

EUROCORR 2022 – Poster Programme

(as of 30 May 2022, subject to change)

Corrosion and Scale Inhibition (WP 1)
Corrosion inhibition of dithiothreitol and its mixture with oleic imidazoline for carbon steel in a CO₂-saturated brine solution X. Wang ¹ ; J. Yang ² ¹ China University of Petroleum (East China); Liaoning Petrochemical University, Qingdao; Fushun/CN; ² Liaoning Petrochemical University, Fushun/CN
Weathering tests to investigate the durability of corrosion protection coatings and on-site repair materials K. Wetzel ¹ ; M. Schmid ¹ ¹ Federal Waterways Engineering and Research Institute, Karlsruhe/D
Green corrosion inhibitors – Development of eco-friendly products of low cost from industrial waste. J. Rocha ¹ ; M. V. Casanova Monteiro ¹ ; E. D'Elia ¹ ; J. da Cunha Ponciano Gomes ¹ ¹ Federal University of Rio de Janeiro, Rio de Janeiro/BR
Investigation of hexylamine adsorption on platinum by EIS method G. Ostapenko ¹ ; N. Kalashnikova ² ¹ Togliatti State University, Samara Region/RUS; ² Togliatti State University, Togliatti/RUS
Investigation of hexylamine adsorption on platinum by potentiostatic and potentiodynamic methods G. Ostapenko ¹ ; N. Kalashnikova ² ¹ Togliatti State University, Samara Region/RUS; ² Togliatti State University, Togliatti/RUS
Advanced sensor based on EIS for continuous corrosion monitoring in an Icelandic geothermal power plant L. Freire ¹ ; I. Ezpeleta ¹ ; J. Sánchez ¹ ; A. AIMEN ¹ ¹ AIMEN, Porriño/E
Evaluating the effect of Nevamine-CP20 inhibitor on the corrosion inhibition of Duplex Stainless Steel (DSS) and 304SS Alloys I. Toor ¹ ; ¹ King Fahd University of Petroleum and Minerals, Dhahran/SAR
Corrosion by Hot Gases and Combustion Products (WP3)
Gas Engine Exhaust Material Selection Based on Practicality W. Puspitasari ¹ ; ¹ PETROLIAM NASIONAL BERHAD, Malaysia/MAL
Cyclic oxidation resistance of IN625 produced by Laser Beam Melting, influence of the building direction S. Mercier ¹ ; T. Gheno ¹ ; A. Morel ¹ ; D. Boivin ¹ ; E. Rimpot ¹ ; C. Rio ¹ ¹ ONERA, Université Paris Saclay, Chatillon/F
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. Padox ¹ ; M. Jollain ¹ ; L. Aranda ² ; P. Berthod ³ ¹ University of Lorraine, Vandoeuvre-lès-Nancy/F; ² University of Lorraine, Nancy/F; ³ Université de Lorraine, Nancy/F
Exploration of the high temperature oxidation of the M–30Cr alloys (M = Co and/or Ni) containing tantalum in absence of carbon F. Schumacher ¹ ; Y. Ait-Meddour ² ; L. Aranda ³ ; P. Berthod ⁴ 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
Characteristics and resistance against spallation of the oxides formed at high temperature on {Co, Ni}-based chromium-rich cast alloys containing titanium S. Ozouaki Wora ¹ ; P. Berthod ² ¹ University of Lorraine, Vandoeuvre-lès-Nancy/F; ² Université de Lorraine, Nancy/F
Oxidized states of chromium-rich {Ni,Co}-based alloys rich in tantalum to form TaC carbides after exposure at 1250°C in air J. Gomis ¹ ; P. Berthod ² ¹ University of Lorraine, Vandoeuvre-lès-Nancy/F; ² Université de Lorraine, Nancy/F

