

POSTER PROGRAMME

09:00 – 09:06 JS A: Hydrogen issues in oil & gas and marine environment (WP 5 & 9 & 13)	
1	Advanced electrochemical sensor for corrosion monitoring in a biomass combustion boiler L. Freire ¹ , X. Nóvoa ² , A. Vázquez ¹ , J. Mato ¹ , J. Sánchez ¹ , J. Fariña ² , J. Rodríguez Andina ² ¹ AIMEN Technology Center, O Porriño/ES ² Universidade de Vigo, Vigo/ES
09:06 – 09:10 WS: Electrochemical Sensors	
09:15 – 09:30 Anodising of Al / Ti	
2	Preparation and properties of composite coating on Ti6Al4V by micro-arc oxidation and sol-gel with Au particles J. Zhang ¹ , Z. Mao ¹ , H. Li ¹ , Y. He ¹ , ¹ University of Science and Technology Beijing, Beijing/CN
09:30 – 09:45 Cathodic Protection in Marine Environment	
3	Optimizing cathodic protection system to retrofit a platform under calcareous deposit H. Liu ¹ , E. Sosa Hernandez ¹ , J. Malo ² , J. Alamilla-Lopez ¹ , A. Contreras ¹ ¹ Instituto Mexicano del Petroleo, Mexico City/MX ² Instituto de Investigaciones Eléctricas, Cuernavaca, Morelos/MX
09:45 – 10:25 Corrosion and Scale Inhibition	
4	Inhibition of CO₂ corrosion of pipeline steel by some imidazoline derivatives A. Obike ¹ , P. Okafor ² , U. Ekpe ² , X. Jiang ³ , D. Qu ³ ¹ Abia State University, Uturu/NG; ² University of Calabar, Calabar/NG ³ SINOPEC Research Institute of Safety Engineering, Qingdao/CN
5	Synthesis of TiO₂ nanotubular films obtained through electrochemical anodization in glycerol-H₂O + NH₄F at high voltage and their corrosion and mechanical performance C. Cuevas Arteaga ¹ , S. Mejía Sintillo ¹ , R. Melgoza Alemán ¹ , M. Valladares Cisneros ¹ ¹ Universidad Autónoma del Estado de Morelos, Cuernavaca, Morelos/MX
6	The effect of acetic acid and monoethylene glycol on iron carbonate dissolution in deaerated environment. L. Ikeh ¹ , G. Enyi ¹ , G. Nasr ¹ , ¹ University of Salford, Salford, Lancashire/GB
7	Protic ionic liquid 2HEABu addition effect in a 0.01 mol.L-1 NaCl solution on the API 5L X70 steel corrosion inhibition M. Ortega Vega ¹ , S. Mattedi ² , C. De Fraga Malfatti ¹ ¹ Universidade Federal do Rio Grande do Sul, Porto Alegre/BR ² Universidade Federal da Bahia, Salvador/BR
8	The synthesis and inhibition efficiency of 2-(2-aminoethylamino)-1-phenylethanol G. Sığircık ¹ , D. Yıldırım ¹ , T. Tüken ¹ , M. Erbil ¹ , ¹ Çukurova University, Adana/TR

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9	Aqueous extract of Haloxylon scoparium Pomel as corrosion inhibitor for carbon steel in hydrochloric acid medium H. Derfouf Talbi ¹ , Y. Harek ² , L. Larabi ² ¹ Bechar University, Bechar/DZ; ² University Abou-BekrBelkaid, Tlemcen/DZ
10	Green corrosion inhibitors: amino acids and plant extracts D. Elphick ¹ , A. Hegarty ¹ , O. Ajayi ¹ , N. Everitt ¹ , K. Voisey ¹ ¹ The University of Nottingham, Nottingham/GB
10:25 – 10:45 Corrosion by Hot Gases and Combustion Products	
11	High temperature corrosion resistance of advanced engineering materials under steam oxidation conditions for Ultra Super Critical (USC) coal power plants T. Dudziak ¹ , V. Deodeshmukh ² , L. Backert ³ , N. Sobczak ¹ , M. Witkowska ⁴ , W. Ratuszek ⁴ , K. Chrusciel ⁴ , A. Zielinski ⁵ , J. Sobczak ¹ ¹ Foundry Research Institute, Krakow/PL; ² Haynes International, Kokomo/US; ³ Sandmeyer Steel Company, Philadelphia/US; ⁴ AGH University Science and Technology, Krakow/PL ⁵ Institute for Ferrous Metallurgy, Gliwice/PL
12	The corrosion behaviours of Ti60 alloy with solid NaCl in wet oxygen at 600 degree C L. Fan ¹ , L. Liu ¹ , M. Cao ¹ , Z. Yu ¹ , L. Ying ¹ , F. Wang ¹ ¹ Chinese Academy of Sciences, ShenYang/CN
13	Oxidation behaviours at 1200°C of cast pure chromium and of binary Cr-Ni cast alloys (50 to 100wt.%Cr) at 1200°C E. Conrath ¹ , P. Berthod ¹ , ¹ Université de Lorraine, Vandoeuvre-lès-Nancy/FR
14	Surface states of chromium-rich HfC-containing Co-based, Ni-based and Fe-based alloys after oxidation at 1000 and 1100°C P. Berthod ¹ , E. Conrath ¹ , ¹ Université de Lorraine, Vandoeuvre-lès-Nancy/FR
15	Influence of the isothermally formed oxide thickness and of the cooling rate on the oxide scale spallation behaviour of chromia-forming Ni-based alloys; thermogravimetry and post-mortem study E. Conrath ¹ , P. Berthod ¹ , ¹ Université de Lorraine, Vandoeuvre-lès-Nancy/FR
16	Effect of the presence of water vapour on the high temperature oxidation of Co-10Ni-30Cr and Co-10Ni-30Cr-0.5C alloys. Part 2: results in oxidation in wet air T. Schweitzer ¹ , L. Aranda ¹ , P. Villegier ¹ , P. Berthod ¹ , E. Conrath ¹ ¹ Université de Lorraine, Vandoeuvre-lès-Nancy/FR
17	Influence of water vapour in air and of TaC carbides in alloy on the high temperature oxidation of cobalt-based refractory alloys. Part 2: Results in oxidation in wet air L. Aranda ¹ , T. Schweitzer ¹ , P. Villegier ¹ , P. Berthod ¹ , E. Conrath ¹ ¹ Université de Lorraine, Vandoeuvre-lès-Nancy/FR

