

COMMITTEES



16th ICC ORGANIZING COMMITTEE

President -----Wei Ke
First Vice-President -----J.H.W.de Wit
Second Vice-President -----Ir A.Pourbaix

HONORARY COMMITTEE

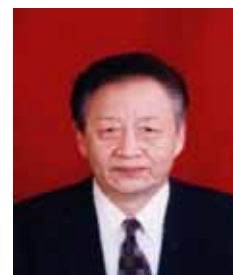
| | |
|--------------------------------|---------------------------------|
| Prof. Chu-Nan Cao, China | Prof. J. Shibata, Japan |
| Prof. J. R. Galvele, Argentina | Prof. R. W. Staehle, USA |
| Prof. M. J. Graham, Canada | Prof. M. Stratmann, Germany |
| Prof. R. M. Latanision, USA | Prof. Dr G. E. Thompson, UK |
| Prof. P. Marcus, France | Prof. Victor A. Timonin, Russia |
| Prof. J. R. Scully, USA | Prof. Jimei Xiao, China |

LOCAL ORGANIZING COMMITTEE

Chairman-----Wei Ke
First Vice-Chairman-----Yu Zuo
Second Vice-Chairman-----Wen-Ta Tsai
General Secretary-----Yinshun Wu
Scientific Secretaries-----Enhou Han, Lijie Qiao

| | | | |
|-----------------|---------------|----------------|----------------|
| Xinde Bai | Xiaochun Ji | Hansun Shen | Dejun Yang |
| Bei Cao | Wei Ke | Shizhe Song | Wu Yang |
| Guangzhang Chen | Changrong Li | Hui Sun | Jianqin Zhang |
| Wuyang Chu | Di Li | Wen-Ta Tsai | Qifu Zhang |
| Junhua Dong | Helin Li | Fuhui Wang | Qinjing Zhang |
| Fuxing Gan | Jing Li | Guangyong Wang | Weiguo Zhang |
| Jinjie Gao | Meishuan Li | Jianqiu Wang | Xiaohong Zhang |
| Kewei Gao | Xiaogang Li | Dan Wei | Xiaolin Zhang |
| Zigan Ge | An Lin | Wuji Wei | Yu Zuo |
| Xingpeng Guo | Changjian Lin | Lishi Wen | |
| En-Hou Han | Leyun Lin | Yongji Weng | |
| Yedong He | Feng Lu | Jianhua Wu | |
| Jian He | Minxu Lu | Yinshun Wu | |
| Baorong Hou | Zhu Lu | Binshi Xu | |
| Xinguo Hu | Lijie Qiao | Naixin Xu | |

WELCOME



Welcome to Beijing.

It is my sincere pleasure to welcome you to participate in the 16th International Corrosion Congress in Beijing, China.

The Chinese Society for Corrosion and Protection (CSCP) is honored to host this conference. The CSCP, founded 25 years ago, is an affiliate to the China Association for Science and Technology, and has more than six thousand members nowadays. Under the auspices of the International Corrosion Council (ICC), and with the diligent effort of the local organizing committee, we are full of confidence that the meeting will be another joyful moment in your fruitful career.

In the 21st century, the issue of resources must be put at a prominent place in order to realize the ambitious economic target and the sustainable development of the world. This congress aims to focus on “Corrosion and Protection in High Technology Era”. We believe this congress will be memorable for the high level of its scientific content and the extensive exchange of scientific knowledge and new technologies.

With the fast pace of industrialization, China is facing a significant corrosion problem in industry and natural environment. Consequently, an increasing attention to this problem has become apparent among Chinese manufacturers, state policy makers and researchers in the past decades.

The conference is held at Beijing, the capital city of the People’s Republic of China, the center of culture, economics and scientific researches of China. The city offers excellent facilities for a large-scale international conference like ours with an atmosphere of both inspiration and tranquility in this newly built convention center.

In order to help you make the most of your stay in Beijing, we also include a few social programs before, during and after the meeting. You will find an opportunity to see some of the most famous historical sites in the world, such as The Great Wall and The Forbidden City. For the others, you can visit laboratories and enjoy your walking along the streets, talking to the local people, or adventuring the city at your own pace to experience the rapid developing society by yourselves.

We hope you join us to celebrate the latest scientific achievements in the fields of corrosion and protection and enjoy the ancient yet modernized city of Beijing.

Wei Ke
President of 16th ICC
Organizing Committee

GUIDE TO KEY INFORMATION

The following is a short guide about several important aspects of the Congress which delegates should take into account in order to facilitate your participation in the Congress and to avoid organizational problems.

For all delegates and accompanying persons

Please, always wear your registration badge in order to facilitate your entry to the technical sessions, lunches, banquet, social functions, activities organized by the conference and so on.

The conference will provide lunch and coffee for the delegates from September 20 to 23.

Lunch time: 12:00-13:00

Venue: The exhibition hall on the first floor of the Beijing International Convention Center.

For oral session

There is a speaker preparation room located on the first floor of the Beijing International Convention Center (BICC). This room will open during 8:00am-5:00pm from September 19 to 23. The preparation room will provide with the following equipment: Overhead projector, Personal computer, Printer. These equipments will allow delegates to rehearse their slides, overheads, diskettes or CD's of their presentations on the day prior to their presentation.

There is also an information center on the first floor, where all delegates can get on line, send and receive e-mails, and connect to the Internet.

For poster session

Posters will be exhibited in the Exhibition Hall (Floor 1).

Two poster sessions are arranged in the afternoons of September 21 and 22 from 13:00 to 18:00. Posters need to post their papers by themselves on September 21 and 22 mornings from 8:00 to 12:00. The materials (glue, tape and so on) for fixing the poster papers will be provided on the registration desk.

