

The use of ALD and PVD coatings as defect sealants to increase the corrosion resistance of thermal spray coatings

Original

The use of ALD and PVD coatings as defect sealants to increase the corrosion resistance of thermal spray coatings / Lanzutti, A.; Sordetti, F.; Marin, E.; Andreatta, F.; Carabillo, A.; Querini, M.; Porro, S.; Rondinella, A.; Magnan, M.; Fedrizzi, L.. - ELETTRONICO. - (2022). ((Intervento presentato al convegno EUROCORR 2022 - European Corrosion Congress tenutosi a Berlin (Germany) nel 28 Agosto - 1 Settembre 2022.

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EURO CORR 2022

28 August – 1 September 2022 · Berlin · Germany

EUROCORR 2022 European Corrosion Congress

Corrosion in a Changing World –
Energy, Mobility, Digitalization

PROGRAMME

www.eurocorr2022.org



Trenton offers three Wax-Tape® brand anticorrosion wrap systems.

High-quality, easy-to-apply wraps that protect irregularly shaped fittings and require minimal surface preparation.



Belowground applications

Wax-Tape® #1

Anticorrosion Wrap:

A very durable wrap that uses a thick, non-stitch bonded synthetic fabric and has no clay fillers, so it stays conformed to irregular profiles. The wrap requires no abrasion blasting, can be backfilled immediately and is compatible with cathodic protection.



Aboveground and belowground applications

Wax-Tape® #2

Self-Firming Anticorrosion Wrap:

A unique, microcrystalline-wax-saturated wrap that slowly firms up to provide excellent aboveground and belowground protection. Comes in a variety of colors and usually requires no outerwrap.



High-temperature applications

Wax-Tape® HT-3000

High-Temperature Anticorrosion Wrap:

Designed for operating temperatures up to 230°F (110°C), Wax-Tape® HT-3000 wrap can be used on high-temperature oil and gas piping, on compressor station discharge piping, beneath thermal insulation and in high ambient temperature conditions.

Only Trenton offers Wax-Tape® brand anticorrosion wrap systems, with primers, wraps and outerwraps.

TRENTON
ANTICORROSION MATERIALS

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Paris, France 75009

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www.trentoncorp.com

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gefördert von Senatsverwaltung Berlin



SOCIAL PROGRAMME

Sunday, 28 August 2022

17:00 Registration / Check-in
18:00 - 19:00 **Welcome Reception** (snacks & drinks will be served)

Tuesday, 30 August 2022

17:40 – 19:30

Poster and Exhibitors' Party (drinks & nibbles)

Opportunity for poster discussions and networking with the exhibitors and colleagues. The poster authors are asked to be at their posters during that time.

Wednesday, 31 August 2022

19:30

Conference Dinner at "TIPI am Kanzleramt"

The TIPI am Kanzleramt is located in Berlin Tiergarten (approx. 15 min. walk from the Congress Hotel). The atmosphere in this marquee theatre is very special. Enjoy the 3-course menu and drinks, and chat with colleagues and friends.

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EUROCORR CONGRESS OFFICE – OPENING HOURS

Sunday, 28 Aug. 2022	16:00 – 19:00
Monday, 29 Aug. 2022	08:00 – 19:00
Tuesday, 30 Aug. 2022	08:00 – 19:30
Wednesday, 31 Aug. 2022	08:00 – 18:00
Thursday, 1 Sept. 2022	08:00 – 14:30

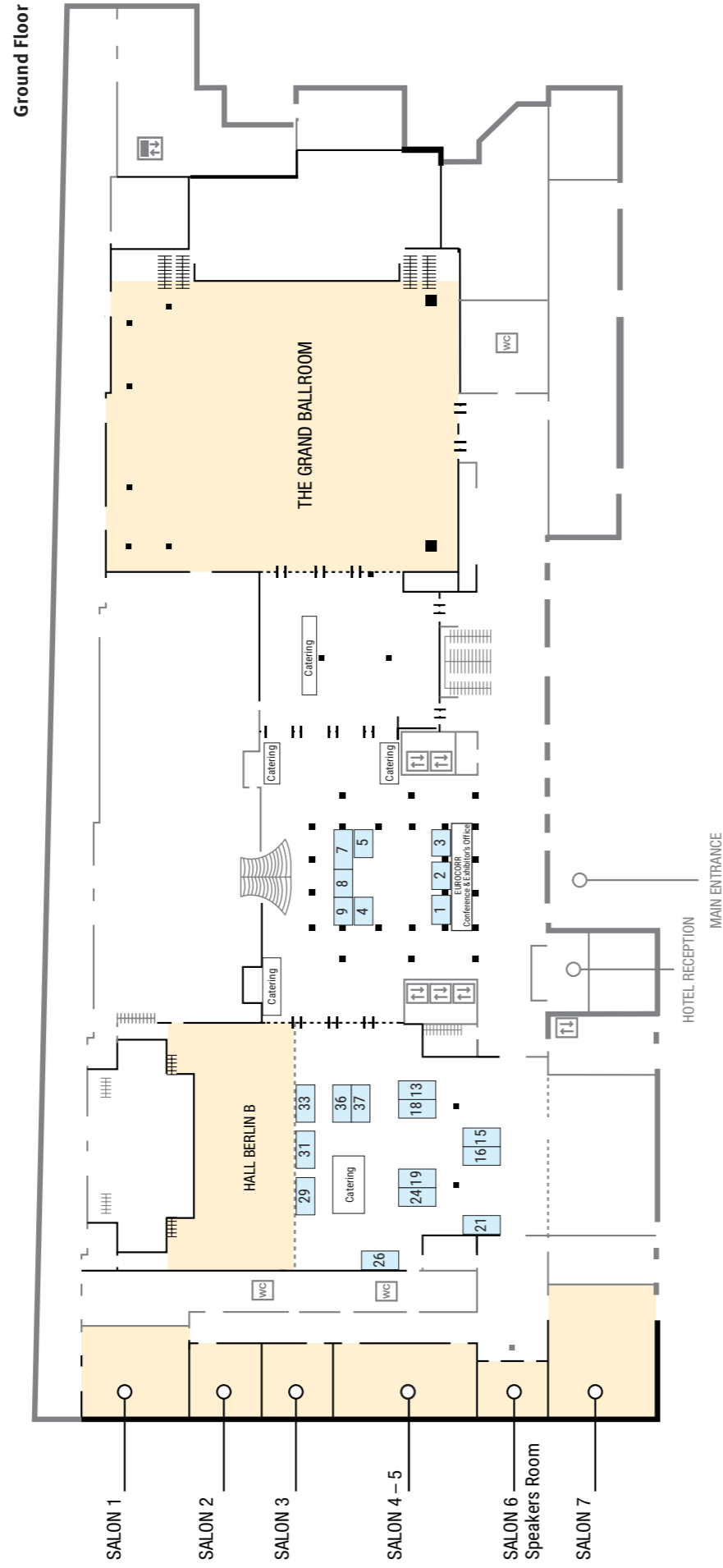
Exhibition Office

Hans Jürgen Pauler
 Mplus Messebau GmbH, Herzogenrath/D
 +49 152 541 024 37
 hjp@mplus-messebau.de



EXHIBITORS GROUND FLOOR

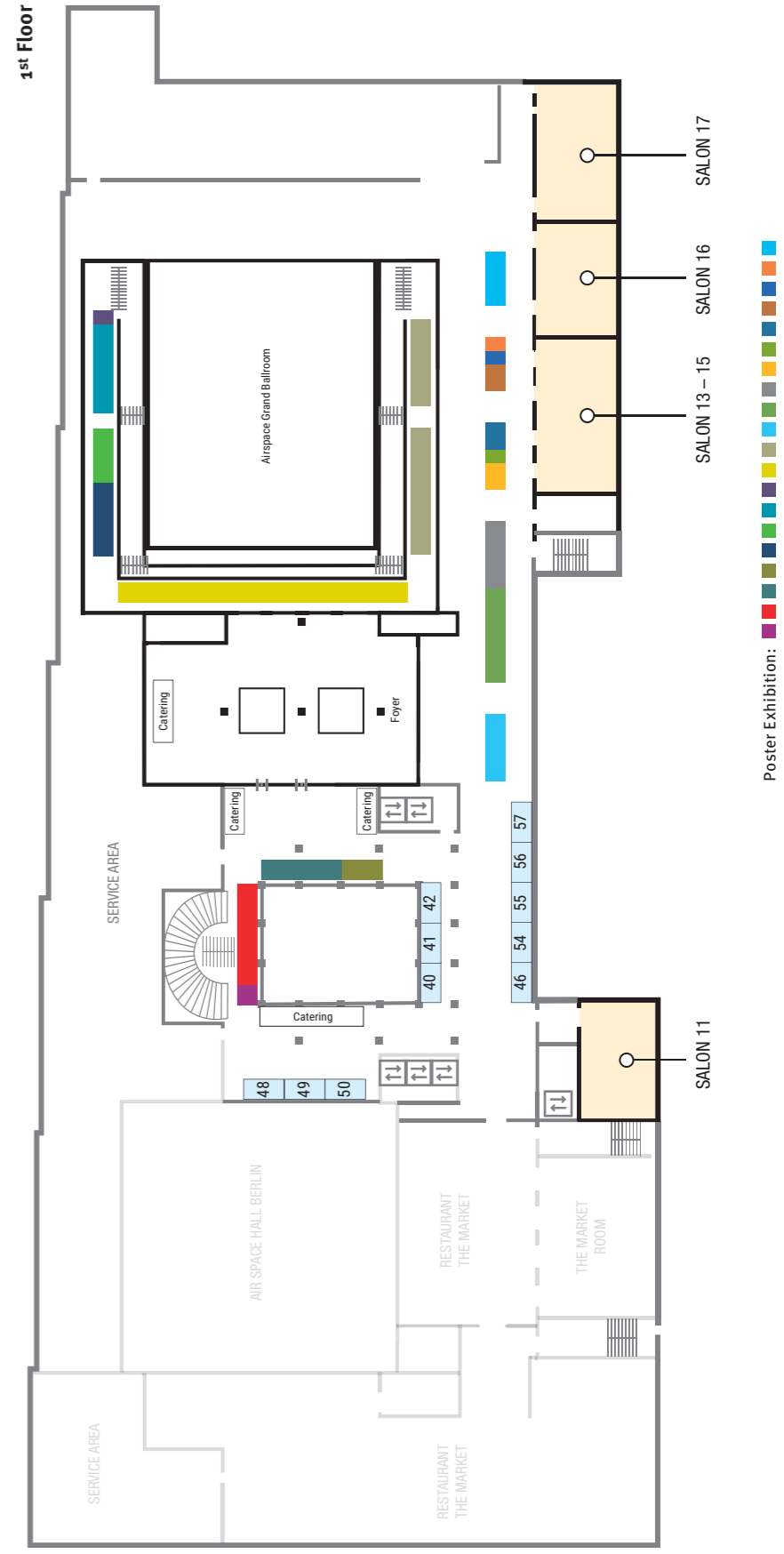
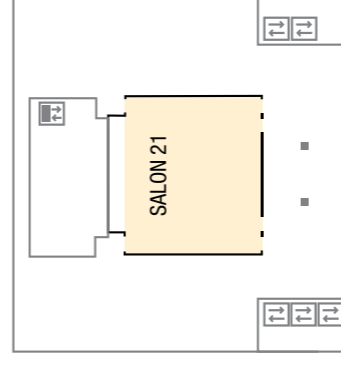
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Lecture Room 2nd Floor



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Since 1949, Trenton has pioneered the development of microcrystalline wax-based anticorrosion products. Most well known is the Wax-Tape® brand wrap system, used with primers & outerwraps. Wraps meet a variety of needs, above and below ground and in high temperature applications. For additional protection, Trenton offers a range of outerwraps. Benefits of Trenton's products include: minimal surface prep, ease of application, conformable to irregular surfaces, removable for inspection, compatible with other coatings, environmentally friendly. www.trentoncorp.com



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We love things that are long-lasting. In over 100 years, Seppeler has developed into a flexible group of companies with regionally anchored locations. The business units in Germany, Poland and Switzerland form a strong network with almost 1,600 members of staff. Thanks to individual solutions, advanced techniques and a strong focus on service, we offer our customers the best solution. And we offer our employees secure, valuable employment. www.seppeler.de



Sunday, 28 August 2022

	Grand Ballroom (Ground Floor)	Hall Berlin B (Ground Floor)	Salon 21 (2 nd Floor)	Salon 7 (Ground Floor)	Salon 4-5 (Ground Floor)	Salon 13-15 (1 st Floor)
09:00	EFC STAC Meeting (Salon 7)					
13:00	Joint STAC & BoA Lunch Meeting					
14:00	EFC BoA Meeting (Salon 7) (14:00 - 18:00)					
17:00	Registration (17:00 - 19:00)					
18:00	WELCOME RECEPTION					
19:00	End of Welcome Day					

Monday, 29 August 2022

Grand Ballroom (Ground Floor)						
09:00	EUROCORR Opening Ceremony					
09:10	European Corrosion Medal Ceremony					
09:20	European Corrosion Medal Lecture					
10:00	EFC Honorary Fellow Award Ceremony					
10:10	Corrosion Awareness Honour					
10:20	Coffee Break					
	Grand Ballroom (Ground Floor)	Hall Berlin B (Ground Floor)	Salon 21 (2 nd Floor)	Salon 7 (Ground Floor)	Salon 4-5 (Ground Floor)	Salon 13-15 (1 st Floor)
	Mechanisms, Methods & Modelling	Metallic Coatings	Corrosion Control in Aerospace	Hydrogen Embrittlement in Atmospheric Exposure Conditions (JS)	Nuclear Corrosion	Cathodic Protection in Marine Environment (JS)
<i>Chairs</i>	<i>Mol / Terry</i>	<i>Fürbeth</i>	<i>Hack / Zheludkevich</i>	<i>Blanc</i>	<i>Ritter / Martinelli</i>	<i>Refait / Crouzillac</i>
11:00	Revilla	Duchsolv	Kefallinou	KEYNOTE: Prošek	KEYNOTE: Hänninen	Fatemi Nayeri
11:20	Shkirskiy	van Leeuwen	Cornet	Machackova		Lauvstad
11:40	Roche	Baissac	Friedersdorf	Vucko	Ritter	Génin
12:00	Taji	Garcia Lecina	Mondou	Rudomilova	Chen	Kekez
12:20	Akuata		Engelberg	Hinds	Neumeister	
12:40	Lunch					
	Mechanisms, Methods & Modelling	Metallic Coatings	Corrosion Control in Aerospace	Hydrogen Embrittlement in Atmospheric Exposure Conditions (JS)	Nuclear Corrosion	Marine Corrosion
<i>Chairs</i>	<i>Terry/Mol</i>	<i>Lekka / Rossi</i>	<i>Visser / Hack</i>	<i>Prošek</i>	<i>Chen / Mackiewicz</i>	<i>Refait / Paul</i>
14:10	Li	Zachenska		Pinson	Hwang	Kelm
14:30	Pratesa	Vitry	Raffin	Yaktiti	Lim	Cherewko
14:50	Gazenbiller	Ponomareva	Bin Mohamad Sultan	Norling	Parker-Quaife	Linden
15:10		Garcia Rodriguez	Visser	Azumi	Fouchereau	Loukodimou
15:30	Coffee Break					
	Mechanisms, Methods & Modelling	Metallic Coatings	Corrosion Control in Aerospace	Hydrogen Embrittlement in Atmospheric Exposure Conditions (JS)	Nuclear Corrosion	Marine Corrosion
<i>Chairs</i>	<i>Mol / Terry</i>	<i>Lekka / Rossi</i>	<i>Zheludkevich / Hack</i>	<i>Szala</i>	<i>Rebak / Parker-Quaife</i>	<i>Refait / Paul</i>
16:00	Berger	Ravilumar	Zhao	Yue	Robineau	Aurojo-Lascano
16:20	Persson	Rossi	Ünlü	Deconinck	Vernouillet	Castro Vargas
16:40	Yasakau	Al Mutairi	Vngaranahalli	Moshtaghi	Martin	Nicard
			Electric Vehicles and E-Mobility Systems (JS)			
<i>Chairs</i>			<i>Szala / Ambat</i>			
17:00	Kurchavov	Zendejas Medina	Halama	Beyß	Zajec	Serjaouan
17:20	Vaghefinazari	Linder	Mølmen		Li	WP 9 Business Meeting
17:40		Bayatli	Kivisakk		Verhoeven	
18:00	End of 1 st Conference Day					

Sunday, 28 August 2022

	Salon 1 (Ground Floor)	Salon 17 (1 st Floor)	Salon 11 (1 st Floor)	Salon 16 (1 st Floor)	Salon 2 (Ground Floor)	
	EFC STAC Meeting (Salon 7)					09:00
	Joint STAC & BoA Lunch Meeting					13:00
	EFC BoA Meeting (Salon 7) (14:00 - 18:00)					14:00
	Registration (17:00 - 19:00)					17:00
	WELCOME RECEPTION					18:00
	End of Welcome Day					19:00

Monday, 29 August 2022

Grand Ballroom (Ground Floor)						
09:00	EUROCORR Opening Ceremony					09:00
09:10	European Corrosion Medal Ceremony					09:10
09:20	European Corrosion Medal Lecture					09:20
10:00	EFC Honorary Fellow Award Ceremony					10:00
10:10	Corrosion Awareness Honour					10:10
10:20	Coffee Break					10:20
	Salon 1 (Ground Floor)	Salon 17 (1 st Floor)	Salon 11 (1 st Floor)	Salon 16 (1 st Floor)	Salon 2 (Ground Floor)	
	Corrosion and Scale Inhibition	Microbial Corrosion	Mechanisms, Methods & Modelling	Corrosion of Steel in Concrete	Green & Low Carbon Energy Technologies (TF)	
<i>Chairs</i>	<i>Schmitt / Hater</i>	<i>Cristiani / Basseguy</i>	<i>Olivier / Gonzalez-Garcia</i>	<i>Raupach</i>	<i>Paterson</i>	<i>Chairs</i>
11:00	Osundare	KEYNOTE: Feron	Owen	Doussang	Mielgo	11:00
11:20	Song		Bhamji	Zanotto	Abu-Warda	11:20
11:40	Umoren	Eckert	Alsalem	Achenbach	Bonk	11:40
12:00	Mills	Tamisier	Jones	Marais	Hamdy	12:00
12:20	Schmitt	Arkan-Ozdemir	Kakinuma	Seifert	Wipp	12:20
12:40	Lunch					12:40
	Corrosion and Scale Inhibition	Microbial Corrosion	Mechanisms, Methods & Modelling	Corrosion of Steel in Concrete	Green & Low Carbon Energy Technologies (TF)	
<i>Chairs</i>	<i>Schmitt / Hater</i>	<i>Cristiani / Basseguy</i>	<i>Gonzalez-Garcia / Olivier</i>	<i>Raupach</i>	<i>Paterson / Ropital</i>	<i>Chairs</i>
14:10	Wetzel	Acharjee	Samarawickrama	Ebell	Strebl	14:10
14:30	Al Mutairi	Tüccar	Olivier	Takriti	Perrin	14:30
14:50	Wanatabe	Meroufel	Stamper	van Ede	Debono	14:50
15:10	Stojanovic	Raghunatha Reddy		Ramón Zamora	Rückle	15:10
15:30	Coffee Break					15:30
	Corrosion and Scale Inhibition	Microbial Corrosion	Mechanisms, Methods & Modelling	Corrosion of Steel in Concrete	Green & Low Carbon Energy Technologies (TF)	
<i>Chairs</i>	<i>Schmitt / Hater</i>	<i>Cristiani / Basseguy</i>	<i>Olivier / Gonzalez-Garcia</i>	<i>Raupach</i>	<i>Paterson / Ropital</i>	<i>Chairs</i>
16:00	Skordalou	Vargas	Messinese	Kouril	Naghizadeh	16:00
16:20	de Ketelaere	Ghiara	Ignatiadis	Garcia	Irmer	16:20
16:40	Rocca	Skovhus	Van den Steen	Soic	Oltze	16:40
		Microbial Corrosion	Mechanisms, Methods & Modelling	Corrosion of Steel in Concrete	Green & Low Carbon Energy Technologies (TF)	
<i>Chairs</i>						<i>Chairs</i>
17:00		Kirsch	Cui	Liposcak	Bäßler	17:00
17:20		WP 10 Business Meeting	Stadt		Feron	17:20
17:40			Cestaro		Hinds	17:40
18:00	End of End of 1 st Conference Day					18:00
				YEFC General Meeting (approx. 18:15 - 19:15)		18:10

Tuesday, 30 August 2022

Grand Ballroom (Ground Floor)						
09:00 Young EFC Plenary Lecture						
09:35 Time for Changing Lecture Hall						
	Grand Ballroom (Ground Floor)	Hall Berlin B (Ground Floor)	Salon 21 (2nd Floor)	Salon 7 (Ground Floor)	Salon 4-5 (Ground Floor)	Salon 13-15 (1st Floor)
	Mechanisms, Methods & Modelling	Organic Coatings	Electric Vehicles and E-Mobility Systems (JS)	Environment Sensitive Fracture	Nuclear Corrosion	Marine Corrosion
Chairs	Marcus	Keil / Fedrizzi	Szala / Ambat	Blanc	Couet / Hoffman	Refait / Crouzillac
09:50	Marcus	Zia Hoseinpoor	Ahn	Rubben	Marti	Refait
10:10	Valencia Ramirez	Fedrizzi	Ludvik	Oudriss	Christophe	Capute-Batalha
10:30	Garg	Tatsuoka	Cambier	Loder	Pelouard	Andreatta
10:50 Coffee Break						
	Mechanisms, Methods & Modelling	Organic Coatings	Modelling Sustainable Active Protective Coatings (JS)	Environment Sensitive Fracture	Nuclear Corrosion	Marine Corrosion
Chairs	Marcus	Keil / Fedrizzi	Hack	Blanc	Zajec / Hren	Refait / Paul
11:20	Dlouhy	Knudsen	KEYNOTE: Zheludkevich	Depover	KEYNOTE: Hoffman	Höche
11:40	Deng	Jothi Manackam		Vander Vennet		Van den Bergh
12:00	Khayatan	Soic	Sahlmann	Claeys	Rebak	Daneshian
12:20	Meeusen	Ollivier-Lamarque	Özkan	Kalacska	Couet	Matres
12:40 Lunch						
	Mechanisms, Methods & Modelling	Organic Coatings	Modelling Sustainable Active Protective Coatings (JS)	Environment Sensitive Fracture	Nuclear Corrosion	Oil & Gas Production: High-Alloyed CRAs
Chairs	Marcus	Vogelsang	Mol	Engelberg	Schroer / Tsisar	Wilms
14:10	Muñoz	Cristoforetti	Visser	Truschner	Bullock	Klinklin
14:30	Pan	Balbo	Grevelhörster	Christien	Ghaznavi	Botinha
14:50	Maurice	Calovi	Abdelrahman	Quibel	Couet	Botinha
15:10	Schupp	Plagemann	Burchhardt	Eichinger	Fu	McCoy
15:30 Coffee Break						
	Mechanisms, Methods & Modelling	Coatings / Self Healing	Modelling Sustainable Active Protective Coatings (JS)	Environment Sensitive Fracture	Nuclear Corrosion	Oil & Gas Production: High-Alloyed CRAs
Chairs	de Graeve / Revilla	Fürbeth	Terryn	Engelberg	Ritter / Martinelli	Wilms
16:00	Li	Tedim	KEYNOTE: Marcus	Paterlini	Proriol Serre	Monnot
16:20	Mandel	Kam		Hiew	Lopes Maia	Kang
16:40	Nguyen	WP14 Business Meeting	Konchakova	Koren	Lescur	Meck
17:00	Bastos		Round Table: Modelling Sustainable Active Protective Coatings (JS)	Wang	Tsisar	
17:20	de Graeve		WP 5 Business Meeting (to 18:00)	Schroer		
17:40	POSTER & EXHIBITORS PARTY /			WP 22 Business Meeting (17:40 - 18:20)	POSTER DISCUSSION	
19:30 End of 2nd Conference Day						

Tuesday, 30 August 2022

Grand Ballroom (Ground Floor)					
09:00 Young EFC Plenary Lecture					
09:35 Time for Changing Lecture Hall					
	Salon 1 (Ground Floor)	Salon 17 (1st Floor)	Salon 11 (1st Floor)	Salon 16 (1st Floor)	Salon 2 (Ground Floor)
	Corrosion and Scale Inhibition	Microbial Corrosion	Mechanisms, Methods & Modelling	Corrosion of Steel in Concrete	Green & Low Carbon Energy Technologies (TF) - Geothermal
Chairs	Schmitt / Hater	Cristiani / Basseguy	Lamaka / Sakairi	Raupach	Paterson / Bäßler
09:50	KEYNOTE: Hater	KEYNOTE: Sand	Dou	Bolzoni	Holmes
10:10			Sehr	Frenck	Aristia
10:30	Lindsay	Beech		Doi	MacDonald
10:50 Coffee Break					
	Corrosion and Scale Inhibition	Microbial Corrosion	Mechanisms, Methods & Modelling	Corrosion of Steel in Concrete	Green & Low Carbon Energy Technologies (TF) - Geothermal
Chairs	Schmitt / Hater	Cristiani / Basseguy	Sakairi / Lamaka	Raupach	Paterson
11:20	Jero	Wakai	Feiler	Duran	Task Force Business Meeting
11:40	Dowhij	Elzinga	Würger	Ferreira	
	Corrosion and Scale Inhibition (Geothermal)				Cathodic Protection
12:00	Helali	Arkan-Ozdemir	Mary	Sano Moyeme	
12:20	Liakaki-Stavropoulou	Ratia-Hanby	Walczak		Markic
12:40 Lunch					
	Corrosion and Scale Inhibition (Geothermal)	Microbial Corrosion	Tribo-Corrosion	Corrosion of Steel in Concrete	Cathodic Protection
Chairs	Schmitt / Hater	Cristiani / Basseguy	Mischler/Geringer	Raupach	Crouzillac
14:10	Karamatou	Salta	Reinbold	Hren	Attarchi
14:30	Spinthaki	Jeannin	Espinoza-Jara	Stone	Aouina
14:50	Oppong	Smith	Bouguerra	WP 11 Business Meeting	Attarchi
15:10	Sile	Marques	Geringer		Loeffler
15:30 Coffee Break					
	Corrosion and Scale Inhibition	CO ₂ -Corrosion in Industrial-Applications	Tribo-Corrosion	Hot Gases and Combustion Products	Cathodic Protection
Chairs	Schmitt / Hater	Bäßler	Geringer / Mischler	Galetz	Crouzillac
16:00	Demadis	Sonke	Igual Manoz	Jahns	Brenna
16:20	WP1 Business Meeting	Morland	Mischler	Undisz	Margiotta
16:40		Paul	WP 18 Business Meeting	Kranzmann	Magnifico
17:00		Skountzos		Apell	Ormellese
17:20			Ghule	Al Mutairi	
17:40 POSTER & EXHIBITORS PARTY / POSTER DISCUSSION					
19:30 End of 2nd Conference Day					

Wednesday, 31 August 2022

Grand Ballroom (Ground Floor)						
09:00 INVITED PLENARY LECTURE						
09:45 Time for Changing Lecture Hall						
	Grand Ballroom (Ground Floor)	Hall Berlin B (Ground Floor)	Salon 21 (2 nd Floor)	Salon 7 (Ground Floor)	Salon 4-5 (Ground Floor)	Salon 13-15 (1 st Floor)
	Mechanisms & Methods	Inorganic Coatings	Automotive Corrosion	Environment Sensitive Fracture	Corrosion Education	Oil & Gas Production: Microbial Corrosion
Chairs	Pan / Maurice	Olivier / Mohedano	Szala	Depover		Kvarekvål
10:00	Han	Gasco-Owens	Rendahl	Subramanian	Roche	Skovhus
10:20	Wang	Ott	Svadlena	Yazdanpanah	WP7 Business Meeting	Wiggen
10:40	Wetzel	Veys-Renaux	Fowler	Blanc		de Araujo Abilio
11:00 Coffee Break						
	Mechanisms & Methods	Inorganic Coatings	Automotive Corrosion	Environment Sensitive Fracture	Atmospheric Corrosion (JS)	Oil & Gas Production: Flexibles
Chairs	Maurice / Pan	Olivier / Mohedano	Szala	Depover	Neff / Tidblad	Wilms
11:30	Castaneda	Prince	Avance	Dreano	Boháčková	Landgraf
11:50	Forcellese	Casanova	Popova	Zafra	Timoncini	Taravel-Condât
12:10	Bedmar Sanz	Pezzato	Aneja	Brilz	Timoncini	Dugstad
12:30	Scheiber	Lederer	Lekka	Latypova		Schwingschlögl
12:50 Lunch						
	Mechanisms & Methods	Inorganic Coatings	Automotive Corrosion	Environment Sensitive Fracture	Atmospheric Corrosion	Oil & Gas Production: Flexibles
Chairs	Pan/Maurice	Andreatta / Feser	Szala / Baudoin	Oudriss	Prošek	Wilms
14:20		Saji	Krüger	Kandekar	KEYNOTE: Kelly	Thomas
14:40	Feaugas	Buling	Hosking	Barou		Sarmiento Klapper
15:00	Juillet	Yuan	Bartawi	Lu	Zhang	Adesina
15:20	Larsson	Lanzutti	Morales Murillo	Ajito	Blackwood	
15:40	Ghaffari	Malekhouyan		Cui	Friedersdorf	
16:00 Coffee Break						
	Mechanisms & Methods	Pretreatments	Automotive Corrosion	Archaeological and Historical Artefacts	Atmospheric Corrosion	Oil & Gas Production: Flexibles
Chairs	Maurice/Pan	Andreatta / Feser	Szala / Baudoin	Grassini / Neff	Luckeneder	Kvarekvål
16:30	Ter-Ovanesian	Sainis	KEYNOTE: Gutgsell/Szala	Vernet	Fuse	Garate
16:50	Ghaznavi	Kras		Vassiliou	Sorg	van Haafte
17:10	Sakairi	Nabizadeh	Shneiker	Vietti	Le Thi Hong	Kuchťáková
17:30	Bruns	Cristaudo	Kumar	Koštúr	Becker	Miller
17:50	End of 3 rd Conference Day				WP 25 Business Meeting	
19:30 CONGRESS DINNER at TIPI am Kanzleramt						

Wednesday, 31 August 2022

Grand Ballroom (Ground Floor)					
09:00 INVITED PLENARY LECTURE					
09:45 Time for Changing Lecture Hall					
	Salon 1 (Ground Floor)	Salon 17 (1 st Floor)	Salon 11 (1 st Floor)	Salon 16 (1 st Floor)	Salon 2 (Ground Floor)
	Polymers & Advanced Materials	CO ₂ -Corrosion in Industrial-Applications	Medical Implants and Devices (WS)	Hot Gases and Combustion Products	Cathodic Protection
Chairs	Heinemann	Bäßler	Schmutz	Galetz	Crouzillac
10:00	Zippa	Morland	Lamaka	Lehmusto	Deharo
10:20	Pajonk	Sumner	Nuraini	Pentz	Kekez
10:40	Riboleau	Saarimaa	Balan	Jahns	Sassine
11:00 Coffee Break					
	Polymers in Organic Coatings (JS)	CO ₂ -Corrosion in Industrial-Applications	Medical Implants and Devices (WS)	Hot Gases and Combustion Products	Reliability of Electronic Devices
Chairs	Heinemann / Fürbeth	Bäßler	Schmutz	Galetz	Ambat
11:30	Vladu	Sundararajan	Rondinella	Schlereth	Mayr
11:50	Wärnheim	Bäßler	Hanke	Suzuki	Schimanski/Fladung
12:10	LeBozec	WP 24 Business Meeting	Tournay-Dufrenne	Audigié	Conseil-Gudla
12:30	Langklotz		Fernandez - Hernan		Haeffele
12:50 Lunch					
	Polymers in Organic Coatings (JS)	Refinery Industry	Medical Implants and Devices (WS)	Metallic Coatings for High Temperatures (JS)	Reliability of Electronic Devices
Chairs	Heinemann / Fürbeth	Ropital / De Landtsheer	Schmutz	Galetz	Schweigart
14:20	Fakhry	Claesen	Iannucci	Chocholaty	Spooner
14:40	Livi	Wold	Kosec	Ivashechkin	Medgyes
15:00	Morsch	Norling	Fritzen	Öztürk	Bahrebar
15:20	Trentin	Andari	Bajt Leban	Syed	Kumar
15:40		Wang	Rodriguez Ripoll	WP 3 Business Meeting	Ijichi
16:00 Coffee Break					
	Polymers in Organic Coatings (JS)	Refinery Industry	Medical Implants and Devices (WS)	Nuclear Corrosion	Reliability of Electronic Devices
Chairs	Fürbeth / Heinemann	Ropital / De Landtsheer	Schmutz	Ritter / Martinelli	Ambat
16:30	Wojda	Tacq	Berthod	WP 4 Business Meeting	Pagila
16:50	Leidlmaier	Šefl	Guo		Lakkaraju
17:10	WP19 / WP20 Business Meeting		Soliman	WP 23 Business Meeting	
17:30					
17:50	End of 3 rd Conference Day				
19:30 CONGRESS DINNER at TIPI am Kanzleramt					

Thursday, 1 September 2022

Grand Ballroom (Ground Floor)						
09:00	EFC YOUNG Scientist Grant EUROCORR Travel Grant EFC Poster Prize Award					
09:20	Cavallaro Medal Ceremony					
09:30	Cavallaro Medal Lecture					
10:00	Time for Changing Lecture Hall					
	Grand Ballroom (Ground Floor)	Hall Berlin B (Ground Floor)	Salon 21 (2 nd Floor)	Salon 7 (Ground Floor)	Salon 4-5 (Ground Floor)	Salon 13-15 (1 st Floor)
	Mechanisms & Methods	Coatings / Self Healing	Automotive Corrosion	Archaeological and Historical Artefacts	Atmospheric Corrosion	Oil & Gas Production: CS in sweet service
Chairs	Blanc / Refait	Tedim	Szala / Baudoin	Grassini / Neff	Tidbald	Kvarekvål
10:15	Seregin	Akbarzadeh	Yang	Gonzales	De Kerf	Rodriguez Ripoll
10:35	Oyedeji	Al Abri	Klink	Escobar Claros	Babutzka	Haratian
10:55	Vangrunderbeek	Sottor	Sopchenski Santos	Vietti	Kreislová	Kvarekvål
11:15	Cole		Harputlu	Lob	Linder	Thebault
11:35	Coffee Break					
	Mechanisms & Methods		Automotive Corrosion	Archaeological and Historical Artefacts	Atmospheric Corrosion	
Chairs	Refait / Blanc		Szala / Baudoin	Grassini / Neff	Thierry	
12:15	Terryn		Zwittnig	Valbi	Mahmood	
12:35	Liataud		Fushimi	Ghiara	Le Thi Hong	
12:55	Singewald			WP 21 Business Meeting	Müller	
13:15	Fujimura				Lang	
13:35	Time for Changing Lecture Hall					
	Grand Ballroom (Ground Floor)					
13:45	Closing Remarks					
14:00	End of EUROCORR 2022					

Thursday, 1 September 2022

Grand Ballroom (Ground Floor)				
EFC YOUNG Scientist Grant EUROCORR Travel Grant EFC Poster Prize Award				09:00
Cavallaro Medal Ceremony				09:20
Cavallaro Medal Lecture				09:30
Time for Changing Lecture Hall				10:00
Salon 1 (Ground Floor)	Salon 17 (1 st Floor)	Salon 11 (1 st Floor)	Salon 2 (Ground Floor)	
Polymers in Organic Coatings (JS)	Corrosion in Chemical Process Industries (JS)	WS: Corrosion of Medical Implants and Devices	Reliability of Electronic Devices	
Fürbeth / Heinemann	Alves	Schmutz	Ambat	Chairs
Dickson	Summer	Andreatta	Schweigart	10:15
Minudri	Hübner	Nie	Mantis	10:35
Fürpaß	Hübner	Nie	Mousavi	10:55
Iannucci	Stoulil		Pham	11:15
Coffee Break				11:35
Drinking Water		WS: Corrosion of Medical Implants and Devices	Reliability of Electronic Devices	
Erning		Schmutz	Schweigart	Chairs
Karabulut		Ter-Ovanessian	Xu	12:15
Jentzsch		Banik	Schneider	12:35
Kawaley			Romanenko	12:55
Obitz				13:15
Time for Changing Lecture Hall				13:35
Grand Ballroom (Ground Floor)				
Closing Remarks				13:45
End of EUROCORR 2022				14:00

WP 15 Business Meeting (until around 15:00)

Potentiostats/Galvanostats/ZRA

- powerful, compact, portable Research-Grade Instruments
- Impedance Measurements integrated in all Systems
- synchronized Bipotentiostats and Multi-Channel Systems
- easy to use software
- true floating ground; for reliable measurements on grounded samples or when coupled to other instrumentation