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18	Oxidation behaviours at 1000, 1100 and 1200°C of 32.5wt.%Cr-containing Co-based alloys reinforced by hafnium carbides E. Conrath ¹ , P. Berthod ¹ , ¹ Université de Lorraine, Vandoeuvre-lès-Nancy/FR
19	Corrosion diagnosis of a gas evacuation ventilator in a fertilizer plant N. Semlal ¹ , R. Boulif ¹ , ¹ OCP - Office Chérifien des Phosphates S. A., El Jadida/MA
20	Prediction of oxidation induced lifetime limits of thin-walled components of Ni-based superalloys in the temperature range 950-1050°C R. Duan ¹ , A. Jalowicka ¹ , P. Huczowski ¹ , A. Chyrkin ¹ , D. Grüner ¹ , B. Pint ² , W. Quadackers ¹ ¹ Forschungszentrum Jülich GmbH, Jülich/DE; ² Oak Ridge National Laboratory, Oak Ridge, TN/US
10:45 – 11:05 Nuclear Corrosion	
21	The investigation of the charging mechanism of hydrogen in steel by cyclic voltammetry (CV) B. Özdirik ¹ , L. Vecchi ¹ , H. Terryn ¹ , J. Vereecken ¹ , I. De Graeve ¹ ¹ Vrije Universiteit Brussel (VUB), Brussel/BE
22	High temperature oxidation of 9-12% Cr materials P91 and P92 in supercritical conditions (25 MPa, 600°C) Z. Skoumalová ¹ , J. Burda ¹ , ¹ ÚJV Rez, a.s., Husinec-Rez/CZ
23	Water chemistry and corrosion issues of control rod and protection system in russian LWGRS E. Yurmanov ¹ , V. Yurmanov ¹ , ¹ NIKIET, Moscow/RU
24	Investigation of corrosion-mechanical properties of EP302M SS in high-temperature water and superheated steam under SG operation conditions of BREST-OD-300 reactor D. Marchenkoy ¹ , K. Shutko ¹ , V. Lemekhov ¹ , ¹ NIKIET, Moscow/RU
11:05 – 11:15 Environment Sensitive Fracture	
25	Effect of stress on passivation kinetics and passivation modelling of 304L stainless steel in acidic medium H. Mubarak ¹ , L. Barrallier ¹ , S. Jégou ¹ , P. Volovitch ² , K. Ogle ² ¹ Arts et Métiers ParisTech, Aix-en-Provence/FR; ² Chimie ParisTech, Paris/FR
11:15 – 12:30 Corrosion in Mechanisms, Methods and Modelling	
26	High temperature oxidation in Fe-C-Mn-Si alloy Y. Choi ¹ , D. Suh ¹ , ¹ Pohang University of Science and Technology (POSTECH), Pohang/KR
27	Application of response surface method for experimentally modelling corrosion A. Kosari ¹ , M. Moayed ¹ , A. Davoodi ¹ , ¹ Ferdowsi University of Mashhad, Mashhad/IR