For ICC members

The ICC meeting will be held in the late afternoon of September 22 at CONVENTION HALL No.7 on the second floor of Beijing International Convention Center.

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INTRODUCTION

The 16th International Corrosion Congress will be held from September 19 to 24, 2005 in Beijing, China. As the local sponsor and organizer, the Chinese Society for Corrosion and Protection is expecting to welcome our friends from all over the world to come to Beijing for this event in 2005, and we will do our best to make this congress a great success.

The 16th International Corrosion Congress in China will offer an excellent opportunity for scientists in the corrosion community from all over the world to convene together, to discuss their common interests, to share their different experiences, and to exchange their ideas, new thoughts, and their recent innovations in corrosion fields, and meanwhile to see the rapidly developing China.

We believe that through the great events of this congress and its exhibition, participants from different countries of the world would surely achieve great deal in their particular professional fields and in the cooperation with one another. Furthermore, the long-standing history, beautiful landscape, culture and lifestyle as well as the great changes in China in recent years will make the participants feel well worthwhile to visit China.

DATE AND PLACE

The 16th International Corrosion Congress will be held in Beijing China from September 19 to 24, 2005.

All sessions will take place in the Beijing International Convention Center.

OFFICIAL LANGUAGE

The official language of the congress will be English. No simultaneous translation will be provided.

CONGRESS SECRETARIAT

Add: No.30 Xueyuan Road, Beijing, P.R.China

Post Code: 100083

Tel: 86-10-62320080 86-10-62397591 86-10-62332201 86-10-62397592

Fax: 86-10-82372305 86-10-82372302

<http://www.cscp.org.cn> E-mail: mail@cscp.org.cn

Congress website: <http://www.16icc2005.com>

CONGRESS TEMPORARY SECRETARIAT

The registration desk will be the temporary secretariat during the 16th ICC.

SOCIAL PROGRAM

The following program is arranged for foreign delegates who have registered and their accompanying persons.

GREAT WALL TOUR

Date: September 24, 2005

Time table: 8:00

Gather in front of Continental Grand Hotel (CGH) gate

8:10

Depart to Great Wall by saloon car

9:20

Arrive at the Great Wall

9:20 -11:30

During this time, participants will visit the Great Wall with a guide or look around by themselves (for the purpose of security, it is not recommended)

11:30 -13:30

Lunch Time

14:30

Return to the Continental Grand Hotel (CGH)

Note: Entrance ticket, lunch, mineral water, round travel fare and guide fee are all included in a full registration fee or accompanying fee.

TECHNICAL VISITING

Visiting Company: Beijing Institute of Aeronautical Materials (BIAM)

Date: Saturday, September 24, 14:30 to 19:00 (After Great Wall tour)

Schedule:

- (1) Visit exhibition hall of BIAM, brief introduction of BIAM.
- (2) Visit laboratory of corrosion and protection, including the atmospheric corrosion exposure station at BIAM.
- (3) Visit laboratory of advanced composite materials, National Key Laboratory for Defense Science and Technology Research.
- (4) Visit laboratory for mechanics of materials.

Note: The delegates who want to participate in the technical visiting need to register first on the registration desk.

WELCOME RECEPTION

Date: September 19, Monday, at 19:00

Venue: Convention hall No.1 in Beijing International Convention Center

BANQUET

Date: September 23, Thursday, at 17:00 (Gather and depart at 16:30 from the BICC)

Venue: Beijing Friendship Hotel

ACCOMPANYING PERSONS PROGRAM

Accompanying persons are invited to the following activities: **Welcome Reception, Banquet** and **Great Wall Tour**. Please remember to wear your name badge.

TECHNICAL PROGRAM

CONGRESS OVERVIEW

| | Sept. 19 Monday | Sept.20 Tuesday | Sept.21 Wednesday | Sept.22 Thursday | Sept.23 Friday | Sept.24 Saturday |
|-----------|--|-------------------------------------|----------------------|---------------------|-------------------|---|
| Morning | Registration | Opening Ceremony Plenary Session | Plenary Session | Parallel Session | Parallel Session | Great Wall Tour (Foreign guests) |
| Lunch | No | Yes | Yes | Yes | Yes | Yes |
| Afternoon | Registration | Parallel Session | Parallel Session | Parallel Session | Parallel Session | |
| | 16:30 16 th ICC Organizing Committee Meeting | | Poster | | | |
| Dinner | 19:00 Reception | No | No | No | 17:00 Banquet | |
| | | | | ICC Meeting | | |
| Evening | | | Poster | | | |

Plenary lectures

FUNDAMENTAL STUDIES TO ELUCIDATE THE EFFECT OF ALLOYING ELEMENTS ON THE SURFACE TREATMENT AND FINISHING OF ALUMINIUM



Plenary lecturer: G E Thompson (UK)

ABSTRACT

Alloying elements, as impurities or deliberate additions, play important roles in the surface treatment of aluminium for practical applications that range, for example, from electrical through decorative to aerospace. In explaining their behaviour, consideration must be given to the alloy microstructure and associated thermomechanical processing, and the locations of the alloying elements in solid solution in the aluminium matrix and as fine strengthening phases or as relatively coarse second phase material.

Surface treatment of aluminium generally involves immersion and/or polarisation in electrolytes that are relatively reactive to the initially present air-formed film on the macroscopic metal surface. Under such conditions, a transformed alumina film, e.g. residual, barrier or a porous-type, remains at the alloy surface. Further, it is shown that alloy elements can significantly influence individual surface treatments through their effect on the anodic and cathodic processes proceeding in the reactive electrolyte.