Interface Multi-Channel Set-Up



Bipotentiostat Interface 1010



- Reference 620**
- Ultimate Resolution
 - Low Noise
 - EIS up to 5 MHz



Reference 3000



Interface 5000



- IMX8 Multiplexer**
- new Design
 - 8 Channels
 - sequential Measurements
 - local Potentiostats
 - fast Channel Switching

Set-Up for Critical Pitting
Temperature Measurements



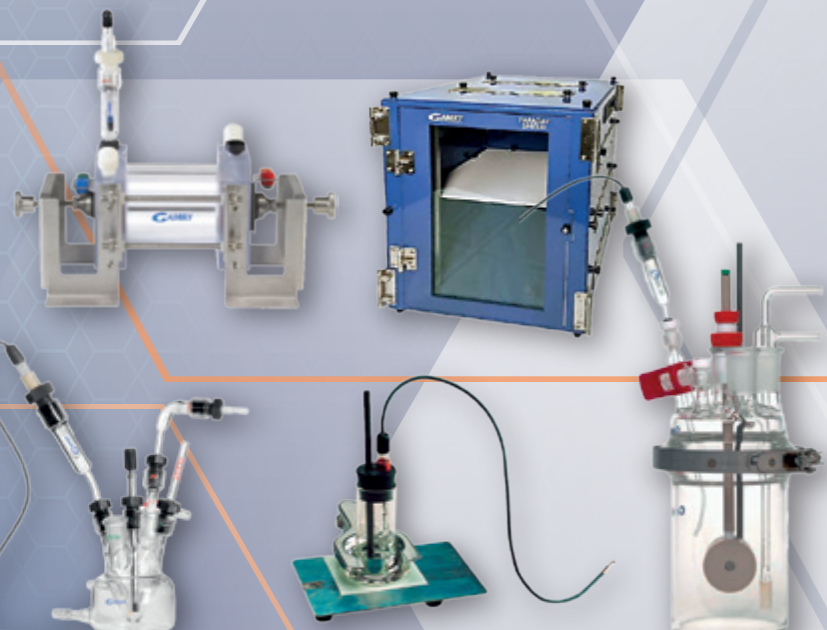
TDC5 Temperature
Controller



Flexcell

Cells and Accessories

- Cells for corrosion and coating tests
- Faraday Shield with optional conducting Glass Window



Echem-Analyst 2

- new Design
- Multi Language Support
- enhanced Number Format Support
- EIS Batch-Fitting and DRT-Analysis

PLENARY SPEAKERS

Monday, 29 August 2022

09:20 – 10:00



European Corrosion Medal Lecture

Prof. Dr. ir. J.M.C. (Arjan) Mol
TU Delft / Delft University of Technology/NL

Recent Progress in Advanced Characterization of Localized Corrosion and Active Protective Coatings

Tuesday, 30 August 2022

09:00 – 09:35



Young EFC Plenary Lecture

Jun. Prof. Dr. Çiğdem Toparlı
Middle East Technical University Dumlupınar, Ankara/TR

Materials design for a rechargeable zinc-air battery on our way to decarbonized society

Wednesday, 31 August 2022

09:00 – 09:45



Invited Plenary Lecture

Prof. Dr. Martin Stratmann
Max-Planck-Institut für Eisenforschung, München/D

Science policy in a world of dramatic change

Thursday, 1 September 2022

09:30 – 10:00



Cavallaro Medal Award Winner

Prof. Dr. Luciano Lazzari
Politecnico di Milano/I

Engineering Tools for Corrosion

Monday, 29 August 2022

Grand Ballroom (Ground Floor)

OPENING SESSION

09:00

EUROCORR Opening Ceremony

Chairs: J.A. Vogelsang, Sika Technology AG, Zurich/CH
A. Förster, DECHEMA e.V., Frankfurt am Main/D
R. Feser; FH Südwestfalen - Hochschule für Technik und Wirtschaft, Iserlohn/D

09:10

European Corrosion Medal Ceremony

Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH

09:20

Recent Progress in Advanced Characterization of Localized Corrosion and Active Protective Coatings

J.M.C. Mol, Delft University of Technology/NL

10:00

EFC Honorary Fellow Award Ceremony

Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH
Given to: **J. de Damborenea**, National Centre for Metallurgical Research (CENIM-CSIC), Madrid/E
A. Królikowska, Polish Corrosion Society, Gdańsk/P
D. Mills, Senior Lecturer in Engineering at University of Northampton/UK

10:10

Corrosion Awareness Honour 2022

Chair: G. Hinds, National Physical Laboratory, London/UK
Honoured: **C. Arroyave**, University of Antioquia, Medellin/CO

10:20

COFFEE BREAK

11:00

Start of the oral programme in all lecture halls

Monday, 29 August 2022

Grand Ballroom (Ground Floor)

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: A. Mol¹; H. Terryn²; ¹Delft University of Technology, Delft/NL; ²Vrije Universiteit Brussel (VUB), Brussels/B

- 11:00 – 11:20 **The growth kinetics and passive behavior of the native oxide film of additively manufactured AlSi10Mg vs. the conventional cast alloy**
R. Revilla¹; H. Terryn¹; I. De Graeve¹; ¹Vrije Universiteit Brussel/B
- 11:20 – 11:40 **Nanoscale cooperative galvanic corrosion of Al6061 alloy surveyed operando with Interference Reflective Microscopy**
V. Shkirskiy¹; L. Godeffroy¹; F. Kanoufi¹; ¹University of Paris/F
- 11:40 – 12:00 **Evaluation of the corrosion resistance of laser and plasma nitriding modified β -Ti₂₂Mo₆Zr₂Fe alloy for biomedical applications**
V. Roche¹; D. Nagle Travessa²; G. Villas-Boas Guedes²; A. Capella de Oliveira²; A. Argemiro Soares Sobrinho³; A. Moreira Jorge Junior⁴;
¹Grenoble Alpes University, Grenoble/F; ²Federal University of São Paulo, São José dos Campos/BR; ³Technological Institute of Aeronautics, São José dos Campos/BR; ⁴Federal University of São Carlos/BR
- 12:00 – 12:20 **Intergranular Corrosion and Passive Layer Properties of Alloy 725 Modified with Boron and Copper Micro-alloying**
I. Tajji¹; T. Hajilou¹; S. Karimi¹; A. Barnoush¹; R. Johnsen¹; ¹Norwegian University of Science and Technology, NTNU, Trondheim/N
- 12:20 – 12:40 **The Influence of Cr Addition on Microstructure Evolution and Intergranular Corrosion Properties of an Al-Zn-Mg-Cu-Zr Alloy in different Aging Conditions**
C. Akuata¹; D. Zander¹; ¹RWTH Aachen University, Aachen/D

12:40 – 14:10 LUNCH BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: H. Terryn¹; A. Mol²; ¹Vrije Universiteit Brussel (VUB), Brussels/B; ²Delft University of Technology, Delft/NL

- 14:10 – 14:30 **Evaluation of the formation and protectiveness of a lithium-based conversion layer using electrochemical noise**
Z. Li¹; A. Homborg²; Y. Gonzalez-Garcia¹; A. Kosari¹; P. Visser³; A. Mol¹; ¹Delft University of Technology, Delft/NL; ²Netherlands Defence Academy, Hen helder/NL; ³AkzoNobel, Sassenheim/NL
- 14:30 – 14:50 **Effect of Heat Treatment on Hydrogen Sorption and Desorption properties of Al-Zr Alloys**
Y. Pratesa¹; V. Chaineux¹; D. Zander¹; ¹RWTH Aachen University/D
- 14:50 – 15:10 **Phase field modelling of alcoholate pitting corrosion of Al in non-aqueous ethanol-blended fuels**
E. Gazenbiller¹; V. Arya²; R. Reitz²; M. Oechsner²; M. Zheludkevich¹; D. Höche¹; ¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²TU Darmstadt/D

15:30 – 16:00 COFFEE BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: A. Mol¹; H. Terryn²; ¹Delft University of Technology, Delft/NL; ²Vrije Universiteit Brussel (VUB), Brussels/B

- 16:00 – 16:20 **Simulation workflow for the optimization of protective interface layer formation in novel aluminium reinforced concrete**
S. Berger¹; A. Ravikumar¹; S. Gouttebroze²; H. Justnes²; J. Friis²; O. Myhr³; T. Furu³; M. Zheludkevich¹; D. Hoeche¹; ¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²Sintef, Oslo/N; ³Norsk Hydro ASA, Oslo/N
- 16:20 – 16:40 **Studies of Initial Atmospheric Corrosion of Magnesium alloys AZ91 and AZ31 with Infrared Spectroscopical Techniques**
D. Persson¹; ¹Research Institutes of Sweden RISE KIMAB AB, Stockholm/S
- 16:40 – 17:00 **The effects of anodic polarization on electrochemical characteristics of magnesium**
K. Yasakau¹; S. Lamaka²; M. Zheludkevich²; ¹University of Aveiro, Aveiro/P; ²Helmholtz-Zentrum Hereon, Geesthacht/D
- 17:00 – 17:20 **Synergic effect of ionic liquid (IL) cation and anion inhibits negative difference effect on Mg in water - IL mixtures**
D. Kurchavov¹; P. Volovitch¹; ¹Chimie ParisTech - PSL Research University, Paris/F
- 17:20 – 17:40 **Exploring the interaction of selected corrosion inhibitors with bare and PEO-coated Mg alloy**
B. Vaghefinazari¹; S. Lamaka¹; C. Blawert¹; C. Wang¹; K. Yasakau²; D. Mercier³; A. Seyeux³; D. Gayet³; D. Mei⁴; P. Marcus³; M. Zheludkevich¹;
¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²University of Aveiro/P; ³Chimie ParisTech- CNRS, Paris/F; ⁴Zhengzhou University/CN

Monday, 29 August 2022

Room: Hall Berlin B (Ground Floor)

Metallic Coatings

Chair: W. Fürbeth, DECHEMA-Forschungsinstitut, Frankfurt am Main/D

- 11:00 – 11:20 **Tuning the surface structure and chemistry of ZnMgAl coatings with hot active plasma treatment**
J. Duchoslav¹; F. Gecaj²; D. Leidlmair¹; G. Säckl²; M. Kehrer³; T. Stehrer³; C. Riener⁴; M. Arndt⁴; D. Stifter²; ¹CEST Kompetenzzentrum für elektrochemische Oberflächentechnologie GmbH, Linz/A; ²Johannes Kepler University Linz, Linz/A; ³Fronius International GmbH, Thalheim/A; ⁴voestalpine Stahl GmbH, Linz/A
- 11:20 – 11:40 **The Life-Cycle Assessment and Life-Cycle Cost Assessment of Duplex-Coated and Zinc-Coated versus Uncoated Steel Bridges**
M. van Leeuwen¹; F. Prenger²; ¹International Zinc Association, Brussels/B; ²Grillo-Werke AG, Duisburg/D
- 11:40 – 12:00 **Zinc Iron coatings as promising alternative to Cd and ZnNi coatings for anticorrosive and electrical conductivity application**
L. Baissac¹; R. Le Barbenchon¹; J. Tardelli¹; L. Haroun²; C. Arrighi²; C. Savall²; J. Creus²; ¹IRT M2P, Duppigheim/F; ²La Rochelle University, La Rochelle/F
- 12:00 – 12:20 **Impact of coating design in the corrosion performance and mechanical properties of electroless nickel multilayers**
A. Salicio-Paz¹; M. Lekka¹; V. Sánchez Alderiu²; A. Ruiz³; F. Maia⁴; E. García Lecina¹; ¹Fundación CIDETEC, Donostia-San Sebastián/E; ²Electroless Hard Coat S.A., Lliçà de Vall/E; ³Chemplate Materials, S.L., Santa Perpètua de Mogoda/E; ⁴Smallmatek - Small Materials and Technologies, Aveiro/P

12:40 – 14:10 LUNCH BREAK

Metallic Coatings

Chairs: M. Lekka; CIDETEC, San Sebastian/E; S. Rossi; University of Trento, Trento/I

- 14:10 – 14:30 **Stability of nickel-based coatings in alkaline medium**
J. Záchenská¹; M. Zemanová¹; ¹Slovak University of Technology, Bratislava/SK
- 14:30 – 14:50 **Effect of replenishment process on the properties of electroless nickel-boron deposits from a stabilizer-free bath**
M. Yünaçtı¹; A. Montagne²; V. Vitry²; ¹University of Mons/B; ²ENSAM Campus de Lille/F; ³University of Mons/B
- 14:50 – 15:10 **Extended insights into corrosion during neutral salt spray testing by coupling to advanced (in situ) analytics**
M. Ponomareva¹; G. Schimo-Aichhorn¹; M. Nadlinger¹; A. Bleij¹; M. Fidler²; R. Aichinger³; G. Luckeneder³; R. Steger³; S. Grienberger³;
M. Valtiner⁴; ¹Centre for Electrochemistry and Surface Technology, Linz/A; ²Johannes Kepler University Linz, Linz/A; ³voestalpine Stahl GmbH, Linz/A; ⁴Vienna University of Technology, Vienna/A
- 15:10 – 15:30 **Corrosion behavior of 316L stainless steel coatings on parts obtained by Additive Manufacturing**
S. García Rodríguez¹; J. Bedmar¹; N. Abu-warda Pérez¹; B. Torres Barreiro¹; J. Rams Ramos¹; ¹Universidad Rey Juan Carlos, Móstoles/E

15:30 – 16:00 COFFEE BREAK

Metallic Coatings

Chairs: M. Lekka; CIDETEC, San Sebastian/E; S. Rossi; University of Trento, Trento/I

- 16:00 – 16:20 **Simulation of hydrogen transport in ultra-high strength martensitic steels with zinc-nickel coating**
A. Ravikumar¹; C. Feiler¹; D. Höche¹; M. Zheludkevich¹; M. Prabhakar²; M. Rohwerder²; M. Lekka³; J. Ochoa Saenz de la Fuente³;
J. Rodríguez Jimenez³; E. Guinea³; G. Artola⁴; E. Mardaras⁴; ¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf/D; ³Fundacion Cidetec, Donostia-San Sebastián/E; ⁴Azterlan, Bizkaia/E
- 16:20 – 16:40 **Effect of chemical composition of soil on corrosion behavior of galvanized steel wire component of gabions for reinforced walls and slopes**
S. Rossi¹; M. Calovi¹; M. Pinamonti¹; ¹University of Trento, Trento/I
- 16:40 – 17:00 **Nano-Sized Metallic Coatings Used for Corrosion Prevention in Oil and Gas Industry**
S. Al Mutairi¹; N. Al-Rasheedi¹; ¹Saudi Aramco Oil Company, Dhahran/SAR
- 17:00 – 17:20 **Corrosion of magnetron sputtered high entropy alloy coatings**
L. Zendejas Medina¹; E. Paschalidou¹; R. Lindblad¹; D. Karlsson¹; U. Jansson¹; L. Nyholm¹; ¹Uppsala University, Uppsala/S
- 17:20 – 17:40 **Corrosion resistance of magnetron sputtered CoCrFeMoxNi thin films in acidic environment**
C. Linder¹; S. Rao²; S. Munkell³; A. le Febvrier²; P. Eklund²; E. Björk²; ¹RISE Research Institutes of Sweden, Stockholm/S; ²Linköping University, Linköping/S; ³Swerim AB, Stockholm/S
- 17:40 – 18:00 **Effect of Coating Parameters On Surface Properties of Hard Chromium Plating**
A. Bayatli¹; ¹Konya Technical University, Konya/TR

Monday, 29 August 2022

Room: Salon 21 (2nd Floor)

Corrosion Control in Aerospace

Chairs: T. Hack¹; M. Zheludkevich²; ¹Airbus Defence and Space GmbH, Taufkirchen/D; ²Helmholtz-Zentrum Hereon, Geesthacht/D

11:00 – 11:20	In-service corrosion performance of cadmium-plated parts for aerospace Z. Kefallinou ¹ ; D. Collins ² ; ¹ Airbus Operations Limited, Filton, Bristol/UK; ² Airbus Operations Limited, Filton/UK
11:20 – 11:40	Towards correlating in-service performance and accelerated exposure testing of active protective aerospace coatings A. Cornet ¹ ; A. Homborg ² ; L. t. Hoen-Velterop ³ ; A. Mol ⁴ ; ¹ Royal Netherlands Air Force, Hoogerheide/NL; ² Netherlands Defence Academy, Den Helder/NL; ³ Netherlands Aerospace Centre NLR, Marknesse/NL; ⁴ Delft University of Technology, Delft/NL
11:40 – 12:00	Corrosion Performance Testing of Aerospace Coatings F. Friedersdorf ¹ ; L. Agnew ² ; B. Clark ³ ; V. Avance ¹ ; ¹ Luna Labs USA, LLC, Charlottesville/USA
12:00 – 12:20	Characterization of corrosion defects in 2024 aluminum alloy exposed to aeronautical environment E. Mondou ¹ ; B. Duployer ¹ ; C. Tenaillon ¹ ; D. Sinopoli ² ; C. Blanc ¹ ; ¹ Université de Toulouse, Toulouse/F; ² Airbus Helicopter, Marignane/F
12:20 – 12:40	Determination of local passivation characteristics of pure aluminium 99.5wt% and aluminium alloy 7075-T6 with an electrochemical pen electrode R. Kroll ¹ ; P. Kearns ¹ ; D. Engelberg ¹ ; ¹ The University of Manchester/UK
12:40 – 14:10	LUNCH BREAK

Corrosion Control in Aerospace

Chairs: T. Hack¹; P. Visser²; ¹Airbus Defence and Space GmbH, Taufkirchen/D; ²AkzoNobel, Sassenheim/NL

14:30 – 14:50	Microstructure and immersion stability of silicate sealed TSA-anodized aluminium alloy F. Raffin ¹ ; J. Echaouard ² ; J. Światowska ¹ ; P. Volovitch ¹ ; ¹ Chimie ParisTech - PSL Research University - CNRS, Paris/F; ² Safran Landing Systems, Bidos/F
14:50 – 15:10	Insights into the Zr-based conversion coating on Al alloys using Element-resolved Electrochemistry (AESEC) B. Bin Mohamad Sultan ¹ ; D. Thierry ² ; K. Ogle ³ ; ¹ Chimie ParisTech - PSL Research University & French Corrosion Institute, Paris/F; ² Research Institutes of Sweden (RISE), Kista/S; ³ Chimie ParisTech - PSL Research University, Paris/F
15:10 – 15:30	Corrosion behavior of 7XXX series aluminium alloys under galvanic corrosion conditions P. Visser ¹ ; T. Hautvast ² ; A. Mol ² ; ¹ AkzoNobel, Sassenheim/NL; ² Delft University of Technology, Delft/NL
15:30 – 16:00	COFFEE BREAK

Corrosion Control in Aerospace

Chairs: T. Hack¹; M. Zheludkevich²; ¹Airbus Defence and Space GmbH, Taufkirchen/D; ²Helmholtz-Zentrum Hereon, Geesthacht/D

16:00 – 16:20	Stability of 2,5-Dimercapto-1,3,4-thiadiazole (DMTD) protective layers on AA2024-T3 J. Zhao ¹ ; M. Mopon ¹ ; S. Garcia ¹ ; ¹ TU Delft, Delft/NL
16:20 – 16:40	MXene for Corrosion Protection in Aerospace Industry B. Ünü ¹ ; Ç. Toparlı ² ; R. Ece ¹ ; ¹ TUSAŞ Turkish Aerospace Inc., Ankara/TR; ² Middle East Technical University, Ankara/TR
16:40 – 17:00	Understanding the influence of GP II and η' on the environmentally assisted cracking behavior of AA 7050 alloy in cathodically charged NaCl solution S. Shukla ¹ ; J. Balila Nagamani ¹ ; S. Vngaranhalli ¹ ; ¹ Indian Institute of Technology Mumbai, Bombay/IND

Joint Session: Electric Vehicles and E-Mobility Systems: (WP17, WP23)

Chairs: E. Szala¹; R. Ambat²; ¹Aluminium Duffel BV, Duffel/B; ²Technical University of Denmark, Kongens Lyngby/DK

17:00 – 17:20	Is corrosion an enigma challenge in decarbonization of automotive industry? M. Halama ¹ ; E. Szala ² ; F. Mihok ³ ; ¹ Technical University of Kosice, Kosice/SK; ² ALVANCE Aluminium Duffel BV, Duffel/B; ³ Slovak Academy of Science, Kosice/SK
17:20 – 17:40	Contact resistance measurement and accelerated stress tests for aluminium based fuel cell current collectors L. Mølmen ¹ ; L. Fast ¹ ; A. Lundblad ¹ ; P. Leisner ² ; ¹ RISE Research Institutes of Sweden, Borås/S; ² Jönköping University, Jönköping/S
17:40 – 18:00	Stainless steels for automotive applications – hydrogen embrittlement testing in high pressure hydrogen gas U. Kivisakk ¹ ; U. Borggren ¹ ; B. Bosbach ¹ ; ¹ SMT EMEA AB, Sandviken/S

Monday, 29 August 2022

Room: Salon 7 (Ground Floor)

Joint Session: Hydrogen Embrittlement in Atmospheric Exposure Conditions (WP5, WP17, WP22 & WP25)

Chair: C. Blanc, Université de Toulouse/F

11:00 – 11:20	KEYNOTE Atmospheric corrosion and hydrogen embrittlement of high strength steel: Real threat for automotive applications? D. Rudomilova ¹ ; T. Prošek ¹ ; G. Schimo-Aichhorn ² ; A. Muhr ³ ; J. Faderl ³ ; G. Luckeneder ³ ; ¹ University of Chemistry and Technology Prague, Prague/CZ; ² CEST Competence Centre for Electrochemical Surface Technology, Linz/A; ³ voestalpine Stahl GmbH, Linz/A
11:20 – 11:40	Effect of environmental parameters on the entry of atomic hydrogen into the structure of advanced high-strength steels due to atmospheric corrosion N. Macháčková ¹ ; D. Rudomilova ¹ ; T. Prošek ¹ ; ¹ University of Chemistry and Technology, Prague/CZ
11:40 – 12:00	Hydrogen activity during corrosion of high strength steel under simulated atmospheric corrosion conditions F. Vucko ¹ ; V. Helbert ¹ ; D. Thierry ² ; ¹ French Corrosion Institute – RISE, Brest/F; ² RISE Research Institutes of Sweden, Kista/S
12:00 – 12:20	SKP study of corrosion-induced hydrogen entry into zinc-coated and bare advanced high strength steel D. Rudomilova ¹ ; T. Prošek ¹ ; G. Schimo-Aichhorn ² ; A. Muhr ³ ; J. Faderl ³ ; G. Luckeneder ³ ; ¹ University of Chemistry and Technology Prague, Prague/CZ; ² CEST Competence Centre for Electrochemical Surface Technology, Linz/A; ³ voestalpine Stahl GmbH, Linz/A
12:20 – 12:40	Hydrogen Embrittlement of Low Alloy Steels under Simulated Atmospheric Conditions G. Hinds ¹ ; Y. Zhang ¹ ; D. Hillis ² ; A. Turnbull ¹ ; ¹ National Physical Laboratory, Teddington/UK; ² TotalEnergies, Westhill, Aberdeenshire/UK
12:40 – 14:10	LUNCH BREAK

Joint Session: Hydrogen Embrittlement in Atmospheric Exposure Conditions (WP5, WP17, WP22 & WP25)

Chair: T. Prošek; University of Chemistry and Technology Prague, Prague/CZ

14:10 – 14:30	The effect of aluminum on the resistance to hydrogen embrittlement of martensitic steels for bearing applications M. Pinson ¹ ; H. Springer ² ; T. Depover ¹ ; K. Verbeke ¹ ; ¹ Ghent University, Ghent/B; ² RWTH Aachen University, Aachen/D
14:30 – 14:50	Hydrogen diffusion and trapping in a steel containing porosities: experimental results A. Yaktiti ¹ ; A. Dreano ¹ ; J. Carton ² ; F. Christien ¹ ; ¹ Ecole Nationale Supérieure des Mines, Saint-Etienne/F; ² Safe Metal, Feurs/F
14:50 – 15:10	In-situ corrosion under load test of ultra-high strength steels N. Pålsson ¹ ; F. Vucko ² ; G. Ringot ² ; J. Allebert ³ ; R. Norling ¹ ; ¹ RISE Research Institutes of Sweden, Kista/S; ² French Corrosion Institute – RISE, Brest/F; ³ SSAB Special Steels, Oxelösund/S
15:10 – 15:30	Visualization of Hydrogen Penetration in the Atmospheric Corrosion using Photo-charge Mapping Method K. Azumi ¹ ; Y. Katsue ² ; ¹ Hokkaido University, Hokkaido/J; ² Hokkaido University, Sapporo/J
15:30 – 16:00	COFFEE BREAK

Joint Session: Hydrogen Embrittlement in Atmospheric Exposure Conditions (WP5, WP17, WP22 & WP25)

Chair: E. Szala; Aluminium Duffel BV/B

16:00 – 16:20	Hydrogen induced damage on microstructure and passivation for ultra-thin 316L austenite SS foil X. Yue ¹ ; Z. Yang ² ; L. Zhang ² ; J. Pan ¹ ; ¹ KTH, Stockholm/S; ² University of Science and Technology Beijing, Beijing/CN
16:20 – 16:40	Comparison of hydrogen embrittlement in laser powder bed fused versus conventionally rolled Ti-6Al-4V L. Deconinck ¹ ; E. Bernardo Quejido ² ; M. Villa Vidaller ² ; E. Jägler ² ; T. Depover ¹ ; K. Verbeke ¹ ; ¹ Ghent University/B; ² Universität der Bundeswehr München, Munich/D
16:40 – 17:00	The influence of microstructure on hydrogen-assisted fracture in high-strength aluminum alloys M. Moshtaghi ¹ ; M. Safyari ² ; T. Hojo ² ; G. Mori ¹ ; S. Kuramoto ³ ; ¹ Montanuniversität Leoben/A; ² Tohoku University, Sendai/J; ³ Ibaraki University, Hitachi/J
17:00 – 17:20	On the influence of alloy chemistry on the hydrogen permeability of high-strength 7xxx series Al alloys O. Beyß ¹ ; D. Zander ¹ ; ¹ RWTH Aachen/D

Monday, 29 August 2022

Room: Salon 4 - 5 (Ground Floor)

Nuclear Corrosion

Chairs: S. Ritter¹; L. Martinelli²; ¹Paul Scherrer Institut (PSI), Villigen PSI/CH; ²CEA Saclay, Gif sur Yvette/F

11:00 – 11:40	KEYNOTE On the role of vacancies, hydrogen and creep in environment-assisted cracking of nuclear materials H. Hänninen ¹ ; Y. Yagodzinsky ² ; P. Sahiluoma ² ; S. Bossyut ² ; ¹ Aalto University, Espoo/FIN; ² Aalto University, Esspo/FIN
11:40 – 12:00	Effect of surface machining on the environmentally-assisted cracking of Alloy 182 and 316L stainless steel in light water reactor environments – results of the collaborative project MEACTOS A. Sáez-Maderuelo ¹ ; T. Austin ² ; R. Bosch ³ ; M. Burke ⁴ ; M. Grimm ⁵ ; M. Herbst ⁶ ; A. Hojná ⁶ ; T. Kosec ⁷ ; A. Maurotto ⁸ ; P. Meadows ⁹ ; R. Novotny ² ; V. Olaru ¹ ; T. Pasutto ¹ ; F. Perosanz Lopez ¹ ; Z. Que ¹ ; S. Ritter ¹ ; V. Román Flórez ¹ ; F. Scenini ⁴ ; A. Toivonen ¹ ; A. Treichel ¹ ; M. Vankeerberghen ³ ; B. Zajec ⁷ ; M. Zimina ⁶ ; ¹ CIEMAT, Madrid/E; ² JRC, Petten/NL; ³ SCK CEN, Mol/B; ⁴ University of Manchester/UK; ⁵ Framatome GmbH, Erlangen/D; ⁶ CVR, Řež/CZ; ⁷ ZAG, Ljubljana/SLO; ⁸ NAMRC, Sheffield/UK; ⁹ Jacobs, Warrington/UK; RATEN ICN, Pitești/RO; EdF, Moret sur Loing/F; VTT, Espoo/FIN; PSI, Villigen/CH; ENSA, Maliaño/E
12:00 – 12:20	Effect of zinc injection on mitigating stress corrosion cracking of structural materials in LWR primary water K. Chen ¹ ; A. Mackiewicz ² ; S. Ritter ¹ ; P. Grundler ¹ ; H. Seifert ¹ ; ¹ Paul Scherrer Institut, Villigen/CH
12:20 – 12:40	Summary of long term experience with Alloy 800 mod. steam generator tubing material from Siemens KWU plants M. Neumeister ¹ ; ¹ Framatome GmbH, Erlangen/D
12:40 – 14:10	LUNCH BREAK
	Nuclear Corrosion
	Chairs: K. Chen, A. Mackiewicz, Paul Scherrer Institut (PSI), Villigen/CH
14:10 – 14:30	Flaw examination on baffle former bolts from a decommissioned S. Hwang ¹ ; S. Kim ¹ ; M. Choi ¹ ; S. Cho ¹ ; J. Lee ¹ ; H. Kim ¹ ; D. Kim ¹ ; ¹ Korea Atomic Energy Research Institute, Daejeon/ROK
14:30 – 14:50	Influence of proton irradiation on microstructure, surface oxidation and IASCC of 316 stainless steel in PWR primary water Y. Lim ¹ ; S. Kim ¹ ; M. Choi ¹ ; S. Hwang ¹ ; D. Kim ¹ ; ¹ Korea Atomic Energy Research Institute, Daejeon/ROK
14:50 – 15:10	Development of Micro-mechanical Testing Methods on Advanced Alloys Following High-temperature Water Corrosion E. Parker-Quaife ¹ ; T. Martin ² ; D. Liu ² ; K. Mo ³ ; J. Eloi ² ; R. Burrows ⁴ ; E. Williams ⁴ ; S. Davis ² ; D. Kumar ² ; C. Harrington ⁵ ; C. Jones ² ; ¹ National Nuclear Laboratory Limited, Stonehouse, Gloucestershire/UK; ² University of Bristol/UK; ³ Argonne National Laboratory, Lemont, IL/USA; ⁴ National Nuclear Laboratory Limited, Stonehouse/UK; ⁵ UKAEA, Abingdon/UK
15:10 – 15:30	Influence of additive manufacturing process parameters on the corrosion behavior of 316L stainless steel. A. Fouchereau ¹ ; B. Puga ¹ ; H. Maskrot ¹ ; F. Lomello ¹ ; F. Schuster ¹ ; V. Vivier ² ; ¹ CEA Saclay, Saclay/F; ² LRS-CNRS, Paris/F
15:30 – 16:00	COFFEE BREAK
	Nuclear Corrosion
	Chairs: R. Rebak ¹ ; E. Parker-Quaife ² ; ¹ GE Research, Schenectady/USA; ² National Nuclear Laboratory Limited, Stonehouse, Gloucestershire/UK
16:00 – 16:20	Corrosion of carbon steel in contact with a cement grout/argillites heterogeneous medium M. Robineau ¹ ; V. Maillot ² ; D. Crusset ² ; R. Sabot ³ ; M. Jeannin ³ ; P. Refait ³ ; ¹ La Rochelle University, Avenue Albert Einstein/F; ² Andra, Chatenay Malabry/F; ³ La Rochelle University/F
16:20 – 16:40	Corrosion of carbon-steel casing used in deep geological radioactive waste repository A. Vernouillet ¹ ; C. Carré ¹ ; D. Neff ¹ ; X. Bourbon ² ; V. Maillot-Deydier ² ; N. Michau ² ; P. Dillmann ¹ ; ¹ LAPA, IRAMAT, NIMBE, CEA, CNRS, Gif-sur-Yvette/F; ² Andra, Chatenay-Malabry/F
16:40 – 17:00	Influence of the Al content on the electrochemical behavior of Cold sprayed ZnAl coatings for the protection of carbon steel in conditions simulating the deep geological disposal of radioactive waste A. Martin ¹ ; N. TEXIER-MANDOKI ² ; V. Maillot-Deydier ² ; D. Crusset ² ; F. GOURAUD ³ ; C. VERDY ⁴ ; R. Sabot ¹ ; J. Creus ¹ ; P. Refait ¹ ; ¹ Laboratoire des Sciences de l'Ingénieur pour l'Environnement (LaSIE), UMR 7356 CNRS- La Rochelle Université, La Rochelle/F; ² Andra, Châtenay-Malabry/F; ³ Citra, Limoges/F; ⁴ ICB-PMDM-LERMPS UMR 6303, CNRS, UTBM, Université De Bourgogne Franche-Comté, Belfort/F
17:00 – 17:20	Corrosion of carbon steel in contact with saturated cement-bentonite grout in moderately alkaline electrolyte B. Zajec ¹ ; P. Močnik ¹ ; A. Legat ¹ ; J. Goethals ² ; C. Wittebrood ³ ; T. Kosec ¹ ; ¹ Slovenian National Building and Civil Engineering Institute, Ljubljana/SLO; ² Subatech, IMT Atlantique, Nantes/F; ³ IRSN, PSE-ENV/SEDRE/LETIS, Fontenay-aux-Roses/F
17:20 – 17:40	Influence of the lithium salts as corrosion inhibitors on the corrosion process of aluminium in OPC matrix X. Li ¹ ; S. Caes ¹ ; T. Pardoen ² ; G. De Schutter ³ ; B. Kursten ¹ ; ¹ Belgian Nuclear Research Center (SCK•CEN), Mol/B; ² Université Catholique de Louvain, 1348 Ottignies-Louvain-la-Neuve/B; ³ Ghent University/B
17:40 – 18:00	Anaerobic corrosion behavior and passive film composition of candidate materials for disposal of Belgian radioactive waste B. Verhoeven ¹ ; M. Nabizadeh ² ; P. Van Aken ¹ ; R. Gaggiano ³ ; H. Terryn ² ; B. Rossi ⁴ ; W. Bogaerts ⁵ ; R. Dewil ¹ ; ¹ KU Leuven, Sint-Katelijne-Waver/B; ² Vrije Universiteit Brussel (VUB), Brussel/B; ³ ONDRAF/NIRAS, Brussel/B; ⁴ University of Oxford/UK; ⁵ KU Leuven/B

Monday, 29 August 2022

Room: Salon 13 - 15 (1st Floor)

Joint Session: Cathodic Protection in Marine Environment (WP9 & WP16)

Chairs: P. Refait¹; J. Cruzillac²; ¹La Rochelle University/F; ²BAC Corrosion Control, Voisins-le-Bretonneux/F