Nuclear Corrosion (WP4)
Corrosion of perspective materials for molten salt reactors (MSR) E. Nikitina ¹ ; E. Karfidov ¹ ; K. Seliverstov ¹ ¹ Institute of High Temperature Electrochemistry, Ekaterinburg/RUS
Corrosion assessment for the evaluation of the long-term integrity of containers in crystalline rock C. Stephan-Scherb ¹ ; J. Eckel ² ; T. Fass ² ; T. Weyand ² ; C. Dietl ¹ ; A. von Oertzen ¹ ; L. Maerten ¹ ¹ Bundesamt für die Sicherheit der nuklearen Entsorgung, Berlin/D; ² Bundesamt für die Sicherheit der nuklearen Entsorgung, Köln/D
Microstructural investigation of oxide films on Alloy 182 weld metal formed under BWR zinc water chemistry A. Mackiewicz ¹ ; S. Ritter ¹ ; K. Chen ¹ ; H. Seifert ¹ ; S. Virtanen ² ¹ Paul Scherrer Institut (PSI), Villigen/CH; ² Friedrich-Alexander University Erlangen-Nürnberg, Erlangen/D
Corrosion behavior of 316 L stainless steel produced by additive manufacturing wire processes in water environments M. Goland ¹ ; C. Guerre ¹ ; E. Rouesne ¹ ; F. Balbaud ¹ ; P. Buttin ² ; M. Maisonneuve ¹ ; J. Ribis ¹ ; M. Rousseau ¹ ¹ Université Paris-Saclay, CEA, Gif-sur-Yvette/F; ² CEA, Bouguenais/F
Hydrogen uptake mechanism in 316L stainless steel in PWR primary water: investigation of radiolysis effects F. Faria Goulart ¹ ; F. Martin ¹ ; F. Datcharry ¹ ; M. Barthe ² ¹ Université Paris-Saclay, CEA, Gif-sur-Yvette/F; ² Université d'Orléans, Orléans/F
Corrosion Mechanism of Chromium and Nickel-Chromium Binary Alloys in High-Temperature LiF-NaF-KF Molten Salts for Gen-IV Molten Salt E. Romanovskaia ¹ ; ¹ University of Virginia, CHARLOTTESVILLE/USA
Effect of oxidants produced by radiolysis on aqueous corrosion of iron T. Ota ¹ ; S. Ajito ² ; T. Hojo ² ; M. Koyama ² ; E. Akiyama ² ¹ Tohoku University, Aoba Ward, Sendai City, Miyagi /J; ² Tohoku University, Sendai City/J
Slow strain rate testing of Fe-10Cr-4Al ferritic steel in liquid lead and lead-bismuth eutectic C. Petersson ¹ ; ¹ royal institute of technology KTH, Stockholm/S
Environment Sensitive Fracture (WP 5)
Failure Analysis of a High Pressure Temperature Turbine Blade of an Aircraft Jet Engine M. García-Martínez ¹ ; J. del Hoyo Gordillo ¹ ; M. Valles González ¹ ; A. Pastor Muro ¹ ; B. González Caballero ¹ ¹ INTA, Torrejón de Ardoz (Madrid)/E
Laboratory and full-scale testing of gas pipes with internal stratifications R. Kashkovskiy ¹ ; R. Kantyukov ¹ ; I. Ryakhovskikh ¹ ; S. Pogulyaev ¹ ¹ Gazprom VNIIGAZ LLC, Moscow region, Leninsky municip., Razvilka/RUS
Effect of pre-strain on hydrogen distribution, deformation-induced hydrogen redistribution and their consequences on the mechanical properties of AISI 316L V. Ortolland ¹ ; F. Martin ¹ ; Q. Auzoux ¹ ; K. Wolski ² ¹ Université Paris-Saclay, CEA, Gif-sur-Yvette/F; ² Laboratoire Georges Friedel, Mines Saint-Etienne, Saint-Etienne/F
Design and experimental validation of hydrogen trapping features in Ni model alloys A. Prasad ¹ ; A. Dreano ² ; L. Couturier ¹ ; F. Christien ² ; F. Tancret ¹ ¹ Nantes Université, Institut des Matériaux de Nantes – Jean Rouxel (IMN), CNRS UMR 6502, 2 rue de la Houssinière, BP 32229, 44322 Nantes Cedex 3, Nantes/F; ² Mines Saint-Etienne, Univ Lyon, CNRS, UMR 5307 LGF, Centre SMS, F - 42023, Saint-Etienne/F
Hydrogen charging, an overlook of the existing techniques L. Paterlini ¹ ; F. Bolzoni ¹ ; M. Ormellese ¹ ; L. Casanova ¹ ; M. Pederferri ¹ ¹ Politecnico di Milano, Milan/I