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28	Corrosion test methodology and monitoring system for cooling water pilot plants O. Conejero ¹ , A. Álvarez Pampliega ² , E. Thomas ² , M. Cabañas ³ , M. González ³ , M. Carballo ⁴ ¹ ITMA Materials Technology, Avilés/ES; ² METALogic N.V., Heverlee/BE ³ ArcelorMittal, Avilés/ES; ⁴ Universidad de Oviedo, Oviedo/ES
29	Local destruction of iron passive state by perchlorate-ions N. Nafikova ¹ , S. Kaluzhina ² , M. Petrova ² ¹ Sibur Innovation LLC, Voronezh/RU; ² Voronezh State University, Voronezh/RU
30	The verification of the intergranular oxide-film-induced cracking mechanism for SCC of brass in Mattsson's solution J. Li ¹ , M. Qi ² , Y. Su ¹ , L. Qiao ¹ ¹ University of Science and Technology Beijing, Beijing/CN ² Beijing Institute of Technology, Beijing/CN;
31	Corrosion resistance of hot-dip galvanised steel in soils S. Ziehermayr ¹ , M. Fleischanderl ² , K. Stellnberger ² , P. Linhardt ³ , G. Mori ⁴ ¹ Competence Center for Electrochemical Surface Technology, Wiener Neustadt/AT ² voestalpine Stahl GmbH, Linz/AT ³ TU Wien, Wien/AT; ⁴ Montanuniversität Leoben, Leoben/AT
32	Morpholine, antipyrine, and pyrroline derivatives as inhibitors of sulfide corrosion of mild steel: PM3 study G. Beloglazov ¹ , S. Beloglazov ² , V. Gein ³ , M. Chirkova ³ ¹ UDOM - University of Dodoma, Dodoma/TZ; ² Baltic Federal University, Kaliningrad/RU ³ Perm State Scientific Research University (PGNIU), Perm/RU
33	Efficient potentiostatic corrosion testing of bronze by a multichannel potentiostat P. Linhardt ¹ , S. Kühner ¹ , G. Ball ¹ , M. Biezma ² ¹ TU Wien, Wien/AT; ² University of Cantabria, Santander/ES
34	The barrier and galvanic type of protection investigations using ENA for ZRP loaded with MIO or Al particles B. Eremias ¹ , L. Mindos ¹ , L. Turek ¹ , L. Hochmannova ² ¹ SVUOM Ltd., Praha/CZ; ² SYNPO Inc., Pardubice/CZ
35	Quantum chemical study of azochloropyrazol derivatives as inhibitors of corrosion of Al in acidic medium F. Nanyaro ¹ , G. Beloglazov ¹ , D. Ndalula ¹ , R. Mushi ¹ ¹ UDOM - University of Dodoma, Dodoma/TZ
36	Correlation between electrochemical noise measurements and physico mechanical testing of ZRP loaded with Al particles B. Eremias ¹ , L. Mindos ¹ , L. Turek ¹ , L. Hochmannova ² ¹ SVUOM Ltd., Praha/CZ; ² SYNPO Inc., Pardubice/CZ

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37	<p>The KorroPad - A novel test method for assessing the pitting corrosion susceptibility of stainless steel surfaces</p> <p><u>M. Babutzka</u>¹, J. Lehmann¹, A. Burkert¹</p> <p>¹ BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/DE</p>
38	<p>Investigation of the sensitization behavior of the high-temperature resistant austenitic stainless steel S31042 by using the electrochemical potentiodynamic reactivation (EPR)-test</p> <p><u>S. Schmigalla</u>¹, S. Schultze¹</p> <p>¹ Institut für Korrosions- und Schadensanalyse, Magdeburg/DE</p>
39	<p>Corrosion, microstructure and mechanical performance of interstitial free steel</p> <p>A. Torres-Islas¹, A. Molina¹, S. Serna¹, J. Juarez-Islas², R. Reyes¹</p> <p>¹ Universidad Autonoma del Estado de Morelos, Cuernavaca. Morelos/MX ² Universidad Nacional Autónoma de México, México City/MX</p>
40	<p>Corrosion modeling of a new Ti-Zr-Nb alloy in Ringer's solutions simulating severe functional conditions</p> <p><u>J. Calderon Moreno</u>¹, C. Vasilescu¹, S. Drob¹, M. Popa¹</p> <p>¹ Institute of Physical Chemistry, Bucharest/RO</p>
41	<p>Corrosion behavior of metallic materials in hydrogen peroxide environment</p> <p><u>P. Pranovi</u>¹, M. Franchi², O. Fumei³, R. Cigna³</p> <p>¹ Ecor Research, Schio, Vicenza/IT; ² Tetra Pak Packaging Solutions, Modena/IT ³ ISPRONA s. r. l., Rome/IT</p>
42	<p>Hydrothermal synthesis of heterostructured SnO₂/Sn₃O₄ film and its application in corrosion protection of stainless steel</p> <p><u>J. Hu</u>¹, R. Du¹, Q. Liu¹, Y. Gao¹, C. Lin¹, ¹Xiamen University, Xiamen/CN</p>
43	<p>Influence of pH-variation with two different acids of 0.9% saline solution on the corrosion behaviour of two experimental dental CoCr alloys with same PRE</p> <p><u>C. Schille</u>¹, G. Hausch², E. Schweizer¹, J. Geis-Gerstorfer¹</p> <p>¹ Universitätsklinikum Tübingen, Tübingen/DE; ² Dentalex, Langenselbold/DE</p>
44	<p>Physicochemical study of semiarid soils (Gypsum) in right of way and its effect on the corrosion of buried steel pipelines</p> <p><u>E. Sosa Hernandez</u>¹, J. Alamilla-Lopez¹, H. Liu¹, ¹Instituto Mexicano del Petroleo, Mexico City/MX</p>
45	<p>DFT+U calculations of the interaction of Cl with defect-free hydroxylated Cu₂O(100) surface</p> <p><u>C. Dong</u>¹, <u>X. Wei</u>¹, K. Xiao¹, X. Li¹, ¹ University of Science and Technology Beijing, Beijing/CN</p>
46	<p>Investigating the role of alloying elements on crevice corrosion inhibition of Ni-Cr-Mo alloys</p> <p><u>N. Ebrahimi</u>¹, D. Shoesmith¹, P. Jakupi¹, J. Noel¹, ¹ Western University, London, Ontario/CA</p>