11:00 – 11:20	Innovative acid resistant mortars for embedment of impressed current cathodic protection (ICCP) anodes in reinforced concrete structures S. Fatemi Nayeri ¹ ; A. Hadigheh ² ; G. Adam ³ ; ¹ Transport for New South Wales (TfNSW), PARRAMATTA/AUS; ² The University of Sydney, NSW 2006/AUS; ³ Dulux Group, NSW 2259/AUS
11:20 – 11:40	Cathodic Protection Design for Offshore Wind Monopile Foundations at Deeper Waters – Addressing Challenges by Modelling G. Lauvstad ¹ ; H. Osvoll ¹ ; S. Wigen ¹ ; ¹ FORCE Technology Norway AS, Trondheim/N
11:40 – 12:00	Cathodic protection of carbon steel in the tidal zone: evolution of the mineral layer from immersion zone to splash zone C. Genin ¹ ; R. Sabot ¹ ; M. Jeannin ¹ ; A. Grolleau ² ; P. Refait ¹ ; ¹ La Rochelle University/F; ² Naval Group, Cherbourg/F
12:00 – 12:20	Overview and improvements after diagnostics of cathodic protection system over group of gas platforms K. Kekez ¹ ; H. Goreta ² ; Z. Štefanović ¹ ; ¹ PA-EL d.o.o., Veliko Trgovisce/HR; ² INA-Industrija nafte d.d., Zagreb/HR
12:40 – 14:10	LUNCH BREAK
	Marine Corrosion
	Chairs: P. Refait ¹ ; S. Paul ² ; ¹ La Rochelle University/F; ² TWI Ltd /University of Leicester/UK
14:10 – 14:30	Robot-assisted pre-coating of edge sections in maritime structures D. Kelm ¹ ; M. Irmer ¹ ; T. Marquardt ² ; ¹ Fraunhofer IGP, Rostock/D; ² Muehlhan AG, Hamburg/D
14:30 – 14:50	Underwater coating application as a smart repair process for coating damages on offshore structures V. Cherevko ¹ ; M. Irmer ¹ ; H. Preuß ² ; ¹ Fraunhofer IGP, Rostock/D; ² Fraunhofer IOSB, Ilmenau/D
14:50 – 15:10	Laser clad coatings for offshore wave-energy applications – testing of biofouling mitigation and corrosion protection J. Lindén ¹ ; K. Andersson ¹ ; R. Harnden ² ; A. Bonel ² ; E. Pinori ¹ ; ¹ RISE Research Institutes of Sweden, Borås/S; ² CorPower Ocean, Stockholm/S
15:10 – 15:30	Evaluation of the anticorrosive and self-healing performance of epoxy coatings loaded with microcapsules in the atmospheric zone of offshore wind turbines. A. Loukodimou ¹ ; R. Griñón Echániz ² ; D. Statharas ³ ; D. Weston ³ ; S. Paul ⁴ ; ¹ University of Leicester & NSIRC, Leicester/UK; ² Centro Tecnológico Componentes - CTC, Santander, Cantabria/E; ³ University of Leicester /UK; ⁴ TWI, Cambridge/UK
15:30 – 16:00	COFFEE BREAK
	Marine Corrosion
	Chairs: S. Paul ¹ ; P. Refait ² ; ¹ TWI Ltd /University of Leicester/UK; ² La Rochelle University/F
16:00 – 16:20	Performance of Painted TSA in Simulated Marine Environment A. Araujo-Lascano ¹ ; S. Paul ² ; D. Parfitt ³ ; ¹ Coventry University / NSIRC, Cambridge/UK; ² TWI, Cambridge/UK; ³ Coventry University, Coventry/UK
16:20 – 16:40	Simulation of Corrosion Performance of Damaged TSA-coated Steel in Artificial Seawater A. Castro Vargas ¹ ; S. Paul ² ; ¹ University of Leicester, NSIRC, TWI Ltd, Universidad Tecnológica de Bolívar, Cambridge/UK; ² TWI Ltd /University of Leicester, Cambridge/UK
16:40 – 17:00	Corrosion monitoring based on diffuse ultrasonic CWI technique applied to steels in sea water C. Nicard ¹ ; I. Proriot Serre ² ; D. BALLOY ² ; M. FARIN ³ ; E. MOULIN ³ ; P. CAMPISTRON ³ ; L. CHEHAMI ³ ; F. BENMEDDOUR ³ ; T. DUBOIS ² ; G. DELAPLACE ² ; ¹ Univ. Lille, CNRS, INRAE, Centrale Lille, UMR 8207—UMET—Unité Matériaux Et Transformations, Villeneuve d'Ascq/F; ² Univ. Lille, CNRS, INRAE, Centrale Lille, UMR 8207—UMET—Unité Matériaux Et Transformations, Villeneuve d'Ascq/F; ³ Univ. Lille, CNRS, Centrale Lille, Junia, Univ. Polytechnique Hauts-de-France, UMR 8520 - IEMN - Institut d'Electronique de Microélectronique et de Nanotechnologie, Valenciennes/F
17:00 – 17:20	Influence of temperature and Al(III) on the oxidation of sulfated green rust in marine environments M. Serjaouan ¹ ; P. Refait ¹ ; C. Rémaizeilles ¹ ; ¹ La Rochelle University, La Rochelle/F
17:20 – 18:00	WP 9 Business Meeting

Monday, 29 August 2022

Room: Salon 1 (Ground Floor)

Corrosion and Scale Inhibition

Chairs: G. Schmitt¹; W. Hater²; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²EFC, Iserlohn/D11:00 – 11:20 **Organic Corrosion Inhibition in Sweet Solution: Performance and Interface Characterisation**
A. Osundare¹; M. Dowhyj¹; R. Lindsay¹; ¹University of Manchester/UK11:20 – 11:40 **Performance of Low-Dosage Corrosion Inhibitor at High Temperature, High Pressure (HTHP) Downhole Sour Conditions**
H. Song¹; Y. Lee¹; B. Song¹; C. Kang²; ¹Unicoh Specialty Chemicals Co., Ltd., Pohang/ROK; ²CM Technologies, Dublin/USA11:40 – 12:00 **Synthesis, Characterization, and Application of Chitosan/Silver Nanocomposite as Green and Effective Inhibitor for Low Carbon Steel in CO₂-saturated Brine**
S. Umoren¹; ¹King Fahd University of Petroleum and Minerals, Dhahran/SAR12:00 – 12:20 **Investigation of Environmentally Compliant Corrosion Inhibitors and comparison with Conventional Inhibitors using the Electrochemical Noise Method (EN)**
D. Mills¹; E. Binner²; T. Lan²; ¹University of Northampton, Northampton/UK; ²University of Nottingham/UK12:20 – 12:40 **Inhibition of Duplex Steel in Acidizing of Sour Wells**
G. Schmitt¹; S. Losacker²; T. Gommlich¹; U. Borgerding¹; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²ExxonMobil Production Deutschland GmbH, Hannover/D

12:40 – 14:10 LUNCH BREAK

Corrosion and Scale Inhibition

Chairs: G. Schmitt¹; W. Hater²; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²EFC, Iserlohn/D14:10 – 14:30 **Weathering tests to investigate the durability of corrosion protection coatings and on-site repair materials**
K. Wetzel¹; M. Schmid¹; ¹Federal Waterways Engineering and Research Institute, Karlsruhe/D14:30 – 14:50 **Optimization of Downhole Corrosion Inhibition Treatment for Water Supply Wells**
N. Al-Rasheedi¹; S. Al Mutairi²; ¹Saudi Aramco Oil Company, Dhahran/SAR; ²Saudi Aramco Oil Company, dhahran/SAR14:50 – 15:10 **Phosphorous-Free and Heavy-Metal-Free Treatment for Cooling Water System of Power Plants**
S. Watanabe¹; A. Kumagai¹; M. Yanagida¹; T. Yoshino¹; K. Fujita¹; ¹Kurita Water Industries Ltd., Tochigi pref./J15:10 – 15:30 **VpCl for multimetal protection in heating systems**
I. Stojanovic¹; M. Kurtela¹; V. Šimunović¹; V. Alar¹; B. Miksic²; I. Radic Borsic³; ¹Faculty of Mechanical Engineering and Naval Architecture, Zagreb/HR; ²Cortec Corporation, St. Paul, MN/USA; ³Cortec Corporation, Zagreb/HR

15:30 – 16:00 COFFEE BREAK

Corrosion and Scale Inhibition

Chairs: G. Schmitt¹; W. Hater²; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²EFC, Iserlohn/D16:00 – 16:20 **Silicic acid polymerization chemistry in engine coolant environments and the effect of chemical additives on silica redissolution**
G. Skordalou¹; S. Clerick²; G. Buytaert²; K. Demadis¹; ¹University of Crete, Heraklion/GR; ²Arteco Coolants NV, Sint-Denijs-Westrem/B16:20 – 16:40 **Dynamic corrosion inhibitor efficiency testing for sodium silicate**
E. De Ketelaere¹; M. Vanoppen¹; D. Moed²; A. Verliefde¹; T. Depover¹; K. Verbeken¹; ¹Ghent University, Ghent/B; ²Evides, Rotterdam/NL16:40 – 17:00 **Layered zirconium phosphate as intercalation host for chitosan protonated-Synthesis, characterization and application as corrosion protection inhibitor for zinc**
I. Bouali¹; E. Rocca¹; B. RHOUTA²; D. Veys-Renaux¹; A. KHALIL²; ¹University of Lorraine, Nancy/F; ²Cadi Ayyad University, Marrakech/MA

Monday, 29 August 2022

Room: Salon 17 (1st Floor)

Microbial Corrosion

Chairs: P. Cristiani¹; R. Basseguy²; ¹RSE-Ricerca sul Sistema Energetico S.p.A, Milano/I; ²Université de Toulouse (CNRS, INPT, UPS)/F11:00 – 11:40 **KEYNOTE**
Moving Toward a Sustainable Society: focus on microbial influenced corrosion and (long term) prediction of corrosion
D. Feron¹; ¹Université Paris-Saclay, Gif-sur-Yvette /F11:40 – 12:00 **Interdisciplinary Efforts are Essential for Advancing Knowledge Needed to Manage Microbiologically Influenced Corrosion (MIC)**
R. Eckert¹; T. Skovhus²; ¹Microbial Corrosion Consulting, LLC, Commerce Township, MI/USA; ²VIA University College, Aarhus/DK12:00 – 12:20 **Time and temperature dependence of microbiologically influenced corrosion of canister materials in long term nuclear waste repositories**
M. Tamisier¹; F. Musat¹; C. Vogt¹; H. Richnow¹; M. Schmidt¹; ¹Helmholtz centre for environmental research (UFZ), Leipzig/D12:20 – 12:40 **Microbiologically induced corrosion of aluminum alloy by manganese oxidizing bacterium**
S. Arkan-Ozdemir¹; T. Tüccar²; N. Cansever³; E. İlhan-Sungur⁴; ¹Istanbul University & Uskudar University, Istanbul/TR; ²Istanbul University & Istanbul Arel University, Istanbul/TR; ³Yildiz Technical University, Istanbul/TR; ⁴Istanbul University/TR

12:40 – 14:10 LUNCH BREAK

Microbial Corrosion

Chairs: P. Cristiani¹; R. Basseguy²; ¹RSE-Ricerca sul Sistema Energetico S.p.A, Milano/I; ²Université de Toulouse (CNRS, INPT, UPS)/F14:10 – 14:30 **Effect of Engineered Grain Boundaries on Microbiologically Influenced Corrosion (MIC) of Copper 101**
A. Acharjee¹; R. Amendola¹; I. Beech¹; ¹Montana State University, Bozeman/USA14:30 – 14:50 **Effect of a Mixed Anaerobic Bacterial Consortium with SRB on the Microbial Corrosion of API 5L X65 Steel**
T. Tüccar¹; N. Cansever²; E. İlhan-Sungur³; ¹Istanbul University & Istanbul Arel University, Istanbul/TR; ²Yildiz Technical University, Istanbul/TR; ³Istanbul University, Istanbul/TR14:50 – 15:10 **Contribution of microbial activity and oxygen to the initial stage of soil corrosion -laboratory study-**
A. Meroufel¹; A. Gordon¹; J. Engblom¹; ¹RISE, Kista/S15:10 – 15:30 **Characterization of the corrosion mechanisms by sulphate reducing bacterium Desulfovibrio vulgaris on sheet pile steel**
L. Raghunatha Reddy¹; J. Meier²; A. Fiskal¹; P. Schweyen¹; T. Ternes¹; A. Wick¹; ¹German Federal Institute of Hydrology, Koblenz/D; ²University Koblenz-Landau, Koblenz/D

15:30 – 16:00 COFFEE BREAK

Microbial Corrosion

Chairs: P. Cristiani¹; R. Basseguy²; ¹RSE-Ricerca sul Sistema Energetico S.p.A, Milano/I; ²Université de Toulouse (CNRS, INPT, UPS)/F16:00 – 16:20 **The effect of spatial and temporal resolution on mathematical simulations of microbially influenced corrosion in carbon steel aqueducts**
J. Anguita¹; G. Pizarro¹; I. Vargas¹; ¹Pontificia Universidad Católica de Chile, Santiago/RCH16:20 – 16:40 **Copper alloys corrosion in Methanogens enriched media**
G. Ghiara¹; F. Formicola²; A. Franzetti²; S. Trasatti¹; P. Cristiani³; ¹Università degli studi di Milano, Milan/I; ²Università degli studi Milano Bicocca, Milan/I; ³RSE-Ricerca sul Sistema Energetico S.p.A, Milan/I16:40 – 17:00 **European MIC Network: New paths for science, sustainability and standards executed via the new COST Action CA20130**
T. Skovhus¹; A. Koerd²; ¹VIA University College, HORSSENS/DK; ²Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin/D17:00 – 17:20 **Bacteria, Bentonite, and Cast Iron Corrosion – MIC in DGRs**
K. Kirsch¹; N. Matschiavelli²; T. Stumpf²; A. Koerd¹; ¹BAM - Federal Institute for Materials Research and Testing, Berlin, Germany, Berlin/D; ²Helmholtz-Zentrum Dresden - Rossendorf (HZDR), Dresden/D17:20 – 18:00 **WP 10 Business Meeting**

Monday, 29 August 2022

Room: Salon 11 (1st Floor)

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: M. Olivier¹; Y. Gonzalez-Garcia²; ¹Université de Mons/B; ²Delft University of Technology/NL

11:00 – 11:20 **Modification of magnetite surface layers for enhanced corrosion protection of carbon steel in aqueous CO₂ environments**
J. Owen¹; S. Karlsdóttir²; F. Ropital³; G. Joshi³; J. Kittel³; R. Barker¹; ¹ University of Leeds/UK; ² University of Iceland, Reykjavík/IS;
³ IFP Energies nouvelles (IFPEN), Solaize/F

11:20 – 11:40 **Understanding the corrosion behaviour of deep pits under thick deposit layers in aqueous CO₂ environments**
R. Bhamji¹; J. Owen¹; R. Barker¹; ¹ University of Leeds/UK

11:40 – 12:00 **Modelling of CO₂ corrosion processes in NaCl solutions**
M. Alsalem¹; M. Ryan¹; K. Sedransk Campbell²; ¹ Imperial College London/UK; ² The University of Sheffield/UK

12:00 – 12:20 **Mathematical Modelling of Aqueous CO₂ Corrosion and the Impact of Temperature and Pressure on Surface Conditions**
M. Jones¹; R. Woollam¹; G. de Boer¹; J. Owen¹; H. Thompson¹; R. Barker¹; ¹ University of Leeds/UK

12:20 – 12:40 **An ultrasensitive hydrogenochromic sensor for visualizing hydrogen distribution in pure Fe under corrosion conditions**
H. Kakinuma¹; S. Ajito¹; T. Hojo¹; M. Koyama¹; S. Hiromoto²; E. Akiyama¹; ¹ Tohoku University, Sendai/J; ² National Institute for Materials Science, Tsukuba/J

12:40 – 14:10 LUNCH BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: Y. Gonzalez-Garcia¹; M. Olivier²; ¹Delft University of Technology/NL; ²Université de Mons/B

14:10 – 14:30 **Effects of droplets on corrosion of steel and galvanized steel**
C. Samarawickrama¹; X. Chen¹; R. Toh¹; P. Keil¹; I. Cole¹; ¹ RMIT University, Melbourne/AUS; ² BASF Coatings GmbH, Muenster/D

14:30 – 14:50 **Influence of inhibitive species on the corrosion resistance of Zn-Fe sacrificial coatings**
C. Arrighi¹; T. Nguyen¹; C. Savall²; J. Creus²; M. Olivier¹; ¹ Université de Mons/B; ² La Rochelle University/F

14:50 – 15:10 **Investigating the nucleation and growth of oxides on the surface of Silicon and Boron steel grades**
D. Stamper¹; D. Farrugia²; M. Auinger¹; ¹ University of Warwick, Coventry/UK; ² Tata Steel Europe, Sheffield/UK

15:10 – 15:30

15:30 – 16:00 COFFEE BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: M. Olivier¹; Y. Gonzalez-Garcia²; ¹Université de Mons/B; ²Delft University of Technology/NL

16:00 – 16:20 **Calculation of corrosion rate of active metals in strongly acidic electrolyte using the Tafel-Piontelli model**
E. Messinese¹; A. Brenna¹; M. Ormellese¹; ¹ Politecnico di Milano/I

16:20 – 16:40 **Corrosion current density evolution of the carbon steel api 5l x65 in contact with natural callovo-oxfordian water assessed by various electrochemical methods**
Y. Sano Moyeme¹; J. Bertrand²; S. Betelu³; S. Gaboreau³; K. Groenen-Serrano⁴; I. Ignatiadis³; ¹ BRGM, ORLEANS/F; ² Andra, Chatelet Malabry/F; ³ BRGM, Orléans/F; ⁴ Université Paul Sabatier, Toulouse/F

16:40 – 17:00 **Validation of a dropwise-distributed-electrolyte atmospheric corrosion model**
N. Van den Steen¹; A. Kosari²; K. Zhang²; Y. Gonzalez-Garcia²; J. Mol²; H. Teryn¹; ¹ Vrije Universiteit Brussel, Brussels/B; ² Delft University of Technology/NL

17:00 – 17:20 **A special galvanic corrosion induced by non-metallic inclusion: mechanism and the influence of inclusion composition and electrolyte chemistry**
Z. Cui¹; G. Li¹; Y. Liu¹; H. Teryn²; ¹ Ocean University of China, Qingdao/CN; ² Vrije Universiteit Brussel, Brussels/B

17:20 – 17:40 **Electrochemically controlled high-temperature oxidation of copper within a large oxygen partial pressure window**
M. Stadl¹; M. Nelhiebel¹; S. Larisegger¹; G. Faflek²; ¹ KAI GmbH, Villach/A; ² Vienna University of Technology, Vienna/A

17:40 – 18:00 **Manganese Oxides film synthesis and Photocorrosion Mechanisms characterization**
R. Cestaro¹; N. Ott¹; C. Cancellieri¹; L. Jeurgens¹; P. Schmutz¹; ¹ Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH

Monday, 29 August 2022

Room: Salon 16 (1st Floor)

Corrosion of Steel in Concrete

Chair: M. Raupach, RWTH Aachen University/D

11:00 – 11:20 **Chloride-induced corrosion of steel in three low carbon concretes (low clinker, alkali-activated slag and supersulfated cement) studied by galvanic current measurements**
L. Doussang¹; G. Samson¹; F. Deby¹; M. Cyr¹; B. Huet²; E. Guillon²; ¹ LMDC / INSA-UPS, Toulouse/F; ² Holcim Innovation Center, Saint Quentin Fallavier/F

11:20 – 11:40 **Corrosion behavior of reinforced concretes containing biochar or recycled plastic exposed to wet/dry in chlorides solutions.**
F. Zanotto¹; A. Balbo¹; A. Sirico²; P. Barnardi²; B. Belletti²; A. Malcevschi²; V. Grassi²; C. Monticelli¹; ¹ University of Ferrara/I; ² University of Parma/I

11:40 – 12:00 **Influence of alternative SCMs on the corrosion behavior of embedded steel**
R. Achenbach¹; M. Raupach¹; ¹ RWTH Aachen University, Aachen/D

12:00 – 12:20 **Value of Recycled Aggregates on the formation of limestone concretions by seawater electrolysis for coastal protection**
C. Marais¹; ¹ La Rochelle University, La Rochelle/F

12:20 – 12:40 **Conclusion on WIPANO Research Project "Safety of Prestressing Steels" - Development of a New Test Method for Assessing the Susceptibility of Prestressing Steels to Hydrogen-induced Stress Corrosion Cracking**
L. Seifert¹; T. Müller¹; G. Ebell¹; ¹ Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin/D

12:40 – 14:10 LUNCH BREAK

Corrosion of Steel in Concrete

Chair: M. Raupach, RWTH Aachen University/D

14:10 – 14:30 **Prestressed concrete structures with concentrated tendons - Structural damage due to hydrogen-induced stress corrosion cracking**
G. Ebell¹; ¹ BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/D

14:30 – 14:50 **Factors Can Affect Corrosion Behaviour of Steel Subjected to Mechanical Loading - What Should Also Be Considered? - A Review**
A. Takriti¹; S. Kessler¹; Helmut Schmidt University/University of the Federal Armed Forces Hamburg, Hamburg/D

14:50 – 15:10 **Electrochemical tomography to characterize the polarization behavior of steel in porous media**
M. van Ede¹; U. Angst¹; ¹ ETH Zürich/CH

15:10 – 15:30 **Incorporating resistivity measurement in an embedded corrosion system: tests in calibration solutions**
J. Ramón Zamora¹; I. Martínez¹; J. Gandía-Romero²; Á. Castillo¹; J. Soto²; ¹ Consejo Superior de Investigaciones Científicas, Madrid/E; ² Universitat Politècnica de València/E

15:30 – 16:00 COFFEE BREAK

Corrosion of Steel in Concrete

Chair: M. Raupach, RWTH Aachen University/D

16:00 – 16:20 **Corrosion related benefits and impacts of DC treatments in reinforced concrete**
M. Kouril¹; M. Reiser²; F. Bayer²; S. Msallamova²; J. Nemecek³; ¹ University of Chemistry and Technology, Praha/CZ; ² University of Chemistry and Technology, Prague, Prague/CZ; ³ Czech Technical University in Prague, Prague/CZ

16:20 – 16:40 **Numerical Design of ICCP system for a reinforced concrete truss bridge damaged by carbonation induced corrosion**
D. Garcia¹; S. Deharo¹; E. Sassine¹; R. François¹; ¹ CORROHM, Ramonville-Saint-Agne/F

16:40 – 17:00 **Developing of the sensor for in situ monitoring of the corrosion inhibitor efficiency in concrete**
P. Priselec¹; J. Barač¹; I. Soić¹; I. Liposcak²; S. Martinez³; ¹ University of Zagreb, Faculty of Chemical Engineering and Technology, Zagreb/HR; ² Cortec Corporation, Zagreb/HR; ³ University of Zagreb, Faculty of Chemical Engineering and Technology, ReCorrTech Ltd., Zagreb/HR

17:00 – 17:20 **Silane-based material with migrating corrosion inhibitor for the protection of concrete structural elements of the mainland-Peljesac bridge**
I. Liposcak¹; B. Miksic²; I. Rogan³; ¹ Cortec Corporation, Zagreb/HR; ² Cortec Corporation, St. Paul/USA; ³ Cortecros, Zagreb/HR

Monday, 29 August 2022

Room: Salon 2 (Ground Floor)

Task Force: Corrosion in Green & Low Carbon Energy Technologies

Chair: S. Paterson, Arbedie Consultants Ltd., Banchory/UK

11:00 – 11:20	Online molten salt corrosion monitoring in advanced concentrated solar power plants E. Mielgo ¹ ; O. Conejero ¹ ; R. Mallo ² ; A. Parra ² ; L. Millán ² ; ¹ IDONIAL Technological Centre, Avilés/E; ² TSK, Gijón/E
11:20 – 11:40	High-temperature corrosion behavior of additive manufactured 316L steel in presence of different molten solar salts N. Abu-Warda ¹ ; S. García Rodríguez ¹ ; B. Torres Barreiro ¹ ; J. Rams Ramos ¹ ; M. Utrilla ¹ ; ¹ Universidad Rey Juan Carlos, Madrid/E
11:40 – 12:00	Corrosion of austenitic steels for molten salt storage at elevated temperatures of 620 °C A. Bonk ¹ ; M. Braun ¹ ; A. Hanke ¹ ; S. Klein ² ; J. Müller ² ; T. Bauer ³ ; ¹ Deutsches Zentrum für Luft- und Raumfahrt (DLR), Stuttgart/D; ² Outokumpu Nirosta GmbH, Krefeld/D; ³ Deutsches Zentrum für Luft- und Raumfahrt (DLR), Köln/D
12:00 – 12:20	The Effect of Pre-Oxidation on Lithium Aluminate Formation on Alumina Forming Alloys Exposed to Carbonate Melt E. Hamdy ¹ ; J. Nockert Olovsjö ² ; C. Geers ¹ ; ¹ Chalmers University of Technology, Gothenburg/S; ² Kanthal AB, Hallstahammar/S
12:20 – 12:40	Materials degradation phenomena of austenitic stainless steel by Solar Salt D. Wipp ¹ ; K. Jahns ¹ ; A. Bonk ² ; M. Spiegel ³ ; U. Krupp ¹ ; ¹ RWTH Aachen, Aachen/D; ² German Aerospace Center (DLR), Stuttgart/D; ³ Salzgitter Mannesmann Forschung GmbH, Duisburg/D
12:40 – 14:10	LUNCH BREAK
Task Force: Corrosion in Green & Low Carbon Energy Technologies	
Chairs: F. Ropital ¹ ; S. Paterson ² ; ¹ IFP Energies nouvelles - Université de Lyon, Solaize/F; ² Arbedie Consultants Ltd., Banchory/UK	
14:10 – 14:30	Influence of Ionic Liquids on the Stability of Advanced SCILs M. Strelbi ¹ ; O. Kasian ¹ ; S. Virtanen ¹ ; ¹ Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Erlangen/D
14:30 – 14:50	Development of a discriminant and accelerated protocol for selection of metallic bipolar plate for PEMFC technology K. Perrin ¹ ; B. Normand ¹ ; B. Ter-Ovanesian ¹ ; ¹ Université de Lyon, INSA Lyon, Université Lyon 1, CNRS, MATEIS UMR 5510, Villeurbanne cedex/F
14:50 – 15:10	The impact of atmospheric pollutants on the degradation of CIGS-based solar cells A. Debono ¹ ; N. Fikree ¹ ; N. Schneider ² ; J. Guillemoles ² ; P. Volovitch ¹ ; ¹ Chimie ParisTech - PSL Research University, Paris Cedex 05/F; ² CNRS - Institut Photovoltaïque d'Ile-de-France (IPVF), 91120 Palaiseau/F
15:10 – 15:30	Corrosion fatigue of CrNi13-4 martensitic stainless steel for Francis runners in dependency of water quality D. Rückle ¹ ; G. Schellenberg ¹ ; W. Ottens ¹ ; B. Leibing ² ; F. von Locquenghien ² ; ¹ Materialprüfungsanstalt Universität Stuttgart, Stuttgart/D; ² Voith Hydro Holding GmbH & Co KG, Heidenheim/D
15:30 – 16:00	COFFEE BREAK
Task Force: Corrosion in Green & Low Carbon Energy Technologies	
Chairs: S. Paterson ¹ ; F. Ropital ² ; ¹ Arbedie Consultants Ltd., Banchory/UK; ² IFP Energies nouvelles - Université de Lyon, Solaize/F	
16:00 – 16:20	An Approach for the Selection of Corrosion Mitigation Strategies in Mining Industry M. Naghizadeh ¹ ; ¹ Hatch Ltd., Mississauga/CDN
16:20 – 16:40	Innovative surface protection solution to replace multi-layer spray-applied liquid coating systems for offshore wind tower structures M. Irmer ¹ ; T. Marquardt ² ; A. Momber ² ; D. Kelm ¹ ; S. Lauer ¹ ; ¹ Fraunhofer IGP, Rostock/D; ² Muehlhan AG, Hamburg/D
16:40 – 17:00	Alternating current corrosion of aluminum - influence of frequency, amplitude and waveform J. Oltze ¹ ; R. Feser ¹ ; ¹ Fachhochschule Südwestfalen, Iserlohn/D
17:00 – 17:20	Influence of Brine Components on Materials Performance in Geothermal Applications R. Bäßler ¹ ; A. Stoljarova ¹ ; S. Regenspurg ¹ ; ¹ BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/D
17:20 – 17:40	WCO & EFC white paper on corrosion and low carbon energies & technologies D. Feron ¹ ; ¹ Université Paris-Saclay, Gif-sur-Yvette /F
17:40 – 18:00	Enabling cheaper materials for water electrolyzers via characterisation of anode potential profile H. Becker ¹ ; E.J.F. Dickinson ¹ ; X. Lu ^{1,2} ; U. Bexell ³ ; S. Proch ³ ; C. Moffatt ³ ; M. Stenström ³ ; G. Smith ¹ ; G. Hinds ¹ ; ¹ National Physical Laboratory, Hampton Road, Teddington/UK; ² Electrochemical Innovation Lab, Department of Chemical Engineering, UCL, London/UK; ³ Surface Research, Strategic Research, AB Sandvik Materials Technology, Sandviken/S

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Tuesday, 30 August 2022

Grand Ballroom (Ground Floor)

Chair: P. Keil¹; ¹BASF Coatings GmbH, Münster/D

09:00 – 09:35

Young EFC Plenary Lecture**Materials design for a rechargeable zinc-air battery on our way to decarbonized society**
Ç. Toparlı¹; ¹ Middle East Technical University, Ankara/TR

09:35 – 09:50

TIME FOR CHANGING LECTURE HALL

Grand Ballroom (Ground Floor)

Corrosion Mechanisms, Methods and Modelling (3M)

Chair: P. Marcus, Chimie ParisTech - PSL Research University, Paris/F

09:50 – 10:10

Interaction of water with adsorbed 2-mercaptobenzothiazole (2-MBT) layers on copper : a mechanistic studyP. Marcus¹; X. Wu²; F. Wiame²; V. Maurice²; ¹ CNRS-Chimie ParisTech-PSL University, Paris/F; ² CNRS - Chimie ParisTech, PSL University, Paris/F

10:10 – 10:30

Localized corrosion behavior of inhibitor covered inhomogeneously Cu substratesA. Valencia Ramirez¹; P. Losada Perez²; S. Vivegnis³; F. Renner¹; ¹ Hasselt University, Hasselt/B; ² Vrije Universiteit Brussel (VUB), Brussels/B; ³ Namur University, Namur/B

10:30 – 10:50

Inhibition efficiency, bonding and structure of 2-mercaptobenzothiazole organic layer on copper: effects of electrochemical control of formation of the interfaceV. Garg¹; S. Sharma¹; S. Zanna¹; A. Seyeux¹; F. Wiame¹; V. Maurice¹; P. Marcus¹; ¹ Chimie ParisTech - PSL Research University - CNRS, Paris/F

10:50 – 11:20

COFFEE BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chair: P. Marcus, Chimie ParisTech - PSL Research University, Paris/F

11:20 – 11:40

How corrosion-relevant species affect the adsorption of imidazole on a copper surfaceM. Dlouhy¹; A. Kokalj¹; ¹ Jozef Stefan Institute, Ljubljana/SLO

11:40 – 12:00

Synergistic studies of corrosion inhibitors for galvanised steelQ. Deng¹; S. Jeschke¹; P. Eiden²; J. Gorges²; X. Chen¹; P. Keil³; I. Cole¹; ¹ RMIT University, Melbourne/AUS; ² BASF SE, Ludwigshafen am Rhein/D; ³ BASF Coatings GmbH, Munster/D

12:00 – 12:20

An investigation on the underlying parameters influenced cathodic delamination mechanismN. Khayatani¹; M. Rohwerder¹; ¹ Max-Planck-Institut für Eisenforschung, Düsseldorf/D

12:20 – 12:40

FEM to predict water uptake and transport in organic coatingsM. Meeusen¹; B. Wouters¹; N. Madelat¹; E. Jalilian¹; T. Hauffman¹; G. Van Assche¹; A. Hubin¹; H. Terryn¹; ¹ Vrije Universiteit Brussel (VUB), Brussels/B

12:40 – 14:10

LUNCH BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chair: P. Marcus, Chimie ParisTech - PSL Research University, Paris/F

14:10 – 14:30

Early stages of corrosion of stainless steel 309S in anoxic geological brines studied by synchrotron radiation photoelectron-spectroscopyA. Muñoz¹; W. Calvet²; F. Kronast²; D. Schild³; ¹ Gesellschaft für Anlagen und Reaktorsicherheit GRS gGmbH, Braunschweig/D; ² Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin/D; ³ Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen/D

14:30 – 14:50

Electrochemical and synchrotron-based XPS analyses of corrosion resistance of a V- and N-containing tooling alloyJ. Pan¹; A. Larsson²; X. Yue¹; K. Anantha³; A. Shavorskiy⁴; A. Shavorskiy⁴; E. Lundgren²; ¹ Royal Institute of Technology, Stockholm/S; ² Lund University, Lund /S; ³ Uddeholms AB, Hagfors/S; ⁴ MAX IV Laboratory, Lund/S

14:50 – 15:10

Passivity enhancement on 316L stainless steel: effects of surface finishing by vibratory polish and high-temperature annealingV. Maurice¹; S. Neupane¹; S. Zanna¹; A. Seyeux¹; L. Klein¹; P. Marcus¹; ¹ Chimie ParisTech - PSL Research University, Paris/F

15:10 – 15:30

Understanding the Mechanisms of Transpassive Dissolution and Reaction Layer Formation during Electrochemical Machining of 42CrMo4 SteelA. Schupp¹; D. Zander¹; A. Klink¹; ¹ RWTH Aachen/D

15:30 – 16:00

COFFEE BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: I. De Graeve, R. Revilla Castillo; Vrije Universiteit Brussel/B

16:00 – 16:20

Corrosion behaviour of quenched and partitioned martensitic stainless steel: Effect of composition and microstructureG. Li¹; L. Crousens¹; A. Akman¹; B. de Bakker¹; K. Kwakernaak¹; M. Santofimia¹; Y. Gonzalez-Garcia¹; ¹ Delft University of Technology/NL

16:20 – 16:40

Analysis of strain-induced α' -martensite on a new developed CrMnNiMoN stainless steel by means of coupled electrochemical noise and acoustic emission.M. Mandel¹; C. Hempel¹; C. Quitzke¹; C. Schröder¹; M. Wendler¹; O. Volkova¹; L. Krüger¹; ¹ TU Bergakademie Freiberg/D

16:40 – 17:00

Two-Dimensional Charge Transport Model to Simulate Growth of Multiple Corrosion PitsV. Nguyen¹; R. Newman¹; N. Laycock²; ¹ University of Toronto/CDN; ² Qatar Shell Research and Technology Centre, Doha/Q

17:00 – 17:20

Comparison of the corrosion of tungsten carbide hardmetal composites with the corrosion of their metallic bindersA. Ferro Rocha¹; P. Pereira²; A. Santos¹; M. Oliveira¹; J. Sacramento³; A. Senos¹; A. Bastos¹; ¹ Universidade de Aveiro/P; ² University of Oporto, Porto/P; ³ DURIT, Albergaria-a-Velha/P

17:20 – 17:40

On the corrosion behavior of (exposed) lack-of-fusion pores: Assessing the corrosion performance of a highly porous Ti₆Al₄V alloy prepared by L-PBFR. Revilla¹; M. Dey¹; I. De Graeve¹; ¹ Vrije Universiteit Brussel, Brussels/B

17:40 – 19:30

POSTER & EXHIBITORS PARTY

Tuesday, 30 August 2022

Room: Hall Berlin B (Ground Floor)

Organic Coatings

Chairs: P. Keil; BASF Coatings GmbH, Münster/D; L. Fedrizzi; University of Udine/I

09:50 – 10:10

Corrosion behaviour of deformed coil-coated products: Correlation between field exposure and accelerated testsM. Zia Hoseinpoor¹; T. Prošek¹; J. Mallégo²; ¹ University of Chemistry and Technology Prague, Prague/CZ; ² AC&CS – CRM GROUP, Liège/B

10:10 – 10:30

Monitoring of corrosion protection by organic coatings on very large testing areasF. Andreatta¹; R. Offioiach¹; A. Rondinella¹; I. Calabrese²; E. Proverbio²; G. Capurso¹; L. Fedrizzi¹; ¹ University of Udine, Udine/I; ² University of Messina, Messina/I

10:30 – 10:50

Evaluation of Under-Film Corrosion on Transmission Towers in Atmospheric EnvironmentsT. Tatsuoka¹; H. Ijichi¹; K. Yoshino¹; N. Kishigaki¹; Y. Yuuki²; T. Saito²; M. Yamazaki²; T. Shiraiishi²; ¹ Tokyo Electric Power Company Holdings, Inc., Egasaki-cho, Tsurumi-ku, Yokohama-shi, Kanagawa-ken/J; ² TEPCO Power Grid, Inc., Tokyo/J

10:50 – 11:20

COFFEE BREAK

Organic Coatings

Chairs: P. Keil; BASF Coatings GmbH, Münster/D; L. Fedrizzi; University of Udine/I

11:20 – 11:40

Why do coatings fail? A statistical analysis of root cause for coating failure on different types of steel constructions in maritime environmentsO. Knudsen¹; C. Musinoi Hagen¹; A. Skilbred²; ¹ SINTEF, Trondheim/N; ² Jotun, Sandefjord/N

11:40 – 12:00

Cathodic delamination behaviour of polymer topcoat on chromium coatings electrodeposited from trivalent chromium electrolyteM. Jothi Manickam¹; A. de Vooy²; M. Rohwerder¹; ¹ Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf/D; ² Tata Steel Europe, Ijmuiden/NL

12:00 – 12:20

Sensing of the Barrier Effect of Pre-Aged Industrial Coatings Under Forced Wetting and Natural Exposure ConditionsK. Drmic¹; A. Cugalj¹; V. Golub¹; I. Soic¹; B. Hudec¹; S. Martinez²; ¹ University of Zagreb, Faculty of Chemical Engineering and Technology, Zagreb/HR; ² University of Zagreb, Faculty of Chemical Engineering and Technology, ReCorrTech Ltd., Zagreb/HR

12:20 – 12:40

Diffusion of Water in an Ionic Liquid Cured Epoxy Polymer and its Effect on Dielectric PropertiesL. Ollivier-Lamarque¹; T. Uchimoto¹; N. Mary²; S. Marcelin²; S. Livi³; ¹ Tohoku University, Sendai/J; ² Univ. Lyon, INSA LYON, MATEIS UMR CNRS 5510, Villeurbanne/F; ³ INSA Lyon IMP, Villeurbanne/F

12:40 – 14:10

LUNCH BREAK

Organic Coatings

Chair: J.A. Vogelsang, Sika Technology AG, Zurich/CH

14:10 – 14:30

Filiform corrosion on painted steel in cyclic accelerated conditionsA. Cristoforetti¹; M. Fedel²; S. Rossi²; F. Deflorian²; ¹ University of Trento, Povo TN/I; ² University of Trento, Trento/I