Corrosion Mechanisms, Methods and Modelling (WP 6 & 8)**Biodegradation behaviour of Mg alloys in physiological solutions: material characterisation and coating formation**

A. Gnedenkov¹; S. Lamaka²; S. Sinebryukhov¹; V. Filonina¹; M. Zheludkevich²; S. Gnedenkov¹

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Integrated corrosion resistance index for biomaterials

C. Dias dos Reis Barros¹; E. Janzen Kassab¹; J. Ponciano Gomes¹

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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

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

Effect of Anodic Behavior of Al Alloy on Galvanic Corrosion Resistance of AA6016/Steel Couple in Chloride Environment

M. Kadowaki¹; H. Katayama¹; M. Yamamoto²

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On the corrosion behavior of (exposed) lack-of-fusion pores: Assessing the corrosion performance of a highly porous Ti6Al4V alloy prepared by L-PBF

R. Revilla¹; M. Dey¹; I. De Graeve¹

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Investigation of stress corrosion cracking in CMSX-4 turbine blade alloys using Deep Learning assisted X-ray microscopy

M. Kothari¹; S. Gray²

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Kinetics of the oxygen reduction reaction on passive films formed Fe-Cr alloy

Y. Wang¹; D. Blackwood¹; M. Ng²

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Corrosion performance of 4xxx aluminium alloy with high scrap content for construction applications

P. Alexopoulou¹; A. Flampouri¹; M. Koklioti¹; E. Aivazoglou¹; T. Tzevelekou¹; G. Kalkantzis²; G. Ziogas²; A. Mavroudis²

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Study of metallic-aqueous interfaces from a multiscale approach and its application to corrosion inhibition

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Influence of CaO coating on the thermal oxidation of cobalt

Z. Halem¹; O. Halem²; M. Abrudeanu³; N. Halem⁴; G. Petot-Ervas⁵

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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

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Corrosion inhibitor structures for automotive steel - A computational chemistry perspective

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A multiscale approach to bias dependent electrochemical processes at metallic-aqueous interfaces.

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Corrosion Mechanisms, Methods and Modelling (WP 6 & 8)
Influence of rainfall on corrosion behavior of carbon steel under atmospheric environment H. Katayama ¹ ; K. Kiyozumi ² ; I. Shitanda ² ; M. Itagaki ² ¹ National Institute for Materials Science, Tsukuba/J; ² Tokyo University of Science, Noda/J
Advances in understanding the anomalous alkalization of the electrolyte during the anodic polarization of Mg R. Montoya ¹ ; A. Ortiz ² ; J. Genescá ² ¹ UNAM, N.L. Mexico/MEX; ² UNAM, APODACA/MEX
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. Eremias ¹ ; L. Mindos ¹ ; L. Turek ¹ ¹ SVUOM Ltd., Prague/CZ
A Novel Multiphysics Model for the Temperature- and Time-Dependent Crevice Corrosion of Cu-Al Wire Bonds M. Sehr ¹ ; S. Jordan ² ; A. Pfitzner ³ ¹ University of Regensburg, Sinzing/D; ² Infineon Technologies AG, Regensburg/D; ³ University of Regensburg, Regensburg/D
Direct observation of turbulent flow on rotating cylinder electrode during electrochemical polarization M. Araya ¹ ; A. Espinoza-Jara ¹ ; W. Brevis ¹ ; M. Walczak ² ¹ Pontificia Universidad Católica de Chile, Santiago/RCH; ² Pontificia Universidad Católica de Chile, Santiago/RCH
Effect of delayed inhibitor supply on the local degradation and protection kinetics of IMs in AA2024-T3 M. Mopon ¹ ; S. Garcia ¹ ¹ TU Delft, Delft/NL
Improving phase-field models to simulate the aqueous corrosion phenomena J. Amador ¹ ; J. Vega ¹ ; F. Varas Merida ² ; M. Lekka ¹ ; E. García-Lecina ¹ ¹ CIDETEC, San Sebastian/E; ² Universidad Politecnica de Madrid, Madrid/E
Atomistic Modelling of Anode and Cathode Reactions in Confined Spaces F. Gao ¹ ; P. Keil ² ; N. Harrison ¹ ¹ Imperial College London, London/UK; ² BASF Coatings GmbH, Muenster/D
Numerical contribution in DCVG method for a reliable and quantified detection of coating defects on buried pipelines D. Garcia ¹ ; E. Sassine ¹ ; S. Deharo ¹ ; R. François ¹ ; C. Barthe ² ¹ CORROHM, Ramonville-Saint-Agne/F; ² Trapil, Poissy/F
Simulation of Internal Corrosion by Means of the Cellular Automata Approach A. Seregin ¹ ; K. Jahns ¹ ; U. Krupp ¹ ¹ RWTH Aachen University, Aachen/D
Influence of salinity, total dissolved solids, conductivity, and pH on corrosion behaviour of high-carbon pearlitic rail steel K. Godbole ¹ ; K. Mondal ¹ ¹ Indian Institute of Technology Kanpur, Kanpur/IND
Possibilities and Recent Advances in Respirometric Monitoring of Corrosion Rates M. Strebli ¹ ; M. Bruns ¹ ; S. Virtanen ¹ ¹ Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Erlangen/D
Effects of Microalloying on the local corrosion processes in High-Manganese Twinning-Induced Plasticity Steel T. Olugbade ¹ ; C. Das ¹ ; A. Wetzel ¹ ; J. Witt ¹ ; O. Ozcan ¹ ¹ Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin/D
Influence of phosphorus segregation and grain boundary misorientation on intergranular corrosion of α-Fe K. Tojima ¹ ; S. Ajito ¹ ; Y. Zhang ¹ ; T. Hojo ¹ ; G. Miyamoto ¹ ; M. Koyama ¹ ; T. Furuhashi ¹ ; E. Akiyama ¹ ¹ Tohoku University, Katahira, Aoba-ku, Sendai/J
Effect of passivation after additive manufacturing of titanium alloy on corrosion resistance and protein binding S. Nikpour ¹ ¹ Western University, London/CDN