In the pursuit of an integrated theory of alloy effects on surface treatment, it is evident that the Gibbs free energy of oxide formation per equivalent relative to alumina is important in determining initial enrichment of alloying elements at the alloy/film interface prior to their oxidation and incorporation in the alumina film. Further, the magnitude of the alloy element-oxygen bond energy also plays a role, particularly in the outward mobility of the alloy element-cation species relative to aluminium ions and, consequent residual or anodic film composition. Through the studies of many students, research workers and collaborators, which are acknowledged here, specific examples are provided to highlight the phenomena introduced previously. These include impurity segregation that determines surface topography, alloying elements that co-oxidise with alumina (e.g. lithium and magnesium) and alloying elements that enrich prior to oxidation. For, noble species in selected alloys, treated in reactive electrolytes, nanoparticle generation is also revealed and explained here.

ATMOSPHERIC CORROSION-NEW FUNDAMENTAL AND ENVIRONMENTAL ASPECTS



Plenary lecturer: C. Leygraf (Sweden)

ABSTRACT

The aim of this plenary lecture is to cover our recent progress in developing new understanding of atmospheric corrosion of metals. This phenomenon is of profound technical importance and involves chemical, electrochemical, and physical processes in three phases (solid, water adlayer, and atmosphere) and two interfaces (solid/water and water/atmosphere). Traditionally, research on atmospheric corrosion has dealt with various fundamental and applied aspects of the impact of the environment on the metal. However, from an environmental perspective the opposite situation is of equal importance, namely the influence of the metal on the environment upon corrosion-induced runoff and dispersion. Using zinc as a representative metal, the focus in this presentation is on both fundamental and on environmental aspects.

The *fundamental* part is based on our efforts to characterize the interfacial regime between zinc and the atmosphere. The interfaces involved, zinc/water and water/atmosphere respectively, have been studied by a combination of different *in situ* techniques. Infrared reflection/absorption spectroscopy (IRAS) together with the quartz crystal microbalance (QCM) have been used to study the zinc/water interface, and sum frequency generation (SFG) to explore the water/atmosphere interface. IRAS provides information about the chemical identity of corrosion products formed, and QCM the mass of the corrosion products formed. In these IRAS/QCM experiments, the zinc metal has been exposed to a humid atmosphere containing acetic acid and acetaldehyde as corrosion stimulators. SFG has been used to deduce molecular information from the outmost surface layer of acetic acid and acetaldehyde solutions of various concentrations. In all, this combined experimental approach provides clear evidence of the important role of the zinc/water interface over the water/atmosphere interface involving key processes governing the initial atmospheric corrosion of zinc.

The *environmental* part describes the corrosion-induced zinc release from outdoor constructions, its concomitant dispersion and its interaction with absorbing surfaces in the vicinity of the release location. The environmental fate of zinc is discussed in terms of zinc flow, zinc speciation and bioavailability at the immediate release situation, their changes during transport from source to recipient, and zinc immobilization. Presented data are based on a field exposure program at an urban site in Stockholm, laboratory investigations of the runoff (release) process, published field data from other programs, a predictive site-specific runoff rate model based on SO₂-concentrations, computer modeling of zinc chemical speciation, and reactivity investigations towards natural or man-made absorbing surfaces in soil, limestone and concrete. In all, this multidisciplinary effort illustrates that zinc, similar to the other investigated metals copper, chromium and nickel, mainly is present in its most bioavailable form immediately after release, the free hydrated zinc ion. However, during environmental fate, this bioavailable part is substantially reduced, forming other, much less

bioavailable, zinc-containing species. Moreover, zinc is largely retained already in the immediate vicinity of the release location.

SOME RESULTS OF LONG-TERM ATMOSPHERIC EXPOSURE TESTS OF STEELS IN CHINA

Plenary lecturer: Chu-nan Cao (China)

ABSTRACT

Some results of two projects of long-term atmospheric exposure tests of steels carried out in China are introduced. Most results of both projects can be fitted by a semi-logarithmic formula. For the first project with 15-year duration of exposure, the obvious favorable effect of Cu as an alloying element added into two carbon steels and a low-alloyed steel on their atmospheric corrosion resistance in different environmental conditions are reviewed. For the second 16-year exposure project, abnormal corrosion behaviors of steels exposed at coastal test stations in long-term exposure are stressed.



CORROSION PREVENTION MECHANISM FOR NEW GALVANIZED STEELS

Plenary lecturer: Tooru Tsuru (Japan)

ABSTRACT

Excellent corrosion resistance of galvanized steels is mainly attributed to their very small atmospheric corrosion rate and sacrificial action of metallic zinc for the substrate steel layer. Corrosion products of zinc covering steel layer have been recognized as a barrier layer for penetration of corrosive agents. To develop new galvanized steels, many investigations are performed in Japan focusing on chemical and physical properties of zinc corrosion products. Several interesting results are reviewed as follows.

Semiconductor and chemical nature of the corrosion products revealed that n-type semiconductor of ZnO did not suppress the cathodic reduction of oxygen and its chemical dissolution rate did not depend upon the potential. On the other hand, corrosion products formed on Zn-55%Al coating showed p-type semiconducting property and suppressed the cathodic reduction because of a depletion zone formation at the surface. Inhibitor action of zinc ion dissolved from corrosion products was confirmed by several electrochemical methods and the role of alloying elements was also determined. Corrosion rate monitoring using ac impedance in field exposure and laboratory tests revealed the corrosion mechanisms and reactions during wet condition. It is useful to evaluate the corrosivity of environments.