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47	<p>Corrosion resistance of stainless steel in methanesulfonic acid 70%. Influence of manufacturing route</p> <p><u>L. Renaud</u>¹, D. Siguret¹, J. Laffitte², B. Monguillon²</p> <p>¹ Arkema, Pierre-Bénite/FR; ² Arkema, Pau/FR</p>
48	<p>Comparison of atmospheric corrosion of ACM sensors with standard flat specimens</p> <p><u>K. Kreislova</u>, SVUOM Ltd., Praha/CZ</p>
49	<p>Atom Probe Microscopy of Oxidation Products</p> <p><u>I. McCarroll</u>¹; J. Cairney¹, ¹ The University of Sydney, Sydney/AU</p>
50	<p>An electrochemical study on effect of oral antiseptics on the corrosion stability of NiTi orthodontic wires</p> <p><u>H. Otmačić Ćurković</u>¹, S. Spalj², L. Kanizaj¹, D. Zuljevic¹, M. Mlinaric¹, V. Katic²</p> <p>¹ University of Zagreb, Zagreb/HR; ² University of Rijeka, Rijeka/HR</p>
51	<p>Electrochemical investigations regarding the influence of deformation-induced martensite on the corrosion behaviour of austenitic stainless steels</p> <p><u>M. Babutzka</u>¹, S. Reinemann²</p> <p>¹ BAM - Bundesanstalt für Materialforschung und -prüfung, Berlin/DE ² Otto von Guericke Universität, Magdeburg/DE</p>
52	<p>Characterisation of the passive layer and corrosion resistance of a new Ti-Zr-Ta-Ag alloy in simulated bio-electrolytes</p> <p><u>S. Drob</u>¹, C. Vasilescu¹, P. Osiceanu¹, J. Calderon Moreno¹, E. Vasilescu¹</p> <p>¹ Institute of Physical Chemistry, Bucharest/RO</p>
53	<p>Micro-galvanic corrosion of Cu-Ru in potassium periodate (KIO₄) Solution</p> <p><u>J. Cheng</u>¹, J. Pan¹, X. Lu²</p> <p>¹ KTH Royal Institute of Technology, /SE; ² State Key Laboratory of Tribology, Tsinghua University, Beijing/CN</p>
54	<p>Corrosion modelling by cellular automata</p> <p><u>C. Perez-Brokate</u>¹, D. di Caprio², D. Féron¹, J. de Lamare¹, A. Chaussé³</p> <p>¹ CEA Saclay, Gif-sur-Yvette/FR; ² Institut de Recherche de Chimie Paris, Paris/FR ³ Laboratoire Analyse et Modélisation pour la Biologie et l'Environnement, Evry/FR</p>
55	<p>Automatic 3D measurement and classification of surface corrosion</p> <p>R. Danzl¹, S. Scherer¹, F. Helml¹, <u>H. Geidl-Strallhofer</u>¹</p> <p>¹ Alicona Imaging GmbH, Raaba bei Graz/AT</p>
56	<p>Deformation mechanisms and their influence on the corrosion resistance of metastable CrNi and CrNiMnN austenites</p> <p><u>P. Seemann</u>¹, M. Sorg¹, P. Gumpel²</p> <p>¹ WITg, Tägerwil/CH; ² Hochschule Konstanz Technik Wirtschaft und Gestaltung (HTWG), Konstanz/DE</p>