Corrosion Mechanisms, Methods and Modelling (WP 6 & 8)**Corrosion behavior of Al-based structurally complex alloys**

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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

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Corrosion resistance of rapid solidified Al85(Ni,Fe,Cu)10Y5 alloys in 3.5% NaCl solution

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Low Voltage SEM/EDS-analyses of 304 and 347 Stainless Steels Oxidized at 600-800 °C

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Marine Corrosion (WP 9)**Dissolved CO₂ effect on SCC of pipeline steels in simulated marine environments**

S. Abubakar¹; S. Mori¹; J. Sumner¹; ¹ Cranfield University, Bedford/UK

Efficient of Ti/TiO₂/Bi₂S₃ photoanode for photocathodic protection of 304 stainless steel

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Corrosion testing in a laboratory container - Corrosion testing with artificial seawater and sediment

K. Zekhnini¹; S. Grabowski¹; Q. Le¹; A. Burkert¹; M. Babutzka¹

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Rapid assessment of corrosion susceptibility of mild steel in simulated splash zone condition

V. Kalikivayi¹; K. Mondal²; S. Singh²

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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

Investigation of corrosion of carbon steel under insulation

J. Edet¹; T. Green²; S. Roy²

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Microbial Corrosion (WP 10)
Microbiologically influenced corrosion of steel sheet pilings in a Dutch harbor- fast corrosion and unexpected mass loss N. Noël-Hermes ¹ ; <u>M. Salta</u> ¹ ¹ Endures B.V., Den Helder/NL
Determination of Manganese Oxidizing Bacteria in Aircraft Fuel S. Arkan-Ozdemir ¹ ; M. Ustunurk-Onan ² ; E. Ilhan-Sungur ² ¹ Istanbul University & Uskudar University, Istanbul/TR; ² Istanbul University, Istanbul/TR
Hierarchical surface texturing in stainless steel as an alternative to prevent biocorrosion in marine environments <u>J. Castillo Lagos</u> ¹ ; E. Ramos-Moore ² ; G. Pizarro P. ² ¹ Pontificia Universidad Católica de Chile, La Florida/RCH; ² Pontificia Universidad Católica de Chile, Santiago/RCH
Pitting corrosion of 316L stainless steel caused by SRB's in DGR environment <u>R. Bureš</u> ¹ ; J. Stoullil ¹ ; V. Hlaváčková ² ; D. Dobrev ³ ¹ University of Chemistry and Technology Prague, Prague/CZ; ² Technical University of Liberec, Liberec/CZ; ³ ÚJV, Řež/CZ
The effects of Calcigel bentonite naturally occurring microorganisms on corrosion of cast iron V. Sushko ¹ ; N. Matschiavelli ¹ ; T. Wei ¹ ; T. Stumpf ¹ ; A. Cherkouk ¹ ¹ Helmholtz-Zentrum Dresden - Rossendorf (HZDR) , Dresden/D
Intersectoral Bridging in the Fragmented Field of Microbiologically Influenced Corrosion J. Knisz ¹ ; <u>J. Stoullil</u> ² ¹ University of Public Service, Baja/H; ² University of Chemistry and Technology, Prague/CZ
Anaerobic microbial corrosion of carbon steel under conditions relevant for deep geological repository of nuclear waste <u>R. Shrestha</u> ¹ ; T. Černoušek ² ; J. Stoullil ³ ; H. Kovářová ⁴ ; K. Sihelská ⁵ ; R. Špánek ⁶ ; A. Ševců ⁷ ; J. Steinová ⁸ 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