**CORROSION RELIABILITY PREDICTION:
LONG TERM NUCLEAR WASTE STORAGE IN
YUCCA MOUNTAIN**



Plenary lecturer: G. S. Frankel (U.S.A)

ABSTRACT

The U.S. Department of Energy has proposed the disposal of high level nuclear waste from commercial and defense reactors in a mined geologic repository under Yucca Mountain, Nevada. The waste will be stored in metallic canisters. The barrier against corrosion will be an Alloy 22 canister and a Ti Grade 7 drip shield. Both of these materials are extremely corrosion resistant. The environment inside Yucca Mountain is relatively benign, but the long time period over which these materials must resist penetration makes corrosion a concern. This paper presents a background of the corrosion issues and shows some recent results regarding measurements of localized corrosion under thin aqueous layers and layers that simulate wet dust deposits.

Conference Room

| Room Number | Room Name | Location |
|-------------|-------------------------|-----------------|
| A | Convention Hall No.16-A | Floor 3 in BICC |
| B | Convention Hall No.3 | Floor 3 in BICC |
| C | Convention Hall No.10 | Floor 3 in BICC |
| D | Convention Hall No.16-B | Floor 3 in BICC |
| E | Convention Hall No.14 | Floor 3 in BICC |
| F | Convention Hall No.4 | Floor 3 in BICC |
| G | Convention Hall No.13 | Floor 3 in BICC |
| H | Convention Hall No.11 | Floor 3 in BICC |
| | Convention Hall No.1 | Floor 2 in BICC |
| | Convention Hall No.2 | Floor 2 in BICC |

About details of convention hall location, you can see the Plans of BICC LEVEL 2 and 3 in the last two pages.

Program Timetable

September 20 Afternoon, Tuesday

| | Room A | Room B | Room C | Room D | Room E | Room F | Room G | Room H |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 13:00-15:20 | S 03 | S 18-B | S 05-A | S 06 | S 09 | S 14 | S 17 | S 20 |
| 15:20-15:40 | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break |
| 15:40-18:00 | S 03 | S 18-B | S 05-A | S 06 | S 09 | S 14 | S 17 | S 20 |

September 21 Afternoon, Wednesday

| | Room A | Room B | Room C | Room D | Room E | Room F | Room G | Room H |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 13:00-15:20 | S 03 | S 18-C | S 27 | S 06 | S 09 | S 14 | S 10-H | S 13 |
| 15:20-15:40 | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break |
| 15:40-18:00 | S 03 | S 18-C | S 05-SRB | S 17 | S 09 | S 14 | S 10-H | S 13 |

September 22, Thursday

| | Room A | Room B | Room C | Room D | Room E | Room F | Room G | Room H |
|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 8:00-10:00 | S 25 | S 04 | S 05-B | S 26 | S 17 | S 18-C | S 10-SCC | S 13 |
| 10:00-10:20 | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break |
| 10:20-12:00 | S21 | S 04 | S 05-B | S 26 | S 17 | S 18-C | S 10-SCC | S 13 |
| 12:00-13:00 | Lunch | Lunch | Lunch | Lunch | Lunch | Lunch | Lunch | Lunch |
| 13:00-15:20 | S 03 | S 04 | S 05-B | S 26 | S 23 | S 18-A | S 10-SCC | S 18-C |
| 15:20-15:40 | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break |
| 15:40-18:00 | S 03 | S 04 | S 05-B | S 24 | S 23 | S 18-A | S 10-SCC | S 18-C |

September 23, Friday

| | Room A | Room B | Room C | Room D | Room E | Room F | Room G | Room H |
|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 8:00-10:00 | S 02 | S 04 | S 15 | S 19 | S 08 | S 18-A | | S 12 |
| 10:00-10:20 | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break |
| 10:20-12:00 | S 02 | S 28 | S 15 | S 19 | S 08 | S 18-A | | S 12 |
| 12:00-13:00 | Lunch | Lunch | Lunch | Lunch | Lunch | Lunch | Lunch | Lunch |
| 13:00-15:20 | S 02 | S 28 | S 05-B | S 19 | S 08 | S 14 | S 01 | S 12 |
| 15:20-15:40 | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break | Coffee-Break |
| 15:40-18:00 | S 02 | S 28 | S 16 | S 19 | S 08 | S 14 | S 11 | S 12 |

Oral session

September 20, Tuesday

Opening Ceremony and Plenary Lectures

Date: Sep 20 Morning

Room: Convention Hall No. 1

Chairs: Ir A. Pourbaix, Yu Zuo

9:00-9:30

Opening Ceremony

9:30-10:20

Fundamental Studies to Elucidate the Effect of Alloying Elements on the Surface Treatment and Finishing of Aluminium

Prof. George Thompson (The University of Manchester, UK):

10:30-11:20

Some Results of Long Term Atmosphere Exposure of Steels in China

Prof. Chunan Cao (Zhe Jiang University, China):

