2017@afea.gr Website: http://euromat2017.fems.eu/</p>
<p>27-29 September 2017 Dresden, Germany</p>	<p>Werkstoffwoche 2017</p>	<p>Website: http://www.werkstoffwoche.de</p>
<p>01-06 October 2017 National Harbor, MD (greater Washington, DC area), USA</p>	<p>232nd ECS Meeting <i>Fall Meeting 2017 of the Electrochemical Society</i></p>	<p>The Electrochemical Society Pennington, New Jersey 08534-2839, USA E-mail: meetings@electrochem.org Website: http://www.electrochem.org/upcoming-meetings/</p>
<p>04-07 October 2017 Zadar, Croatia</p> 	<p>International Conference on Materials "MTECH"</p> <p>EFC Event No. 427</p>	<p>Ivan Stojanovic Croatian Society for Materials Protection I. Lucica 1, 10000 Zagreb, Croatia E-mail: ivan.stojanovic@fsb.hr Website: http://www.mtech.com.hr</p>
<p>23-25 October 2017 Moscow, Russia</p>	<p>CORRUS 2017 <i>International exhibition and conference on technologies, equipment and materials for corrosion protection (part of the exhibition KHIMIA 2017)</i></p>	<p>Website: http://www.chemistry-expo.ru/en/corrus/</p>
<p>12-16 November 2017 Tokyo, Japan</p>	<p>Galvatech 2017 <i>11th International Conference on Zinc and Zinc Alloy Coated Steel Sheet</i></p>	<p>Website: http://www.galvatech2017.jp/</p>
<p>20-24 November 2017 Jastrzab/Poraj (near Czestochowa), Poland</p> 	<p>19th All-Polish Corrosion Symposium (APCS) <i>"New Achievements in Corrosion Research and Engineering"</i></p> <p>EFC Event No. 423</p>	<p>Professor Henryk Bala Department of Chemistry, Czestochowa University of Technology, 42-200 Czestochowa, Poland E-mail: symp@wip.pcz.pl Website: http://www.symp-kor-apcs.wip.pcz.pl/</p>

DATE/VENUE	CONFERENCE / COURSE	CONTACT
2018		
15-19 April 2018 Phoenix, AZ, USA	CORROSION 2018 / NACE <i>Conference and Exhibition</i>	CaLae McDermott NACE International Headquarters Houston, Texas 77084, USA E-mail: calae.mcdermott@nace.org Website: http://www.nace.org/
23-25 May 2018 DTU, Lyngby, Denmark	17th Nordic Corrosion Congress EFC Event No. 428	ATV-SEMAPP Secretariat Nils Koppels Alle 404 DK-2800 Lyngby, Denmark E-mail: ksemapp@atv-semapp.dk Website: http://www.atv-semapp.dk/arr2018/180523_nkm/NKM-17.pdf
 EUROPEAN FEDERATION OF CORROSION		
11-15 June 2018 Frankfurt am Main, Germany	ACHEMA 2018	DECHEMA Ausstellungs GmbH Frankfurt am Main, Germany Website: http://www.achema.de/
22-27 July 2018 Cambridge, United Kingdom	EMCR 2018 <i>Triennial conference on Electrochemical Methods in Corrosion Research</i> EFC Event No. 418	Prof. Bob Cottis c/o School of Materials, University of Manchester Manchester, M13 9PL, UK E-mail: bob.cottis@manchester.ac.uk
 EUROPEAN FEDERATION OF CORROSION		
02-07 September 2018 Bologna, Italy	ISE Annual Meeting 2018 <i>69th Annual Meeting of the International Society of Electrochemistry</i>	International Society of Electrochemistry Lausanne, Switzerland E-mail: events@ise-online.org Website: http://www.ise-online.org/ise-conferences/next_ISE-meetings.php
09-13 September 2018 Cracow, Poland	EUROCORR 2018 EFC Event	Local Organiser: Polish Corrosion Society (PSK) Gdansk, Poland E-mail: sekretarz@psk.org.pl Website: http://www.psk.org.pl Scientific Secretariat: DECHEMA e.V. E-mail: eurocorr@dechema.de Website: http://eurocorr.org/
 EUROPEAN FEDERATION OF CORROSION		
2019		
24-28 March 2019 Nashville, TN, USA	CORROSION 2019 / NACE <i>Conference and Exhibition</i>	CaLae McDermott NACE International Headquarters Houston, Texas 77084, USA E-mail: calae.mcdermott@nace.org Website: http://www.nace.org/
04-09 August 2019 Durban, South Africa	ISE Annual Meeting 2019 <i>70th Annual Meeting of the International Society of Electrochemistry</i>	International Society of Electrochemistry Lausanne, Switzerland E-mail: events@ise-online.org Website: http://www.ise-online.org/ise-conferences/next_ISE-meetings.php