The Usage Of Dynamic Electrochemical Impedance Spectroscopy In Microbiological Influenced Corrosion Measurement <u>E. Kaya</u> ¹ ; H. Gerengi ² ¹ 3-S Engineering, Turkey/TR; ² Düzce University, Düzce/TR

Corrosion of Steel in Concrete (WP11)**Durability assessment of concrete pipes under cyclic wetting drying environment in semi-arid region of Morocco**

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Corrosion of embedded steel in alkaline activated mortars manufactured from slag

A. Bautista¹; S. Shagñay¹; I. Ramon¹; F. Velasco¹; M. Torres-Carrasco¹

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Licorice extract as corrosion inhibitor in mortar

R. Naderi¹; A. Bautista²; S. Shagñay²; M. Torres-Carrasco²; F. Velasco²

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Impact of electromigration treatment on chloride binding properties of cement

M. Reiser¹; M. Kouril²; F. Bayer¹; S. Msallamova¹

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Corrosion propagation: comparison of electrochemical and mass loss measurements

F. Bolzoni¹; S. Beretta²; M. Diamanti²; A. Brenna²; M. Ormellese²; M. Pedferri²

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Evaluation of environmentally friendly inhibitor behavior in alkaline solution simulating the interstitial concrete electrolyte by electrochemical techniques

M. Martins¹; J. Tonholo²; S. Berger Uchoa³

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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

Investigation of the effect of fuel ageing and corrosion in oxymethylene ether (OME)

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Corrosion in Oil and Gas Production (WP 13)**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

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

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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

Anticorrosive and Persistency Properties of Arabian Crude Oils

L. AlSharif¹; C. Canto Maya¹; ¹ Saudi Aramco Oil Company, Dhahran/SAR

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

Design a three-phase corrosion inhibitors test lab set used to protect from internal corrosion of sour gas transmission pipelines

N. Azimzadeh¹; E. Roayaei²

¹ Amirkabir University of Technology, Tehran/IR; ² Bam Farayand System, Tehran/IR

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

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

The research on corrosion resistance of oil and gas line pipes in CO₂-containing environment using electrochemical techniques

O. Vavilova¹; I. Pyshmintsev¹; A. Maltseva¹; E. Mansurova¹; ¹ TMK R&D, Moscow/RUS

The influence of hydrogen sulfide concentration on the corrosion and hydrogenation of steel 07Cr18Ni6

C. Vasyliiv¹; M. Khoma¹; M. Chuchman¹; B. Datsko¹; N. Ratska¹; H. Pokhmurska⁴

¹ Karpenko Physico-Mechanical Institute of the NAS of Ukraine, Lviv/UA; ⁴ TU Chemnitz /D

Active-passive characteristics of Stainless Steel 316L manufactured using selective laser melting

D. Narayanan¹; L. Chen¹; B. Mansoor²; R. Case¹; H. Castaneda¹

¹ Texas A&M University, College Station/USA; ² Texas A&M University at Qatar, Ar-Rayyan/Q

Gis-based methodology for the prediction of areas of oil spill on the soil surface

E. Vera Lopez¹; O. Daza²; Y. Pineda²; ¹ Universidad Pedagógica y Tecnológica de Colombia, Combita/CO; ² Universidad Pedagógica y Tecnológica de Colombia, Tunja/CO