Session: 03 Corrosion And Protection In Light Alloys-Mg

Date: Sep 20 Afternoon

Room: A

Chairs: En-Hou Han

- 13:00-13:40 03-Mg-Keynote Understanding The Corrosion Of Magnesium Alloys**
Guangling Song, Andrej Atrens
- 13:40-14:00 03-Mg-05 Laser Surface Treatment for Microstructure-assisted Localized Corrosion Resistance of a Magnesium Alloy**
R.K. Singh Raman, S. Murray, M. Brand
- 14:00-14:20 03-Mg-07 Influence of thermal-rate treatment on the corrosion resistance of Mg-7Al-0.4Zn-0.2Mn alloy**
Shaokang Guan, Jingyang Chen, Chenxing Ren, Qing Yang
- 14:20-14:40 03-Mg-16 Wettability Of The Solution On Magnesium Alloys**
Ye Wan, Chuanwei Yan
- 14:40-15:00 03-Mg-11 Research On Water Based Metallic Coating Of Magnesium Alloy**
Wei Huang, Di Li, Tianliang Zheng
- 15:00-15:20 03-Mg-13 The study of characteristic in initial depositing on electroless of Mg-8Zn-4Al alloy**
Wenbo Cao, Shaokang Guan, Chenxing Ren
- 15:20-15:40 Coffee-Break**
- 15:40-16:00 03-Mg-06 Studies On The Anti-Corrosion Behaviors Of Synergistic Coatings For Magnesium Alloy AZ91D**
Hongping Duan, Keqing Du, Chuanwei Yan
- 16:00-16:20 03-Al-18 The Atmospheric Corrosion Of AZ91D; The Influence Of CO₂ And NaCl**
D. Bengtsson Blücher, I. Maric, M. Halvarsson, J.-E. Svensson, And L.-G. Johansson
- 16:20-16:40 03-Mg-09 Corrosion Behavior Of AZ91D In Sodium Fluoride Solutions**
Jian Chen, Junhua Dong, Jianqiu Wang, Enhou Han, Wei Ke

- 16:40-17:00 03-Mg-01 Corrosion Mechanism Of Magnesium And Magnesium Alloys**
Guangling Song, Andrej Atrens
- 17:00-17:20 03-Mg-02 Corrosion Behaviors Of Magnesium Alloy AZ91 Coated With Ti By Arc-Added Glow Discharge Plasma Penetrating Technique**
Cai-E Cui, Qiang Miao, Jun-De Pan, Ping-Ze Zhang, Gao-Hui Zhang
- 17:20-17:40 03-Mg-14 Study On The Environmentally Friendly Microarc Oxidation Technology Of AZ91Die-Casting Magnesium Alloy**
Chengjin Shen, Ruilin Lu, Jun Liu, Yaojun Miao

Session: 18 Surface Protection Techniques-B
Date: Sep 20 Afternoon
Room: B
Chairs: Lidia Benea

- 13:00-13:20 18-B-01 Cleaning And Stabilizing Weathered Bronzes-Patina Alterations By Conservation Methods**
Panayota Vassiliou, Cleopatra Samara, Irene Kotzamanidi, Jelica Novakovic
- 13:20-13:40 18-B-02 Synthesis Of Novel Ni/CrN Hard Composite Coating**
J. Zhao, X. Peng, F. Wang
- 13:40-14:00 18-B-04 Corrosion Properties Of Amorphous And Nano-Structured Alloys Deposited By Magnetron Sputtering**
Eimutis Juzeliūnas, Konstantinas Leinartas
- 14:00-14:20 18-B-05 PVD Coatings Improving Corrosion Protection Of Components For Polymeric Injection Moulding**
F. Deflorian, S. Rossi, L. Maines, G. Straffelini
- 14:20-14:40 18-B-08 Electrochemical Behavior Of Microcrystalline Aluminum**
Bo Zhang, Ying Li, Fuhui Wang
- 14:40-15:00 18-B-15 Preparation And In Vitro Bioactivity Of The Composite Ceramic Film On Titanium Film By Micro-Arc Oxidation**
W.Zhang, K.Q.Du, C.W.Yan
- 15:00-15:20 18-B-27 Improvement And Mechanism In Corrosion Protection Of The Nano-TiO₂ Coated 316L Stainless Steel**
C.J.Lin, G.X.Shen, Y.C.Chen, D.Scantlebury
- 15:20-15:40 18-B-09 The Corrosion Prevention Capability Of A Cracked RC Beam Repaired By The Electrochemical Deposition Method**
Weichung Yeih, Jiang Jhy Chang, Chi-Che Hung
- 15:40-16:00 Coffee-Break**
- 16:00-16:20 18-B-32 The Corrosion Studies Of Chromium Carbide Coatings On Steels By Filtered Cathodic Arc Vacuum Deposition**
Chun-Chun Lin, Ku-Ling Chang, Han C. Shih
- 16:20-16:40 18-B-17 Studying Structure And Properties Of The Coating Nanocomposite Based On The Epoxy Modified By Titanium Dioxide (TiO₂)**
Tran Thi Thanh Van, Tran Van Anh

| | | |
|-------------|---------|--|
| 16:40-17:00 | 18-B-22 | Repassivation Of Titanium Under Particle Impingements Eiji Akiyama, Kaneaki Tsuzaki |
| 17:00-17:20 | 18-B-19 | Influence Of Porous Pt-Coatings On The Thermal Oxidation Of GaAs And Metallic Materials Q. Dong, G. Hultquist , M. J. Graham , C. Anghel, G.I. Sproule |
| 17:20-17:40 | 18-B-21 | Electrodeposited Ni-Al-CeO₂ Composite Coatings Resistant To High Temperature Oxidation And Carburization Haifeng Liu, Weixing Chen |
| 17:40-18:00 | 18-B-25 | Electrodeposition Of Ternary Alloys And Composite Coatings As Alternatives To Hard Chromium S. Tamir, M. Rotel |
| 18:00-18:20 | 18-B-31 | Preparation Of Corrosion-Resistant Amorphous Cr-Ta Alloy Coatings With Low Pinhole Density By Dynamic-Ion-Beam Mixing Deposition A. Kawashima, K. Saito, Y. Murakami, K. Asami |