14:30 – 14:50

Cutin-based coatings for corrosion protection of Al alloysA. Balbo¹; V. Grassi¹; L. De Bellis¹; S. Merchiori¹; M. Bertoldo¹; D. Scittarelli¹; A. Montanari²; F. Zanotto¹; C. Monticelli¹; ¹ University of Ferrara, Ferrara/I; ² Tomapaint, srl, Parma/I

14:50 – 15:10

Synergic behavior of graphene-based filler and thermochromic pigments in cataphoretic coatingsM. Calovi¹; F. Russo¹; S. Rossi¹; ¹ University of Trento, Trento/I

15:10 – 15:30

Assessment of surface imperfections on steel structures before coating by machine learningP. Plagemann¹; T. Strohbach¹; J. Adam¹; F. Behrends²; ¹ Fraunhofer Institute for Manufacturing Technologies and Advanced Materials, Bremen/D; ² AOT Solution GmbH, Bremen/D

15:30 – 16:00

COFFEE BREAK

Coatings/Self Healing

Chair: W. Fürbeth, DECHEMA-Forschungsinstitut, Frankfurt am Main/D

16:00 – 16:20

Can magnetic nanoparticles amplify the signal of detection of corrosion in coated substrates?A. Sushkova¹; P. Alves¹; A. Bastos¹; J. Amaral¹; J. Santos¹; V. Amaral¹; M. Ferreira¹; J. Tedim¹; ¹ University of Aveiro, Aveiro/P

16:20 – 16:40

Dual-Functional Layered Double Hydroxide for Smart Coating ApplicationT. Kam¹; ¹ National University of Singapore, Singapore/SGP

16:40 – 17:20

WP 14 Business Meeting

17:40 – 19:30

POSTER & EXHIBITORS PARTY

Tuesday, 30 August 2022

Room: Salon 21 (2nd Floor)

Joint Session: Electric Vehicles and E-Mobility Systems: (WP17, WP23)

Chairs: E. Szala¹; R. Ambat²; ¹Aluminium Duffel BV, Duffel/B; ²Technical University of Denmark, Kongens Lyngby/DK

- 09:50 – 10:10 **A Study on Corrosion Potential Issue in Dissimilar Material Joints due to Stray-Current of Electrification Vehicle**
S. Ahn¹; B. Kim²; H. KIM³; ¹Hyundai Motor R&D Group, Hwaseong-Si, Gyeonggi-Do/Rok; ²Hyundai Motor R&D Group, Hwaseong/Rok;
³Korea Automotive Technology Institute, Cheonan/Rok
- 10:10 – 10:30 **Surface treated titanium alloy and activated titanium for bipolar plates of PEMFC**
J. Ludvík¹; M. Reiser¹; M. Kouril¹; R. Bures¹; ¹UCT-Prague, Prague/CZ
- 10:30 – 10:50 **Development of new coating for PEMFC's bipolar plate: role of adding element on corrosion properties for TiN coating**
C. Cambier¹; M. Leroy²; C. Heau²; B. Ter-Ovanesian¹; B. Normand¹; ¹INSA Lyon, Villeurbanne/F; ²IREIS, Andrézieux-Bouthéon/F
- 10:50 – 11:20 **COFFEE BREAK**

Joint Session: Modelling Sustainable Active Protective Coatings

Chair: T. Hack¹; ¹Airbus Defence and Space GmbH, Taufkirchen/D

- 11:20 – 12:00 **KEYNOTE**
Active protective coatings design guided by modelling: VIPCOAT approach
M. Zheludkevich¹; N. Konchakova¹; ¹Helmholtz-Zentrum Hereon, Geesthacht/D
- 12:00 – 12:20 **Data-driven Selection of Effective Corrosion Inhibitors for Aluminium**
L. Sahlmann¹; C. Feiler¹; N. Konchakova¹; C. Özkan²; P. Taheri²; J. Mol²; D. Winkler³; D. Höche¹; M. Zheludkevich¹; ¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²Delft University of Technology (TU Delft), Delft/NL; ³La Trobe University, Bundoora/AUS
- 12:20 – 12:40 **Time-resolved analysis of corrosion inhibitor layer irreversibility**
C. Özkan¹; P. Visser²; H. Terryn³; P. Taheri¹; A. Mol¹; ¹Delft University of Technology, Delft/NL; ²AkzoNobel, Sassenheim/NL;
³Vrije Universiteit Brussel (VUB), Brussels/B
- 12:40 – 14:10 **LUNCH BREAK**

Joint Session: Modelling Sustainable Active Protective Coatings

Chair: A. Mol¹; ¹Delft University of Technology, Delft/NL

- 14:10 – 14:30 **Reconstruction of coating microstructures and development of transport pathways in active protective coatings for geometric modelling and the numerical simulations.**
P. Visser¹; B. Grevelhörster²; K. Schladitz²; P. Klein²; N. Konchakova³; ¹AkzoNobel, Sassenheim/NL; ²Fraunhofer-Institut für Techno- und Wirtschaftsmathematik ITWM, Kaiserslautern/D; ³Helmholtz-Zentrum Hereon, Geesthacht/D
- 14:30 – 14:50 **Corrosion inhibitor release: A flexible stochastic geometry model for active protective coatings**
B. Grevelhörster¹; K. Schladitz²; P. Klein²; P. Visser³; N. Konchakova⁴; ¹Technische Universität Kaiserslautern, Kaiserslautern/D;
²Fraunhofer-Institut für Techno- und Wirtschaftsmathematik ITWM, Kaiserslautern/D; ³AkzoNobel, Expertise Center Corrosion, Sassenheim/NL; ⁴Helmholtz-Zentrum Hereon, Geesthacht/D
- 14:50 – 15:10 **Finite Element Modelling of Corrosion Protection of Aluminium Alloy 2024-T3 with Lithium Based Inhibitor Loaded Organic Coatings**
N. Abdelrahman¹; P. Meuris²; N. Van den Steen³; C. Ozkan⁴; P. Taheri⁴; J. Mol⁴; B. Van den Bossche²; T. Hauffman³; H. Terryn³; ¹Vrije Universiteit Brussel (VUB), Ixelles. Brussels/B; ²Elsyca NV, Leuven/B; ³Vrije Universiteit Brussel (VUB), Brussels/B; ⁴TU Delft, Delft/NL
- 15:10 – 15:30 **Validation experiments for simulation of active corrosion protection in defects of Cr(VI)-free and Cr(VI)-loaded model coatings on aluminum AA2024 unclad**
M. Burchardt¹; Z. Kefallinou²; M. Paz Martinez-Viademonte³; T. Hack³; ¹Airbus Operations GmbH, Bremen/D; ²Airbus Operations Limited, Filton/UK; ³Airbus Defence and Space GmbH, Ottobrunn/D

15:30 – 16:00 **COFFEE BREAK**

Joint Session: Modelling Sustainable Active Protective Coatings

Chair: H. Terryn¹; ¹Vrije Universiteit Brussel (VUB), Brussels/B

- 16:00 – 16:40 **KEYNOTE**
Understanding/modelling of inhibitor-metal interaction supported by advanced surface analytical techniques
P. Marcus¹; ¹Chimie ParisTech - PSL Research University, Paris/F
- 16:40 – 17:00 **Decision support along productive chain of sustainable protective coatings - VIPCOAT project approach**
N. Konchakova¹; P. Klein²; ¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern/D
- 17:00 – 17:40 **Round Table: Modelling Sustainable Active Protective Coatings (JS)**
- 17:40 – 18:20 **WP 22 Business Meeting**
- 17:40 – 19:30 **POSTER & EXHIBITORS PARTY**

Tuesday, 30 August 2022

Room: Salon 7 (Ground Floor)

Environment Sensitive Fracture

Chair: C. Blanc, Université de Toulouse/F

- 09:50 – 10:10 **Influence of thermal oxide layers on the hydrogen transport through steel**
K. Baert¹; T. Rubben¹; R. Revilla¹; I. De Graeve¹; ¹Vrije Universiteit Brussel (VUB), Brussel/B
- 10:10 – 10:30 **The relationship between nitrogen content and hydrogen solubility and their consequences on the metallurgical and mechanical characteristics of austenitic stainless steels**
A. Oudriss¹; I. Hamdaoui¹; M. Duportal¹; C. Savalli¹; X. Feaugas¹; ¹Laboratoire des Sciences de l'Ingénieur pour l'Environnement (LaSIE), UMR 7356 CNRS- La Rochelle Université, La Rochelle/F
- 10:30 – 10:50 **Applicability of two carbon steels as materials for underground hydrogen storage**
B. Loder¹; G. Mori¹; M. Moshtaghi¹; C. Fournier²; ¹Montanuniversitaet Leoben/A; ²GEOSTOCK SAS, Rueil-Malmaison/F
- 10:50 – 11:20 **COFFEE BREAK**

Environment Sensitive Fracture

Chair: C. Blanc, Université de Toulouse/F

- 11:20 – 11:40 **Initiation of hydrogen induced cracks by electrochemical hydrogen charging revealed for multiple steel grades**
A. Laureys¹; T. Depover¹; K. Verbeken¹; ¹Ghent University, Zwijnaarde/B
- 11:40 – 12:00 **The role of retained austenite in the hydrogen embrittlement of quenching and partitioning (Q&P) steels**
S. Vander Venet¹; S. Leitner²; V. Razumovskiy²; W. Ecker²; T. Depover¹; K. Verbeken¹; ¹Ghent University, Ghent/B;
²Materials Center Leoben Forschung GmbH, Leoben/A
- 12:00 – 12:20 **On the role of stacking fault energy in the hydrogen embrittlement sensitivity of twinning induced plasticity (TWIP) steel**
L. Claeys¹; T. Depover¹; K. Verbeken¹; ¹Ghent University, Ghent/B
- 12:20 – 12:40 **High resolution EBSD study of "fisheye" formation in hydrogen-charged low-alloy cast steel containing porosities**
S. Kalacska¹; A. Yaktiti²; J. Carton³; F. Christien⁴; ¹Laboratoire Georges Friedel, Mines Saint-Etienne, Saint-Étienne/F;
²Mines Saint-Etienne, Saint-Étienne/F; ³SafeMetal, Feurs/F; ⁴Mines Saint-Etienne, St Etienne/F
- 12:40 – 14:10 **LUNCH BREAK**

Environment Sensitive Fracture

Chair: D. Engelberg, The University of Manchester/UK

- 14:10 – 14:30 **Influence of strength on the resistance to hydrogen induced stress cracking of austenitic stainless steels**
M. Truschner¹; P. Weiß¹; A. Keplinger²; G. Mori¹; ¹Montanuniversität Leoben /A; ²Voestalpine BOHLER Edelstahl GmbH & Co KG, Kapfenberg/A
- 14:30 – 14:50 **Hydrogen assisted cleavage cracking in a maraging stainless steel**
J. Bestautte¹; S. Kalacska¹; M. Lenci¹; A. Oudriss²; D. Béchet³; Z. Obadia⁴; X. Feaugas⁵; F. Christien¹; ¹Mines Saint-Etienne, Saint-Etienne/F; ²La Rochelle University, La Rochelle/F; ³Aubert & Duval, Les Ancizes/F; ⁴Airbus Commercial, Toulouse/F
- 14:50 – 15:10 **Mechanisms of fatigue-corrosion of high-strength brass coated steel wires in presence of aggressive ions.**
J. Quibel¹; N. Mary¹; J. Galipaud¹; M. Fregonese¹; V. Aubin²; ¹Univ. Lyon, INSA LYON, MATEIS UMR CNRS 5510, Lyon/F; ²Université Paris-Saclay, CentraleSupélec, ENS Paris-Saclay, CNRS, LMPS – Laboratoire de Mécanique Paris-Saclay, 91190, Gif-sur-Yvette/F
- 15:10 – 15:30 **Hydrogen uptake and embrittlement of P110 steel under gaseous hydrogen charging with up to 1000 bar and 200°C**
M. Eichinger¹; B. Loder¹; G. Mori¹; ¹Montanuniversität Leoben/A

15:30 – 16:00 **COFFEE BREAK**

Environment Sensitive Fracture

Chair: D. Engelberg, The University of Manchester/UK

- 16:00 – 16:20 **Hydrogen charging, an overlook of the existing techniques**
L. Paterlini¹; F. Bolzoni¹; M. Ormellese¹; L. Casanova¹; M. Pedferri¹; ¹Politecnico di Milano/I
- 16:20 – 16:40 **Design of In Situ Cathodic Charging of TMCP Steel under Flexural Loading**
S. Hiew¹; B. Bezensek²; S. Paterson²; W. van Haften³; T. Dessolier¹; S. Pedrazzini¹; B. Britton⁴; ¹Imperial College London, London/UK;
²Shell Global Solutions Aberdeen, Aberdeen/UK; ³Shell Global Solutions International BV, Amsterdam/NL; ⁴The University of British Columbia, Vancouver/CDN
- 16:40 – 17:00 **Experimental comparison of gaseous and electrochemical hydrogen charging in a X65 pipeline steel by the permeation technique**
E. Koren¹; C. Hagen²; D. Wang¹; R. Johnsen¹; ¹Norwegian University of Science and Technology, Trondheim/N; ²SINTEF, Trondheim/N
- 17:00 – 17:20 **Investigation of hydrogen-assisted cracking behavior on X65 pipeline steel**
D. Wang¹; A. Hagen²; X. Lu¹; R. Johnsen¹; ¹Norwegian University of Science and Technology, Trondheim/N; ²SINTEF, Trondheim/N
- 17:20 – 18:00 **WP 5 Business Meeting**
- 17:40 – 19:30 **POSTER & EXHIBITORS PARTY**

Tuesday, 30 August 2022

Room: Salon 4 - 5 (Ground Floor)

Nuclear Corrosion

Chairs: A. Couet¹; A. Hoffman²; ¹University of Wisconsin Madison, Madison/USA; ²GE Research, Niskayuna/USA

- 09:50 – 10:10 **3D Cellular Automata modeling of intergranular corrosion: case of sensitized stainless steels**
F. Marti¹; D. di Caprio²; J. de Lamare¹; B. Gwinner¹; ¹ Université Paris-Saclay, CEA, Gif-sur-Yvette/F; ² Chimie ParisTech - PSL Research University, Paris/F
- 10:10 – 10:30 **Effect of nitriding on the corrosion of Ti64 titanium alloy in pressurized water**
C. Christophe¹; L. AUDOUARD¹; Q. Auzoux¹; F. Martin¹; F. Misereque¹; Y. Wouters²; L. Latu-Romain²; ¹ Université Paris-Saclay, CEA, Gif-sur-Yvette/F; ² CNRS, SIMaP, Saint-Martin-d'Hères/F
- 10:30 – 10:50 **Corrosion behavior of the delta and Laves phases during galvanic coupling with conventional and additively manufactured nickel-based alloys in primary water environment.**
V. Pelouard¹; D. Bardel¹; E. Andrieu²; ¹ FRAMATOME, Lyon/F; ² CIRIMAT, Toulouse/F

COFFEE BREAK

Nuclear Corrosion

Chairs: B. Zajec¹; M. Hren¹; ¹Slovenian National Building and Civil Engineering Institute - ZAG, Ljubljana/SLO

- 11:20 – 12:00 **KEYNOTE**
Accident Tolerant Fuel Cladding: Designing Materials for Resistance to Both Corrosion in Light Water Reactors and High Temperature Oxidation
A. Hoffman¹; R. Umretiya²; R. Rebak¹; R. Rebak¹; ¹ GE Research, Niskayuna/USA
- 12:00 – 12:20 **Environmental Degradation Resistant FeCrAl for Accident Tolerant Fuel Cladding in Light Water Reactors.**
R. Rebak¹; R. Umretiya²; A. Hoffman¹; ¹ GE Research, Schenectady/USA
- 12:20 – 12:40 **Effect of UV Irradiation on Electrochemical Behavior of Zirconium Oxide at High Temperature Water Conditions**
A. Couet¹; A. Ambar²; T. Kim³; ¹ Couet, Madison/USA; ² Electricite de France, Ecully/F; ³ University of Wisconsin-Madison, Madison/USA

LUNCH BREAK

Nuclear Corrosion

Chairs: C. Schroer¹; V. Tsisar²; ¹Karlsruher Institut für Technologie (KIT), Eggenstein-Leopoldshafen/D; ²Belgian Nuclear Research Centre (SCK.CEN), Mol/B

- 14:10 – 14:30 **Understanding of molten salt corrosion of Ni alloy interface: A combined experimental and numerical approach**
H. Bullock¹; R. Barker¹; F. Pessu¹; ¹ University of Leeds/UK
- 14:30 – 14:50 **Electrochemical corrosion studies in model molten chloride salts**
T. Ghaznavi¹; R. Newman¹; ¹ University of Toronto/CDN
- 14:50 – 15:10 **Molten Salt Corrosion of Cladded and Surface-Treated SS316H for Molten Salt Reactor Applications**
A. Couet¹; M. Weinstein²; ¹ Couet, Madison/USA; ² University of Wisconsin Madison, MADISON/USA
- 15:10 – 15:30 **Oxidation Behavior of High-entropy Alloys & Ni-based Superalloys in Supercritical Water Environments under Different Water Chemistry Conditions**
Z. Fu¹; M. Wang¹; T. Yeh¹; ¹ National Tsing Hua University, Hsinchu City/RC

COFFEE BREAK

Nuclear Corrosion

Chairs: S. Ritter¹; L. Martinelli²; ¹Paul Scherrer Institut (PSI), Villigen PSI/CH; ²CEA Saclay, Gif sur Yvette/F

- 16:00 – 16:20 **Damage of an Alumina Austenitic Forming steel in presence of liquid lead and liquid lead bismuth eutectic: liquid metal embrittlement sensibility**
I. Proriot Serre¹; J. Vogt¹; ¹ Univ. Lille, CNRS, INRAE, Centrale Lille, UMR 8207—UMET—Unité Matériaux Et Transformations, France, Lille/F
- 16:20 – 16:40 **The characterization of austenitic stainless steel 316L thermal oxides and their effect on the initiation of liquid metal corrosion**
E. Lopes Maia¹; S. Gavrilov²; V. Tsisar²; H. Terryn¹; I. De Graeve¹; ¹ Vrije Universiteit Brussel (VUB), Brussel/B; ² Belgian Nuclear Research Center (SCK•CEN), Mol/B
- 16:40 – 17:00 **Liquid metal corrosion of 316L-type weld material in stagnant and flowing conditions in LBE environment**
A. Lescur¹; E. Stergar¹; V. Tsisar¹; S. Gavrilov¹; J. Lim¹; S. Hertel²; R. Petrov²; ¹ Belgian Nuclear Research Centre (SCK CEN), Mol/B; ² Ghent University/B
- 17:00 – 17:20 **Effect of turning on the near-surface structural state and corrosion behavior of austenitic steel 316L in liquid Pb-Bi eutectic**
V. Tsisar¹; A. Lescur²; S. Gavrilov¹; E. Stergar¹; ¹ Belgian Nuclear Research Centre (SCK.CEN), Mol/B; ² Ghent University/B
- 17:20 – 17:40 **Activation energy of oxidation in the temperature range 450–550 °C for ferritic/martensitic steel T91 in flowing lead–bismuth eutectic at 2 m/s and 10⁻⁶–6 % dissolved oxygen**
C. Schroer¹; A. Skrypnik¹; O. Wedemeyer¹; V. Tsisar²; ¹ Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen/D; ² Belgian Nuclear Research Center (SCK•CEN), Mol/B

17:40 – 19:30 POSTER & EXHIBITORS PARTY

Tuesday, 30 August 2022

Room: Salon 13 - 15 (1st Floor)

Marine Corrosion

Chairs: P. Refait¹; J. Cruzillac²; ¹La Rochelle University/F; ²BAC Corrosion Control, Voisins-le-Bretonneux/F

- 09:50 – 10:10 **Influence of Cr(III) on the formation of magnetite in marine environments**
M. Serjaouan¹; C. Rémaizeilles¹; P. Refait¹; ¹ University of La Rochelle/F
- 10:10 – 10:30 **Corrosion behavior of novel FeCrMoNbB and FeCrMoNiB alloys for marine applications**
W. Capute Batalha¹; Y. Champion²; A. Moreira Jorge Junior¹; M. Mantel²; V. Roche¹; ¹ LEPMI, Saint Martin d'Hères/F; ² SIMAP, Saint Martin d'Hères/F
- 10:30 – 10:50 **Corrosion behaviour of welded systems for marine applications**
I. Dorbolò¹; R. Offioiach¹; A. Rondinella¹; F. Andreatta¹; G. Capurso¹; G. Buffa²; D. Campanella²; L. Fedrizzi¹; ¹ University of Udine/I; ² University of Palermo/I

COFFEE BREAK

Marine Corrosion

Chairs: P. Refait¹; S. Paul²; ¹La Rochelle University/F; ²TWI Ltd/University of Leicester/UK

- 11:20 – 11:40 **Simulation of atmospheric corrosion at offshore aluminum-steel joints utilizing data- and physics-based models**
D. Höche¹; C. Blawert¹; M. Serdechnova¹; N. Konchakova¹; M. Zheludkevich¹; J. Bertram²; A. Momber²; O. Knudsen³; J. Møretro⁴; ¹ Helmholtz-Zentrum Hereon, Geesthacht/D; ² Muelhan AG, Hamburg/D; ³ SINTEF, Trondheim/N; ⁴ Norsk Hydro ASA, Sunndalsøra/N
- 11:40 – 12:00 **Saline resistant weathering steel for saline applications**
K. Van den Bergh¹; J. De Strycker²; ¹ OCAS N.V./ ArcelorMittal, Zelzate/B; ² ArcelorMittal Global R&D Gent, Zelzate/B
- 12:00 – 12:20 **Chloride transportation and deposition model in marine atmospheric corrosion**
B. Daneshian¹; D. Höche²; O. Knudsen³; A. Skilbred⁴; ¹ Helmholtz-Zentrum Hereon, Geesthacht/D; ² Helmholtz-Zentrum Hereon, Geesthacht/D; ³ SINTEF Materials and Chemistry, Trondheim/N; ⁴ Jotun Performance Coatings, Sandefjord/N
- 12:20 – 12:40 **Stainless steel rebars in concrete exposed to marine environment**
V. Matres¹; J. Sánchez²; T. Córdoba¹; ¹ Acerinox Europa S.A.U., Palmones (Los Barrios)/E; ² Centro Superior de Investigaciones Científicas, Madrid/E

LUNCH BREAK

Corrosion in Oil & Gas Production: High-Alloyed CRAs

Chair: M. Wilms, Shell Projects and Technology, Amsterdam/NL

- 14:10 – 14:30 **Study of "modified" NBA 825 to improve their crevice corrosion resistance**
H. Klinklin¹; S. Marcelin²; M. Monnot¹; B. Ter-Ovanessian²; B. Normand²; ¹ Industeel - ArcelorMittal Group, CRMC, Le Creusot/F; ² Univ Lyon, INSA Lyon, CNRS, MATEIS UMR5510, Lyon/F
- 14:30 – 14:50 **Development of a high strength cold worked Alloy 31 Plus (UNS N08034)**
J. Botinha¹; B. Gehrmann¹; H. Alves¹; H. Sarmiento Klapper²; C. Herrera³; M. Seifert³; ¹ VDM Metals International GmbH, Altena/D; ² Baker Hughes, Celle/D; ³ Deutsche Edelstahlwerke Specialty Steel GmbH & Co. KG, Witten/D
- 14:50 – 15:10 **The corrosion and hot cracking behavior of Alloy 825 CTP (UNS N08827)**
J. Botinha¹; M. Wolf¹; B. Gehrmann¹; H. Alves¹; ¹ VDM Metals International GmbH, Altena/D
- 15:10 – 15:30 **Hydrogen Stress Cracking Resistance of Precipitation Hardened Nickel Alloys**
S. McCoy¹; B. Baker²; W. MACDONALD³; ¹ Special Metals Wiggin Ltd, Hereford/UK; ² Special Metals Corporation, Huntington/USA; ³ PCC Metals, Huntington/USA

COFFEE BREAK

Corrosion in Oil & Gas Production: High-Alloyed CRAs

Chair: M. Wilms, Shell Projects and Technology, Amsterdam/NL

- 16:00 – 16:20 **Effect of plastic deformation for design constraints on Stress Corrosion Cracking resistance in H₂S containing environment of austenitic stainless steels**
M. Monnot¹; Q. TRAN²; B. CHAREYRE¹; S. Le Manchet¹; ¹ Industeel - ArcelorMittal Group, Le Creusot/F; ² Saipem SA, Montigny-le-Bretonneux/F
- 16:20 – 16:40 **Development of Internal Corrosion Monitoring System for Online Pit Detection**
C. Kang¹; B. Ki²; ¹ Nexcorr, Dublin, USA/USA; ² Nexcorr, Seoul/ROK
- 16:40 – 17:00 **A New Ni-Cr-Mo Corrosion-Resistant Alloy for Oil & Gas Applications To be Balloted for Coverage by ANSI/NACE MR0175/ISO 15156**
N. Meck¹; D. Bergstrom¹; J. Dunn¹; ¹ ATI Specialty Rolled Products, Natrona Heights/USA

17:40 – 19:30 POSTER & EXHIBITORS PARTY

Tuesday, 30 August 2022

Room: Salon 1 (Ground Floor)

Corrosion and Scale Inhibition

Chairs: G. Schmitt¹; W. Hater²; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²EFC, Iserlohn/D

09:50 – 10:30

KEYNOTE

Considerations on Inhibitors from Natural Resources

W. Hater¹; G. Schmitt²; ¹Kaars/D; ²IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D

10:30 – 10:50

Evaluating the Viability of Natural Products for Corrosion Inhibition

A. Moreno Romero¹; R. Lindsay¹; ¹University of Manchester/UK

10:50 – 11:20

COFFEE BREAK

Corrosion and Scale Inhibition

Chairs: G. Schmitt¹; W. Hater²; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²EFC, Iserlohn/D

11:20 – 11:40

Influence of pH on the Adsorption Kinetics of Film Forming Amines on Carbon Steel Surfaces: an EIS study

D. Jero¹; F. Misereque²; F. Chaussec³; A. Buvignier³; M. Roy²; N. Caussé¹; N. Pèbère¹; ¹Institut National Polytechnique de Toulouse/F; ²CEA Saclay, Paris/F; ³ODYSSEE Environnement, Requeil/F

11:40 – 12:00

Organic Corrosion Inhibition: Insights from Vibrational Sum-Frequency Spectroscopy

M. Dowhy¹; R. Lindsay¹; A. Osundare¹; ¹University of Manchester/UK

Corrosion and Scale Inhibition (Geothermal)

Chairs: G. Schmitt¹; W. Hater²; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²EFC, Iserlohn/D

12:00 – 12:20

Comparative study of the effectiveness of organic petro- or biosourced surfactants in inhibiting carbon steel corrosion in a standardized geothermal water (RGW)

C. Helali¹; R. Valentin²; S. Betelu³; S. Thiebaud-Roux²; I. Ignatiadis³; ¹BRGM/INPT, ORLEANS/F; ²LCA/INPT, Toulouse/F; ³BRGM/INPT, Orléans/F

12:20 – 12:40

Corrosion control of carbon steel with phosphonate-based inhibitors with potential applications in geothermal systems

S. Liakaki-Stavropoulou¹; K. Demadis²; D. Disci³; A. Spinthaki²; W. Hater²; H. Kempen²; ¹University of Crete, Heraklion/GR; ²Kurita Europe GmbH, Mannheim/D

12:40 – 14:10

LUNCH BREAK

Corrosion and Scale Inhibition (Geothermal)

Chairs: G. Schmitt¹; W. Hater²; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²EFC, Iserlohn/D

14:10 – 14:30

Characterization of iron silicate precipitates and its stabilization using anionic scale inhibitors: Relevance to geothermal systems

M. Kamaratou¹; K. Demadis²; A. Spinthaki³; D. Disci³; H. Kempen³; ¹University of Crete, Heraklion, Crete/GR; ²University of Crete, Heraklion/GR; ³Kurita Europe GmbH, Mannheim/D

14:30 – 14:50

Sustainable Corrosion Inhibitors in Geothermal Applications

A. Spinthaki¹; D. Disci¹; H. Kempen¹; H. Sile¹; C. Foret²; D. Cherrad²; C. Baranger³; ¹Kurita Europe GmbH, Mannheim/D; ²Kurita France SAS, Ambès/F; ³Engie Solutions, Paris/F

14:50 – 15:10

Corrosion and Wear properties of Electroless Ni-P+PTFE Functional layer Coating Developed for Geothermal Environment

G. Oppong¹; E. Straume¹; A. Ormsdóttir¹; B. Gunnarsson¹; S. Irukuvarghula²; R. Khan²; S. Karlsdóttir¹; ¹University of Iceland, Reykjavik/IS; ²TWI Ltd, Granta Park, Cambridge/UK

15:10 – 15:30

Innovative Solutions for Scaling in Geothermal Process

H. Sile¹; U. Kaymakci²; S. Muni³; N. Rahmat³; A. Kahfi³; I. Sinaga³; ¹Kurita Europe GmbH, Mannheim/D; ²Kurita Turkey Kimya AS, Istanbul/TR; ³PT Kurita Indonesia, Jawa Barat/RI

15:30 – 16:00

COFFEE BREAK

Corrosion and Scale Inhibition

Chairs: G. Schmitt¹; W. Hater²; ¹IFINKOR-Institute for Maintenance and Corrosion Protection Technologies n.f.p.Ltd., Iserlohn/D; ²EFC, Iserlohn/D

16:00 – 16:20

Synergistic effects in silica scale inhibition

K. Demadis¹; ¹University of Crete, Heraklion/GR

16:20 – 17:00

WP 1 Business Meeting

17:40 – 19:30

POSTER & EXHIBITORS PARTY

Tuesday, 30 August 2022

Room: Salon 17 (1st Floor)

Microbial Corrosion

Chairs: P. Cristiani¹; R. Basseguy²; ¹RSE-Ricerca sul Sistema Energetico S.p.A, Milano/I; ²Université de Toulouse (CNRS, INPT, UPS)/F

09:50 – 10:30

KEYNOTE

EPS – corrosion-relevant microbial compounds?

W. Sand¹; ¹University Duisburg-Essen, Essen/D; Institute of Biosciences, University of Mining and Technology, Freiberg/D

10:30 – 10:50

Metabolomics as a promising tool in management of microbially-influenced corrosion in oilfield installations

I. Beech¹; J. Sunner¹; T. Liengen²; S. Molid²; V. Gregoire²; ¹Montana State University, Bozeman/USA; ²Equinor ASA, Herøya Forskningspark/N

10:50 – 11:20

COFFEE BREAK

Microbial Corrosion

Chairs: P. Cristiani¹; R. Basseguy²; ¹RSE-Ricerca sul Sistema Energetico S.p.A, Milano/I; ²Université de Toulouse (CNRS, INPT, UPS)/F

11:20 – 11:40

Microbial dynamics during corrosion in a freshwater environment

S. Wakai¹; N. Eno²; H. Mizukami²; T. Sunaba²; I. Homma³; K. Watanabe³; T. Kobayashi³; Y. Kashima³; K. Miyano⁴; Y. Miyano⁵; ¹JAMSTEC, Japan/J; ²INPEX CORPORATION, Tokyo/J; ³INPEX CORPORATION, Niigata/J; ⁴Tokyo Inst. Tech., Kanagawa/J; ⁵Akita Univ., Akita/J

11:40 – 12:00

Case study – Pitting corrosion in stainless steel pipes transporting treated wastewater, MIC or no MIC

R. Elzinga¹; E. Croese¹; F. Postma¹; ¹Microbial Analysis, Groningen/NL

12:00 – 12:20

Determination of Manganese Oxidizing Bacteria in Aircraft Fuel

S. Arkan-Ozdemir¹; M. Ustunturk-Onan²; E. Ilhan-Sungur²; ¹Istanbul University & Uskudar University, Istanbul/TR; ²Istanbul University, Istanbul/TR

12:20 – 12:40

Biofouling and microbially induced corrosion of stainless steel in Baltic Sea water

P. Rajala¹; V. Ratia-Hanby²; E. Isotahdon¹; E. Huttunen-Saarivirta¹; ¹VTT Technical Research Centre of Finland Ltd., Espoo/FIN; ²VTT Technical Research Centre of Finland Ltd, Espoo/FIN

12:40 – 14:10

LUNCH BREAK

Microbial Corrosion

Chairs: P. Cristiani¹; R. Basseguy²; ¹RSE-Ricerca sul Sistema Energetico S.p.A, Milano/I; ²Université de Toulouse (CNRS, INPT, UPS)/F

14:10 – 14:30

Microbiologically influenced corrosion of mooring chains- a state of the art review combined with a field study example

N. Noël-Hermes¹; M. Salta¹; ¹Endures B.V., Den Helder/NL

14:30 – 14:50

Study of the biodiversity inside the calcareous deposit obtained by cathodic protection in seawater compare to an unprotected steel – a 12 months experiment

M. Jeannin¹; J. Vincent²; B. Colin³; C. Dupuy²; P. Refait⁴; R. Sabot⁵; I. Lanneluc²; S. Sable²; ¹University of La Rochelle - France, LA ROCHELLE Cedex 1/F; ²University of La Rochelle - France, La Rochelle/F; ³University of La Rochelle - France, La Rochelle/D; ⁴La Rochelle University, La Rochelle/F; ⁵Université de la Rochelle, La Rochelle/F

14:50 – 15:10

Environmental and biological controls on the development of Accelerated Low Water Corrosion.