DATE/VENUE	CONFERENCE / COURSE	CONTACT
<p>09-13 September 2019 Seville, Spain</p> 	<p>EUROCORR 2019 EFC Event</p>	<p>Local Organiser: SOCIEMAT El Escorial, Madrid, Spain E-mail: sociemat1996@gmail.com Website: http://www.sociemat.es</p> <p>Scientific Secretariat: DECHEMA e.V. E-mail: eurocorr@dechema.de Website: http://eurocorr.org/</p>
2020		
<p>15-19 March 2020 Houston, TX, USA</p>	<p>CORROSION 2019 / NACE <i>Conference and Exhibition</i></p>	<p>CaLae McDermott NACE International Headquarters Houston, Texas 77084, USA E-mail: calae.mcdermott@nace.org Website: http://www.nace.org/</p>
<p>30 August - 04 September 2020 Belgrade, Serbia</p>	<p>ISE Annual Meeting 2020 <i>71th Annual Meeting of the International Society of Electrochemistry</i></p>	<p>International Society of Electrochemistry Lausanne, Switzerland E-mail: events@ise-online.org Website: http://www.ise-online.org/ise-conferences/next_ISE-meetings.php</p>
<p>06-10 September 2020 Brussels, Belgium</p> 	<p>EUROCORR 2020 EFC Event</p>	<p>University of Mons, Prof. Marjorie Olivier, marjorie.olivier@umons.ac.be VOM, Ir Veerle Fincken, v.fincken@vom.be Vrije Universiteit Brussel, Prof. Herman Terry, herman.terryn@vub.be Materia Nova, Dr Mireille Poelman, mireille.poelman@materianova.be</p> <p>Scientific Secretariat: DECHEMA e.V. E-mail: eurocorr@dechema.de Website: http://eurocorr.org/</p>

EFC MEMBERSHIP BENEFITS

EFC MEMBER SOCIETIES

(EUROPEAN AND INTERNATIONAL)

Working Parties Activities:

- Appointment of delegates to the EFC's 20 Working Parties, including the possibility of a delegate to become a future Working Party Chair and/or to organise special topic sessions at EUROCORR.

Appointed delegates have access to the restricted areas of the EFC Working Party pages on the EFC website which contain specific documents such as unconfirmed meeting minutes, the databank of WP members with their contact details, etc.

- Possibility to install on the restricted areas of members' own websites a link to permit direct downloading of past EUROCORR proceedings.

Congress and Exhibition advantages:

- Organisation of seminars and courses with the EFC endorsement and logo.
- Reduced registration fee of the society's members at annual EUROCORR conferences.
- Reduced registration to all EFC-sponsored events (with assigned event number).
- Discount on exhibitor booths at annual EUROCORR conferences.
- European Member Societies: eligibility to bid to become EUROCORR host organiser.

Publications:

- 30% discount for all society members on purchase of our 60+ EFC publications
- Possibility of co-authorship and publishing contributions to EFC Working Party Publications (EFC "Greenbook" Series) and to partner EFC's Journals.