Session: 05 Corrosion And Protection In Natural Environments-A
Date: Sep 20 Afternoon
Room: C
Chairs: Feng Lu

| | | |
|-------------|--------------|---|
| 13:00-13:20 | 05-A-15 | An Investigation On The Corrosion Behavior Of Ancient Admiralty Brass (Mefragh) Articles Belonging To Ancient Iran M.Saremi, R. Vatandost, L. Sodagar |
| 13:20-13:40 | 05-A-25 | Anticorrosive Assesment Of The Drinking Water Network Of Buenos Aires City Blanca M. Rosales |
| 13:40-14:00 | 05-A-05 | Grain Boundary Precipitation Of Cu:Ni Alloy Plates Induced By Sea Water Corrosion And It's Influence In Corrosion Behavior Leyun Lin, Yuehong Zhao |
| 14:00-14:20 | 05-A-29 | The Correlation Study Of Actual Marine Exposure And Accelerated Testing In Lab For Marine Coating Systems Part I: One And Half Year Test Xiaohong Jin, Canjian Lin, Meiqi Ye, Jinghua Yao, Ronggui Du, Naihong Chen, Jinjin Wang, Shuzheng Huang, Zhangji Ye, Tianshui Zheng, Chaigeng Ni, Reshuang Huang, Yinling Hu |
| 14:20-14:40 | 05-A-17 | Environmental Fate Of Corrosion-Induced Metal Release From Stainless Steel I. Odnevall Wallinder, S. Bertling, C. Leygraf |
| 14:40-15:00 | 05-A-18 | The Changing Surface Topography Of Corroding Mild Steel In Sub-Tropical Coastal Waters Robert Jeffrey, Robert E. Melchers |
| 15:00-15:20 | 05-A-19 | Morphology Of The Corrosion Products Of Mild Steel Immersed In Temperate Seawaters Robert Jeffrey, Robert E. Melchers |
| 15:20-15:40 | Coffee-Break | |

- 15:40-16:00 05-A-20 **Investigation Of Accelerated Low Water Corrosion Of Steel Piling In Western Australian Ports**
R. Jeffrey, P. Farinha, C Hutchinson, D. Vallini
- 16:00-16:20 05-SRB-13 **Effect Of SO₄²⁻ Anion On Corrosion Behavior Of Stainless Steel In Sulphate-Reducing Bacteria Solution**
Xin Liang, Jianhua Liu, Songmei Li, Hao Wu
- 16:20-16:40 05-A-27 **Corrosion Behaviors Of ZCu7Ni6AlFe3Mn2Cr In Seawater**
Zeliang Guo, Wenxin Tang, Hongren Wang

Session: 06 Corrosion And Protection In Industrial Environments
Date: Sep 20 Afternoon
Room: D
Chairs: Jingli Luo

- 13:00-13:40 06-Keynote **Corrosion Resistant Alloys Tubular Behaviour In Oil & Gas Operating Conditions: Production, Completion And Acidising Environments**
Lucrezia Scoppio
- 13:40-14:00 06-04 **Corrosion Of 304L Steel In Concentrated Sulphuric Acid**
Yanxu Li, M.B. Ivesm, K.S. Coley
- 14:00-14:20 06-10 **The Photostabilization Study On Airplane Protective Coatings**
Tianliang Zheng, Hua Zhang, Jingcheng Zou, Yingbo Li
- 14:20-14:40 06-17 **Recent Results On Alloy Selection For Organic Environments With Small Amounts Of Mineral Acids**
Helena Alves, Helmut Werner
- 14:40-15:00 06-24 **Anode Choosing For Electrolytic Anti-Fouling System**
Bing Han, Gang Liu, Jiaojiao Chen
- 15:00-15:20 06-41 **Alkalinity Effects On Copper Corrosion Of Copper Plumbing Tubes**
Gustavo E. Lagos, Maria V. Letelier, Herbert E. Allen
- 15:20-15:40 **Coffee-Break**
- 15:40-16:00 07-01 **Water Chemistry And Growth Of Nitrifying Bacteria In Home Plumbing**
Yan Zhang, Marc Edwards
- 16:00-16:20 06-49 **Effect Of Si On Reaction Between Fe-2.5B Alloy And Liquid Zinc**
Rui-Na Ma, Ming Wen, Xiao-Ming Cao
- 16:20-16:40 01-09 **Zirconium And Zirconium Alloys For Use In Corrosive Applications**
Richard C. Sutherlin, PE
- 16:40-17:00 06-08 **Modeling CO₂ Corrosion In Oil And Gas Production And Transmission Systems**
Fengmei Song
- 17:00-17:20 06-09 **A Mechanistic Model For CO₂ Corrosion Of Mild Steel In The Presence Of H₂S Accompanied By Simultaneous Iron Carbonate And Iron Sulfide Film Growth**
Srdjan Nešić, Kun-Lin John Lee, Wei Sun
- 17:20-17:40 06-21 **Study Of Scale Formation In CO₂ Corrosion Of Mild Steel**
Srdjan Nešić, Wei Sun, Kunal Chokshi

