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EUROCORR 2022

European Corrosion Congress

Corrosion in a Changing World –
Energy, Mobility, Digitalization



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PROGRAMME

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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. Sánchez¹; 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. Gheno¹; A. Morel¹; D. Boivin¹; E. Rimpo¹; 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-Medour²; 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 Aluminyum San. ve Tic. A.S., 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. Avazoglou¹; 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 Sirris, Zwijnaarde/B

- P 5.10 **Corrosion inhibitor structures for automotive steel - A computational chemistry perspective**
S. Jeschke¹; I. Cole²; 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 alkalinization 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. Strelbl¹; 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. Mlynarek-Žák¹; 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. Mlynarek-Žák¹; 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. Furuhara¹; 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

Marine Corrosion (WP 9)

- P 6.01 **The effect of dissolved CO₂ on SCC of pipeline steel in simulated marine environments**
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

Microbial Corrosion (WP 10)

- P 7.01 **Microbiologically influenced corrosion of steel sheet pilings in a Dutch harbor- fast corrosion and unexpected mass loss**
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. Stoulič¹; 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. Stoulič²; 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. Stoulič³; H. Kovářová⁴; K. Sihelská⁵; R. Špánek⁶; A. Sevců⁷; 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. Kouri²; 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. Merouef¹; 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, Dhahran/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. Halačka¹; 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. Zalakain¹; 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. Lopez²; 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. Obertová¹; ¹ University of Zilina, Príbovce/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. Buczkó¹; ¹ Łukasiewicz Research Network, Warsaw/PL
- P 10.14 Physical and tribological properties of infrared dried coatings
I. Cindrić¹; I. Stojanovic¹; 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. Stojanovic¹; V. Šimunović¹; M. Kurtela¹; V. Alar¹; M. Bilmez²; 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. 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 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 Konpetenzzentrum 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. Khlopky¹; 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-Midzialek¹; G. Cieślak¹; M. Gostomska¹; T. Ciciszewski¹; E. Peško¹; A. Kapuścińska¹; M. Trzaska¹; Z. Buczkó²; 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

Automotive Corrosion (WP 17)

- 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

Trib-Corrosion (WP 18)

- 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

Corrosion and Corrosion Protection of Drinking Water Systems (WP 20)

- 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. Kovoussoglou¹; T. Tillmann²; D. Mollenhauer²; S. Grahammer²; 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. Šramková¹; V. Záliš¹; ¹ Czech aerospace research centre, Prague/CZ

Corrosion Reliability of Electronics (WP 23)

- 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)

- P 19.01 **Water absorption in dense phase CO₂**
B. Morland¹; A. Dugstad¹; G. Svenningsen¹; ¹ Institute for Energy Technology, Kjeller/N

Atmospheric Corrosion (WP 25)

- P 20.01 **Deposition of Chloride Ions in the Vicinity of Road I/11 in the Czech Republic**
M. Vacek¹; V. Krivý¹; 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. Havíř¹; M. Kouřil¹; ¹ University of Chemistry and Technology Prague, Prague/CZ
- P 20.03 **Waterborne coating for bronze corrosion protection**
A. Kapitanovic¹; H. Otmacic Curkovic¹; 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. Martinez²; 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

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