AFFILIATE MEMBERS

Working Parties Activities:

- Appointment of delegates to the EFC's 20 Working Parties, including the possibility of a delegate to become a future Working Party Chair and/or to organise special topic sessions at EUROCORR.

Appointed delegates have access to the restricted areas of the EFC Working Party pages on the EFC website which contain specific documents such as unconfirmed meeting minutes, the databank of WP members with their contact details, etc.

- Possibility to install on the restricted areas of their own websites a link to permit Affiliate Members' employees downloading of past EUROCORR proceedings.

Congress and Exhibition advantages:

- Organisation of seminars and courses with the EFC endorsement and logo.
- Reduced registration fee of the Affiliate's employees at annual EUROCORR conferences.
- Discount on exhibitor booths at annual EUROCORR conferences.

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- 30% discount on purchase of our 60+ EFC publications.
- Possibility of co-authorship and publishing contributions to EFC Working Party Publications (EFC "Greenbook" Series) and to EFC's partner Journals.

EFC MEMBER SOCIETIES

(EUROPEAN AND INTERNATIONAL)

EFC Administration:

- Participation in the EFC General Assembly with voting rights.
- Opportunity to nominate candidates for EFC awards and medals.
- Opportunity to nominate candidates for election to the EFC Board of Administrators and Science & Technology Advisory Committee.
- Availability of General Membership of the World Corrosion Organization (WCO) under the EFC-WCO agreement at no additional cost subject to the approval of the WCO Board of Administrators and the WCO General Assembly.
- Access to your organisation's website directly from the EFC website.

Advertising:

- Listing, advertising and promotion of any of the Member Society's corrosion-related events and courses in the continually-updated EFC "Calendar of Events" on the EFC website and in the electronic and hard-copy EFC newsletters distributed at EUROCORR.
- Free promotional write-ups of Member Society's past corrosion-related events in the EFC newsletters that are circulated in hard-copy at annual EUROCORR conferences and are also sent electronically to all corrosionists in the EFC database by the EFC Frankfurt secretariat.

AFFILIATE MEMBERS

EFC Administration:

- Participation in the EFC General Assembly without voting rights
- Access to your organisation's own website directly from the EFC Website.

Advertising:

- Listing, advertising and promotion of any of the Affiliate Member's corrosion-related events in the continually-updated EFC "Calendar of Events" on the EFC website and in the electronic and hard-copy EFC newsletters distributed at EUROCORR.
- Free promotional write-ups of the Affiliate Member's past corrosion-related events in the EFC newsletters that are circulated in hard-copy at annual EUROCORR conferences and are also sent electronically to all corrosionists in the EFC database by the EFC Frankfurt secretariat.

CONTACT DETAILS FOR THE EFC OFFICES

Willi Meier
Europäische Föderation Korrosion
DECHEMA e.V.
Theodor-Heuss-Allee 25
60486, Frankfurt am Main
Germany
EFC Secretary: Ms. Ines Honndorf
Tel: +49 69 7564 209
Fax: +49 69 7564 418
E-mail: honndorf@dechema.de

Marcel Roche
Fédération Européenne de la Corrosion
CEFRACOR
28 rue Saint-Dominique
75007 Paris
France
EFC Secretary: Ms. Pascale Bridou Buffet
Tel: +33 1 40 62 27 76
Fax: +33 1 45 55 40 33
E-mail: p.bridou-buffet@maisondelachimie.com

Bernard A. Rickinson
European Federation of Corrosion
The Institute of Materials, Minerals and Mining
297 Euston Road
London NW1 3AQ
United Kingdom
EFC Honorary Treasurer: Ms. Julija Bugajeva
Tel: +44 20 7451 7332
Fax: +44 20 7387 0766
E-mail: julija.bugajeva@iom3.org

EFC Newsletter Editor: Douglas Mills ; **Assistant Editor:** Ruth Bingham
Compositor: Ines Honndorf, EFC Frankfurt office

Website: www.efcweb.org
Please address all general enquiries to: info@efcweb.org