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| 17:40-18:00 | 06-28 | Preliminary Study On The Corrosion Behavior Of A3 Pipeline Steel In Polluted Fresh Water Gang Cao, Xuhui Mao, Fuxing Gan |
| | Session: | 09 Localized corrosion |
| | Date: | Sep 20 Afternoon |
| | Room: | E |
| | Chairs: | Reg Eadie, Yu Zuo |
| 13:00-13:40 | 09-Keynote | A Critical pH For The Film Formation On Iron And Steels Toshio Shibata |
| 13:40-14:00 | 09-09 | Crevice Corrosion Behaviors And Passive Film Characteristics Of Ni And Ni-Cr Alloys Jae-Bong Lee, Se-Jung Oh |
| 14:00-14:20 | 09-11 | Three Dimensional Investigation Of Localised Corrosion In Aluminium Aerospace Alloys Via High-Resolution, In Situ Synchrotron X-Ray Tomography B.J. Connolly, S.J. Fox, D.A. Horner, C. Padovani, A.J. Davenport, M. Preuss, N.P. Stevens T.J. Marrow, J.-Y Buffiere, M. Stampanoni, A. Groso |
| 14:20-14:40 | 09-03 | In-Situ Image Analysis Of Stainless Steel Pitting Corrosion Shouyan Wang, Lei Tao, Shizhe Song |
| 14:40-15:00 | 09-02 | Study Of The Localized Corrosion And Surface Treatment Of Al Alloys With SKPFM, SVET, And Micro-Capillary Cell H.Zhan, F.Andreatta, E.L.Apachitei-Fratila, H.Terryn, J.H.W.de wit |
| 15:00-15:20 | 09-01 | Salt Film Dissolution In Pitting Corrosion Of V-Alloy Ferritic Stainless Steel PC Pistorius, J Radanitsch |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 09-13 | Pitting Behavior Of Differently Pretreated Aluminum Foil In HCl Solution Hui Wang, Yedong He, Wei Zhang |
| 16:00-16:20 | 09-17 | Mechanism Of SRB Based On Sulfide Corrosion And Iron Sulfide Corrosion Products Matilde F. de Romero |
| 16:20-16:40 | 09-19 | Corrosion And Corrosion Inhibition Of Copper And Copper Based Alloys In Chloride Free And Chloride Containing Solutions Waheed A. Badawy, Khaled M. Ismail, Ahlam M. Fathi |
| 16:40-17:00 | 09-42 | Influence Of Cl⁻ Deposition Concentration On Pitting Corrosion Of LY12 De Sheng Han, Di Li |
| 17:00-17:20 | 09-44 | A New Test Method For Crevice Corrosion Testing Of Stainless Steels In Seawater B. Espelid, D. Feron, G. Ferrari, S. Huizinga, U. Kivissak, A. Mollica, E. Rislund, T. Rogne, Strandmyr, L. Wegrelius |

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| 17:20-17:40 | 09-45 | Study Of Local Electrochemical Environment At Breakage On Pipeline Coating Zhiying Wang, Jianqiu Wang, Enhou Han, Wei Ke |
| 17:40-18:00 | 09-18 | Determination Of Resistance To Pitting And Crevice Corrosion Of Stainless Steels By Using Electrochemical Methods Jae-Bong Lee, Sim-Kun Min |
| | Session: | 14 Corrosion Electrochemistry And Electrochemical Testing Techniques |
| | Date: | Sep 20 Afternoon |
| | Room: | F |
| | Chairs: | Shizhe Song |
| 13:00-13:40 | 14-Keynote | Electrochemical Characteristics Of Metal Removal During Chemical Mechanical Polishing Hong-Shi Kuo, Jui-Chin Chen, Kuan-Yu Lin, Wen-Ta. Tsai |
| 13:40-14:00 | 14-01 | Evaluating Corrosivity Of Chemical Deicers: An Electrochemical Technique Xianming Shi, Shizhe Song |
| 14:00-14:20 | 14-08 | Effect Of Cu On The Electrochemical Corrosion Behavior Of Sn-9Zn Solder In 3.5% NaCl Solution Haitao Ma, C. M. L Wu, Daquan Yu, Jie Zhao, Lai Wang |
| 14:20-14:40 | 14-04 | Characterization Of The Corrosion Resistance Of Stainless Steels As A Function Of Their Surface Textures Thomas L. Ladwein |
| 14:40-15:00 | 14-13 | The electrochemical impedance spectroscopy (EIS) of Corrosion of pure Fe and Cr at 600 °C under Solid NaCl Deposit in Water Vapor Li Liu, Ying Li, Chaoliu Zeng, Fuhui Wang |
| 15:00-15:20 | 14-14 | A Photoelectrochemical Study Of Passive Films On Stainless Steel In Simulated Cooling Water With Sulfide Hong-Hua Ge, Guo-Ding Zhou, Qun Xie |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 14-05 | Corrosion Behaviour Of Hiped And Cast Stellite Alloys In CO₂-Containing Seawater Environment Yu Yan, Anne Neville |
| 16:00-16:20 | 14-10 | Corrosion Electrochemical Study Of Brass Tubes In Circulating Cooling Seawater Yuzhuo Lu, Shizhe Song, Lihui Yin |
| 16:20-16:40 | 14-03 | Electrochemical Reactivation Behavior Of Alloy 182 Weld Metal Tsung-Feng Wu, Wen-Ta Tsai |
| 16:40-17:00 | 14-06 | Tunnelling Spectroscopy On Liquid/Passive Film Interfaces Ismael Díez-Pérez, Aleix García-Güell, Pau Gorostiza, Fausto Sanz |
| 17:00-17:20 | 14-11 | Electrochemical And XRD Study On 5%Al-Zn Alloy-Coated Steel Corrosion Resistance Under Cyclic Wet-Dry Condition Shaohua Xing, Shengtao Zhang, Yan Li |

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| 17:20-17:40 | 14-15 | The Research Of The Electrical Properties Of Liquid Crystalline Polymer With Sulfonate Ions Ailing Zhang, Zhenqian Lu, Chuanming Zhang, Yaocheng Liu |
| 17:40-18:00 | 14-65 | Electrochemical Method Study On Corrosion Of Condenser In Chlorine-Alkali Industry Bin Xiang, ShaohuaXing S, Shengtao Zhang, Yan Li |
| 18:00-18:20 | 14-49 | The Research On Electrochemical Corrosion Behaviors Of Al-Zn Alloy Hot-Spraying Coating L. Yang, X.H. Zhou, Z.L Wei, Y.F Mao, N.X Xu, Y.W Huang |