M. Smith¹; B. Shibulal¹; N. Moles¹; I. Cooper¹; H. Burgess¹; A. Willows¹; ¹University of Brighton, Brighton/UK

15:10 – 15:30

Effect of marine microbial activity in corrosion inhibition of 5083 aluminium alloy

M. Marques¹; D. Mercier²; A. Seyeux²; S. Zanna²; P. Marcus²; R. BASSEGUY³; ¹Institut National Polytechnique de Toulouse and Laboratório Nacional de Energia e Geologia (LNEG), Toulouse and Lisboa/F; ²Institut de Recherche de Chimie Paris, Paris/F; ³Institut National Polytechnique de Toulouse, Toulouse/F

15:30 – 16:00

COFFEE BREAK

CO₂ - Corrosion in Industrial Applications

Chair: R. Bäßler, BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/D

16:00 – 16:20

Materials Selection and Corrosion Control for Carbon Capture and Storage

J. Sonke¹; ¹Shell Global Solutions International BV, Amsterdam/NL

16:20 – 16:40

State of the art CO₂ analysing systemB. Morland¹; G. Svenningsen¹; ¹Institute for Energy Technology, Kjeller/N

16:40 – 17:00

Development of New Alloys for CCUS

S. Paul¹; C. Leahy¹; F. Fanicchia¹; F. Fanicchia¹; ¹TWI Ltd., Cambridge/UK

17:00 – 17:20

Synchrotron studies on corrosion inhibition of carbon steel in post combustion carbon capture

E. Skountzos¹; M. Alsaem¹; C. Hurd Price²; S. Booth¹; N. Manee-in³; C. Parlett²; K. Campbell¹; ¹The University of Sheffield/UK; ²The University of Manchester/UK; ³Imperial College London/UK

17:40 – 19:30

POSTER & EXHIBITORS PARTY

Tuesday, 30 August 2022

Room: Salon 11 (1st Floor)

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: S. Lamaka¹; M. Sakairi²; ¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²Hokkaido University, Sapporo/J

09:50 – 10:10 **Quantitative analysis of NDE of Mg via atomic emission spectroelectrochemistry coupled with gravimetric H₂ measurement**
R. Cestaro¹; B. Dou²; J. Han³; N. Birbilis⁴; K. Ogle⁵; ¹Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH; ²Chimie ParisTech - PSL Research University, Paris/F; ³Sorbonne Université, Paris/F; ⁴Australian National University, Canberra/AUS

10:10 – 10:30 **A Novel Multiphysics Model for the Temperature- and Time-Dependent Crevice Corrosion of Cu-Al Wire Bonds**
M. Sehr¹; S. Jordan²; A. Pfizner³; ¹University of Regensburg, Sinzing/D; ²Infineon Technologies AG, Regensburg/D; ³University of Regensburg, Regensburg/D

COFFEE BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: M. Sakairi¹; S. Lamaka²; ¹Hokkaido University, Sapporo/J; ²Helmholtz-Zentrum Hereon, Geesthacht/D

11:20 – 11:40 **Predicting the Corrosion Inhibition Efficiencies of Magnesium Dissolution Modulators**
C. Feiler¹; T. Würger¹; R. Meißner²; E. Schiessler¹; R. Aydin¹; C. Cyron¹; D. Winkler³; D. Mei⁴; B. Vaghefinazari¹; S. Lamaka¹; D. Höche¹; M. Zheludkevich¹; ¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²Hamburg University of Technology, Hamburg/D; ³La Trobe University, Bundoora/AUS; ⁴Zhengzhou University, Zhengzhou/CN

11:40 – 12:00 **Boosting the Performance of Magnesium Batteries: Data-Driven Selection of Electrolyte Additives**
T. Würger¹; L. Wang¹; D. Snihirova¹; S. Lamaka¹; D. Winkler²; D. Höche¹; M. Zheludkevich¹; R. Meißner³; C. Feiler¹; ¹Helmholtz-Zentrum Hereon, Geesthacht/D; ²La Trobe University, Bundoora/AUS; ³Hamburg University of Technology, Hamburg/D

12:00 – 12:20 **Application of nondestructive techniques to monitor thickness reduction of carbon steel in a corrosive environment.**
H. Miyachi¹; G. Diguett¹; S. Takeda¹; T. Uchimoto¹; N. Mary²; T. Takagi¹; H. Abe¹; ¹Tohoku University, sendai/J; ²ElyTMAX, CNRS, Sendai/J

12:20 – 12:40 **Direct observation of turbulent flow on rotating cylinder electrode during electrochemical polarization**
M. Araya¹; A. Espinoza-Jara¹; W. Brevis¹; M. Walczak²; ¹Pontificia Universidad Católica de Chile, Santiago /RCH; ²Pontificia Universidad Católica de Chile, Santiago/RCH

LUNCH BREAK

Tribo-Corrosion

Chairs: S. Mischler¹; J. Geringer²; ¹Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne/CH; ²Ecoles des Mines de Saint-Etienne, Saint-Etienne CEDEX 2/F

14:10 – 14:30 **Electrical Field induced Hydrogen Generation in Lubricated Tribocontact**
J. Reinbold¹; T. Boiadjeva-Scherzer²; G. Faflek¹; L. Mirkova³; H. Stache⁴; B. Vengudusamy⁴; G. Bodesheim⁴; M. Monev³; ¹TU-Vienna, Vienna/A; ²Centre of Electrochemical Surface Technology GmbH (CEST GmbH), Wiener Neustadt/A; ³Bulgarian Academy of Sciences, Sofia/BG; ⁴Klüber Lubrication München SE & Co. KG, Munich/D

14:30 – 14:50 **An AI-Extended Prediction of Erosion-Corrosion degradation of API 5L X65 steel**
A. Espinoza-Jara¹; J. Aguirre²; M. Walczak¹; ¹Pontificia Universidad Católica de Chile, Santiago/RCH; ²DICTUC, Santiago/RCH

14:50 – 15:10 **Tribocorrosion study of passive films formed on the surface of the stainless steel 316L/316L couple in a sodium hydrogen carbonate solution**
K. Bouguerra¹; C. Richard¹; Y. Chen²; J. Delgado²; P. Cardey³; N. Ducommun³; A. Romaine³; ¹University of Tours, Tours/F; ²Cetim, Senlis/F; ³Cetim, Nantes/F

15:10 – 15:30 **PEKK as biomaterials under fretting corrosion solicitations: may this biopolymer be considered as new hip implant component?**
J. Geringer¹; J. Monnatte²; J. porteus³; ¹Ecoles des Mines de Saint-Etienne, 42023 Saint-Etienne CEDEX 2/F; ²Mines Saint-Etienne, Saint-Etienne/F; ³Oxford Performance Materials, South Windsor/USA

COFFEE BREAK

Tribo-Corrosion

Chairs: J. Geringer¹; S. Mischler²; ¹Ecoles des Mines de Saint-Etienne, 42023 Saint-Etienne CEDEX 2/F; ²Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne/CH

16:00 – 16:20 **Tribocorrosion mechanisms of titanium alloy sliding against a zirconia ball in a Phosphate Buffered Solution**
A. Dalmau¹; A. Roda²; A. Igual Munoz²; S. Mischler²; ¹UPV, Valencia/E; ²EPFL, Lausanne/CH

16:20 – 16:40 **Friction and wear behaviour of a CoCrMo alloy in lubricated tribocorrosion condition**
S. Cao¹; A. Igual Munoz²; S. Mischler²; ¹Nanjing University of Science and Technology, Jiangsu/CN; ²Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne/CH

WP 18 Business Meeting

POSTER & EXHIBITORS PARTY

Tuesday, 30 August 2022

Room: Salon 16 (1st Floor)

Corrosion of Steel in Concrete

Chair: M. Raupach, RWTH Aachen University/D

09:50 – 10:10 **Corrosion propagation: comparison of electrochemical and mass loss measurements**
F. Bolzoni¹; S. Beretta¹; M. Diamanti¹; A. Brenna¹; M. Ormellese¹; M. Pedferri¹; ¹Politecnico di Milano, Milano/I

10:10 – 10:30 **Influence of different microstructures on the corrosion behavior of Fe-based shape memory alloys**
J. Frenck¹; M. Vollmer¹; T. Niendorf¹; ¹University of Kassel, Kassel/D

10:30 – 10:50 **Acceleration of Calcium Hydroxy Zincate Formation on Zinc in Simulated Concrete Pore Solution**
K. Doi¹; S. Hiromoto¹; ¹National Institute for Materials Science, Tsukuba, Ibaraki/J

COFFEE BREAK

Corrosion of Steel in Concrete

Chair: M. Raupach, RWTH Aachen University/D

11:20 – 11:40 **Examination and Review of Current Research on Continuous Galvanized Rebar (CGR) in Concrete**
B. Duran¹; M. van Leeuwen²; M. Gagné³; ¹International Zinc Association, Durham, NC /USA; ²International Zinc Association, Brussels/B; ³ZELIXIR Inc., Ontario/CDN

11:40 – 12:00 **Corrosion of reinforced concrete in sulfuric acid. pH monitoring and corrosion attack vs depth in model mortar samples with embedded electrodes**
M. Ferreira¹; R. Sampaio¹; A. Bastos¹; ¹Universidade de Aveiro, Aveiro/P

12:00 – 12:20 **Assesment of electrochemical behaviour and of corrosion current density of the carbon steel api 5L x65 in contact with cement grout in a nuclear waste disposal program**
Y. Sano Moyeme¹; J. Bertrand²; S. Betelu³; S. Gaboreau³; K. Groenen-Serrano⁴; I. Ignatiadis⁵; ¹BRGM, ORLEANS/F; ²Andra, Chatelet Malabry/F; ³BRGM, Orléans/F; ⁴Université Paul Sabatier, Toulouse/F

LUNCH BREAK

Corrosion of Steel in Concrete

Chair: M. Raupach, RWTH Aachen University/D

14:10 – 14:30 **Corrosion monitoring of reinforced concrete in marine environment using CME and ER sensors**
M. Hren¹; N. Gartner¹; T. Kosce¹; A. Legat¹; ¹Slovenian National Building and Civil Engineering Institute - ZAG, Ljubljana/SLO

14:30 – 14:50 **Ongoing Corrosion in 1970s Reinforced Aerated Autoclaved Concrete (RAAC) external wall panels**
C. Stone¹; N. Davison¹; J. Scott²; C. Goodier³; J. Fryer³; M. Liddell⁶; R. White⁵; C. Gorse⁷; J. Booth⁵; ¹Concrete Preservation Technologies, Long Eaton/UK; ²NHS, London/UK; ³Loughborough University, Loughborough/UK; ⁴Lucideon, Stoke-on-Trent/UK; ⁵Sweco, Ipswich/UK; ⁶Leeds-Beckett University, Leeds/UK

WP 11 Business Meeting

COFFEE BREAK

Corrosion by Hot Gases and Combustion Products

Chair: M. Galetz, DEHEMA - Forschungsinstitut, Frankfurt am Main/D

16:00 – 16:20 **High-Temperature Oxidation of Fe-Cr Steel – Model Development, Numerical Simulation and Experimental Verification**
K. Jahns¹; A. Seregin¹; Y. Chang¹; R. Simkin²; A. Kranzmann²; U. Krupp¹; ¹RWTH Aachen University, Aachen/D; ²BAM - Federal Institute for Materials Research and Testing, Berlin/D

16:20 – 16:40 **Pure Cr-oxide formation during high-temperature oxidation of austenitic stainless steel, triggered by deposition of a thin SiO_x layer**
R. Wonneberger¹; M. Seyring²; K. Freiberg²; M. Rettenmayr²; A. Undisz¹; ¹Technische Universität Chemnitz/D; ²Friedrich-Schiller-Universität, Jena/D

16:40 – 17:00 **Subsurface microstructure impact on corrosion of FeCr-alloys**
A. Kranzmann¹; A. Yarysh²; R. Simkin³; K. Jahns³; U. Krupp³; ¹BAM - Federal Institute for Materials Research and Testing, Berlin/D; ²Hochschule für Technik und Wirtschaft, University of Applied Science, Berlin/D; ³RWTH Aachen University, Aachen/D

17:00 – 17:20 **Influence of Co on early stages of high-temperature oxidation of Co-Cr-Fe-Mn-Ni-Si**
J. Apell¹; R. Wonneberger¹; H. Stöcker²; P. Meyer³; S. Lippmann³; K. Freiberg³; M. Seyring³; M. Rettenmayr³; A. Undisz¹; ¹Chemnitz University of Technology, Chemnitz/D; ²TU Bergakademie Freiberg/D; ³Friedrich Schiller University Jena/D

17:20 – 17:40 **Oxidation Behaviour of alloy 617 in Advanced Ultra Supercritical Steam**
B. Ghule¹; S. C²; S. Ningshen³; R. V S²; ¹Indian Institute of Technology Mumbai, Mumbai/IND; ²Indian Institute of Technology Mumbai, Mumbai/IND; ³Indira Gandhi Centre For Atomic Research, Kalpakkam/IND

POSTER & EXHIBITORS PARTY

Tuesday, 30 August 2022

Room: Salon 2 (Ground Floor)

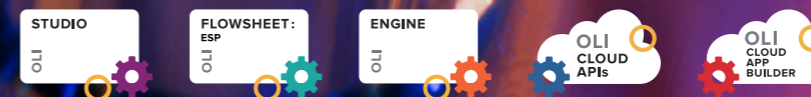
Task Force: Corrosion in Green & Low Carbon Energy Technologies

Chairs: S. Paterson¹; R. Bäßler²; ¹Arbeadie Consultants Ltd., Banchory/UK; ²BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/D

09:50 – 10:10	Materials compatibility study for geothermal plant B. Holmes ¹ ; A. Sabard ¹ ; C. Lee ¹ ; S. Paul ¹ ; ¹ TWI, Cambridge/UK
10:10 – 10:30	Effect of Temperature on the Corrosion and Scaling of Carbon Steel in Different Artificial Geothermal Solutions G. Aristia ¹ ; S. Marcellin ¹ ; N. Mary ¹ ; B. Normand ¹ ; F. Ropital ¹ ; ¹ INSA Lyon, Villeurbanne/F
10:30 – 10:50	Corrosion Behavior of a New Titanium Alloy for Geothermal Casing W. MacDonald ¹ ; ¹ TITANIUM METALS CORP (TIMET), BERWYN/USA
10:50 – 11:20	COFFEE BREAK
11:20 – 12:00	Task Force Business Meeting
12:00 – 12:20	TIME FOR SESSION CHANGE
Cathodic Protection	
Chair: J. Cruzillac, BAC Corrosion Control, Voisins-le-Bretonneux/F	
12:20 – 12:40	Investigation of AC interference on cathodically protected mild steel samples in artificial soil M. Markic ¹ ; W. Fürbeth ¹ ; ¹ DECHEMA - Forschungsinstitut, Frankfurt am Main/D
12:40 – 14:10	LUNCH BREAK
Cathodic Protection	
Chair: J. Cruzillac, BAC Corrosion Control, Voisins-le-Bretonneux/F	
14:10 – 14:30	Quantitative IR-Drop Error Evaluation for Cathodic Protection Polarization Coupon M. Attarchi ¹ ; ¹ CMP Group s.r.l, Casella/I
14:30 – 14:50	Preventing and monitoring corrosion in mined rock caverns N. Aouina ¹ ; C. Fournier ¹ ; J. GARNIER ² ; ¹ GEOSTOCK FRANCE, Rueil malmaison/F; ² GEOSTOCK FRANCE, Aix-en-provence/F
14:50 – 15:10	Field Test on New Integrated Cathodic Protection Remote Monitoring System; New Remote Datalogger Instrument and Polarization Coupon M. Attarchi ¹ ; C. Casaroli ² ; G. Libanati ³ ; M. Colombara ² ; ¹ CMP Group s.r.l, Casella/I; ² Pietro Fiorentini, Rosate/I; ³ CMP group s.r.l., Casella/I
15:10 – 15:30	Effectiveness of cathodic protection under disbonded coatings: redefining shielding properties T. Loeffler ¹ ; ¹ DENSO GmbH, Leverkusen/D
15:30 – 16:00	COFFEE BREAK
Cathodic Protection	
Chair: J. Cruzillac, BAC Corrosion Control, Voisins-le-Bretonneux/F	
16:00 – 16:20	Design and testing of a new solid internal backfill of potential probes for cathodic protection application A. Brenna ¹ ; S. Beretta ¹ ; M. Ormellese ¹ ; F. Martini ² ; M. Venere ² ; ¹ Politecnico di Milano/I; ² Ecoline Anticorrosion Division S.r.l, Muggiò (MB)/I
16:20 – 16:40	AC interference on underground pipelines generated by AC high speed electrified railway S. Rosmarini ¹ ; U. Marinelli ¹ ; D. Margiotta ² ; ¹ F.M. Engineering S.r.l., Ancona/I; ² FM Engineering, Ancona/I
16:40 – 17:00	Catching the IRFree potential: an overview of the remaining IR components in Off measurements, and importance of the design for PRE with integrated coupon I. Magnifico ¹ ; ¹ AUTOMA srl, Ancona/I
17:00 – 17:20	Verification and characterization of passive films on carbon steel in cathodic protection condition F. Di Franco ¹ ; M. Santamaria ¹ ; A. Zaffora ¹ ; M. Ormellese ² ; A. Brenna ² ; ¹ Università degli Studi di Palermo, Palermo/I; ² Politecnico di Milano/I
17:20 – 17:40	Efficiency of Aluminium-Based Anodes in the Effect of Zinc Addition as per NACE TM0190-98 Test Method N. Al-Rasheed ¹ ; S. Al Mutairi ² ; ¹ Saudi Aramco Oil Company, Dhahran/SAR; ² Saudi Aramco Oil Company, Dhahran/SAR
17:40 – 19:30	POSTER & EXHIBITORS PARTY

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Wednesday, 31 August 2022

Grand Ballroom (Ground Floor)

Chair: R. Feser; FH Südwestfalen - Hochschule für Technik und Wirtschaft, Iserlohn/D

09:00 – 09:45 **INVITED PLENARY LECTURE**
Science policy in a world of dramatic change
 M. Stratmann, Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V, München/D

09:45 – 10:00 TIME FOR CHANGING LECTURE HALL

Grand Ballroom (Ground Floor)

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: J. Pan¹; V. Maurice²; ¹KTH Royal Institute of Technology, Stockholm/S; ²CNRS - Chimie ParisTech - IRCP (UMR 8247), Paris/F

10:00 – 10:20 **Elementally resolved electrochemical impedance spectroscopy: Dissolution kinetics of Ni, Cr-containing high-entropy alloys**
 J. Han¹; K. Ogle²; ¹Sorbonne Université, Paris/F; ²Chimie ParisTech - PSL Research University, Paris/F

10:20 – 10:40 **Surface characterization of passivity of single-phase fcc Cr-Fe-Co-Ni-Mo multi-principal element alloys in chloride-containing sulfuric acid**
 X. Wang¹; D. Mercier¹; S. Zanna¹; A. Seyeux¹; L. Périère²; M. Laurent-Brocq²; I. Guillot²; V. Maurice¹; P. Marcus¹; ¹Chimie ParisTech - PSL Research University - CNRS, Paris/F; ²Université Paris Est - CNRS, Thiais/F

10:40 – 11:00 **Local corrosion characteristics of CrMnFeCoNi High Entropy Alloy and CrCoNi Medium Entropy Alloy and their respective welded joints**
 A. Wetzel¹; J. Witt¹; O. Ozcan¹; M. Rhode¹; ¹Bundesanstalt für Materialforschung, Berlin/D

11:00 – 11:30 COFFEE BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: V. Maurice¹; J. Pan²; ¹CNRS - Chimie ParisTech - IRCP (UMR 8247), Paris/F; ²KTH Royal Institute of Technology, Stockholm/S

11:30 – 11:50 **Active-passive characteristics of Stainless Steel 316L manufactured using selective laser melting**
 D. Narayanan¹; L. Chen¹; B. Mansoor²; R. Case¹; H. Castaneda¹; ¹Texas A&M University, College Station/USA; ²Texas A&M University at Qatar, Ar-Rayyan/Q

11:50 – 12:10 **Investigation of the corrosion performances of 17-4 PH Bound Metal Deposition samples manufactured in different build-up orientations**
 P. Forcellese¹; T. Mancina¹; M. Simoncini¹; T. Bellezze¹; ¹Università Politecnica delle Marche, Ancona/I

12:10 – 12:30 **Corrosion behavior of the 316L ss / 316L ss – 10% Ti6Al4V multilayer material manufactured by Laser Powder Bed Fusion**
 J. Bedmar Sanz¹; A. Lalwani²; E. Valente²; V. Nadimpalli²; B. Torres Barreiro¹; D. Pedersen¹; J. Rams Ramos¹; ¹Universidad Rey Juan Carlos, Móstoles/E; ²Technical University of Denmark, Kongens Lyngby/DK

12:30 – 12:50 **The influence of the chemical pickling containing HCl and HNO₃ on the pitting corrosion resistance of GTAW-welded duplex stainless steel EN 1.4062**
 V. Scheiber¹; V. Vignal²; F. Krajcarz²; P. Huguenin¹; J. Bridel¹; ¹APERAM R&D, Isbergues/F; ²ICB, UMR 6303 CNRS - Université Bourgogne-Franche Comté, Dijon/F

12:50 – 14:20 LUNCH BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: J. Pan¹; V. Maurice²; ¹KTH Royal Institute of Technology, Stockholm/S; ²CNRS - Chimie ParisTech - IRCP (UMR 8247), Paris/F

14:40 – 15:00 **Hydrogen mobility near subsurface of nickel single crystal: advances by electrochemical potentiostatic pulse technique and DFT modelling**
 C. Traisnel¹; A. Oudrissi¹; J. Bouhattate¹; X. Feaugas¹; ¹Laboratoire des Sciences de l'Ingénieur pour l'Environnement (LaSIE), UMR 7356 CNRS- La Rochelle Université, La Rochelle/F

15:00 – 15:20 **Equivalent hydrogen fugacity during electrochemical charging of nickel single crystal: comparison with gaseous hydrogen charging**
 C. Juillet¹; J. Li¹; C. Traisnel¹; A. Oudrissi¹; M. Landeiro Do Reis¹; J. Bouhattate¹; L. Briottet²; X. Feaugas¹; ¹La Rochelle University, La Rochelle/F; ²CEA Grenoble/F

15:20 – 15:40 **Thickness and composition of native oxides on Ni superalloys**
 A. Larsson¹; G. D'Acunto¹; M. Vorobyova¹; G. Abbondanza¹; U. Lienert²; Z. Hegedüs²; A. Preobrajenski³; L. Merte⁴; J. Eihagen⁵; A. Delblanc⁶; J. Pan⁶; E. Lundgren¹; ¹Lund University, Lund/S; ²DESY, Hamburg/D; ³MAX IV, Lund/S; ⁴Malmö University, Malmö/S; ⁵Sandvik Materials Technology, Sandviken/S; ⁶KTH, Stockholm/S

15:40 – 16:00 **Oxidation Studies of Ni-Cr-Al Model Alloys at Low Homologous Temperature**
 Y. Ghaffari¹; K. Daub¹; S. Persaud¹; ¹Queen's University, Kingston/CDN

16:00 – 16:30 COFFEE BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: V. Maurice¹; J. Pan²; ¹CNRS - Chimie ParisTech - IRCP (UMR 8247), Paris/F; ²KTH Royal Institute of Technology, Stockholm/S

16:30 – 16:50 **Role of the chemical composition and microstructure on the transpassive behavior of alloy 600**
 Z. Zhang¹; B. Ter-Ovanesian¹; B. Normand²; ¹Chimie ParisTech - PSL Research University, Paris/F; ²Univ. Lyon, INSA LYON, MATEIS UMR CNRS 5510, Villeurbanne/F

16:50 – 17:10 **Fundamentals of molten salt dealloying, mechanism dependency on homologous temperature, and effect of alloying elements**
 T. Ghaznavi¹; R. Newman¹; ¹University of Toronto/CDN

17:10 – 17:30 **Galvanic corrosion behavior of metals at low temperature**
 M. Sakairi¹; ¹Hokkaido University, Sapporo/J

17:30 – 17:50 **Respirometric measurement of atmospheric and immersion corrosion combined with in situ microscopy**
 M. Bruns¹; M. Strebl¹; S. Virtanen¹; ¹Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Erlangen/D

19:30 – 23:00 Congress Dinner at TIPI am Kanzleramt

Wednesday, 31 August 2022

Room: Hall Berlin B (Ground Floor)

Inorganic Coatings

Chairs: M. Olivier¹; M. Mohedano²; ¹Université de Mons/B; ²Universidad Complutense de Madrid/E

10:00 – 10:20 **Lamellar anodizing design towards white aluminum surfaces**
 A. Gasco Owens¹; D. Veys-Renaux¹; E. Rocca¹; ¹Université de Lorraine, CNRS, IJL, Nancy/F

10:20 – 10:40 **High-resolution neutron imaging: a new approach to characterize water and defects in engineered Al oxides**
 N. Ott¹; C. Cancellieri¹; P. Trtik²; P. Schmutz¹; ¹Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH; ²Paul Scherrer Institut (PSI), Villigen PSI/CH

10:40 – 11:00 **Anodizing of AlSi alloys in sulfuric medium**
 D. Veys-Renaux¹; A. BenRomdhane¹; E. Rocca¹; K. Elleuch²; ¹Université de Lorraine, Nancy/F; ²Université de Sfax, Sfax/TN

11:00 – 11:30 COFFEE BREAK

Inorganic Coatings

Chairs: M. Olivier¹; M. Mohedano²; ¹Université de Mons/B; ²Universidad Complutense de Madrid/E

11:30 – 11:50 **Improvement of the corrosion resistance of AZ31 magnesium alloy by a duplex PEO silicate/carbonate-based electrolyte and amino sol-gel coating**
 L. Prince¹; A. Dechief²; T. Senechal²; M. Duart²; M. Olivier¹; ¹UMONS, Mons/B; ²Material Nova ASBL, Mons/B

11:50 – 12:10 **About the loss of protectiveness experienced by thick Ti PEO coatings immersed in acidic solution**
 L. Casanova¹; F. Ceriani¹; M. Pedeferrri¹; M. Ormellesse¹; ¹Politecnico di Milano, Milan/I

12:10 – 12:30 **Comparison of the microstructural and corrosion properties of peo coatings produced on wrought and ebm Ti₆Al₄V alloy**
 L. Pezzato¹; A. Settimi¹; M. Dabalà¹; K. Brunelli¹; ¹University of Padova, Padova/I

12:30 – 12:50 **Development of thermal barrier coatings on titanium aluminides by plasma electrolytic oxidation**
 S. Lederer¹; S. Arat¹; C. Chandra²; W. Fürbeth¹; ¹DECHEMA-Forschungsinstitut, Frankfurt am Main/D; ²TU Darmstadt, Darmstadt/D

12:50 – 14:20 LUNCH BREAK

Inorganic Coatings

Chairs: R. Feser¹; F. Andreatta²; ¹FH Südwestfalen - Hochschule für Technik und Wirtschaft, Iserlohn/D; ²University of Udine/I

14:20 – 14:40 **Chemical and Electrochemical Conversion Coatings for Magnesium Alloys – Where we stand?**
 V. Saji¹; ¹King Fahd University of Petroleum and Minerals, Dhahran/SAR

14:40 – 15:00 **Hybrid plasma and laser applied coatings making Magnesium alloys hard-wearing and corrosion-resistant**
 A. Bulung¹; P. Jantimaponkij¹; L. Guetse Dongmo¹; J. Zerrer¹; ¹ELB Eloxalwerk Ludwigsburg GmbH, Ludwigsburg/D

15:00 – 15:20 **Two-dimensional materials doped sol-gel coating for barrier effect enhancement**
 S. Yuan¹; Y. Shi²; B. Normand²; ¹Insa of Lyon, Villeurbanne /F; ²Insa of Lyon, Villeurbanne/F

15:20 – 15:40 **The use of ALD and PVD coatings as defect sealants to increase the corrosion resistance of thermal spray coatings.**
 A. Lanzutti¹; F. Sordetti¹; E. Marin²; F. Andreatta¹; A. Caraballo³; M. Querini⁴; S. Porro⁵; A. Rondinella⁶; M. Magnan⁶; L. Fedrizzi⁶; ¹University of Udine/I; ²Kyoto Institute of Technology, Kyoto/J; ³University of Udine/I; ⁴Eurolls spa, Udine/I; ⁵Politecnico di Torino/I; ⁶Università di Udine/I

15:40 – 16:00 **Influence of layered double hydroxide (LDH) lateral size on corrosion resistance of AZ31 Mg alloy**
 R. Malekkhouyan¹; M. Gonon¹; Y. Paint²; M. Olivier¹; ¹University of Mons, Mons/B; ²Material Nova ASBL, Mons/B

16:00 – 16:30 COFFEE BREAK

Pretreatments

Chairs: R. Feser¹; F. Andreatta²; ¹FH Südwestfalen - Hochschule für Technik und Wirtschaft, Iserlohn/D; ²University of Udine/I

16:30 – 16:50 **A localized study on the effect of etching and pickling parameters on the activation of cathodic intermetallics for conversion coating treatment**
 S. Sainis¹; C. Zanella¹; ¹Jönköping University, Jönköping/S

16:50 – 17:10 **Optimization of Zr-based conversion coatings on different substrates via response surface methodology**
 A. Krašič¹; I. Milosevič¹; ¹The Jožef Stefan Institute, Ljubljana/SLO

17:10 – 17:30 **In-depth investigation on the role of Cu on the formation mechanism of hybrid Zr-Aminosilane conversion coating on Advanced High Strength Stainless Steels (AHSS)**
 M. Nabizadeh¹; E. Mernissi Cherigui²; K. Marcoen³; T. Kolberg³; D. Schatz³; H. Terryn¹; T. Hauffman¹; ¹Vrije Universiteit Brussel, Brussels/B; ²Aperam Stainless Steel, Isbergues/F; ³Chemmetall GmbH, Frankfurt/D

17:30 – 17:50 **Corrosion protection of galvanized steel by epoxy-amine coatings: Interfacial effects of Zr-based conversion and Cu(II) additive**
 V. Cristaudo¹; B. Wouters¹; N. Madelat¹; B. Kannan²; L. Steely²; E. Brown-Tseng²; T. Hauffman¹; H. Terryn¹; ¹Vrije Universiteit Brussel (VUB), Brussels/B; ²PPG, Allison Park/USA

19:30 – 23:00 Congress Dinner at TIPI am Kanzleramt

Wednesday, 31 August 2022

Room: Salon 21 (2nd Floor)

Automotive Corrosion

Chair: E. Szala, Aluminium Duffel BV, Duffel/B

- 10:00 – 10:20 **Bimetallic corrosion of automotive materials - Impact of the test specimen geometry**
B. Rendahl¹; C. Schneider¹; ¹ Rise Kimab AB, Kista/S
- 10:20 – 10:40 **Corrosion of painted automotive steel induced by contact with rubber**
J. Švadlena¹; T. Prošek¹; ¹ University of Chemistry and Technology Prague, Kralupy nad Vltavou/CZ
- 10:40 – 11:00 **Accelerated Corrosion Test Control and Monitoring**
S. Fowler¹; A. Francis¹; W. Tobin¹; D. Duecker¹; A. Giehl²; ¹ Q-Lab Corporation, Westlake/USA; ² Q-Lab Deutschland GmbH, Saarbrücken/D

11:00 – 11:30 COFFEE BREAK

Automotive Corrosion

Chair: E. Szala, Aluminium Duffel BV, Duffel/B

- 11:30 – 11:50 **Performance Measurements for Electrocoat Primer and Powder Coatings**
V. Avance¹; B. Clark¹; L. Agnew¹; F. Friedersdorf¹; ¹ Luna Labs USA, LLC, Charlottesville/USA
- 11:50 – 12:10 **Effect of environmental parameters on metal corrosion during cyclic corrosion tests**
K. Popova¹; T. Prošek¹; ¹ UCT Prague, Kralupy nad Vltavou/CZ
- 12:10 – 12:30 **Mechanistic understanding of graphene's use as an anticorrosive additive**
K. Aneja¹; ¹ Talga Technologies Ltd., Histon, Cambridge/UK
- 12:30 – 12:50 **Impact of the aggressive environment on the corrosion mechanism of decorative nickel-chromium coatings**
L. Ganborena¹; Y. Gonzalez-García²; E. García Lecina¹; J. Vega¹; M. Lekka¹; ¹ CIDETEC, San Sebastian/E; ² Delft University of Technology, Delft/NL

12:50 – 14:20 LUNCH BREAK

Automotive Corrosion

Chairs: E. Szala¹; J. Baudoin²; ¹Aluminium Duffel BV, Duffel/B; ²Atotech France, Saint Ouen L'Aumône/F

- 14:20 – 14:40 **Hydrogen formation in galvanic processes for cathodic corrosion protection**
M. Krüger¹; ¹ Atotech Deutschland GmbH & Co. KG, Trebur/D
- 14:40 – 15:00 **Corrosion Performance of Coated Aluminium Alloy 6111 as a Function of Zr Pre-Treatment Parameters and Alloy Thermal History**
N. Hosking¹; J. Esquivel Guerrero¹; S. Peczonczyk¹; D. Freiberg¹; M. Lim²; M. McMillen²; J. Li³; P. Dodge³; ¹ Ford Motor Company Ltd., Dearborn/USA; ² PPG Coatings Innovation Center, Allison Park/USA; ³ Constellium, Plymouth/USA
- 15:00 – 15:20 **Grain boundary characteristics and their correlation to intergranular corrosion of Al-Mg-Si alloy with trace level content of Cu**
E. Bartawi¹; O. Mishin²; R. Ambat²; ¹ Denmark Technical University (DTU), Lyngby/DK; ² Denmark Technical University (DTU), Copenhagen/DK
- 15:20 – 15:40 **Experimental Correlation of Accelerated Corrosion Testing and Electrochemical Testing of Advanced High Strength Steels for the Automotive Chassis Industry**
E. Morales Murillo¹; D. Crespo Yapur¹; P. Boulanger¹; ¹ Metalsa, Monterrey/MEX

16:00 – 16:30 COFFEE BREAK

Automotive Corrosion

Chairs: E. Szala¹; J. Baudoin²; ¹Aluminium Duffel BV, Duffel/B; ²Atotech France, Saint Ouen L'Aumône/F

- 16:30 – 17:10 **KEYNOTE**
Durability of Adhesive bonding of Aluminium 6016: influence of additives in adhesives on the corrosion resistance of metal substrate
M. Gutsell¹; E. Szala²; E. Verboom²; ¹ Sika Technology AG, Zürich/CH; ² Aluminium Duffel BV, Duffel/B
- 17:10 – 17:30 **The influence of pre-treatment of adhesive bonded aluminium lap-shear specimens – Comparison after accelerated corrosion testing and mobile field exposure**
C. Schneider¹; B. Rendahl¹; ¹ Rise Kimab AB, Kista/S
- 17:30 – 17:50 **3D-Printed Solid State Multi-Material Lithium-ion Batteries for Electric Vehicle Applications**
V. Kumar¹; ¹ University of Leicester/UK

19:30 – 23:00 Congress Dinner at TIPI am Kanzleramt

Wednesday, 31 August 2022

Room: Salon 7 (Ground Floor)

Environment Sensitive Fracture

Chair: T. Depover, Ghent University/B

- 10:00 – 10:20 **Assessment of the impact of hydrogen on the mechanical properties of selective laser melted austenitic stainless steels**
R. Subramanian Girija¹; N. Saintier¹; M. El May¹; I. AUBERT¹; G. HENAFF²; A. Oudriss³; X. Feaugas³; ¹ Institut de Mécanique et d'Ingénierie - I2M, Talence/F; ² Institut Pprime, Poitiers/F; ³ Laboratoire des Sciences de l'Ingénieur pour l'Environnement (LaSIE), UMR 7356 CNRS- La Rochelle Université, La Rochelle/F
- 10:20 – 10:40 **Investigation of stress corrosion cracking mechanism in selective laser melted 316L under the combined effect of energy input variation and machining induced surface residual stresses**
A. Yazdanpanah¹; M. Franceschi¹; M. Dabalà¹; ¹ University of Padova/I
- 10:40 – 11:00 **Susceptibility to environmentally-assisted cracking of a laser beam melted 17-4PH martensitic stainless steel**
N. Guennouni¹; D. Maissonette²; C. Grosjean²; D. Poquillon¹; C. Blanc¹; ¹ Université de Toulouse/F; ² CETIM, Saint Etienne/F

11:00 – 11:30 COFFEE BREAK

Environment Sensitive Fracture

Chair: T. Depover, Ghent University/B

- 11:30 – 11:50 **Hydrogen diffusion and trapping in a steel containing porosities: modelling approach**
A. Dréano¹; A. Yaktiti¹; J. Carton²; F. Christien¹; ¹ Ecole des Mines de Saint-Etienne, Saint-Etienne/F; ² SafeMetal, Feurs/F
- 11:50 – 12:10 **Comparison of hydrogen diffusivities measured by electrochemical permeation and temperature-programmed desorption in cold-rolled pure iron**
A. Zafra¹; Z. Harris²; E. Martinez Pañeda¹; ¹ Imperial College London, London/UK; ² University of Virginia, Charlottesville/USA
- 12:10 – 12:30 **Time-dependent Hydrogen absorption characteristics of high-strength steels**
M. Brilz¹; ¹ TU Darmstadt, Darmstadt/D
- 12:30 – 12:50 **The effect of coatings on hydrogen permeation tests of a 500 HBW steel**
R. Latypova¹; T. Nyo¹; O. Seppälä¹; S. Pallaspuuro¹; S. Mehtonen²; H. Hänninen³; J. Kömi¹; ¹ University of Oulu, Oulu/FIN; ² SSAB Europe Oy, Raahe/FIN; ³ Aalto University, Espoo/FIN

12:50 – 14:20 LUNCH BREAK

Environment Sensitive Fracture

Chair: A. Oudriss, La Rochelle University/F

- 14:20 – 14:40 **Damage evolution in extruded magnesium exposed to corrosive environment using phase-field framework**
C. Kandekar¹; W. Weber¹; A. Ravikumar²; E. Gazenbiller²; J. Pereira da Silva²; D. Höche²; ¹ Helmut-Schmidt University/ University of the Federal Armed Forces, Hamburg/D; ² Helmholtz-Zentrum Hereon GmbH, Geesthacht/D
- 14:40 – 15:00 **Study of the hydrogen embrittlement susceptibility of deposited nickel-based alloy 82**
A. Barou¹; E. Andrieu¹; P. Joly²; L. Laffont¹; C. Blanc¹; ¹ Université de Toulouse, Toulouse/F; ² FRAMATOME, Courbevoie/F
- 15:00 – 15:20 **Towards hydrogen diffusion and uptake in Nickel alloy 625 using electrochemical permeation test**
X. Lu¹; D. Wang¹; R. Johnsen¹; ¹ NTNU University, Trondheim/N
- 15:20 – 15:40 **Environmental degradation of AZ31 in Na₂B₄O₇ aqueous solution containing NH₄SCN**
S. Ajito¹; T. Hojo¹; M. Koyama¹; S. Hiromoto²; E. Akiyama¹; ¹ Tohoku University, Sendai/J; ² National Institute for Materials Science, Tsukuba/J
- 15:40 – 16:00 **Quantitative estimation the controlling factor in the stress corrosion cracking of high-strength aluminum alloys in the presence of chloride and bisulfite**
Z. Cui¹; J. Liang¹; M. Wang²; H. Cui¹; ¹ Ocean University of China, Qingdao/CN; ² Qingdao University, Qingdao/CN

16:00 – 16:30 COFFEE BREAK

Corrosion of Archaeological and Historical Artefacts

Chairs: S. Grassini¹; D. Neff²; ¹ Politecnico di Torino/I; ² CEA Saclay, Gif-sur-Yvette/F