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

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

Coatings (WP 14)
Microstructure and corrosion resistance of Hf-coated Mg alloy after thermal oxidation treatment Z. Wang ¹ ¹ Xiamen University, Xiamen/CN
The effect of Sn Addition on a Zn-Al-Mg Alloy P. Gogola ¹ ; Z. Gabalcová ¹ ; M. Kusý ¹ ¹ Slovak University of Technology, Trnava/SK
DIGICOAT: EIS and FTIR data analysis for protective coatings A. Gutierrez ¹ ; A. Ruesca ¹ ¹ Survey and Foresee Technologies SLL, Las Palmas de Gran Canaria/E
Control of the degradation rate and corrosion resistance of ZK60 magnesium alloy by coating via HiPIMS and SolGel A. Claver Alba ¹ ; I. Zalakain ¹ ; I. Fernández ² ; J. Santiago ² ; I. Quintana ³ ; L. Mendizabal ³ ; J. García ¹ 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
Effect of Fluoride based additives on the Biodegradability of anodized Magnesium AZ31 alloy Z. Ur Rehman ¹ ¹ Changwon National University, Changwon/ROK
Flash Plasma Electrolytic Oxidation of an Additively Manufactured Al-Si alloy M. Mohedano ¹ ; E. Lopez ¹ ; R. Del Olmo ² ; E. Matykina ¹ ; R. Arrabal ¹ ¹ University Complutense of Madrid, Madrid/E; ² Military University of Technology, Warsaw/PL
The role of processing parameters of PEO treatment in terms of degradation mechanisms of magnesium alloys D. Kajánek ¹ ; L. Trško ¹ ; Z. Florková ¹ ; V. Knap ¹ ¹ University of Žilina, Žilina/SK
Increasing the corrosion resistance of AZ91 magnesium alloy by plasma electrolytic oxidation M. Štrbák ¹ ; B. Hadzima ² ; J. Sovík ³ ¹ University of Žilina, Žilina/SK; ² University of Žilina Research Centre, Žilina/SK; ³ University of Žilina, Martin/SK
Enhancing corrosion resistance on magnesium alloy EV31 by PEO process V. Knap ¹ ; B. Hadzima ² ; M. Štrbák ² ; V. Obertová ² ¹ University of Zilina, Příbovce/SK; ² University of Žilina, Zilina/SK
Zr-Mo-Mn Conversion Coating as a Sealing Option to AA2024-T3 Anodized Layers J. Salles Pinheiro ¹ ; J. Zoppas Ferreira ¹ ¹ UFRGS, Porto Alegre/BR
Plasma Electrolytic Oxidation (PEO) for Production of High-Performance Coatings on Ti-Al Intermetallic Compounds K. Munassar ¹ ; B. Mingo ¹ ; A. Yerokhin ² ¹ University of Manchester, Manchester/UK; ² University of Manchester, Manchester /UK
Fabrication of Novel Hybrid Sol-Gel/Urethane Coatings for the Protection of Mild Steel Substrate against Corrosion in the Saline Medium R. Suleiman ¹ ; B. Alkhouraim ¹ ¹ King Fahd University of Petroleum & Minerals (KFUPM), Dhahran/SAR
Sealing of Anodized Aluminum Alloy by Acrylic Acid Polymerization A. Dąbrowski ¹ ; Z. Buczek ¹ ¹ Łukasiewicz Research Network, Warsaw/PL
Physical and tribological properties of infrared dried coatings I. Cindrić ¹ ; I. Stojanovic ¹ ; L. Turkalj ¹ ; I. Juraga ¹ ; D. Rakela Ristevski ² ¹ Faculty of Mechanical Engineering and Naval Architecture, Zagreb/HR; ² Končar Steel Structures Inc., Zagreb/HR