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57	<p>Method for creation of actual maps of atmospheric corrosivity for the Czech Republic K. Kreislova¹; H. Geiplova¹; I. Skorepova²; J. Skorepa¹; D. Majtas³; J. Melichar⁴ ¹SVUOM Ltd., Praha/CZ; ² Czech Geological Survey, Praha/CZ; ³ Institute of Theoretical and Applied Mechanics AS CR - CET, Telc/CZ; ⁴ Charles University, Prague/CZ</p>
12:30 – 12:45 Corrosion Education	
58	<p>The corrosion by children point of view M. Biezma¹, S. Braunstein Faldini², C. Rodríguez¹ ¹University of Cantabria, Santander/ES; ² Universidade Prebiteriana Mackenzie, São Paulo - SP/BR</p>
59	<p>Use of 1-(4-dimethylaminobenzylidene)-2-(2-hydroxybenzylidene) hydrazine as inhibitor for the corrosion of XC38 steel in hydrochloric acid A. Fellah¹, Y. Benmansour¹, Y. Harek¹, T. Attar¹, I. Ichchou¹, L. Larabi¹ ¹ University Abou-BekrBelkaid, Tlemcen/DZ</p>
12:45 – 13:00 Marine Corrosion	
60	<p>Role of potential in stable pit growth of austenitic stainless steels Y. Yi, Khalifa University of Science, Technology & Research, Abu Dhabi/AE</p>
61	<p>The interaction between fouling organisms with the calcareous deposit formed on carbon steel J. Zhang¹, J. Wang¹, X. Li¹, S. Chen² ¹ Institute of oceanology, Chinese academy of sciences, Qingdao/CN; ² Ocean University of China, Qingdao/DE</p>
62	<p>Poly(3,4-ethylenedioxythiophene) used as a coating on stainless steel AISI 470. Evaluation of corrosion inhibition performance J. Aguirre¹, J. Armijo¹, M. Walczak¹, R. De la Iglesia¹, G. Pizarro¹, I. Vargas¹ ¹ Pontificia Universidad Católica de Chile, Santiago/CL;</p>
63	<p>The effect of seawater pressure on the protection properties of epoxy coating used in deep sea J. Gao¹, H. Qian¹, X. Sun¹, D. Song¹, W. Guo², X. Li¹ ¹ University of Science and Technology Beijing, Beijing/CN ² Luoyang Ship Material Research Institute, Qingdao/CN</p>
64	<p>The study on stress corrosion behavior of X65 steel welded joint in marine environment C. Du¹, H. Wan¹, Z. Liu¹, X. Li¹, ¹University of Science and Technology Beijing, Beijing/CN</p>
13:00 – 13:20 Microbial Corrosion	
65	<p>MICRA-buoy: from post mortem analysis to preventive risk assessment of MIC in hydroelectric power plants P. Linhardt, TU Wien, Wien/AT</p>

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66	<p>Galvanic corrosion investigation of NiTi coupled with other biomaterials for biomedical applications E. Kassab¹, M. Frotscher², G. Eggeler², J. Ponciano Gomes¹ ¹ Federal University of Rio de Janeiro, Rio de Janeiro/BR; ² Ruhr-Universität Bochum, Bochum/DE</p>
67	<p>Corrosion study of the suitability of stainless steel for biogas production A. Álvarez Pampliega¹, E. Thomas¹, R. Brunstermann², B. Brinkmann², R. Tholen³, M. Romero Barragán⁴, T. Ohligschläger⁵ ¹ METALogic N.V., Heverlee/BE; ² Universität Duisburg-Essen, Essen/DE ³ Weltec Biopower, Vechta/DE; ⁴ Acerinox Europa SAU, Los Barrios/ES ⁵ Outokumpu Nirosta GmbH, Tornio/FI</p>
68	<p>Investigating the corrosion effect of high salinity oil field produced water on metal electrodes for microbial fuel cells P. Roustazadeh Sheikhyousefi¹, S. Trasatti², A. Colombo², P. Cristiani³, M. Nasr Esfahany¹ ¹ Isfahan University of Technology, Isfahan/IR; ² Università degli Studi di Milano, Milano/IT ³ RSE-Ricerca sul Sistema Energetico S.p.A, Milano/IT</p>
69	<p>Biofilm development and biocorrosion of stainless steel AISI 316L exposed to marine conditions L. Daille¹, J. Aguirre¹, D. Fischer¹, C. Galarce¹, M. Walczak¹, J. Armijo¹, G. Pizarro¹, R. De la Iglesia¹, I. Vargas¹ ¹ Pontificia Universidad Católica de Chile, Santiago/CL</p>
70	<p>Corrosion resistance assessment of NiTiCu orthodontic applications in 0.9 NaCl solution C. dos Reis Barros¹, J. Gomes¹, ¹ Federal University of Rio de Janeiro, /BR</p>
13:20 – 13:45 Corrosion of Steel in Concrete	
71	<p>Predicting the corrosion initiation time of fresh concrete sewers by artificial neural network G. Jiang¹, Z. Yuan¹, P. Bond¹, J. Keller¹, ¹The University of Queensland, St Lucia/AU</p>
72	<p>Study on corrosion behavior of reinforcing steel in simulated concrete pore solutions by a scanning micro-reference electrode technique X. Wang¹, J. Hu¹, Y. Gao¹, Q. Liu¹, R. Du¹, C. Lin¹, ¹Xiamen University, Xiamen/CN</p>
73	<p>The effect of temperature rise on microstructural properties of cement-based materials: HYMOSTRUCT3D modeling incorporating an “electrical enhancement” factor A. Susanto¹, D. Koleva¹, K. van Breugel¹, ¹ TU Delft, Delft/NL</p>
74	<p>Alternation of concrete pore structure by means of zinc corrosion R. Novakova¹, M. Kouril¹, P. Pokorny¹, J. Stoullil¹, ¹University of Chemistry and Technology, Praha/CZ</p>