- 16:30 – 16:50 **In-situ conservation of historical metallic shipwrecks: complementary approach from on-site global measurements to multiscale characterization**
J. Vernet¹; ¹ LAPA, IRAMAT, NIMBE, CEA, CNRS, Gif-sur-Yvette/F
- 16:50 – 17:10 **Unravelling the Mechanical Response of Ancient Clamps in a Monument through Micro-Indentation Experiments and Finite Element Analysis**
P. Vassiliou¹; Z. Vangelatos¹; T. Argyropoulos¹; C. Titakis¹; ¹ National Technical University of Athens/GR
- 17:10 – 17:30 **Long-lasting effectiveness of different protective treatments on archaeological iron artefacts**
A. Vietti¹; L. Iannucci¹; I. Corso¹; N. Donato²; E. Angelini¹; S. Grassini¹; ¹ Politecnico di Torino/I; ² University of Messina/I
- 17:30 – 17:50 **Characterization of corrosion products on iron artefacts from Bratislava castle (slovakia)**
R. Košťúr¹; M. Zemanová¹; ¹ Slovak University of Technology, Bratislava/SK

19:30 – 23:00 Congress Dinner at TIPI am Kanzleramt

Wednesday, 31 August 2022

Room: Salon 4 - 5 (Ground Floor)

Corrosion Education

Chair: D. Zander, RWTH Aachen University/D

10:00 – 10:20 **The offers of CEFACOR in corrosion education and certification**
M. Roche¹; C. Duret-Thual¹, A. Surbled¹; ¹ CEFACOR, Paris/F10:20 – 11:00 **WP7 Business Meeting**11:00 – 11:30 **COFFEE BREAK****Joint Session: Atmospheric Corrosion of Cultural Heritage Artefacts and Monuments (WP 21 & WP 25)**Chairs: D. Neff¹; J. Tidblad²; ¹CEA Saclay, Gif-sur-Yvette/F; ²RISE Research Institutes of Sweden, Kista/S11:30 – 11:50 **Lead as a standard metal for Corrosivity Classification of Indoor Atmospheres in Archives, Museums and Churches**
T. Boháčková¹; M. Kouřil¹; K. Strachotová¹; J. Švadlena²; T. Prošek²; K. Kreislová³; P. Fialová³; ¹ University of Chemistry and Technology, Prague/CZ; ² Technopark Kralupy of the University of Chemistry and Technology Prague, Kralupy nad Vltavou/CZ; ³ SVUOM Ltd., Prague/CZ11:50 – 12:10 **Challenges and guidelines for artificial ageing testing of cultural heritage materials exposed to a changing troposphere**
A. Timoncini¹; E. Brattich²; E. Bernardi²; C. Chiavari¹; I. Vassura²; C. Velino²; L. Tositti²; ¹ University of Bologna, Ravenna/I; ² University of Bologna/I12:10 – 12:30 **Biological and chemical characterisation of patina types on outdoor artefacts**
A. Timoncini¹; E. Bernardi²; C. Martini²; F. Costantini¹; F. Mugnai¹; F. Mancuso³; K. Matterson¹; E. Sassoni²; C. Chiavari¹; ¹ University of Bologna, Ravenna/I; ² University of Bologna/I; ³ University of Palermo/I12:50 – 14:20 **LUNCH BREAK**

Atmospheric Corrosion

Chair: T. Prošek, University of Chemistry and Technology, Prague/CZ

14:20 – 15:00 **KEYNOTE**
Modeling of Atmospheric Corrosion Using Both Analytical and Numerical Modeling
R. Kelly¹; ¹ University of Virginia, Charlottesville/USA15:00 – 15:20 **Atmospheric corrosion studies under controlled thin-film and droplet-based electrolyte conditions**
K. Zhang¹; A. Kosari¹; N. Van den Steen²; H. Terry²; A. Mol¹; Y. Gonzalez-Garcia¹; ¹ Delft University of Technology, Delft/NL; ² Vrije Universiteit Brussel (VUB), Brussel/B15:20 – 15:40 **Interpretation of in-situ SKPFM Volta Potential Measurements obtained during Atmospheric Corrosion of Aluminum Alloys**
D. Blackwood¹; Y. Liew²; ¹ National University of Singapore, Singapore/SGP; ² National University of Singapore, Singapore/SGP15:40 – 16:00 **Time Dependent Measurement of Environment Severity**
L. Agnew¹; B. Clark¹; V. Avance¹; F. Friedersdorf¹; ¹ Luna Labs USA, LLC, Charlottesville/USA16:00 – 16:30 **COFFEE BREAK**

Atmospheric Corrosion

Chair: G. Luckeneder, voestalpine Stahl GmbH, Linz/A

16:30 – 16:50 **Transition Analysis of Sea-salt Deposition Using a Galvanic Corrosion Sensor**
N. Fuse¹; M. Takeyama²; M. Miyoshi¹; N. Kihara²; Y. Kihara²; Y. Hori¹; J. Tani¹; ¹ Central Research Institute of Electric Power Industry, Yokosuka/J; ² Central Research Institute of Electric Power Industry, Abiko/J16:50 – 17:10 **Digital Monitoring System for Hot Dipped Galvanized Steel Applications in Geological Protection Systems**
M. Sorg¹; L. Bošković²; H. Lanter³; S. Schultes³; ¹ Institute for Materials System Technology Thurgau, Tägerwil/CH; ² University of Applied Sciences, Konstanz/D; ³ Geobru AG, Romanshorn/CH17:10 – 17:30 **Corrosion characteristics of the steel in atmosphere of Vietnam using mass loss method and electrical resistant sensor**
L. Le Thi Hong¹; M. Omoda²; H. Hoang¹; S. Ootsuka²; D. Mizuno²; N. Nguyen¹; ¹ Institute of Materials Science, Hanoi/VN; ² JFE Steel Corporation, Kawasaki/J17:30 – 17:50 **Real-time corrosion monitoring of aluminium-copper alloys under chloride-contaminated atmospheric conditions**
E. Diler¹; F. Peltier¹; J. Becker¹; d. thierry²; ¹ French Corrosion Institute (RISE), Brest/F; ² RISE KIMAB, Stockholm/S17:50 – 18:50 **WP 25 Business Meeting**19:30 – 23:00 **Congress Dinner at TIPI am Kanzleramt**

Wednesday, 31 August 2022

Room: Salon 13 - 15 (1st Floor)

Corrosion in Oil & Gas Production: Microbiological Induced Corrosion

Chair: J. Kvarekvål, Institute for Energy Technology, Kjeller/N

10:00 – 10:20 **Failure Investigation of Microbiologically Influenced Corrosion (MIC) in the North Sea Oil and Gas Production – Bridging Our Extensive Knowledge to the Renewable Energy Sector**
T. Skovhus¹; ¹ VIA University College, Horsens/DK10:20 – 10:40 **Management of CUI, guidelines and operator practice**
F. Wiggen¹; M. Langøy²; J. Vasland Jessen³; ¹ DNV, Stavanger/N; ² Petroleum Safety Authority Norway, Stavanger/N; ³ DNV – Energy Systems, Stavanger/N10:40 – 11:00 **Microbiologically Influenced Corrosion Failure Investigation Trends in Oil and Gas Upstream Operations**
A. de Araujo Abilio¹; J. Wolodko¹; R. Eckert²; T. Skovhus³; ¹ University of Alberta, Edmonton/CDN; ² Microbial Corrosion Consulting, LLC, Columbus/USA; ³ VIA University College, Aarhus/DK11:00 – 11:30 **COFFEE BREAK**

Corrosion in Oil & Gas Production: Flexible Pipes and Risers

Chair: M. Wilms, Shell Projects and Technology, Amsterdam/NL

11:30 – 11:50 **Re-creating and understanding CO₂-SCC initiation mechanism in carbon steel armour wires for flexible pipes.**
S. Landgraf¹; J. Gudme¹; ¹ NOV Subsea Production Systems, Copenhagen/DK11:50 – 12:10 **Qualification of Perforated Plastic Lined Pipes for Subsea Transportation of Hydrocarbons Fluids Containing CO₂ and H₂S.**
C. Taravel-Condât¹; J. Rai²; I. Merchant²; M. Chalmers²; ¹ TechnipFMC, Paris/F; ² TechnipFMC, Westhill AberdeenShire/UK12:10 – 12:30 **Flexible pipes-corrosion in humid annulus gas**
A. Dugstad¹; S. Palencsár²; ¹ Institute for Energy Technology, Kjeller/N; ² IFE, Kjeller/N12:30 – 12:50 **Enhanced Oil Recovery: Polymer flooding and its consequences for corrosion**
M. Schwingenschlöggl¹; G. Zehethofer²; S. Hönig²; S. Hurch²; G. Ball¹; P. Linhardt¹; ¹ Technische Universität Wien, Wien/A; ² OMV Exploration & Production GmbH, Gänserndorf/A12:50 – 14:20 **LUNCH BREAK**

Corrosion in Oil & Gas Production: Additive Manufacturing

Chair: M. Wilms, Shell Projects and Technology, Amsterdam/NL

14:20 – 14:40 **'Sensitisation' and intergranular corrosion characteristics of laser powder bed fusion manufactured 316L**
A. Pandey¹; S. Kairy²; Y. Qiu³; S. Thomas¹; ¹ Monash University, Clayton/AUS; ² National Physical Laboratory, Teddington/UK; ³ Wuhan University of Science and Technology, Wuhan/CN14:40 – 15:00 **On the Corrosion Resistance of Additive Manufactured Alloy 718 in Chloride-bearing Solutions at Elevated Temperature**
H. Sarmiento Klapper¹; R. Kube¹; N. Holzapfel¹; ¹ Baker Hughes, Celle/D15:00 – 15:20 **Effects of solutionizing temperature and aging duration on the electrochemical behavior of selective laser melting IN718**
A. Abdelgadir¹; M. Siddiqui¹; A. Adesina²; ¹ King Fahd University of Petroleum and Minerals, Dhahran /SAR; ² King Fahd University of Petroleum and Minerals, Dhahran/SAR16:00 – 16:30 **COFFEE BREAK**

Corrosion in Oil & Gas Production: New Energies

Chair: J. Kvarekvål, Institute for Energy Technology, Kjeller/N

16:30 – 16:50 **Study of the corrosion behavior of CRA clad high strength steel for offshore service**
U. Garate¹; E. Mardaras²; R. González-Martínez²; A. Lamikiz³; G. Artola²; ¹ MESHIND, Metal Stamping & Hot Industry / University of the Basque Country (UPV/EHU), Durango/E; ² AZTERLAN, Basque Research and Technology Alliance (BRTA), Durango/E; ³ University of the Basque Country (UPV/EHU), Bilbao/E16:50 – 17:10 **Material Selection for Carbon Capture and Storage (CCS) Wells**
W. van Haften¹; T. Bos²; ¹ Shell Global Solutions International BV, Amsterdam/NL; ² Shell Global Solutions International BV, Bangalore/IND17:10 – 17:30 **Risk of hydrogen embrittlement in a mixture of natural gas and hydrogen**
K. Kuchťáková¹; D. Rudomilova²; V. Šeft²; T. Prošek²; ¹ UCT Prague, Prague /CZ; ² UCT Prague, Prague/CZ17:30 – 17:50 **Modeling Corrosive Environments for Predicting Downhole Conditions and Designing Corrosion Testing Using the MSE-SRK Thermodynamic Framework**
R. Springer¹; A. Anderko¹; A. Gerbino¹; D. Miller¹; ¹ OLI Systems, Inc., New Jersey/USA19:30 – 23:00 **Congress Dinner at TIPI am Kanzleramt**

Wednesday, 31 August 2022

Room: Salon 1 (Ground Floor)

Polymers and Advanced Materials

Chair: J. Heinemann, DIN CERTCO Gesellschaft für Konformitätsbewertung mbH, Berlin/D

10:00 – 10:20 **Testing and Characterization Methods For The Evaluation Of The Aging Of High Density Polyethylene (HDPE)**
M. Zippa¹; F. Sammartino¹; L. Intiso¹; L. Alleva¹; D. Lega²; C. Andenna²; E. Pichini Maini²; ¹ Rina Consulting - Centro Sviluppo Materiali, Rome/I; ² DIT, Istituto Nazionale per l'Assicurazione contro gli Infortuni sul Lavoro (INAIL), Rome/I

10:20 – 10:40 **„Corrosion damage“ of multilayer composite pipes**
G. Pajonk¹; ¹ Materialprüfungsamt Nordrhein-Westfalen, Dortmund/D

10:40 – 11:00 **Composite repair in pipeline rehabilitation - subsea repairs**
O. Marin¹; V. Ribouleau¹; ¹ 3X ENGINEERING, Monaco/MC

11:00 – 11:30 COFFEE BREAK

Joint Session: Polymers in Organic Coatings (WP14 & WP19)

Chairs: J. Heinemann¹; W. Fürbeth²; ¹DIN CERTCO Gesellschaft für Konformitätsbewertung mbH, Berlin/D; ²DEHEMA-Forschungsinstitut, Frankfurt am Main/D

11:30 – 11:50 **Polymeric core-shell nanofibers towards multifunctional coatings**
I. Vladu¹; L. Balci¹; R. Wultsch¹; M. Sinnabell¹; ¹ Centre of Electrochemical Surface Technology (CEST), Wiener Neustadt/A

11:50 – 12:10 **FTIR-ATR FPA depth resolved chemical imaging and Nano-IR studies of polyester melamine coating degradation during accelerated and natural weathering**
A. Wärnheim¹; D. Persson¹; ¹ Research Institutes of Sweden RISE KIMAB AB, Stockholm/S

12:10 – 12:30 **Coating degradation under different weathering conditions using FTIR spectroscopy**
N. LeBozec¹; D. Persson²; d. thierry²; ¹ French Corrosion Institute, Brest/F; ² RISE Research Institutes of Sweden, Kista/S

12:30 – 12:50 **Investigation of polymer degradation mechanisms by combined electrochemical and diagnostic methods**
U. Langklotz¹; U. Gierth¹; M. Schneider¹; N. Lee²; S. Hosseinpour²; ¹ Fraunhofer IKTS, Dresden/D; ² Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen/D

12:50 – 14:20 LUNCH BREAK

Joint Session: Polymers in Organic Coatings (WP14 & WP19)

Chairs: W. Fürbeth¹; J. Heinemann²; ¹DEHEMA-Forschungsinstitut, Frankfurt am Main/D; ²DIN CERTCO Gesellschaft für Konformitätsbewertung mbH, Berlin/D

14:20 – 14:40 **Performance evaluation of various anti-icing coatings for gas expansion station**
C. Rogier¹; A. Fakhry¹; M. Gente¹; E. Parizot²; ¹ RICE GRTgaz, Villeneuve la Garenne/F; ² GRTgaz, Compiègne/F

14:40 – 15:00 **A New Platform for The Development of a New Functional Epoxy Networks as Smart Coatings**
S. Livi¹; G. Perli²; J. Duchet-Rumeau²; J. Gerard²; ¹ INSA of Lyon, Villeurbanne/F; ² INSA of Lyon, Villeurbanne/F

15:00 – 15:20 **Interfacial Chemical Gradients and Off-Stoichiometric Curing in Pigmented Epoxy-Amine Coatings**
S. Morsch¹; S. Lyon¹; M. Irwin²; ¹ University of Manchester/UK; ² AkzoNobel, Felling/UK

15:20 – 15:40 **Development of bio-based epoxy-silica coatings for aerospace applications**
A. Trentin¹; A. Pakseresh¹; A. Duran²; D. Galusek¹; Y. Castro²; ¹ Alexander Dubcek University of Trencin/SK; ² Universidad Autonoma de Madrid, Madrid/E

16:00 – 16:30 COFFEE BREAK

Joint Session: Polymers in Organic Coatings (WP14 & WP19)

Chairs: W. Fürbeth¹; J. Heinemann²; ¹DEHEMA-Forschungsinstitut, Frankfurt am Main/D; ²DIN CERTCO Gesellschaft für Konformitätsbewertung mbH, Berlin/D

16:30 – 16:50 **Colour durability of PUR topcoats – how to choose durable colour?**
D. Wojda¹; A. Królikowska¹; ¹ Road and Bridge Research Institute, Warsaw/PL

16:50 – 17:10 **Elemental and chemical depth profiling of polyester-polyurethane coil coatings with XPS**
D. Leidlmair¹; J. Duchoslav¹; G. Mayr²; B. Strauß²; D. Stifter³; ¹ CEST Kompetenzzentrum für elektrochemische Oberflächentechnologie GmbH, Linz/A; ² voestalpine Stahl GmbH, Linz/A; ³ Johannes Kepler University Linz/A

17:10 – 17:50 WP19 / WP20 Business Meeting

19:30 – 23:00 Congress Dinner at TIPI am Kanzleramt

Wednesday, 31 August 2022

Room: Salon 17 (1st Floor)

CO₂ - Corrosion in Industrial Applications

Chair: R. Bäßler, BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/D

10:00 – 10:20 **Monoethylene glycol solubility and corrosion in dense phase CO₂**
B. Morland¹; A. Dugstad¹; G. Svenningsen¹; ¹ Institute for Energy Technology, Kjeller/N

10:20 – 10:40 **Corrosion of Potential First Stage Blade Materials in Simulated Supercritical CO₂ Power Cycle Conditions**
P. Norman¹; H. Al Baroudi¹; A. Potter¹; S. Mori¹; N. Simms¹; A. Kulkarni²; J. Sumner¹; ¹ Cranfield University, Cranfield/UK; ² Siemens Corporation, Charlotte/USA

10:40 – 11:00 **Corrosion mechanisms of zinc-coated steel in wet supercritical carbon dioxide**
V. Saarimaa¹; A. Kaleva²; E. Levänen²; P. Väisänen³; ¹ Top Analytica, Turku/FIN; ² Tampere University, Tampere/FIN; ³ SSAB Europe, Hämeenlinna/FIN

11:00 – 11:30 COFFEE BREAK

CO₂ - Corrosion in Industrial Applications

Chair: R. Bäßler, BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/D

11:30 – 11:50 **Determination of Depassivation pH of Corrosion Resistant Alloys for Materials Selection in CCS Applications**
G. Sundararajan¹; A. Sabnis¹; S. Huizinga²; N. Surendran¹; ¹ Shell Technology Centre, Bangalore/IND; ² (retired) Shell Global Solutions International BV, Amsterdam/NL

11:50 – 12:10 **Electrochemical behaviors of casing steel/mortar interface in CO₂ saturated aquifer fluid**
Q. Le¹; R. Bäßler¹; D. Bettge¹; ¹ BAM - Federal Institute for Materials Research and Testing, Berlin, Germany, Berlin/D

12:10 – 12:50 WP 24 Business Meeting

12:50 – 14:20 LUNCH BREAK

Corrosion in the Refinery and Petrochemistry Industry

Chairs: F. Ropital¹; G. De Landtsheer²; ¹IFP Energies nouvelles - Université de Lyon, Solaize/F; ²Borealis, Kallo-Kieldre/B

14:20 – 14:40 **Mitigation of alkaline carbonate stress corrosion cracking with chemical corrosion inhibitors**
C. Claesen¹; O. Zenasni²; M. Marquez²; M. Vosecky³; ¹ Nalco Water, Northwich/UK; ² NALCO Water, an ECOLAB Company/USA; ³ NALCO Water, an ECOLAB Company/CZ

14:40 – 15:00 **Identifying Corrosion Rectification Needs Through Remote, On-line Digital Corrosion Monitoring**
K. Wold¹; J. Bromley-Barrat²; ¹ Emerson Automation Solutions, Ranheim/N; ² Emerson Automation Solutions, Crawley/UK

15:00 – 15:20 **Corrosion of alloys tested under simulated simplified thermo-chemical process conditions**
N. Pålsson¹; C. Liotard²; C. Mendibide²; N. Zhou³; U. Kivisäkk³; L. Wegrelius⁴; R. Norling¹; ¹ RISE Research Institutes of Sweden, Kista/S; ² French Corrosion Institute – RISE, Fraisses/F; ³ SMT EMEA AB, Sandviken/S; ⁴ Outokumpu Stainless AB, Avesta/S

15:20 – 15:40 **Corrosion in bio-fuel production from vegetable and waste oils: Impact of temperature**
F. Andari¹; J. Kittel¹; J. Fernandes¹; B. Ter-Ovanesian²; M. Fregonese²; N. Godin²; F. Ropital¹; ¹ IFP Energies nouvelles, Solaize/F; ² Univ. Lyon, INSA LYON, MATEIS UMR CNRS 5510, Lyon/F

15:40 – 16:00 **Feasibility Evaluations on Bio-oil and Vacuum Gas Oil Emulsions for Co-processing Applications**
H. Wang¹; A. Gross¹; J. Liu¹; ¹ University of Alberta, Edmonton/CDN

16:00 – 16:30 COFFEE BREAK

Corrosion in the Refinery and Petrochemistry Industry

Chairs: F. Ropital¹; G. De Landtsheer²; ¹IFP Energies nouvelles - Université de Lyon, Solaize/F; ²Borealis, Kallo-Kieldre/B

16:30 – 16:50 **Corrosion Under Insulation (CUI) and the Impact of Temperature Cycling – A Simulated Industrial Environment to Study CUI and Evaluate Monitor and Detection Methods**
J. Tacq¹; S. van der Vaart²; D. Michiels³; C. Watt⁴; ¹ Sirris, Zwijnaarde/B; ² Scalda, Terneuzen/NL; ³ TotalEnergies, Feluy/B; ⁴ KAEFER Isolieretechnik, Bremen/D

16:50 – 17:10 **Microbially assisted corrosion in crude oil distribution network**
V. Šefl¹; R. Shrestha²; A. Ševců²; ¹ University of Chemistry and Technology, Kralupy nad Vltavou/CZ; ² Technical University of Liberec/CZ

19:30 – 23:00 Congress Dinner at TIPI am Kanzleramt

Wednesday, 31 August 2022

Room: Salon 11 (1st Floor)

Workshop on Corrosion of Medical Implants and Devices

Chair: P. Schmutz, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH

10:00 – 10:20	In vitro degradation of Fe-, Zn- and Mg-alloys: metal-electrolyte interface C. Wang ¹ ; M. Zheludkevich ¹ ; S. Lamaka ¹ ; ¹ Institute of Surface Science, Helmholtz-Zentrum Hereon, Geesthacht/D
10:20 – 10:40	Microstructural evolution of heat-treated biodegradable ZX11 and the influence on corrosion properties and mechanism L. Nuraini ¹ ; V. Chaineux ¹ ; D. Zander ¹ ; ¹ RWTH Aachen University, Aachen/D
10:40 – 11:00	Influence of Different Simulated Physiological Solutions on the Biodegradation of WE43 Magnesium Alloy as a Potential Orthopedic Biomaterial P. Balan ¹ ; J. Tan ¹ ; D. Chandrakumar ¹ ; S. Hussain ¹ ; A. Menon ¹ ; ¹ Monash University Malaysia, Subang Jaya, Selangor/MAL
11:00 – 11:30	COFFEE BREAK
Workshop on Corrosion of Medical Implants and Devices	
Chair: P. Schmutz, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH	
11:30 – 11:50	Effect of geopolymer-based coatings on magnesium biocorrosion A. Rondinella ¹ ; M. Zanco ¹ ; E. Rahimi ¹ ; F. Andreatta ¹ ; G. Capurso ¹ ; S. Maschio ¹ ; L. Fedrizzi ¹ ; ¹ University of Udine/I
11:50 – 12:10	Degradation and ion release of Mg-Li thin films for potential neurological applications L. Hanke ¹ ; L. Kalchgruber ² ; K. Bhat ³ ; R. Willumeit-Römer ³ ; M. Valtiner ² ; E. Quandt ¹ ; ¹ University of Kiel, Kiel/D; ² Vienna University of Technology, Vienna/A; ³ Helmholtz Zentrum Hereon, Geesthacht/D
12:10 – 12:30	Effect of the fluoride species and content of the PEO electrolyte on the corrosion properties of the layers obtained on AZ31 for biomedical purposes I. Tournay-Dufrenne ¹ ; B. Pillado Rios ² ; M. Olivier ³ ; M. Mohedano ² ; ¹ Université de Mons/B; ² Universidad Complutense de Madrid/E; ³ Université de Mons/B
12:30 – 12:50	Sol-gel coatings doped with graphene nanoplatelets for enhancing the in vitro corrosion behaviour and biocompatibility of AZ31 alloy substrates J. Fernández-Hernán ¹ ; B. Torres Barreiro ¹ ; A. López Galisteo ¹ ; E. Martínez-Campos ² ; J. Rams Ramos ¹ ; ¹ Universidad Rey Juan Carlos, Móstoles/E; ² Universidad Complutense de Madrid/E
12:50 – 14:20	LUNCH BREAK
Workshop on Corrosion of Medical Implants and Devices	
Chair: P. Schmutz, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH	
14:20 – 14:40	Characterization of commercially pure Titanium produced by Additive Manufacturing L. Iannucci ¹ ; M. Ghione ¹ ; E. Padovano ¹ ; C. Badini ¹ ; A. Gullino ¹ ; E. Angelini ¹ ; S. Grassini ¹ ; ¹ Politecnico di Torino, Torino/I
14:40 – 15:00	Corrosion resistance and biocompatibility of SLM and milled Ti-6Al-4V in artificial saliva T. Kosec ¹ ; M. Bajt Leban ¹ ; M. Kurnik ² ; I. Kopač ² ; ¹ Slovenian National Building and Civil Engineering Institute [ZAG], Ljubljana/SLO; ² Medical Faculty, Ljubljana/SLO
15:00 – 15:20	Development and analysis of additively manufactured titanium alloys for dental implants J. Fritzen ¹ ; F. Haase ² ; S. Lederer ¹ ; W. Fürbeth ¹ ; C. Siemers ² ; ¹ DEHEMA - Forschungsinstitut, Frankfurt am Main/D; ² Technische Universität Braunschweig/D
15:20 – 15:40	Corrosion properties of Ti-6Al-4V alloy with different surface oxidations, laser and plasma modification processes M. Bajt Leban ¹ ; T. Kosec ² ; M. Conradi ³ ; A. Kocijan ³ ; I. Junkar ⁴ ; ¹ Slovenian National Building and Engineering Institute, Ljubljana/SLO; ² Slovenian National Building and Civil Engineering Institute - ZAG, Ljubljana/SLO; ³ Institute for Metals and Technology, Ljubljana/SLO; ⁴ Jožef Stefan Institute, Ljubljana/SLO
15:40 – 16:00	Tribocorrosion performance of additive manufactured implant materials during reciprocating sliding against articular cartilage M. Rodríguez Ripoll ¹ ; T. Varadi ¹ ; R. Eder ¹ ; C. Bauer ² ; F. Franek ¹ ; L. Berger ³ ; S. Nehrer ² ; ¹ AC2T research GmbH, Wiener Neustadt/A; ² University for Continuing Education Krems, Krems/A; ³ Fraunhofer IKTS, Dresden/D
16:00 – 16:30	COFFEE BREAK
Workshop on Corrosion of Medical Implants and Devices	
Chair: P. Schmutz, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH	
16:30 – 16:50	Influence of the sodium chloride concentration and pH of the used artificial saliva on the resistance of dental nickel base and cobalt base alloys against corrosion E. Tran ¹ ; E. Teriokhina ¹ ; M. Lierre ¹ ; P. Berthod ² ; ¹ University of Lorraine, Vandoeuvre-lès-Nancy/F; ² Université de Lorraine, Nancy/F
16:50 – 17:10	Incorporating nano-containers on Plasma electrolytic oxidation coatings on magnesium for drug delivery Y. Guo ¹ ; A. Rogov ¹ ; B. Mingo ¹ ; A. Matthews ¹ ; A. Yerokhin ¹ ; ¹ University of Manchester/UK
17:10 – 17:30	A dual-layer protective coating of TiO₂/HMDTMPA compared to Stearic/HMDTMPA on Mg H. Soliman ¹ ; G. Wan ² ; ¹ Central Metallurgical Research and Development Institute (CMRDI), Cairo/ET; ² Southwest Jiaotong University, Chengdu/CN
19:30 – 23:00	Congress Dinner at TIPI am Kanzleramt

Wednesday, 31 August 2022

Room: Salon 16 (1st Floor)

Corrosion by Hot Gases and Combustion Products

Chair: M. Galetz, DEHEMA - Forschungsinstitut, Frankfurt am Main/D

10:00 – 10:20	Gas-phase-induced refractory degradation in flash smelters J. Lehmusto ¹ ; S. Söyrinki ² ; J. Lagerbom ² ; E. Huttunen-Saarivirta ² ; M. Lindgren ³ ; L. Hupa ¹ ; ¹ Abo Akademi University, Turku/FIN; ² VTT Technical Research Centre of Finland Ltd., Espoo/FIN; ³ Metso Outotec Research Center, Pori/FIN
10:20 – 10:40	Sulphation kinetics of chloride particles, corrosion potential and effect of reactive additives S. Pentz ¹ ; F. Haider ¹ ; H. Nordsieck ² ; R. Warnecke ³ ; ¹ Universität Augsburg/D; ² bifa Umweltinstitut GmbH, Augsburg/D; ³ Gemeinschaftskraftwerk Schweinfurt GmbH, Schweinfurt/D
10:40 – 11:00	The potential of Alloy Design of Cu alloys in Conjunction with Additive Manufacturing for Applications at High Temperatures K. Jahns ¹ ; H. von Lintel ² ; U. Krupp ¹ ; ¹ RWTH Aachen University, Aachen/D; ² University of Applied Sciences Osnabrück/D
11:00 – 11:30	COFFEE BREAK
Corrosion by Hot Gases and Combustion Products	
Chair: M. Galetz, DEHEMA - Forschungsinstitut, Frankfurt am Main/D	
11:30 – 11:50	Effect of surface preparation on the resistance of welds against Metal Dusting C. Schlereth ¹ ; E. White ¹ ; B. Nowak ² ; H. Hattendorf ² ; M. Galetz ¹ ; ¹ DEHEMA-Forschungsinstitut, Frankfurt am Main/D; ² VDM Metals International GmbH, Altena/D
11:50 – 12:10	Development of Fe-Alloy with advanced metal dusting resistance S. Aota ¹ ; Y. Suzuki ² ; S. Kurihara ¹ ; Y. Matsuda ¹ ; N. Otaki ¹ ; K. Jotoku ¹ ; Y. Nishiyama ¹ ; ¹ NIPPON STEEL CORPORATION, Hyogo/J; ² NIPPON STEEL EUROPE GmbH, Düsseldorf/D
12:10 – 12:30	Hot Corrosion Behavior of Slurry Sprayed Aluminide Coatings in a Simulated Dynamic Molten Carbonate Environment P. Audigié ¹ ; S. Rodríguez ¹ ; A. Agüero ¹ ; F. Pedrosa ² ; T. Paiva ² ; T. Diamantino ² ; ¹ Instituto Nacional de Técnica Aeroespacial, Torrejón de Ardoz/E; ² Laboratório Nacional de Energia e Geologia, Lisbon/P
12:50 – 14:20	LUNCH BREAK
Joint Session: Metallic Coatings for High Temperature	
Chair: M. Galetz, DEHEMA - Forschungsinstitut, Frankfurt am Main/D	
14:20 – 14:40	Corrosion Resistance of Thermal Sprayed Coatings at High Temperature O. Chocholaty ¹ ; M. Vostrak ¹ ; S. Houdkova ¹ ; Z. Cesanek ¹ ; J. Schubert ¹ ; M. Prantnerova ¹ ; ¹ Research and Testing Institute Plzen Ltd., Plzen/CZ
14:40 – 15:00	Novel acid dew point sensor and corrosion probes for dynamic waste heat recovery from steel mill flue gases P. Ivashechkin ¹ ; M. Kozariszczuk ¹ ; D. de la Fuente ² ; T. Lapp ³ ; J. Arribas Ramirez ⁴ ; ¹ VDEh-Betriebsforschungsinstitut GmbH (BFI), Düsseldorf/D; ² Centro Nacional de Investigaciones Metalúrgicas (CENIM/CSIC), Madrid/E; ³ Salzgitter Flachstahl GmbH (SZFG), Salzgitter/D; ⁴ ArcelorMittal (AM), Aviles/E
15:00 – 15:20	Development of a Zirconium Coating Technique on Ti-6Al-4V for Tribological Applications B. Öztürk ¹ ; M. Galetz ¹ ; L. Mengis ¹ ; ¹ DEHEMA - Forschungsinstitut, Frankfurt am Main/D
15:20 – 15:40	High temperature corrosion behavior of steels with multilayer coating in Waste to Energy (WtE) aggressive environment A. Syed ¹ ; L. Isern Arrom ¹ ; C. Chalk ¹ ; M. Cordero ² ; J. Nicholls ¹ ; N. Suja ³ ; ¹ Cranfield University, Cranfield/UK; ² Welding Alloys Group Ltd, Royston/UK; ³ Cranfield University, /D
15:40 – 16:00	WP 3 Business Meeting
16:00 – 16:30	LUNCH BREAK
Nuclear Corrosion	
16:30 – 17:30	WP 4 Business Meeting (Nuclear Corrosion)
19:30 – 23:00	Congress Dinner at TIPI am Kanzleramt

Wednesday, 31 August 2022

Room: Salon 2 (Ground Floor)

Cathodic Protection

Chair: J. Crouzillac, BAC Corrosion Control, Voisins-le-Bretonneux/F

10:00 – 10:20 **Numerical modelling of the temperature effect on galvanic current cathodic protection of a full-scale reinforced concrete wall**
S. Deharo¹; E. Ringot¹; S. Laurens¹; R. François¹; D. Garcia¹; E. Sassine¹; ¹ CORROHM, Toulouse/F10:20 – 10:40 **Cathodic protection of Pelješac bridge reinforcement - preliminary results**
K. Kekez¹; T. Antolović¹; ¹ PA-EL d.o.o., Veliko Trgovišće/HR10:40 – 11:00 **Design of a galvanic protection system for steel frame structure embedded in concrete damaged by chloride-induced corrosion**
E. Sassine¹; D. Garcia¹; S. Deharo¹; R. François¹; ¹ CORROHM, Toulouse/F

11:00 – 11:30 COFFEE BREAK

Reliability of Electronic Devices

Chair: R. Ambat¹, Technical University of Denmark, Kongens Lyngby/DK11:30 – 11:50 **Investigation of copper corrosion mechanisms in convection-free aqueous media using a thin layer test cell and simulation**
M. Mayr¹; H. Nabi²; S. Jordan²; P. Altieri-Weimar²; G. Faflek¹; ¹ TU Wien, Vienna/A; ² Infineon Technologies AG, Munich/D11:50 – 12:10 **Investigation of the effect of ionic contamination in thin gaps on assemblies close to reality with new miniaturized devices**
H. Schimanski¹; T. Fladung²; ¹ Fraunhofer ISIT, Itzehoe/D; ² Fraunhofer IFAM, Bremen/D12:10 – 12:30 **Quantification of water film formation under transient condensing condition and related PCBA failures**
H. Conseil-Gudla¹; S. Mohanty¹; F. Steiner²; J. Hattel¹; R. Ambat¹; ¹ Technical University of Denmark, Kongens Lyngby/DK; ² University of West Bohemia, Pilsen/CZ12:30 – 12:50 **Development and characterization of copper corrosion protection coatings by atomic layer deposition: application to microelectronics**
R. Haefele¹; S. Marcellin²; L. Broussous¹; L. Mazet¹; O. Kermaerrec¹; B. Normand²; ¹ STMicroelectronics, 850 rue Jean Monnet, 38 920 Crolles/F; ² Univ Lyon, INSA Lyon, CNRS, MATEIS UMR5510, 69 621 Lyon/F

12:50 – 14:20 LUNCH BREAK

Reliability of Electronic Devices

Chair: H. Schweigart, ZESTRON Europe, Ingolstadt/D

14:20 – 14:40 **Classification of climate data based on corrosion critical parameters for electronic system design**
M. Spooner¹; R. Ambat¹; H. Conseil-Gudla¹; M. Kulahci¹; ¹ Technical University of Denmark, Kongens Lyngby/DK14:40 – 15:00 **Effect of TiO₂ nanoparticle additives on electrochemical corrosion properties of Sn-Ag-Cu solders**
B. Medgyes¹; I. Felhősi²; L. Máté¹; Z. Keresztes²; G. Harsányi¹; ¹ BME, Budapest/H; ² Research Centre for Natural Sciences, Budapest/H15:00 – 15:20 **Tree-Based Machine Learning Methods to PCB Failure and Leakage Current Prediction**
S. Bahrebar¹; R. Ambat¹; ¹ Technical University of Denmark, Kgs. Lyngby /DK15:20 – 15:40 **Atomic Layer Deposition/Parylene conformal coating for corrosion protection of electronics and components**
R. Kumar¹; S. Sawada²; ¹ Specialty Coating Systems, Indianapolis/USA; ² Daisan Kasei Co., Ltd., Goiminamikaigan Ichihara/J15:40 – 16:00 **Corrosion in Electric and Electronic Control Unit Storage Boxes by Moisture Permeation from Gasket and Sealant**
T. Tatsuoka¹; H. Ijichi¹; K. Yoshino¹; ¹ Tokyo Electric Power Company Holdings, Inc., Yokohama/J

16:00 – 16:30 COFFEE BREAK

Reliability of Electronic Devices

Chair: R. Ambat¹, Technical University of Denmark, Kongens Lyngby/DK16:30 – 16:50 **The corrosion of electronic components: the humidity issue**
C. Paglia¹; ¹ SUPSI University of applied sciences of Southern Switzerland, Mendrisio/CH16:50 – 17:10 **Correlation of PCBA design and processing parameters to PCBA climatic reliability**
A. Lakkaraju¹; H. Conseil-Gudla¹; R. Ambat¹; M. Bixenman²; M. McMeen²; ¹ Technical University of Denmark, Kongens Lyngby/DK; ² Magnalytix LLC, Nashville, TN/USA

17:10 – 17:50 WP 23 Business Meeting

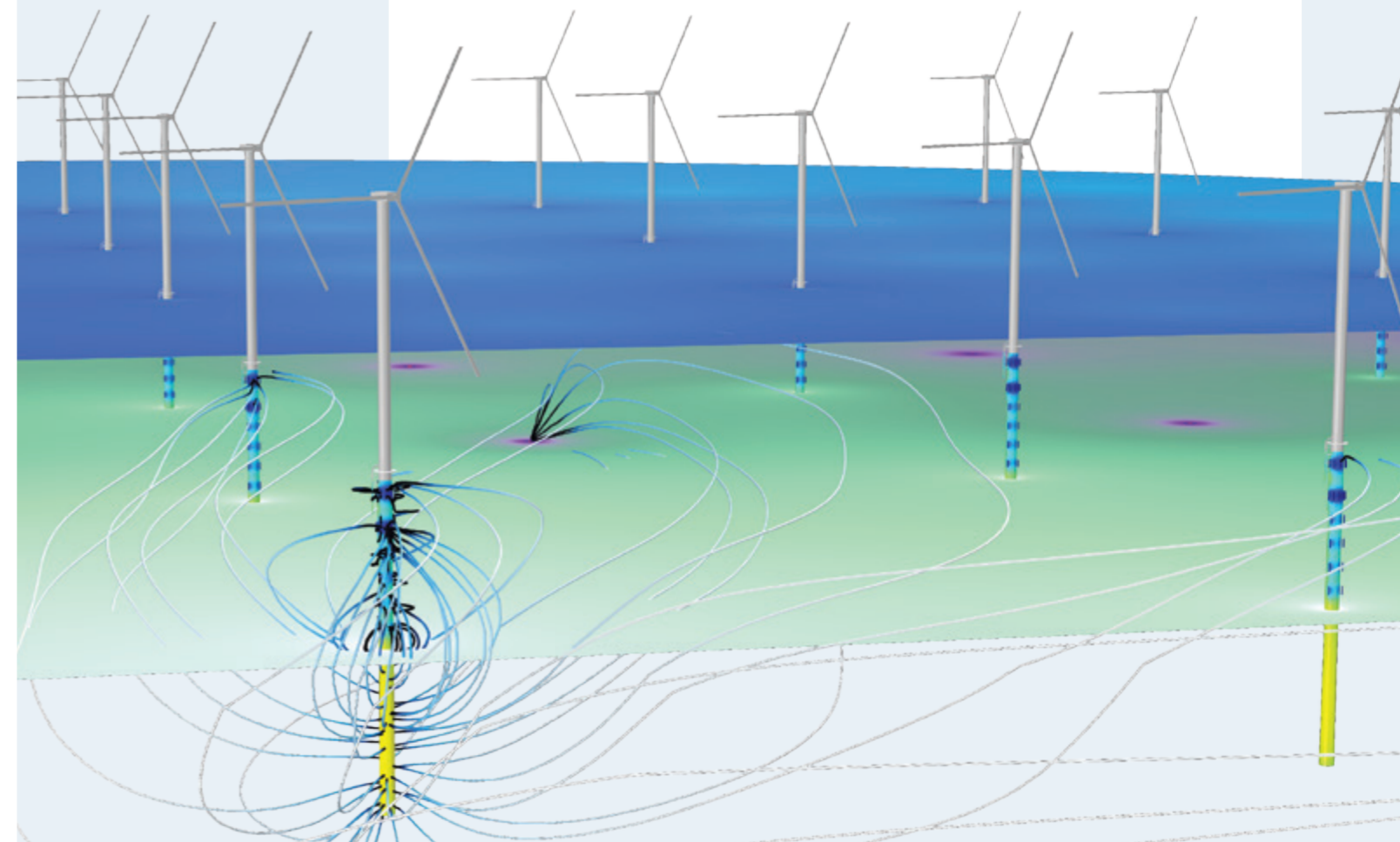
19:30 – 23:00 Congress Dinner at TIPI am Kanzleramt

SIMULATION CASE STUDY

Protecting wind turbines against corrosion

Galvanic corrosion is often intentionally exploited for the cathodic protection of sacrificial anodes, such as in the monopiles used to support these offshore wind turbines. To mitigate corrosion in these structures, engineers can use numerical modeling to understand and analyze the performance, and lifetime, of the cathodic protection system.