Coatings (WP 14)
<p>Surface alteration of TiO₂ nanoparticles with trimethylpropane and its influence on castor seed oil-PECH triol blend based polyurethane systems T. Siyanbola¹; A. Ajayi²; G. Onipede³; T. Adebusi⁴; E. Sodiya⁴; N. N.A. Ndukwe⁵; R. Narayan⁶ ¹ Covenant University, Agege/NGR; ² Augustine University, Ilara-Epe, Lagos State/NGR; ³ Augustine University, Ilara-Epe, Lagos State/NGR; ⁴ Mountain-Top University, Ibafo, Ogun State/NGR; ⁵ Mountain-Top University, Ibafo, Ogun State/NGR; ⁶ Indian Institute of Chemical Technology, Hyderabad 500 007, India, Hyderabad/IND</p>
<p>Anticorrosion performance of combined fluorine-containing composite coatings on AMg3 aluminum alloy S. Sinebryukhov¹; V. Egorkin¹; I. Vyaliy¹; A. Gnedenkov¹; S. Gnedenkov¹ ¹ Institute of Chemistry, Vladivostok/RUS</p>
<p>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>
<p>Efficient coating process using robots and water-based coating material Š. Jurišić¹; I. Stojanovic¹; V. Šimunović¹; M. Kurtela¹; V. Alar¹; M. Bilmez² ¹ Faculty of Mechanical Engineering and Naval Architecture, Zagreb/HR; ² Ember Kamin d.o.o., Velika/HR</p>
<p>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, Zagreb/HR</p>
<p>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>
<p>The impact of bioactive coatings on bone implants corrosion D. Bjelić¹; M. Finšgar¹ ¹ Faculty of chemistry and chemical engineering, Maribor/SLO</p>
<p>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>
<p>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>
<p>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>
<p>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>
<p>Fabrication and characterisation of additive manufactured Ti-6Al-4V parts by laser powder bed fusion (L-PBF) technique N. Godja¹ ¹ CEST Kompetenzzentrum für elektrochemische Oberflächentechnologie GmbH, Wiener Neustadt/A</p>
<p>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>
<p>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>
<p>Synthesis of zirconia nanocontainers and use in epoxy coatings to develop self-healing abilities B. Pereira da Silva¹; J. Vieira Aoki¹ ¹ Universidade de São Paulo, São Paulo/BR</p>

Coatings (WP 14)
<p>Aluminium alloy corrosion inhibition by two-stage modified zeolite S. Korniy¹; I. Zin¹; L. Kwiatkowski²; M. Danyliak³; O. Khlopyk¹ ¹ Karpenko Physico-Mechanical Institute of NAS of Ukraine, Lviv/UA; ² Łukasiewicz Research Network - Institute of Precision Mechanics, Warsaw/PL; ³ Karpenko Physico-Mechanical Institute of NAS of Ukraine, Lviv/UA</p>
<p>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>
<p>ZnO-based nanostructured electrodes for biosensors: Corrosion behavior in Ringer's physiological solution K. Aleksić¹; A. Stankovic¹; I. Stojkovic Simatovic²; S. Markovic¹ ¹ Serbian Academy of Sciences and Arts, Belgrade/SRB; ² University of Belgrade, Belgrade/SRB</p>
<p>Erosion Resistance of TiAlN Coatings for Aerospace Applications Z. Kara¹; S. Ozerinc¹ ¹ Middle East Technical University, Ankara/TR</p>
<p>Microstructure, mechanical properties, and corrosion resistance of (TiTaZrNb)_{Nx} High Entropy Nitride Coatings: Influence of nitrogen content and bias voltage G. Bejarano Gaitán¹; M. Grisales¹; F. Bolívar¹ ¹ Universidad de Antioquia, Medellín/CO</p>
<p>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. Sjollema⁴; 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>
Corrosion in the Refinery and Petrochemistry Industry (WP 15)
<p>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, Liberec/CZ</p>
Cathodic Protection (WP 16)
<p>25 Years of Downhole Casing Cathodic Protection Experience at Low Permeability Oilfield Q. Li¹; B. Chen²; H. Liu¹; M. Zheng¹; L. Yang¹; X. Wang¹; Y. Sun¹ ¹ Changqing Oilfield Branch Company, Petrochina, Xi'an /CN; ² Changqing Oilfield Branch Company, Petrochina, Xi'an/CN</p>
Automotive Corrosion (WP 17)
<p>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 Suncheon National University, Suncheon/ROK; ² Hyundai Steel, DangJin/ROK</p>