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75	Alkanolamines as corrosion inhibitors against chloride-induced corrosion of mild steel in basic media <u>Y. Morozov¹, A. Castela¹, A. Dias¹, M. Montemor¹</u> ¹ Universidade Técnica de Lisboa, Lisboa/PT
76	Polyethyleneimine as corrosion inhibitor against chloride-induced corrosion of mild steel <u>Y. Morozov¹, M. Montemor¹</u> , ¹ Universidade Técnica de Lisboa, Lisboa/PT
77	Active corrosion phase as a service life extension of concrete facades <u>A. Köliö¹, J. Lahdensivu¹, M. Pentti¹</u> ¹ Tampere University of Technology, Tampere/FI
13:45 – 14:10 Corrosion in Oil & Gas Production	
78	Olive leaf extract as a green carbon steel corrosion inhibitor in brine solution saturated with CO₂ <u>G. Pustaj¹, F. Kapor¹, T. Borko²</u> ¹ Faculty of Mining Geology and Petroleum Engineering, Zagreb/HR; ² INA, d.d., Zagreb/HR
79	Study of corrosion scale formation from quantum mechanics simulations to a continuum model <u>M. Tautschnig¹, A. Blanca-Romero¹, M. Patel¹, N. Harrison¹</u> , ¹ Imperial College London, London/GB
80	Corrosion behavior of carbon steel in CO₂ saturated amines and room temperature ionic liquid solutions <u>A. Rafat¹, M. Atilhan¹, R. Kahraman¹</u> , ¹ Qatar University, Doha/QA
14:15 – 14:30 Inorganic Coatings	
81	Composite coatings for biodesorbable magnesium implants <u>S. Sinebryukhov¹, S. Gnedenkov¹, A. Puz¹, V. Egorkin¹, A. Zavidnaya¹, D. Mashtalyar¹, N. Plekhova²</u> ¹ Russian Academy of Sciences, Vladivostok/RU ² Pacific State Medical University, Vladivostok/RU
82	Comparison between fluoride ions modifier and ceramic Al₂O₃ particles additives on oxide layers produced on magnesium alloys by plasma electrolytic oxidation <u>H. Soliman¹, A. Hamdy²</u> ¹ Central Metallurgical Research and Development Institute (CMRDI), /EG ² University of Texas Pan-American, /US
83	Bio-corrosion of PEO-modified titanium and magnesium alloys <u>E. Matykina¹, M. Mohedano², R. Arrabal¹, B. Mingo¹, A. Pardo¹, M. Merino¹</u> ¹ Universidad Complutense de Madrid, Madrid/ES ² Helmholtz-Zentrum Geesthacht, Geesthacht/DE

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84	Characterization and corrosion behaviour of PEO coatings on AM50 magnesium alloy with incorporated particles <u>R. Arrabal¹, M. Mohedano², B. Mingo¹, E. Matykina¹, A. Pardo¹, M. Merino¹</u> ¹ Universidad Complutense de Madrid, Madrid/ES ² Helmholtz-Zentrum Geesthacht, Geesthacht/DE
85	Obtaining, characterisation and protective properties of hydroxyapatite coating on new Ti-Ta-Zr alloy surface <u>C. Vasilescu¹, S. Drob¹, P. Osiceanu¹, J. Calderon Moreno¹</u> ¹ Institute of Physical Chemistry, Bucharest/RO
86	Characterization of bioactive hydroxyapatite coating on ternary Ti-Zr-Nb alloy surface <u>M. Popa¹, C. Vasilescu¹, S. Drob¹, M. Popa¹, J. Calderon Moreno¹</u> ¹ Institute of Physical Chemistry, Bucharest/RO
14:30 – 14:55 Metallic Coatings	
87	Potentiodynamic evaluation of selected corrosion resistant thermally sprayed coatings in comparison with stainless nitrided steel <u>Z. Česánek¹, J. Schubert¹</u> , ¹ VZÚ Plzeň s.r.o., Plzeň/CZ
88	Corrosion behaviour of Zn-Mg-Al coated steel in outdoor exposure test <u>J. Lee¹, M. Oh², T. Kim², J. Kim², Y. Jin³</u> ¹ POMIA - Pohang Institute of Metal Industry Advancement, Pohang/KR; ² POSCO, Gwangyang/KR ³ POSTECH - Pohang University of Science and Technology, Pohang/KR
89	Investigations on selected ionic liquids addition to hydroxide bath on the properties of anodically oxidized Zn-Co alloy coatings <u>A. Maciej¹, W. Simka¹, J. Michalska¹, A. Chrobok¹, K. Matuszek¹</u> ¹ Silesian University of Technology, Gliwice/PL
90	Anodizing of thermally sprayed zinc- and zinc-aluminum coatings <u>A. Mertke¹, R. Feser¹, D. Proba¹</u> , ¹ Fachhochschule Südwestfalen, Iserlohn/DE
91	The influence of process parameters of anodic oxidation of Zn-Ni coatings on the crack effect and corrosion properties <u>A. Maciej¹, J. Michalska¹, M. Sowa¹, T. Gorewoda², G. Dercz³</u> ¹ Silesian University of Technology, Gliwice/PL ² Institute of Non Ferrous Metals, Gliwice/PL ³ University of Silesia, Katowice/PL
92	Corrosion properties of composite coatings Ti (C,N) and TiB₂ produced by PACVD on steel substrate <u>V. Alar¹, B. Matijević¹, S. Jakovljević¹</u> ¹ University of Zagreb, Zagreb/HR