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Thursday, 1 September 2022

Grand Ballroom (Ground Floor)

09:00 – 09:20	EUROCORR Young Scientist Grant Chair: W. Fürbeth, DECHEMA-Forschungsinstitut, Frankfurt am Main/D To: B. Bin Mohammad Sultan , Chimie Paris Tech-PSL Research University, Paris/F
	EUROCORR Travel Grant for Young Corrosionists 2022 Chair: W. Fürbeth, DECHEMA-Forschungsinstitut, Frankfurt am Main/D Given to: A. de Araujo Abilio , University of Alberta, Edmonton/CDN for the presentation of “research work on MIC”
	EFC Poster Prize Chair: W. Fürbeth, DECHEMA-Forschungsinstitut, Frankfurt am Main/D
09:20 – 09:30	Cavallaro Medal Ceremony Chair: J.A. Vogelsang, Sika Technology AG, Zurich/CH
09:30 – 10:00	Cavallaro Medal Lecture Engineering Tools for Corrosion L. Lazzari, Politecnico di Milano/I
10:00 – 10:15	TIME FOR CHANGING LECTURE HALL

Grand Ballroom (Ground Floor)

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: C. Blanc¹; P. Refait²; ¹Université de Toulouse, Toulouse/F; ²La Rochelle University, La Rochelle/F

10:15 – 10:35	Simulation of Internal Corrosion by Means of the Cellular Automata Approach A. Seregin ¹ ; K. Jahns ¹ ; U. Krupp ¹ ; ¹ RWTH Aachen University/D
10:35 – 10:55	The use of advanced convolutional neural network-based image analytics for detection and characterisation of corrosion in superalloys O. Oyedeji ¹ ; S. Mori ¹ ; J. Sumner ¹ ; S. Addepalli ¹ ; S. Khan ¹ ; ¹ Cranfield University, Cranfield/UK
10:55 – 11:15	A data-centric review on machine learning of corrosion prediction L. Bertolucci Coelho ¹ ; V. Vangrunderbeek ¹ ; D. Zhang ² ; Y. Van Ingelgem ¹ ; D. Steckelmacher ¹ ; A. Nowé ¹ ; H. Terryn ¹ ; ¹ Vrije Universiteit Brussel, Brussels/B; ² University of Science and Technology Beijing/CN
11:15 – 11:35	Extension of continuum-scale corrosion simulations from grain-scale to part-scale M. Patel ¹ ; P. Keil ² ; I. Cole ¹ ; ¹ RMIT University, Melbourne/AUS; ² BASF Coatings GmbH, Muenster/D
11:35 – 12:15	COFFEE BREAK

Corrosion Mechanisms, Methods and Modelling (3M)

Chairs: P. Refait¹; C. Blanc²; ¹La Rochelle University, La Rochelle/F; ²Université de Toulouse, Toulouse/F

12:15 – 12:35	On the use of operando EIS to monitor better time evolution of the impedance on corrosion and protection systems H. Terryn ¹ ; M. Havigh ¹ ; N. Madelat ¹ ; B. Wouters ¹ ; T. Hauffman ¹ ; A. Hubin ¹ ; N. Hallemans ¹ ; J. Lataire ¹ ; J. Lataire ¹ ; ¹ Vrije Universiteit Brussel, Brussels/B
12:35 – 12:55	Estimation of passivation layer thicknesses: how easily can electrochemical impedance spectroscopy (EIS) be used? T. Schott ¹ ; F. Liautaud ¹ ; ¹ Cetim Grand Est, Mulhouse/F
12:55 – 13:15	Electrochemically produced pH sensors based on niobium for corrosion monitoring T. Singewald ¹ ; I. Traxler ¹ ; G. Schimo-Aichhorn ¹ ; T. Bruckner ¹ ; R. Gruber ¹ ; L. Hader-Kregl ¹ ; M. Müller ² ; C. Kern ³ ; G. Luckeneder ³ ; B. Strauß ³ ; M. Hafner ⁴ ; S. Hild ⁵ ; M. Valtiner ⁶ ; ¹ CEST Kompetenzzentrum für elektrochemische Oberflächentechnologie GmbH, Wiener Neustadt/A; ² Henkel AG & Co. KGaA, Düsseldorf/D; ³ voestalpine Stahl GmbH, Linz/A; ⁴ AMAG rolling GmbH, Braunau-Ranshofen/A; ⁵ Johannes Kepler University Linz, Linz/A; ⁶ Vienna University of Technology, Vienna/A
13:15 – 13:35	Development of an electrochemical online ICP-OES method for dissolution behavior at non steady-state A. Fujimura ¹ ; S. Shoji ¹ ; Y. Kitagawa ¹ ; Y. Hasegawa ¹ ; T. Doi ² ; K. Fushimi ¹ ; ¹ Hokkaido University, Sapporo/J; ² NIPPON STEEL CORPORATION, Amagasaki/J

Grand Ballroom (Ground Floor)

13:45 – 14:00	CLOSING REMARKS Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH
14:00	END OF EUROCORR 2022

Thursday, 1 September 2022

Room: Hall Berlin B (Ground Floor)

	Coatings / Self Healing
	Chair: J. Tedim, University of Aveiro/P
10:15 – 10:35	Smart hybrid coating reinforced with modified clay nano reservoirs for the plasma electrolytic oxidation (PEO) layer on AA2024 S. Akbarzadeh ¹ ; M. Olivier ¹ ; ¹ University of Mons/B
10:35 – 10:55	Incorporation of nanocontainers into Plasma Electrolytic Oxidation (PEO) coatings for active corrosion protection of aluminium S. Al Abri ¹ ; A. Rogov ¹ ; A. Matthews ¹ ; B. Mingo ¹ ; A. Yerokhin ¹ ; ¹ The University of Manchester/UK
10:55 – 11:15	Corrosion protection of magnesium alloy AZ 31 by PEO coating with inhibitor loaded nanocontainers R. Sottor ¹ ; R. Gruen ¹ ; W. Fuerbeth ¹ ; A. Anthes ¹ ; S. Lederer ¹ ; ¹ DECHEMA - Forschungsinstitut, Frankfurt/D
13:35 – 13:45	TIME FOR CHANGING LECTURE HALL
	Grand Ballroom (Ground Floor)
13:45 – 14:00	CLOSING REMARKS Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH
14:00	END OF EUROCORR 2022



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Thursday, 1 September 2022

Room: Salon 21 (2nd Floor)

Automotive Corrosion

Chairs: E. Szala¹; J. Baudoin²; ¹Aluminium Duffel BV, Duffel/B; ²Atotech France, Saint Ouen L'Aumône/F

10:15 – 10:35	A Study of α group elements addition to AlSi coating for 22Mn5 W. Yang ¹ ; S. Ahn ² ; C. Kim ³ ; H. Castaneda ³ ; ¹ Hyundai Steel, Dangjin/ROK; ² HYUNDAI MOTOR R&D GROUP, Hwaseong/ROK; ³ TAMU, College Station/USA
10:35 – 10:55	Evaluation of Flow Dynamic Test Bench Methods to Estimate Coolant Thermal Stability A. Klink ¹ ; R. Reitz ¹ ; ¹ TU Darmstadt, Darmstadt/D
10:55 – 11:15	Corrosion inhibitors in engine coolants: mechanistic findings on the combination of organic & inorganic compounds L. Sopchenski Santos ¹ ; L. Bertolucci Coelho ¹ ; M. Lukaczynska-Anderson ¹ ; S. Clerick ² ; G. Buytaert ² ; S. Lievens ² ; H. Terryn ¹ ; ¹ Vrije Universiteit Brussel, Brussels/B; ² Arteco NV, Sint-Denijs-Westrem/B
11:15 – 11:35	Effect of Structural Changes on Corrosion Behavior of Modified 3003 Alloys Produced by Twin Roll Casting Under Different Casting Parameters M. Günyüz ¹ ; E. Harputlu ¹ ; C. Işksaçan ¹ ; ¹ Assan Alüminyum San. ve Tic. A.Ş., Kocaeli/TR
11:35 – 12:15	COFFEE BREAK
	Automotive Corrosion
	Chairs: E. Szala ¹ ; J. Baudoin ² ; ¹ Aluminium Duffel BV, Duffel/B; ² Atotech France, Saint Ouen L'Aumône/F
12:15 – 12:35	Optimization of filiform corrosion properties of cast alloy AlSi7Mg0.3 D. Zwitnig ¹ ; G. Mori ² ; W. Fragner ³ ; M. Hafner ⁴ ; G. Schimo-Aichhorn ⁵ ; I. Traxler ⁶ ; ¹ Montanuniversität Leoben/A; ² Montanuniversität Leoben, Leoben/A; ³ AMAG Austria Metall AG, Ranshofen/A; ⁴ AMAG rolling GmbH, Ranshofen/A; ⁵ CEST Centre for Electrochemistry and Surface Technology GmbH, Linz/A; ⁶ Johannes Kepler University Linz, Linz/A
12:35 – 12:55	Ion selectivity of corrosion products formed in the crevice of steel and aluminum alloy K. Fushimi ¹ ; K. Nomura ¹ ; S. Shoji ¹ ; Y. Kitagawa ¹ ; Y. Hasegawa ¹ ; ¹ Hokkaido Univ., Sapporo/J
13:35 – 13:45	TIME FOR CHANGING LECTURE HALL
	Grand Ballroom (Ground Floor)
13:45 – 14:00	CLOSING REMARKS Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH
14:00	END OF EUROCORN 2022

Thursday, 1 September 2022

Room: Salon 7 (Ground Floor)

Corrosion of Archaeological and Historical Artefacts

Chairs: S. Grassini¹; D. Neff²; ¹Politecnico di Torino/I; ²CEA Saclay, Gif-sur-Yvette/F

10:15 – 10:35	Analytical study of Ag and Ag-Cu surface tarnishing mechanisms to support their electrolytic cleaning J. Gonzalez Frutos ¹ ; C. Degryny ² ; P. Schmutz ¹ ; ¹ Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH; ² Haute Ecole Arc, Neuchâtel/CH
10:35 – 10:55	Galvanic corrosion over World War II aircraft wrecks C. Escobar Claros ¹ ; C. Velino ² ; M. Brunet ³ ; L. Robbiola ⁴ ; E. Bernardi ² ; C. Martini ² ; C. Chiavari ² ; A. Balbo ⁵ ; E. Guilminot ¹ ; ¹ GPLA-Arc'Antique, Nantes/F; ² University of Bologna/I; ³ Université de Toulouse - CEMES-CNRS/F; ⁴ Université de Toulouse - TRACES UT2J/F; ⁵ University of Ferrara/I
10:55 – 11:15	Characterisation of artificially-corroded Cu-based alloys by means of neutron-based imaging A. Vietti ¹ ; L. Vigorelli ¹ ; E. Angelini ¹ ; S. Grassini ¹ ; L. Guidorzi ² ; M. Magalini ² ; A. Re ² ; A. Lo Giudice ² ; F. Grazi ³ ; N. Gelli ⁴ ; ¹ Politecnico di Torino/I; ² Università degli Studi di Torino/I; ³ Consiglio Nazionale delle Ricerche, Sesto Fiorentino/I; ⁴ Istituto Nazionale di Fisica Nucleare, Sesto Fiorentino/I
11:15 – 11:35	Corrosion protection of copper and bronze statuary by carboxylates-doped sol-gel coatings S. Lob ¹ ; T. Tran-Thi ² ; A. Azema ³ ; C. Richter ⁴ ; D. Neff ⁵ ; ¹ CY Cergy Paris / CNRS / CEA, Saclay/F; ² CNRS, Paris Saclay/F; ³ LRMH, Paris/F; ⁴ CY Cergy Paris, Cergy/F; ⁵ CEA Saclay, Paris Saclay/F
11:35 – 12:15	COFFEE BREAK
	Corrosion of Archaeological and Historical Artefacts
	Chairs: S. Grassini ¹ ; D. Neff ² ; ¹ Politecnico di Torino/I; ² CEA Saclay, Gif-sur-Yvette/F
12:15 – 12:35	MiCorr application: a new support for the study of corrosion forms on ancient metal artifacts V. Valbi ¹ ; N. Gutknecht ² ; D. Neff ³ ; M. Berranger ¹ ; P. Dillmann ¹ ; C. Degryny ² ; ¹ Laboratoire Métallurgies et Cultures IRAMAT (LMC) – UMR7065 – CNRS, Université Technologique de Belfort-Montbéliard, Belfort/F; ² Haute Ecole Arc Conservation-Restoration, Neuchâtel/CH; ³ Laboratoire Archéomatériaux et Prévision de l'Altération (LAPA) – Université Paris-Saclay, Centre du Commissariat à l'Energie Atomique et aux Energies Alternatives de Paris-Saclay, Gif-sur-Yvette/F
12:35 – 12:55	The role of the γ-phase in the corrosion resistance of arsenical bronzes G. Ghiara ¹ ; M. Moedlinger ² ; A. Salanitro ¹ ; S. Massardo ² ; P. Manfrinetti ² ; S. Trasatti ¹ ; ¹ Università degli Studi di Milano/I; ² University of Genoa/I
12:55 – 13:15	WP 21 Business Meeting
13:35 – 13:45	TIME FOR CHANGING LECTURE HALL
	Grand Ballroom (Ground Floor)
13:45 – 14:00	CLOSING REMARKS Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH
14:00	END OF EUROCORN 2022

Thursday, 1 September 2022

Room: Salon 4 - 5 (Ground Floor)

Atmospheric Corrosion

Chair: J. Tidblad; RISE Research Institutes of Sweden, Kista/S

10:15 – 10:35	Quantifying Corrosion Minerals Using a SWIR Hyperspectral camera T. De Kerf ¹ ; A. Gestels ¹ ; K. Janssens ¹ ; S. Vanlanduit ¹ ; P. Scheunders ¹ ; ¹ University of Antwerp/B
10:35 – 10:55	Field exposure studies under sheltered and unsheltered conditions at different test sites in northern and eastern Germany: Update after 5 years of exposure M. Babutzka ¹ ; T. Müller ¹ ; ¹ Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin/D
10:55 – 11:15	Long-term atmospheric exposure of steel structures K. Kreislova ¹ ; M. Vlachova ¹ ; P. Maresovsky ¹ ; ¹ SVUOM Ltd., Prague/CZ
11:15 – 11:35	Fatigue performance of 3D printed aluminum alloy under atmospheric corrosion conditions C. Linder ¹ ; E. Dartfeldt ² ; F. Vucko ³ ; T. Ma ⁴ ; ¹ RISE Research Institutes of Sweden, Stockholm/S; ² RISE Research Institutes of Sweden, Borås/S; ³ French Corrosion Institute (RISE), Brest/F; ⁴ RISE Research Institutes of Sweden, Mölndal/S
11:35 – 12:15	COFFEE BREAK
Atmospheric Corrosion	
Chair: D. Thierry; RISE Research Institutes of Sweden, Kista/S	
12:15 – 12:35	Long-term Observation of Atmospheric Corrosion of AA6063 with Assessment of Re-initiation S. Mahmood ¹ ; D. Engelberg ² ; E. Parker-Quaife ³ ; ¹ University of Manchester, Manchester/UK; ² University of Manchester/UK; ³ National Nuclear Laboratory Limited, Seascale/UK
12:35 – 12:55	Study on atmospheric induced stress corrosion cracking of stainless steel type 304 and 316 L. Le Thi Hong ¹ ; N. Nguyen ¹ ; T. Shinohara ² ; ¹ Institute of Materials Science, Hanoi/VN; ² National Institute of Materials Science, Japan, Tokyo/J
12:55 – 13:15	Field exposure studies of austenitic and duplex stainless steels in tunnel atmospheres T. Müller ¹ ; A. Wagner ¹ ; A. Burkert ¹ ; ¹ Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin/D
13:15 – 13:35	Corrosion of Type 316L Stainless Steel Closure Welds in Chloride-Containing Environments Under Low Relative Humidity Exposure R. Lang ¹ ; ¹ University of Manchester/UK
13:35 – 13:45	TIME FOR CHANGING LECTURE HALL
Grand Ballroom (Ground Floor)	
13:45 – 14:00	CLOSING REMARKS Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH
14:00	END OF EUROCORR 2022

Thursday, 1 September 2022

Room: Salon 13 - 15 (1st Floor)

Corrosion in Oil & Gas Production: Carbon Steel in Sweet Service

Chair: J. Kvarekvål, Institute for Energy Technology, Kjeller/N

10:15 – 10:35	Tribocorrosion performance of wear resistant coatings in CO₂ anoxic environments sliding against internally coated tubings M. Rodriguez Ripoll ¹ ; A. Trausmuth ¹ ; N. Fateh ² ; C. Schoberleitner ² ; R. Gillham ³ ; Y. Zhuk ³ ; E. Badisch ¹ ; ¹ AC2T Research GmbH, Wiener Neustadt/A; ² OMV Exploration & Production GmbH, Gänsendorf/A; ³ Hardide plc, Bicester/UK
10:35 – 10:55	Synchrotron X-ray diffraction studies of corrosion scale formed during CO₂ corrosion of low-alloy carbon steel S. Haratian ¹ ; K. Gupta ¹ ; A. Larsson ² ; G. Abbondanza ² ; E. Lundgren ² ; R. Ambat ¹ ; ¹ Technical University of Denmark (DTU), Konges Lyngby/DK; ² Lund University, Lund/S
10:55 – 11:15	The Effect of Calcite Saturation Levels On Sour Corrosion J. Kvarekvål ¹ ; G. Svenningsen ¹ ; M. Seiersten ¹ ; ¹ IFE, Kjeller/N
11:15 – 11:35	To a Natural pH Buffering for Sulfide Stress Cracking Tests of Low Alloy Steels? F. Thebault ¹ ; J. PENNEQUIN ¹ ; H. MARCHEBOIS ² ; ¹ Vallourec Research Center France, AULNOYE-AYMERIES/F; ² TotalEnergies, PAU/F
11:35 – 12:15	COFFEE BREAK
Grand Ballroom (Ground Floor)	
13:45 – 14:00	CLOSING REMARKS Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH
14:00	END OF EUROCORR 2022

Thursday, 1 September 2022

Room: Salon 1 (Ground Floor)

Joint Session: Polymers in Organic Coatings (WP14 & WP19)

Chairs: W. Fürbeth¹; J. Heinemann²; ¹DEHEMA-Forschungsinstitut, Frankfurt am Main/D; ²DIN CERTCO Gesellschaft für Konformitätsbewertung mbH, Berlin/D

- 10:15 – 10:35 **Influence of polymeric design on the paint delamination of coated steel substrates**
V. Dickson¹; V. Kottisch²; N. Wint¹; G. Williams³; ¹University of Swansea, Swansea/UK; ²BASF Coatings GmbH, Münster/D; ³University of Swansea, Swansea, Wales/UK
- 10:35 – 10:55 **Coumarate based polymers as corrosion inhibitors**
D. Minudri¹; A. Sommers²; M. Forsyth²; D. Mecerreyes¹; ¹Polymat-UPV, San Sebastian/E; ²Deakin, Geelong/AUS
- 10:55 – 11:15 **Evaluation of conventional high solid metal primers in combination with standard and isocyanate-free high solid topcoats**
G. Fürpaß¹; G. Hobisch¹; ¹Allnex Austria GmbH, Graz/A
- 11:15 – 11:35 **Photocurable organic coatings from renewable resources**
L. Iannucci¹; C. Noè¹; V. Gozzano¹; M. Sangermano¹; S. Grassini¹; ¹Politecnico di Torino/I

11:35 – 12:15 COFFEE BREAK

Corrosion & Corrosion Protection of Drinking Water Systems

Chair: W. Erning; BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/D

- 12:15 – 12:35 **Corrosion behaviour of steels in a biological wastewater treatment system: Moving bed biofilm reactor (MBBR)**
B. Karabulut¹; B. Verhoeven²; G. Potters³; R. Dewil⁴; B. Rossi⁵; ¹KU Leuven, Mechelen/B; ²KU Leuven, Sint-Katelijne-Waver/B; ³Antwerp Maritime Academy, Antwerp/B; ⁴KU Leuven, Sint-Katelijne-Waver/B; ⁵University of Oxford/UK
- 12:35 – 12:55 **Condition assessment of asbestos cement pipes in drinking water distribution systems in Germany**
T. Jentzsch¹; A. Becker¹; ¹IWW Water Centre, Mülheim an der Ruhr/D
- 12:55 – 13:15 **Corrosion in heating, ventilation and cooling systems**
G. Kawaley¹; ¹Mitsubishi Electric R&D Center Europe BV, Livingston, West Lothian, Scotland/UK
- 13:15 – 13:35 **Comparison of dezincification resistant brasses corrosion in copper chlorides solution versus tap water -mechanistic information-**
C. Obitz¹; A. Meroufel¹; O. Rod¹; ¹RISE Research Institutes of Sweden, Kista/S

13:35 – 13:45 TIME FOR CHANGING LECTURE HALL

Grand Ballroom (Ground Floor)

13:45 – 14:00 **CLOSING REMARKS**
Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH

14:00 END OF EUROCRR 2022

Thursday, 1 September 2022

Room: Salon 17 (1st Floor)

Joint Session: Corrosion in Chemical Process Industries

Chair: H. Alves, VDM Metals International GmbH, Altena/D

- 10:15 – 10:35 **Materials Degradation in Simulated Plastic Recycling Plant Conditions**
S. Mori¹; A. Potter¹; S. Bhattacharya²; N. Simms¹; J. Sumner¹; ¹Cranfield University, Cranfield/UK; ²Recycling Technologies Ltd, Swindon/UK
- 10:35 – 10:55 **VDM Alloy 31plus® – A successor of the 6-Mo stainless steels and its applications in the chemical process industry**
P. Hübner¹; D. Niespodziany¹; B. Gehrman¹; H. Alves¹; ¹VDM Metals International GmbH, Altena/D
- 10:55 – 11:15 **Modern corrosion resistant alloys and their different semi-finished products**
P. Hübner¹; B. Gehrman¹; H. Alves¹; ¹VDM Metals International GmbH, Altena/D
- 11:15 – 11:35 **Corrosion issues of stainless steels in nitric acid and ammonia nitrate production**
J. Stoullil¹; R. Bureš¹; D. Kučera¹; Z. Barták¹; A. Kankula¹; ¹University of Chemistry and Technology Prague, Prague/CZ

13:35 – 13:45 TIME FOR CHANGING LECTURE HALL

Grand Ballroom (Ground Floor)

13:45 – 14:00 **CLOSING REMARKS**
Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH

14:00 END OF EUROCRR 2022



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Thursday, 1 September 2022

Room: Salon 11 (1st Floor)

Workshop on Corrosion of Medical Implants and Devices

Chair: P. Schmutz, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH

10:15 – 10:35 **Protective properties of the oxide passive film on 316L stainless steel manufactured by selective laser melting**
F. Andreatta¹; E. Rahimi¹; A. Lanzutti¹; R. Revilla Castillo²; I. De Graeve²; L. Fedrizzi¹; ¹ University of Udine, Udine/I;
² Vrije Universiteit Brussel (VUB), Brussel/B

10:35 – 10:55 **Effects of laser power and surface remelting on surface properties of selective laser melting manufactured stainless steels 316L**
M. Nie¹; X. Zhao²; J. Godwin¹; Q. Yang¹; K. Choy¹; ¹ University College London, London/UK; ² University of Southampton, Southampton/UK

10:55 – 11:15 **Effects of processing parameters and heat treatment on passive oxide film of selective laser melted Ti6Al4V studied by Mott–Schottky analysis and X-ray photoelectron spectroscopy**
M. Nie¹; J. Dai¹; X. Zhao²; Y. Liu¹; K. Choy¹; ¹ University College London/UK; ² University of Southampton/UK

11:35 – 12:15 COFFEE BREAK

Workshop on Corrosion of Medical Implants and Devices

Chair: P. Schmutz, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Dübendorf/CH

12:15 – 12:35 **Corrosion behavior of Ni- and Cu-free Ti-Zr-based bulk metallic glasses for biomedical applications**
L. Zarazua Villalobos¹; E. Yüce²; B. Ter-Ovanesian¹; B. Sarac³; F. Spieckermann⁴; D. Fabrègue¹; J. Chevalier¹; ¹ Univ. Lyon, INSA LYON, MATEIS UMR CNRS 5510, Villeurbanne/F; ² Erich Schmid Institute of Materials Science/Department of Materials Science, Montanuniversität Leoben/A; ³ Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben/A; ⁴ Department of Materials Science, Chair of Materials Physics, Montanuniversität Leoben/A

12:35 – 12:55 **Enhanced corrosion resistance of harmonic structured Cantor alloy in Hank's simulated body fluid solution**
D. Banik¹; K. Ameyama²; K. Mondal¹; ¹ Indian Institute of Technology Kanpur, Kanpur/IND; ² Ritsumeikan University, Kusatsu/J

13:35 – 13:45 TIME FOR CHANGING LECTURE HALL

Grand Ballroom (Ground Floor)

13:45 – 14:00 **CLOSING REMARKS**
Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH

14:00 END OF EUROCORN 2022

Thursday, 1 September 2022

Room: Salon 2 (Ground Floor)

Reliability of Electronic Devices

Chair: R. Ambat; Technical University of Denmark, Kongens Lyngby/DK

10:15 – 10:35 **Comparison of quality testing of LED modules by means of Iodine Vapour Test, Flower of Sulphur Test and Mixed Flowing Gas Test**
H. Schweigart¹; S. Strixner¹; M. Meier¹; ¹ ZESTRON Europe, Ingolstadt/D

10:35 – 10:55 **Investigation of Sulphur induced corrosion of electronics using flower of Sulphur test**
I. Mantis¹; H. Gudla¹; M. Jellesen¹; R. Ambat¹; ¹ Technical University of Denmark, Lyngby/DK

10:55 – 11:15 **Localized corrosion study of electroless nickel alloys on copper substrate during exposure to aqueous environment: Effect of phosphorous content**
M. Mousavi¹; Y. Gonzalez-Garcia¹; A. Mol¹; ¹ Delft University of Technology (TU Delft)/NL

11:15 – 11:35 **Characterization and modelling of dendritic growth on PCB materials**
Q. Pham¹; N. Holle¹; J. Wilde²; ¹ Robert Bosch GmbH, Schwieberdingen/D; ² Universität Freiburg/D

11:35 – 12:15 COFFEE BREAK

Reliability of Electronic Devices

Chair: H. Schweigart; ZESTRON Europe, Ingolstadt/D

12:15 – 12:35 **Impact of Environmental Conditions On The Performance And Reliability Of Electronic Equipment**
C. Xu¹; ¹ Nokia, Murray Hill/USA

12:35 – 12:55 **Passive layer investigation on tin and tin solder alloys**
M. Schneider¹; U. Langklotz¹; U. Gierth¹; O. Körsten¹; ¹ Fraunhofer IKTS, Dresden/D

12:55 – 13:15 **Investigation of water condensation during humidity tests by in-situ ellipsometry**
A. Romanenko¹; A. Gharaibeh²; B. Medgyes²; P. Petrik¹; ¹ Centre for Energy Research, Budapest/H; ² Budapest University of Technology and Economics, Budapest/H

13:35 – 13:45 TIME FOR CHANGING LECTURE HALL

Grand Ballroom (Ground Floor)

13:45 – 14:00 **CLOSING REMARKS**
Chair: J.A. Vogelsang, Sika Technology AG, Zürich/CH

14:00 END OF EUROCORN 2022

Thursday, 1 September 2022

Room: Salon 3 (Ground Floor)

Chair: F. Ropital, IFP Energies nouvelles - Université de Lyon, Solaize/F

10:00 – 13:45 **WP 15 Business Meeting**

Corrosion and Scale Inhibition (WP 1)

- P 1.01 **Green corrosion inhibitors – Development of eco-friendly products of low cost from industrial waste.**
J. Rocha¹; M. V. Casanova Monteiro¹; E. D'Elia¹; J. da Cunha Ponciano Gomes¹; ¹ Federal University of Rio de Janeiro, Rio de Janeiro/BR
- P 1.02 **Advanced sensor based on EIS for continuous corrosion monitoring in an Icelandic geothermal power plant**
L. Freire¹; I. Ezpeleta¹; J. Sánchez²; A. Aimen¹; ¹ AIMEN, Porriño/E

Corrosion by Hot Gases and Combustion Products (WP3)

- P 2.01 **Cyclic oxidation resistance of IN625 produced by Laser Beam Melting, influence of the building direction**
S. Mercier¹; T. Ghenot¹; A. Morel¹; D. Boivin¹; E. Rimpot¹; C. Rio¹; ¹ ONERA, Université Paris Saclay, Chatillon/F
- P 2.02 **A systematic study of the effect of the nickel and cobalt respective proportions in M–30Cr alloys (M = Ni and/or Co) on their behavior in oxidation at high temperature**
A. Padox¹; M. Jollain¹; L. Aranda²; P. Berthod²; ¹ University of Lorraine, Vandoeuvre-lès-Nancy/F; ² University of Lorraine, Nancy/F
- P 2.03 **Exploration of the high temperature oxidation of the M–30Cr alloys (M = Co and/or Ni) containing tantalum in absence of carbon**
F. Schumacher¹; Y. Ait-Meddour²; L. Aranda³; P. Berthod⁴; ¹ University of Lorraine, Vandoeuvre-lès-Nancy/F; ² University of Lorraine, Vandoeuvre-lès-Nancy/F; ³ University of Lorraine, Nancy/F; ⁴ Université de Lorraine, Nancy/F
- P 2.04 **Characteristics and resistance against spallation of the oxides formed at high temperature on {Co, Ni}–based chromium–rich cast alloys containing titanium**
S. Ozouaki Wora¹; P. Berthod²; ¹ University of Lorraine, Vandoeuvre-lès-Nancy/F; ² Université de Lorraine, Nancy/F
- P 2.05 **Oxidized states of chromium–rich {Ni,Co}–based alloys rich in tantalum to form TaC carbides after exposure at 1250°C in air**
J. Gomis¹; P. Berthod²; ¹ University of Lorraine, Vandoeuvre-lès-Nancy/F; ² Université de Lorraine, Nancy/F

Nuclear Corrosion (WP4)

- P 3.01 **Microstructural investigation of oxide films on Alloy 182 weld metal formed under BWR zinc water chemistry**
A. Mackiewicz¹; S. Ritter¹; K. Chen¹; H. Seifert¹; S. Virtanen²; ¹ Paul Scherrer Institut (PSI), Villigen/CH; ² Friedrich-Alexander University Erlangen-Nürnberg, Erlangen/D
- P 3.02 **Slow strain rate testing of Fe-10Cr-4Al ferritic steel in liquid lead and lead-bismuth eutectic**
C. Petersson¹; ¹ royal institute of technology KTH, Stockholm/S
- P 3.03 **Effect of oxidants produced by radiolysis on aqueous corrosion of iron**
T. Ota¹; S. Ajito²; T. Hojo²; M. Koyama²; E. Akiyama²; ¹ Tohoku University, Aoba Ward, Sendai City, Miyagi /J; ² Tohoku University, Sendai City/J
- P 3.04 **Corrosion assessment for the evaluation of the long-term integrity of containers in crystalline rock**
C. Stephan-Scherb¹; J. Eckel²; T. Fass²; T. Weyand²; C. Dietl¹; A. von Oertzen¹; L. Maerten¹; ¹ Bundesamt für die Sicherheit der nuklearen Entsorgung, Berlin/D; ² Bundesamt für die Sicherheit der nuklearen Entsorgung, Köln/D

Environment Sensitive Fracture (WP 5)

- P 4.01 **Failure Analysis of a High Pressure Temperature Turbine Blade of an Aircraft Jet Engine**
M. García-Martínez¹; J. del Hoyo Gordillo¹; M. Valles González¹; A. Pastor Muro¹; B. González Caballero¹; ¹ INTA, Torrejón de Ardoz (Madrid)/E
- P 4.02 **Design and experimental validation of hydrogen trapping features in Ni model alloys**
A. Prasad¹; A. Dreano²; L. Couturier¹; F. Christien²; F. Tancret¹; ¹ Nantes Université, Institut des Matériaux de Nantes – Jean Rouxel (IMN), CNRS UMR, Nantes/F; ² Mines Saint-Etienne, Univ Lyon, CNRS, UMR, Saint-Etienne/F