Tribo-Corrosion (WP 18)
Improvement of the tribocorrosion properties of tungsten carbide (WC-Co) samples coated via PVD J. García ¹ ; A. Claver Alba ¹ ; M. Marqués ¹ ; E. Almandoz ² ; J. Fernandez de Ara ² ; J. Fernández Palacio ² ¹ Institute for Advanced Materials and Mathematics (INAMAT2), Universidad Pública de Navarra (UPNA), Pamplona/E; ² Centre of Advanced Surface Engineering (AIN), Cordovilla/E
Laser Cladded NiTi coatings on the Magnesium Alloy Substrate With the Intermediated Aluminum Layer Y. Yang ¹ ¹ Harbin Engineering University, Harbin/CN
Galvanic corrosion between Ti and CoCrMo alloy in human synovial fluids Y. Bao ¹ ; A. Muñoz ¹ ; S. Mischler ¹ ¹ EPFL, Lausanne/CH
Corrosion of Polymer Materialsb(WP 19)
Anticorrosion composite coatings formed on magnesium alloys by impregnation of the PEO-layers with fluoroorganic compounds S. Gnedenkov ¹ ; D. Mashtalyar ¹ ; S. Sinebryukhov ¹ ; I. Imshinetskiy ¹ ; K. Nadaraia ¹ ; A. Gnedenkov ¹ ¹ Institute of Chemistry, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok/RUS
Sol-Rec2 Case Study: Assessment of Corrosion Behaviour of Aluminium and Degradation of Polymers During Delamination of Multi-Material Packaging Systems B. Syrek-Gerstenkorn ¹ ¹ University of Leicester, Leicester/UK
Corrosion and Corrosion Protection of Drinking Water Systems (WP 20)
Long-term corrosion monitoring: A prediction tool using the "SOCORRO" system B. Karabulut ¹ ; B. Verhoeven ¹ ; G. Potters ² ; S. Gelareh ³ ; R. Dewil ¹ ; B. Rossi ⁴ 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
New process for interior pipe rehabilitation with environmentally friendly coating materials H. Jost ¹ ; R. Feser ¹ ; E. Tarfeld ¹ ; H. Blache ¹ ; D. Kovoussoglou ¹ ; T. Tillmann ¹ ; D. Mollenhauer ² ; S. Grahammer ² ; N. Gräßle ² ¹ Fachhochschule Südwestfalen, Iserlohn/D; ² Fa. Warnecke&Böhm, Schliersee/D
Corrosion of Archaeological and Historical Artefacts (WP 21)
Restoration of iron supporting structure of historic suspension bridge H. Geiplova ¹ ; P. Fialova ² ; L. Mindos ² ¹ SVUOM Ltd., Praha/CZ; ² SVUOM Ltd., Prague/CZ
Indoor environment and its aggressivity toward cultural heritage objects made of Lead and its alloys D. Majtás ¹ ; P. Fialová ² 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)
Modification of tartaric-sulphuric acid anodizing bath by a short chain monocarboxylic acid based additive E. Šrámková ¹ ; V. Záliš ¹ ¹ Czech aerospace research centre, Prague/CZ

Corrosion Reliability of Electronics (WP 23)**Practical methods for Moisture Level Indication inside Printed Circuit Boards**

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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

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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

Developing strategies for protecting Li-ion powered hearing aids from the user environments.

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CO₂-Corrosion in Industrial Applications (WP 24)**Water absorption in dense phase CO₂**

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Atmospheric Corrosion (WP 25)**Deposition of Chloride Ions in the Vicinity of Road I/11 in the Czech Republic**

M. Vacek¹; V. Krivy¹; K. Kreislova²; M. Kubzova¹

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Resistometric sensors for atmospheric corrosion monitoring of surface treated or naturally corroded metals

M. Reiser¹; F. Bayer¹; A. Marešová¹; Š. Havíř¹; M. Kouřil¹

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Waterborne coating for bronze corrosion protection

A. Kapitanovic¹; H. Otmacic Curkovic¹

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Applicability of the paste electrolyte cell for the evaluation of atmospheric corrosion of cultural heritage metals

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TF: Corrosion in in Green & Low Carbon Energy Technologies**Study of the anodized Al sealing process, using new sealing solutions that are more respectful of the environment**

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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

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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

WS: Medical Implants**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

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Assessment and Comparison of Multicomponent, Shape Memory and Commercial Alloy Corrosion Behavior in Biomedical Applications

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(Programme subject to change)