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93	Study of the behavior of stainless steel deposit obtained by projection electric arc on the steel XC38 M. Naimi ¹ , Y. Touazi ¹ , ¹ Ecole Militaire Polytechnique, Algeris/DZ
94	Influence of design and initial surface preparation of the samples on SSC-A test result J. Idrac ¹ , J. Vanbrabant ² , M. Declercq ² , W. VanHaver ² , E. Font ³ , P. Mora ³ ¹ LNE Laboratoire National de métrologie et d'Essais, TRAPPES/FR ² Bekaert Technology Center, /BE; ³ LNE Laboratoire National de métrologie et d'Essais, /FR
95	In-situ study of interfacial bonding mechanisms of carboxylic coatings on metal substrates L. Fockaert ¹ , T. Breugelmans ² , P. Taheri ³ , H. Terryn ⁴ , A. Mol ³ ¹ Materials Innovation Institute (M2i), Delft/NL; ² Universiteit Antwerpen, Antwerpen/BE ³ TU Delft, Delft/NL; ⁴ Vrije Universiteit Brussel (VUB), Brussel/BE
14:55 – 15:10 Organic Coatings	
96	Economic corrosion protection – powder to powder with one baking process J. Gehrke ¹ , J. Lorenz ² , A. Beckerman ³ ¹ Institut für Korrosionsschutz Dresden GmbH, Dresden/DE ² Briloner Leuchten GmbH, Elterlein/DE ³ Ganzlin Beschichtungspulver GmbH, Ganzlin/DE
97	Study of epoxy and zinc-silicate shopprimers I. Stojanovic ¹ , I. Juraga ¹ , V. Alar ¹ , V. Simunovic ¹ , ¹ University of Zagreb, Zagreb/HR
98	Flanged Coupling Corrosion Protection Solutions C. Bateman ¹ , K. Flanagan ¹ , ¹ Belzona Polymerics Ltd, Harrogate/GB
15:10 – 15:20 Self-healing Coatings	
99	Flake type zinc phosphate particles as new corrosion protection additives in organic coatings E. Perre ¹ , S. Albayrak ¹ , M. Wild ¹ , C. Becker-Willinger ¹ ¹ INM - Leibniz-Institut für Neue Materialien gGmbH, Saarbrücken/DE
100	Enhanced corrosion protection of wrought magnesium alloy (AZ31) via ultrasound-driven growth of a smart oxide layer A. Anthes ¹ , W. Fürbeth ¹ , C. Liu ² , M. Wiesener ² , G. Grundmeier ² ¹ DECHEMA - Forschungsinstitut, Frankfurt am Main/DE ² Universität Paderborn (TMC), Paderborn/DE;
101	Cyclodextrin based smart protective coatings for pH responsive release of organic corrosion inhibitors A. Altin ¹ , A. Sarfraz ¹ , M. Rohwerder ¹ , A. Erbe ¹ ¹ Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf/DE

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102	Micro-encapsulation of corrosion inhibitors M. Meeusen ¹ , A. Lutz ² , I. De Graeve ² , A. Mol ¹ , H. Terryn ² ¹ TU Delft, Delft/NL; ² Vrije Universiteit Brussel (VUB), Brussel/BE
15:20 – 15:35 Corrosion in Refinery Industry	
103	Influence of temperature and exposure time on morphological and electrochemical properties of corrosion products formed in AISI 316 steel exposed to opportunity crude J. Sanabria Cala ¹ ; D. Laverde Cataño ¹ ¹ Universidad Industrial de Santander, Bucaramanga/CO
104	Fractionation and structural characterization of a complex mixture of naphthenic acid and its effect on corrosion activity. C. Mejía ¹ ; D. Molina ¹ ; D. Laverde Cataño ¹ ¹ Universidad Industrial de Santander, Bucaramanga/CO
15:45 – 16:00 Cathodic Protection	
105	Upgrade the existing sacrificial cathodic protection system to ICCP system for existing tanks bottom plates F. Alfawaz ¹ , A. Alshahrani ¹ , ¹ SABIC, Jubail/SA
107	Techniques to improve operational reliability of cathodic protection rectifiers S. Brasil ¹ , M. Desmarais ² ¹ Federal University of Rio de Janeiro, Rio de Janeiro/BR ² Transpetro/Petrobras, Rio de Janeiro/BR
108	Influence of stray current on sacrificial anode of pipeline Q. Zhu ¹ , C. Alin ² , C. Shengli ³ , B. Hou ¹ ¹ Chinese Academy of Sciences, Qingdao/CN ² Chongqing University, Chongqing/CN ³ China National Offshore Oil Corporation, Beijing/CN
16:00 – 16:10 Automotive Corrosion	
109	Application of electrochemical methods for the investigation of corrosion phenomena in automotive brake discs F. Lupone ¹ , A. Sin ¹ , A. Angeleri ¹ , V. Galardo ¹ , L. Martinotto ¹ , A. De Nicolò ² , F. Andreatta ² , L. Fedrizzi ² ¹ ITT Motion Technologies, Barge/IT; ² University of Udine, Udine/IT
110	Investigation of deicing salt corrosion resistance of various chromium plating types for decoration of automotive parts J. Song ¹ , C. Lee ¹ ¹ Hyundai Motors Company, Hwaseong/KR