Corrosion Mechanisms, Methods and Modelling (WP 6 & 8)

- P 5.01 **Integrated corrosion resistance index for biomaterials**
C. Dias dos Reis Barros¹; E. Janzen Kassab¹; J. Ponciano Gomes¹; ¹ UFRJ, Rio de Janeiro/BR
- P 5.02 **Use of modified NiTi alloys for biomedical applications**
E. Kassab¹; C. Dias dos Reis Barros¹; J. C. P. Gomes¹; ¹ Federal University of Rio de Janeiro, Rio de Janeiro/BR
- P 5.03 **A stochastic model for high-temperature corrosion in nickel-based superalloys.**
F. Antonelli¹; S. Mori¹; J. Sumner¹; R. Wells²; N. Chapman²; N. Simms¹; ¹ University of Cranfield, Cranfield, Bedfordshire./UK; ² Siemens Energy, Lincoln/UK
- P 5.04 **Effect of Anodic Behavior of Al Alloy on Galvanic Corrosion Resistance of AA6016/Steel Couple in Chloride Environment**
M. Kadowaki¹; H. Katayama¹; M. Yamamoto²; ¹ National Institute for Materials Science (NIMS), Tsukuba/J; ² Tohoku University, Sendai/J

- P 5.05 **Comparison of Corrosion Behavior of Two Different Aluminium Alloys for Lid Foil from Industrial Point of View**
A. Kabil¹; E. Harputlu¹; H. Mollaoglu Altuner¹; ¹ Assan Alüminyum San. ve Tic. A.Ş., Kocaeli/TR
- P 5.06 **Kinetics of the oxygen reduction reaction on passive films formed Fe-Cr alloy**
Y. Wang¹; D. Blackwood¹; M. Ng²; ¹ National University of Singapore, Singapore/SGP; ² Institute of High Performance Computing, Agency for Science, Technology and Research, Singapore, Singapore/SGP
- P 5.07 **Corrosion performance of 4xxx aluminium alloy with high scrap content for construction applications**
P. Alexopoulos¹; A. Flampouri¹; M. Koklioti¹; E. Aivazoglou¹; T. Tzevelekou¹; G. Kalkantzis²; G. Ziogas²; A. Mavroudis²; ¹ ELKEME - Hellenic Research Centre for Metals S.A., Oinofyta/GR; ² Elval, Aluminium Rolling Division of ElvalHalcor S.A., Oinofyta/GR
- P 5.08 **Study of metallic-aqueous interfaces from a multiscale approach and its application to corrosion inhibition**
E. de Freitas Martins¹; I. Cole²; P. Ordejón³; ¹ RMIT University, Barcelona/E; ² RMIT University, Melbourne/AUS; ³ Catalan Institute of Nanoscience and Nanotechnology, Barcelona/E
- P 5.09 **Construction of a data driven corrosion risk model as a novel method for corrosion management**
W. Witteveen¹; J. Horvath¹; K. De Baere¹; S. Gelareh²; G. Potters¹; J. Tacq³; ¹ Antwerp Maritime Academy, Antwerp/B; ² Université d'Artois, Béthune/F; ³ Sarris, Zwijnaarde/B
- P 5.10 **Corrosion inhibitor structures for automotive steel - A computational chemistry perspective**
S. Jeschke¹; I. Cole¹; P. Eiden²; R. Mishra²; P. Deglmann²; J. Gorges²; C. Rein²; P. Keil³; ¹ RMIT University, Melbourne/AUS; ² BASF SE, Ludwigshafen am Rhein/D; ³ BASF Coatings GmbH, Muenster/D
- P 5.11 **A multiscale approach to bias dependent electrochemical processes at metallic-aqueous interfaces**
J. Castillo Robles¹; E. de Freitas Martins¹; P. Ordejón²; I. Cole³; ¹ RMIT University, Barcelona/E; ² ICN2, Barcelona/E; ³ RMIT University, Melbourne/AUS
- P 5.12 **Interpretation of ENA data from accelerated exposure of modified ZRP based on modelling of coating electrical properties as related to corrosion of the substrate**
B. Eremias¹; L. Mindos¹; L. Turek¹; ¹ SVUOM Ltd., Prague/CZ
- P 5.13 **Advances in understanding the anomalous alkalization of the electrolyte during the anodic polarization of Mg**
R. Montoya¹; A. Ortiz²; J. Genescá²; ¹ UNAM, N.L. Mexico/MEX; ² UNAM, APODACA/MEX
- P 5.14 **Effect of delayed inhibitor supply on the local degradation and protection kinetics of IMs in AA2024-T3**
M. Mopon¹; S. Garcia¹; ¹ TU Delft, Delft/NL
- P 5.15 **Improving phase-field models to simulate the aqueous corrosion phenomena**
J. Amador¹; J. Vega¹; F. Varas Merida²; M. Lekka¹; E. García-Lecina¹; ¹ CIDETEC, San Sebastian/E; ² Universidad Politecnica de Madrid, Madrid/E
- P 5.16 **Numerical contribution in DCVG method for a reliable and quantified detection of coating defects on buried pipelines**
D. Garcia¹; E. Sassine¹; S. Deharo¹; R. François¹; C. Barthe²; ¹ CORROHM, Ramonville-Saint-Agne/F; ² Trapil, Poissy/F
- P 5.17 **Possibilities and Recent Advances in Respirometric Monitoring of Corrosion Rates**
M. Strelb¹; M. Bruns¹; S. Virtanen¹; ¹ Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Erlangen/D
- P 5.18 **Effects of Microalloying on the local corrosion processes in High-Manganese Twinning-Induced Plasticity Steel**
T. Olugbade¹; C. Das¹; A. Wetzel¹; J. Witt¹; O. Ozcan¹; ¹ Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin/D
- P 5.19 **Effect of passivation after additive manufacturing of titanium alloy on corrosion resistance and protein binding**
S. Nikpour¹; ¹ Western University of Ontario, London/CDN
- P 5.20 **Corrosion behavior of Al-based structurally complex alloys**
K. Młynarek-Żak¹; R. Babilas¹; ¹ Silesian University of Technology, Gliwice/PL
- P 5.21 **Metal Release of CoCrMo Alloy in Protein-Rich Solutions–Effect of Sliding and Manufacturing Process**
Z. Wei¹; V. Romanovski²; L. Filho³; C. Persson³; S. Sanaei⁴; M. Atapour⁴; Y. Hedberg¹; ¹ University of Western Ontario, London/CDN; ² University of Virginia, Charlottesville/USA; ³ Uppsala University, Uppsala/S; ⁴ Isfahan University of Technology, Isfahan/IR
- P 5.22 **Corrosion resistance of rapid solidified Al₈₅(Ni,Fe,Cu)₁₀Y₅ alloys in 3.5% NaCl solution**
R. Babilas¹; K. Młynarek-Żak¹; A. Radoń¹; ¹ Silesian University of Technology, Gliwice/PL
- P 5.23 **Low Voltage SEM/EDS-analyses of 304 and 347 Stainless Steels Oxidized at 600-800 °C**
J. Juhanoja¹; T. Nguyen¹; ¹ Top Analytica Ltd, Turku/FIN
- P 5.24 **Influence of phosphorus segregation and grain boundary misorientation on intergranular corrosion of α-Fe**
K. Tojima¹; S. Ajito¹; Y. Zhang¹; T. Hojo¹; G. Miyamoto¹; M. Koyama¹; T. Furuhashi¹; E. Akiyama¹; ¹ Tohoku University, Katahira, Aoba-ku, Sendai/J
- P 5.25 **Modeling of Electrochemical Oxide Film Growth**
I. Bösing¹; J. Thöming¹; F. La Mantia¹; ¹ University of Bremen/D

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S. Abubakar¹; S. Mori¹; J. Sumner¹; ¹ Cranfield University, Bedford/UK
- P 6.02 **Corrosion testing in a laboratory container - Corrosion testing with artificial seawater and sediment**
K. Zekhnini¹; S. Grabowski¹; Q. Le¹; A. Burkert¹; M. Babutzka¹; ¹ Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin/D
- P 6.03 **Rapid assessment of corrosion susceptibility of mild steel in simulated splash zone condition**
V. Kalikivayi¹; K. Mondal²; S. Singh²; ¹ Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India/IND; ² Indian Institute of Technology Kanpur, Kanpur/IND
- P 6.04 **Internal corrosion studies of equipment and pipings involved in offshore Power-to-X (PtX) platforms**
S. Sankaran¹; W. Fürbeth¹; ¹ DECHEMA - Forschungsinstitut, Frankfurt am Main/D
- P 6.05 **Investigation of corrosion of carbon steel under insulation**
J. Edet¹; T. Green²; S. Roy²; ¹ University of Strathclyde, Montrose Street, Glasgow/UK; ² University of Strathclyde, Glasgow/UK

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N. Noël-Hermes¹; M. Salta¹; ¹ Endures B.V., Den Helder/NL
- P 7.02 **Hierarchical surface texturing in stainless steel as an alternative to prevent biocorrosion in marine environments**
J. Castillo Lagos¹; E. Ramos-Moore²; G. Pizarro P.²; ¹ Pontificia Universidad Católica de Chile, La Florida/RCH; ² Pontificia Universidad Católica de Chile, Santiago/RCH
- P 7.03 **Pitting corrosion of 316L stainless steel caused by SRB's in DGR environment**
R. Bureš¹; J. Stoužil¹; V. Hlaváčková²; D. Dobrev³; ¹ University of Chemistry and Technology Prague/CZ; ² Technical University of Liberec/CZ; ³ ÚJV, Řež/CZ
- P 7.04 **The effects of Calcigel bentonite naturally occurring microorganisms on corrosion of cast iron**
V. Sushko¹; N. Matschiavelli¹; T. Wei¹; T. Stumpf¹; A. Cherkouk¹; ¹ Helmholtz-Zentrum Dresden - Rossendorf (HZDR) , Dresden/D
- P 7.05 **Intersectoral Bridging in the Fragmented Field of Microbiologically Influenced Corrosion**
J. Knisz¹; J. Stoužil²; ¹ University of Public Service, Baja/H; ² University of Chemistry and Technology, Prague/CZ
- P 7.06 **Anaerobic microbial corrosion of carbon steel under conditions relevant for deep geological repository of nuclear waste**
R. Shrestha¹; T. Černoušek²; J. Stoužil³; H. Kovářová⁴; K. Sihelská⁵; R. Špánek⁶; A. Ševců⁷; J. Steinová⁸; ¹ Technical University of Liberec, Liberec/CZ; ² Research Center Řež, Husinec-Řež/CZ; ³ University of Chemistry and Technology, Prague/CZ; ⁴ Research Center Řež , Husinec-Řež/CZ; ⁵ Research Center Řež , Husinec-Řež/CZ; ⁶ Technical University of Liberec, Liberec/CZ; ⁷ Technical University of Liberec , Liberec/CZ; ⁸ Technical University of Liberec and Charles University in Prague, Liberec, Prague/CZ

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- P 8.01 **Corrosion of embedded steel in alkaline activated mortars manufactured from slag**
A. Bautista¹; S. Shagñay¹; I. Ramon¹; F. Velasco¹; M. Torres-Carrasco¹; ¹ Universidad Carlos III de Madrid, Leganes/E
- P 8.02 **Licorice extract as corrosion inhibitor in mortar**
R. Naderi¹; A. Bautista²; S. Shagñay²; M. Torres-Carrasco²; F. Velasco²; ¹ University of Tehran, Tehran/IR; ² Universidad Carlos III de Madrid, Leganes/E
- P 8.03 **Impact of electromigration treatment on chloride binding properties of cement**
M. Reiser¹; M. Kouril²; F. Bayer¹; S. Msallamova¹; ¹ University of Chemistry and Technology, Prague, Prague/CZ; ² University of Chemistry and Technology, Praha/CZ
- P 8.04 **Investigation of the effect of fuel ageing and corrosion in oxymethylene ether (OME)**
M. Irawan-Pieperhoff¹; ¹ OWI Science for Fuels gGmbH, Herzogenrath/D
- P 8.05 **Application of a reinforcement anode on an historical building**
X. Hallopeau¹; E. Marie-Victoire²; C. Annede-Villeau³; ¹ SECCO Corrosion Consulting, Vélizy-Villacoublay/F; ² Sorbonne Universités, Champs-sur-Marne/F; ³ Freyssinet International & Cie, Rueil-Malmaison/F

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- P 9.01 **Appraising the effect of cooling rates during solutioning on the long term corrosion and pitting resistance of SLM Inconel 718 alloy**
M. Siddiqui¹; M. Abdelgadir¹; A. Adesina¹; ; ¹ King Fahd University of Petroleum and Minerals, Dhahran/SAR
- P 9.02 **Effects of surface roughness on anaerobic marine biofilm formation and microbiologically-influenced corrosion of UNS G10180 carbon steel**
L. Jones¹; M. Salta²; T. Skovhus³; K. Thomas⁴; T. Illson⁴; J. Wharton¹; J. Webb¹; ¹ University of Southampton, Southampton/UK; ² University of Portsmouth, Portsmouth/UK; ³ VIA University College, Horsens/DK; ⁴ DNV – Energy Systems, Loughborough/UK
- P 9.03 **Effect of building orientation on corrosion kinetics and mechanism of 3D printed AlSi10Mg alloy in saline medium**
A. Meroufel¹; C. Linders¹; A. Gordon¹; ¹ RISE, Kista/S
- P 9.04 **Anticorrosive and Persistency Properties of Arabian Crude Oils**
L. AlSharif¹; C. Canto Maya¹; ¹ Saudi Aramco Oil Company, Dhahran/SAR
- P 9.05 **Optimization of Extraction Conditions for Production of Halophyte-based Biocides for Microbiologically Influenced Corrosion (MIC) Mitigation**
J. Stein¹; T. Chaturvedi¹; T. Skovhus²; M. Thomsen¹; ¹ Aalborg University, Esbjerg/DK; ² VIA University College, Horsens/DK
- P 9.06 **Acoustic Emission Sensing for Early Damage Detection and Localization In Pressurized Vessels**
M. Alerwi¹; C. Canto Maya²; ¹ Saudi Aramco, Dhahran Saudi Arabia/SAR; ² Saudi Aramco, Dharan/SAR
- P 9.07 **Mechanistic understanding of the effect of initial microstructure of low-alloy carbon steel on its CO₂-corrosion resistance in simulated formation water chemistry**
K. Gupta¹; S. Haratian¹; A. Larsson²; G. Abbondanza²; E. Lundgren²; R. Ambat¹; ¹ Technical University of Denmark, Kgs. Lyngby/DK; ² Lund University, Lund/S
- P 9.08 **The influence of hydrogen sulfide concentration on the corrosion and hydrogenation of steel 07Cr18Ni6**
M. Khoma¹; S. Halaichak¹; M. Chuchman¹; C. Vasyliv¹; B. Datsko¹; N. Ratska¹; H. Pokhmurska⁴; ¹ Karpenko Physico-Mechanical Institute of the NAS of Ukraine, Lviv/UA; ⁴ TU Chemnitz /D
- P 9.09 **Influence of CeCl₃ on the inhibitory activity of imidazoline-based corrosion inhibitor**
G. Bilić¹; T. Borko²; ¹ University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering, Zagreb/HR; ² INA, d.d., Zagreb/HR
- P 9.10 **Influence of Micro-Alloying Elements Upon the CO₂ Preferential Weld Corrosion Rate of Carbon Steel**
J. L. Cardoso¹; Z. Panossian²; B. B. Andrade¹; M. Henrique¹; R. S. Marques¹; P. Zumpano Jr³; I. P. Baptista⁴; ¹ FIPT Foundation for support of the Institute for Technological Research, São Paulo/BR; ² IPT Institute for Technological Research, São Paulo/BR; ³ Petrobras, São José dos Campos/BR; ⁴ Petrobras, Rio de Janeiro/BR
- P 9.11 **Q-BI – Purple Yams Waste (Ipomoea Batatas) as Organic Corrosion Inhibitors for Carbon Steel in Oil and Gas Industry: Substitute of Chemical Compound**
G. Putra¹; ¹ Pertamina , Jaarta /RI

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A. Gutierrez¹; A. Ruesca¹; ¹ Survey and Foresee Technologies SLL, Las Palmas de Gran Canaria/E
- P 10.02 **Control of the degradation rate and corrosion resistance of ZK60 magnesium alloy by coating via HiPIMS and SolGel**
A. Claver Alba¹; I. Zalakin¹; I. Fernández²; J. Santiago²; I. Quintana³; L. Mendizabal³; J. García¹; ¹ Institute for Advanced Materials and Mathematics (INAMAT2), Universidad Pública de Navarra (UPNA), Pamplona/E; ² Nano4Energy SL, Madrid/E; ³ Fundación Tekniker, Eibar/E
- P 10.03 **Evolution in microstructure, wear, corrosion, and tribocorrosion behavior of Mo- containing high-entropy alloy coatings fabricated by laser**
Y. Fu¹; C. Du¹; X. Li¹; ¹ University of Science and Technology Beijing, Beijing/CN
- P 10.04 **Flash Plasma Electrolytic Oxidation of an Additively Manufactured Al-Si alloy**
M. Mohedano¹; E. Lopez¹; R. Del Olmo²; E. Matykina¹; R. Arrabal¹; ¹ University Complutense of Madrid, Madrid/E; ² Military University of Technology, Warsaw/PL
- P 10.06 **Development of an innovative quasi-ceramic layer for the hot forming of galvanized medium manganese steels with variable strengths**
A. Anthes¹; W. Fürbeth¹; ¹ DECHEMA - Forschungsinstitut, Frankfurt am Main/D
- P 10.07 **Increasing the corrosion resistance of AZ91 magnesium alloy by plasma electrolytic oxidation**
M. Štrbák¹; B. Hadzima²; J. Sovík³; ¹ University of Žilina, Žilina/SK; ² University of Žilina Research Centre, Žilina/SK; ³ University of Žilina, Martin/SK

- P 10.08 **Enhancing corrosion resistance on magnesium alloy EV31 by PEO process**
V. Knap¹; B. Hadzima²; M. Štrbák²; V. Obertová²; ¹ University of Žilina, Příbovce/SK; ² University of Žilina, Žilina/SK
- P 10.09 **Zr-Mo-Mn Conversion Coating as a Sealing Option to AA2024-T3 Anodized Layers**
J. Salles Pinheiro¹; J. Zoppas Ferreira¹; ¹ UFRGS, Porto Alegre/BR
- P 10.10 **Plasma Electrolytic Oxidation (PEO) for Production of High-Performance Coatings on Ti-Al Intermetallic Compounds**
K. Munassar¹; B. Mingo¹; A. Yerokhin²; ¹ University of Manchester, Manchester/UK; ² University of Manchester, Manchester/UK
- P 10.11 **ZnO-based nanostructured electrodes for biosensors: Corrosion behavior in Ringer's physiological solution**
K. Aleksić¹; A. Stanković¹; I. Stojković Simatović²; S. Marković¹; ¹ Serbian Academy of Sciences and Arts, Belgrade/SRB; ² University of Belgrade, Belgrade/SRB
- P 10.12 **Fabrication of Novel Hybrid Sol-Gel/Urethane Coatings for the Protection of Mild Steel Substrate against Corrosion in the Saline Medium**
R. Suleiman¹; B. Alkhuraim¹; ¹ King Fahd University of Petroleum & Minerals (KFUPM), Dhahran/SAR
- P 10.13 **Sealing of Anodized Aluminum Alloy by Acrylic Acid Polymerization**
A. Dąbrowski¹; Z. Buczek¹; ¹ Łukasiewicz Research Network, Warsaw/PL
- P 10.14 **Physical and tribological properties of infrared dried coatings**
I. Cindrić¹; I. Stojanović¹; L. Turkalj¹; I. Juraga¹; D. Rakela Ristevski²; ¹ Faculty of Mechanical Engineering and Naval Architecture, Zagreb/HR; ² Končar Steel Structures Inc., Zagreb/HR
- P 10.15 **Influence of Hydrogel Coatings on Corrosion and Fatigue of Iron in Simulated Body Fluid**
J. Huang¹; M. Voigt¹; S. Wackenrohr²; C. Ebbert¹; A. Keller¹; H. Maier²; G. Grundmeier¹; ¹ Paderborn University, Paderborn/D; ² Leibniz Universität Hannover, Garbsen/D
- P 10.16 **Efficient coating process using robots and water-based coating material**
Š. Jurišić¹; I. Stojanović¹; V. Šimunović¹; M. Kurtela¹; V. Alar¹; M. Bilméz²; ¹ Faculty of Mechanical Engineering and Naval Architecture, Zagreb/HR; ² Ember Kamin, Velika/HR
- P 10.17 **Self-assembled monolayers of phosphonic acids for improved bronze protection by polyurethane coating**
N. Carek¹; D. Mikic¹; A. Kapitanovic¹; H. Otmacic Curkovic¹; ¹ Faculty of Chemical Engineering and Technology, University of Zagreb/HR
- P 10.18 **Poly-aminoindoles as alternative coatings against corrosion: Electrochemical study in simulated seawater**
E. Castañeda¹; J. Armijo¹; I. Vargas¹; ¹ Pontificia Universidad Católica de Chile, Santiago/RCH
- P 10.19 **The impact of bioactive coatings on bone implants corrosion**
D. Bjelić¹; M. Finšgar¹; ¹ Faculty of chemistry and chemical engineering, Maribor/SLO
- P 10.20 **Modified epoxy coatings on cast iron**
M. Kurtela¹; V. Šimunović¹; V. Alar¹; M. Samardžija²; ¹ Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, Zagreb/HR; ² Faculty of Mining-Geology-Petroleum Engineering, University of Zagreb, Zagreb/HR
- P 10.21 **Assessment of the Antibiofilm Performance of Chitosan-Based Surfaces in Marine Environments**
M. Lima¹; L. Gomes¹; M. Romeu¹; J. Valcarcel²; J. Vázquez²; M. Cerqueira³; L. Pastrana³; A. Bourbon³; E. Jong⁴; J. Sjollem⁴; F. Mergulhão¹; ¹ Faculty of Engineering of University of Porto, Porto/P; ² Instituto de Investigaciones Marinas, Vigo/E; ³ International Iberian Nanotechnology Laboratory, Braga/P; ⁴ University Medical Center Groningen, Groningen/NL
- P 10.22 **An effective poly (ethylene) oxide sol-gel coating reinforced with SiO₂ nanoparticles to enhance the corrosion resistance of PEO-coated AZ₃₁B Mg alloys**
E. Merino Abad¹; A. Durán¹; Y. Castro¹; ¹ Consejo Superior de Investigaciones Científicas (CSIC), Madrid/E
- P 10.23 **Ultrasonically enhanced cerium based conversion chemistry for the corrosion protection of aluminum alloys**
L. Ruhm¹; P. Vieth¹; G. Grundmeier¹; ¹ Paderborn University, Paderborn/D
- P 10.24 **Cost effective sealing of porous PEO coating on AZ₃₁ magnesium alloy by removable water and oil based preservatives**
F. Pastorek¹; M. Štrbák¹; B. Hadzima¹; J. Pastorková¹; ¹ University of Žilina, Žilina/SK
- P 10.25 **Effect of Laser Surface Melting on the Corrosion Resistance of Adhesive/Al 7075 Alloy Interfaces**
P. Vieth¹; C. Weinberger¹; M. Tiemann¹; G. Grundmeier¹; ¹ Universität Paderborn, Paderborn/D
- P 10.26 **Fabrication and characterisation of additive manufactured Ti₆Al₄V parts by laser powder bed fusion (L-PBF) technique**
N. Godja¹; ¹ CEST Kompetenzzentrum für elektrochemische Oberflächentechnologie GmbH, Wiener Neustadt/A
- P 10.27 **Hybrid PEO/sol-gel coatings loaded with Ce for corrosion protection of AA2024**
E. Lopez¹; R. Del Olmo²; M. Mohedano¹; E. Matykina¹; R. Arrabal¹; ¹ Universidad Complutense de Madrid, Madrid/E; ² Military University of Technology, Warsaw/PL
- P 10.28 **Aluminium alloy corrosion inhibition by two-stage modified zeolite**
S. Korniy¹; I. Zin¹; L. Kwiatkowski²; M. Danyliak¹; O. Khlopyk¹; ¹ Karpenko Physico-Mechanical Institute of NAS of Ukraine, Lviv/UA; ² Łukasiewicz Research Network - Institute of Precision Mechanics, Warsaw/PL

- P 10.29 **Effect of boron dispersion phase content on the microstructure and corrosion resistance of the Ni-B/B composite coatings**
K. Skroban¹; A. Gajewska-Midziatek¹; G. Cieślak¹; M. Gostomska¹; T. Ciciświli¹; E. Peško¹; A. Kapuścińska¹; M. Trzaska¹; Z. Buczek²; ¹ Łukasiewicz Research Network - Institute of Precision Mechanics, Warsaw/PL; ² Łukasiewicz Research Network, Warsaw/PL

- P 10.30 **New waterborne zinc primers**
U. Paszek¹; ¹ Polish Corrosion Society, Gdańsk/PL

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- P 12.01 **Corrosion-induced hydrogen absorption and embrittlement of Ultra-high-strength steel with Zn-based coatings in neutral aqueous conditions**
H. Bang¹; J. Park¹; Y. Park¹; S. Jung²; S. Kim¹; ¹ Sunchon National University, Suncheon/ROK; ² Hyundai Steel, Dangjin/ROK

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- P 13.01 **Improvement of the tribocorrosion properties of tungsten carbide (WC-Co) samples coated via PVD**
J. García¹; A. Claver Alba¹; M. Marqués¹; E. Almandoz²; J. Fernandez de Ara²; J. Fernández Palacio²; ¹ Institute for Advanced Materials and Mathematics (INAMAT²), Universidad Pública de Navarra (UPNA), Pamplona/E; ² Centre of Advanced Surface Engineering (AIN), Cordovilla/E
- P 13.02 **Galvanic corrosion between Ti and CoCrMo alloy in human synovial fluids**
Y. Bao¹; A. Muñoz¹; S. Mischler¹; ¹ EPFL, Lausanne/CH

Corrosion of Polymer Materials (WP 19)

- P 14.01 **Sol-Rec2 Case Study: Assessment of Corrosion Behaviour of Aluminium and Degradation of Polymers During Delamination of Multi-Material Packaging Systems**
B. Syrek-Gerstenkorn¹; ¹ University of Leicester, Leicester/UK

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- P 15.01 **Long-term corrosion monitoring: A prediction tool using the "SOCORRO" system**
B. Karabulut¹; B. Verhoeven¹; G. Potters²; S. Gelareh³; R. Dewil¹; B. Rossi⁴; ¹ KU Leuven, Sint-Katelijne-Waver/B; ² Antwerp Maritime Academy, Antwerp/B; ³ University of Artois, Béthune/F; ⁴ University of Oxford, Oxford/UK
- P 15.02 **New process for interior pipe rehabilitation with environmentally friendly coating materials**
H. Jost¹; R. Feser¹; E. Tarfeld¹; H. Blache¹; D. Kovousoglou¹; T. Tillmann¹; D. Mollenhauer²; S. Grahmmer²; N. Gräßle²; ¹ Fachhochschule Südwestfalen, Iserlohn/D; ² Fa. Warnecke&Böhm, Schliersee/D

Corrosion of Archaeological and Historical Artefacts (WP 21)

- P 16.01 **Restoration of iron supporting structure of historic suspension bridge**
H. Geiplova¹; P. Fialova²; L. Mindos²; M. Vlachova¹; ¹ SVUOM Ltd., Praha/CZ; ² SVUOM Ltd., Prague/CZ
- P 16.02 **Indoor environment and its aggressivity toward cultural heritage objects made of Lead and its alloys**
D. Majtás¹; P. Fialová²; ¹ Institute of Theoretical and Applied Mechanics of the Czech Academy of Sciences, Prague/CZ; ² SVUOM Ltd., Prague/CZ

Corrosion Control in Aerospace (WP 22)

- P 17.01 **Modification of tartaric-sulphuric acid anodizing bath by a short chain monocarboxylic acid based additive**
E. Šrámková¹; V. Zálšíš¹; ¹ Czech aerospace research centre, Prague/CZ

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- P 18.01 **Practical methods for Moisture Level Indication inside Printed Circuit Boards**
J. Christensen¹; ¹ FORCE Technology, Brøndby/DK
- P 18.02 **Effect of solder mask surface properties and water film build-up on PCBA failure**
A. Lakkaraju¹; H. Conseil-Gudla¹; R. Ambat¹; D. Schucht²; J. Tekath²; ¹ Technical University of Denmark, Kongens Lyngby/DK; ² Lackwerke Peters GmbH & Co, Kempen/D
- P 18.03 **Electrochemical testing for characterization of sinterability of DCB substrates with Cu, Ag and NiAu metallization**
S. Klengel¹; J. Dumke²; D. Wilke²; M. Hahn²; ¹ Fraunhofer IMWS, Halle/D; ² Elektrochemie Halle GmbH, Halle/D
- P 18.04 **Developing strategies for protecting Li-ion powered hearing aids from the user environments.**
M. Asikainen¹; A. Yadav²; R. Ambat¹; ¹ Technical University of Denmark, Lyngby/DK; ² WS Audiology A/S, Lyngby/DK

CO₂-Corrosion in Industrial Applications (WP 24)

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 B. Morland¹; A. Dugstad¹; G. Svenningsen¹; ¹ Institute for Energy Technology, Kjeller/N

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- P 20.01 **Deposition of Chloride Ions in the Vicinity of Road I/11 in the Czech Republic**
 M. Vacek¹; V. Krivy¹; K. Kreislova²; M. Kubzova¹; ¹ Faculty of Civil Engineering, VSB – Technical University of Ostrava, Ostrava - Poruba/CZ; ² SVUOM Ltd, Prague/CZ
- P 20.02 **Resistometric sensors for atmospheric corrosion monitoring of surface treated or naturally corroded metals**
 M. Reiser¹; F. Bayer¹; A. Marešová¹; Š. Havří¹; M. Kouřil¹; ¹ University of Chemistry and Technology Prague, Prague/CZ
- P 20.03 **Waterborne coating for bronze corrosion protection**
 A. Kapitanović¹; H. Otmacić Curković¹; ¹ Faculty of Chemical Engineering and Technology, Zagreb/HR
- P 20.04 **Applicability of the paste electrolyte cell for the evaluation of atmospheric corrosion of cultural heritage metals**
 I. Šoljić¹; S. Martínez²; ¹ University of Zagreb, Faculty of Chemical Engineering and Technology, Zagreb/HR; ² Faculty of Chemical Engineering and Technology, University of Zagreb, Zagreb/HR
- P 20.05 **Determination of the corrosion product layer resistance on zinc samples by using gel electrolytes**
 S. Valet¹; M. Babutzka¹; ¹ Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin/D

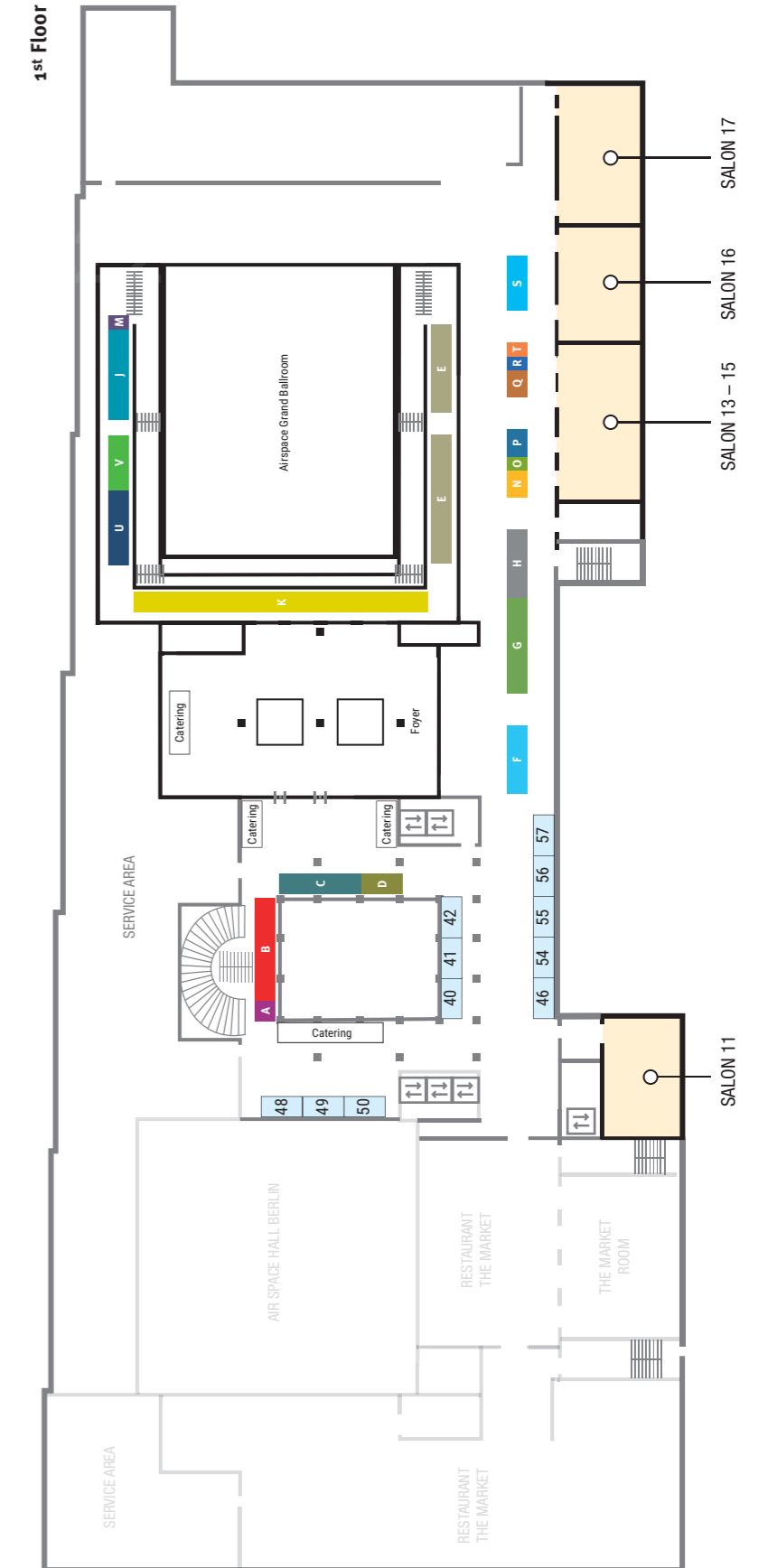
TF: Corrosion in Green & Low Carbon Energy Technologies

- P 21.01 **Study of the anodized Al sealing process, using new sealing solutions that are more respectful of the environment**
 H. Salhi¹; A. Chilali²; ¹ Research and Development Center of Air Force, Alger/DZ; ² National Preparatory School for Engineering Studies, Alger/DZ
- P 21.02 **Corrosion of Pt in fuel cell electrodes of different structure**
 A. Krasnova¹; A. Nechitailov¹; N. Glebova¹; A. Kastsova¹; N. Zelenina¹; A. Seyeux²; P. Marcus²; N. Cam³; P. Volovitch²; ¹ Ioffe Institute, Saint-Petersburg/RUS; ² Institut de Recherche de Chimie Paris, Paris/F; ³ Placamat, Pessac/F
- P 21.03 **Evaluation of the susceptibility to hydrogen-induced corrosion of various metallic materials for offshore power-to-X plants**
 S. Schewe¹; W. Fürbeth¹; ¹ DECHEMA-Forschungsinstitut, Frankfurt am Main/D
- P 21.04 **Carbon steel corrosion and fusion bonded coating deterioration in the liquid phase of anaerobic digestion**
 X. Wen¹; ¹ University of Southampton, Southampton/UK

POSTER TOPICS

- A** Corrosion and Scale Inhibition (WP 1)
- B** Corrosion by Hot Gases and Combustion Products (WP3)
- C** Nuclear Corrosion (WP4)
- D** Environment Sensitive Fracture (WP 5)
- E** Corrosion Mechanisms, Methods and Modelling (WP 6 & 8)
- F** Marine Corrosion (WP 9)
- G** Microbial Corrosion (WP 10)
- H** Corrosion of Steel in Concrete (WP11)
- J** Corrosion in Oil and Gas Production (WP 13)
- K** Coatings (WP 14)

- M** Automotive Corrosion (WP 17)
- N** Tribo-Corrosion (WP 18)
- O** Corrosion of Polymer Materials (WP 19)
- P** Corrosion and Corrosion Protection of Drinking Water Systems (WP 20)
- Q** Corrosion of Archaeological and Historical Artefacts (WP 21)
- R** Corrosion Control in Aerospace (WP 22)
- S** Corrosion Reliability of Electronics (WP 23)
- T** CO₂-Corrosion in Industrial Applications (WP 24)
- U** Atmospheric Corrosion (WP 25)
- V** TF: Corrosion in Green & Low Carbon Energy Technologies





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