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16:15 – 16:30 Tribocorrosion	
111	<p>Passivation – repassivation phenomena of titanium alloy Ti6Al4V during sliding at small contact loads</p> <p><u>V. Pejaković</u>¹, V. Totolin¹, M. Rodriguez Ripoll¹</p> <p>¹ AC2T research GmbH, Wiener Neustadt/AT</p>
112	<p>Different environmental conditions of dental alloys and their effects on the degradation</p> <p><u>P. Močnik</u>¹, T. Kosec¹</p> <p>¹ Slovenian National Building and Civil Engineering Institute [ZAG], Ljubljana/SI</p>
16:30 – 16:45 Corrosion & Corrosion Protection of Drinking Water Systems	
113	<p>Evaluation of corrosion on copper tubes in cooling water systems and measures for preventing the corrosion</p> <p><u>H. Yamanaka</u>¹, T. Nagai¹</p> <p>¹ Osaka Gas Co., Ltd., Osaka/JP</p>
16:45 – 17:15 Corrosion of Archaeological and Historical Artefacts	
114	<p>Application of argon-hydrogen plasma as a tool for the corrosion layers removal</p> <p><u>P. Fojtíková</u>¹, L. Řádková¹, F. Krčma¹, D. Janová¹</p> <p>¹ Brno University of Technology, Brno/CZ</p>
115	<p>Removable parylene based barrier multilayers for corrosion protection of metallic archaeological artefacts</p> <p><u>L. Blahová</u>¹, R. Prikryl¹, M. Prochazka¹, J. Pekarek¹, F. Krčma¹</p> <p>¹ Brno University of Technology, Brno/CZ</p>
116	<p>Long-time corrosion of a cast bronze droplet during 3000 years storage in soil</p> <p><u>R. Haubner</u>¹, S. Strobl¹</p> <p>¹ TU Wien, Wien/AT</p>
117	<p>Corrosion study of metals of cultural and historical interest in sulphide, sulphate and chloride solutions and their preservation</p> <p><u>F. Rodríguez-Gómez</u>¹, P. Roncagliolo-Barrera¹, J. Ortiz-Corona¹, Y. Morales-Martínez¹</p> <p>¹ Universidad Nacional Autónoma de México (UNAM), México-City/MX</p>
118	<p>Corrosion behaviour of protective coatings and corrosion inhibitors for the preservation of metallic heritage artefacts from Auschwitz-Birkenau State Museum</p> <p><u>G. Palumbo</u>¹, J. Banaś¹, U. Lelek-Borkowska¹, K. Stefańczyk²</p> <p>¹ AGH-University of Science and Technology, Krakow/PL</p> <p>² Research and Development Centre for Renovation and Conservation, Nysa, Poland, Nysa/PL</p>

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17:15 – 17:30 Corrosion Control in Aerospace	
119	<p>Tribology and corrosion behavior of CrCN/CrN multilayer coatings deposited by cathodic arc evaporation on nitrided 42CrMo4 steel substrates</p> <p>B. Warcholinski¹, A. Gilewicz¹, D. Murzynski¹, E. Dobruchowska¹, Ł. Szparaga¹, J. Kwiatkowski¹, R. Olik¹, J. Ratajski¹</p> <p>¹ Koszalin University of Technology, Koszalin/PL</p>
17:45 – 18:00 Coatings for High Temperatures	
120	<p>Preparation of ZrO₂/Al₂O₃ composite coating on Ti6Al4V by MAO technology and its oxidation behaviour at 700°C</p> <p>H. Li¹, J. Zhang</p> <p>University of Science and Technology Beijing, Beijing/CN</p>
121	<p>Influence factors on internal oxidation in ternary alloys with high oxygen ion conductivity</p> <p><u>R. Mertel</u>¹, R. Völkl¹, U. Glatzel¹</p> <p>¹ Universität Bayreuth, Bayreuth/DE</p>
18:05 – 18:15 Refractory Metals and their Alloys	
122	<p>Oxidation analysis of Ni and dilute Ni-Al and Ni-Cr alloys according to the transport properties of pure and doped Ni_{1-x}O single crystals</p> <p><u>H. Zohra</u>¹, H. Nacer², A. Mariora³, C. Said⁴, P. Georgette⁵</p> <p>¹ University UMOB, Bouira/DZ</p> <p>² University UMMTO, Tizi-Ouzou/DZ</p> <p>³ University of Pitesti, Pitesti/RO</p> <p>⁴ Université Mentouri, De Constantine/DZ</p> <p>⁵ Ecole Centrale Paris, Châtenay Malabry/FR</p>