Session: 17 Inhibitors
Date: Sep 20 Afternoon
Room: G
Chairs: Junhua Dong

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| 13:00-13:40 | 17-Keynote | Physicochemical Aspects Of Corrosion Inhibition By Adsorption Of Organic Compounds Yu. I. Kuznetsov |
| 13:40-14:00 | 17-08 | Synergistic Combination Of Sodium Silicate And Orthophosphate For Controlling Pipeline Steel Corrosion In Water Containing Oxygen And Biocide At The Different Temperatures Vu Dinh Huy, Vo Ngoc Tiep |
| 14:00-14:20 | 17-36 | The Synergistic Inhibition Effect Of Cerium(IV) Ion And Vanillin On The Corrosion Of Cold Rolled Steel In 1.0 M H₂SO₄ Solution Xianghong Li, Guannan Mu |
| 14:20-14:40 | 17-42 | Electrochemical Study Of A Mannich Inhibitor's Absorptive Feature Under Different Circumstance Fangwei Luo, Yongji Weng, Jiancun Gao |
| 14:40-15:00 | 17-05 | Corrosion Inhibition Of Stainless Steels In Phosphoric Acid By Mineral Compounds H. Iken, A. Guenbour, A, Bellaouchou, R. Boulif, A. Benbachir |
| 15:00-15:20 | 17-38 | Inhibition Mechanism Of Dodecylamine And Sodium Chromate On Accelerated Dissolution Of Metal Induced By AFM Tip Scratching Jun-E Qu, Xingpeng Guo |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 17-14 | Protecting And Increasing Production Of Gas Wells Using Corrosion Inhibitors And Foamers Jiang Yang, Sunder Ramachandran, Weidong Li |
| 16:00-16:20 | 17-23 | Complex Of PASP And Tungstate As Inhibitor For Carbol-Steel Corrosion Qun-Jie Xu, Guo-Ding Zhou |
| 16:20-16:40 | 17-24 | A Study Of The Copper Electrode Behavior In Buffer Borax Solutions Containing BTA-Type Inhibitors By Photoelectrochemical Methods Qun-Jie Xu, Guo-Ding Zhou |

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| 16:40-17:00 | 17-10 | Protective Effectivity Of Ethoxyamines Salts In Small Concentration As Inhibitors Of The Wide Spectrum Of Action V.I.Vigdorovich, S.E.Sinjutina, S.V.Romanenko |
| 17:00-17:20 | 17-13 | An Investigation Of Zinc Corrosion Inhibition In Aqueous Solutions Of NH₄Cl By Organic Compounds V.Brânzoi, Florina Brânzoi, Alina Prună, Luisa Pilan |
| 17:20-17:40 | 17-02 | The Solvent And Sas Nature Contribution In Their Compositions Protective Efficiency H.D. Tanygina, N.V. Loktionov, A. Uy Privalova |
| 17:40-18:00 | 17-06 | New High Efficiency Romanian Corrosion Inhibitors Liviu Dragos, Corina Radulescu, Constantin M. Vladulescu |

Session: 20 Industrial Examining And Monitoring
Date: Sep 20 Afternoon
Room: H
Chairs: C. Sean Brossia, Guangzhang Chen

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| 13:00-13:40 | 20-Keynote | Recent Advances In Corrosion Monitoring C. Sean Brossia |
| 13:40-14:00 | 20-01 | An Investigation Of Corrosion Mechanisms Of Prepainted GI And GA Steels By A.C. Impedance Methods Sen Thann Shen |
| 14:00-14:20 | 20-02 | New Techniques For Corrosion Monitoring Under Polarized Conditions Tadashi Shinohara, Akira Tahara, Yuji Hosoya |
| 14:20-14:40 | 20-14 | R/D Of Monitoring Technique Of Localized Corrosion Rate For Non-Passivable Metal In Corrosive Media Liqun Gao, Haiquan Peng, Liangcai Lei, Yigong Yan, Yuanlong Du |
| 14:40-15:00 | 20-05 | Electrochemical Noise In Crevice Corrosion Of Aluminum And Possibility For Its Monitoring Yasuhiko Itoi, Seisho Take, Masaru Okuyam |
| 15:00-15:20 | 20-08 | Corrosion Monitoring Using Electrochemical Noise And LPR In Fuel-Oil Combustion Gas Environment V.M. Salinas-Bravo, J. Porcayo-Calderon, J.G. Gonzalez-Rodriguez |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 20-13 | Study Of Galvanostatic Charge Technique Used For Metal Corrosion Monitoring In Seawater Min Du, Rongjie Gao, Qingzhang Wang, Lina Jiang |
| 16:00-16:20 | 20-03 | Monitoring Industrial Corrosion:An Evaluation Of Techniques Abdulqader M. Alfuraij |
| 16:20-16:40 | 23-12 | Solving Corrosion Problems In The Chemical Processing Industry By Combining Laboratory Corrosion Tests And Online Corrosion Monitoring Technologies Shi Hua Zhang, Brian J Saldanha |

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| 16:40-17:00 | 20-20 | Corrosion Rate Monitoring Of Metallic Materials Using Coulostatic Method And Its Remote Communication Technique Y.T. Zhao, X.P.Guo |
| 17:00-17:20 | 20-22 | Determination Trace Cr_3^+ In Electroplating Waste Water Of Content Chromium By Extraction Spectrophotometry In The $\text{H}_2\text{CrO}_6\text{-C}_5\text{H}_{11}\text{OH}$ System Shuqi Qin, Ying He |

September 21, Wednesday

Plenary Lectures

Date: Sep 21 Morning

Room: Convention Hall No. 2

Chairs: J.H.W. de Wit, Wen-Ta Tsai

- 9:00-9:50 **Atmospheric Corrosion - New Fundamental and Environmental Aspects**
Prof. Christofer Leygraf (Royal Institute of Technology, Sweden) :
- 10:00-10:50 **Corrosion Prevention Mechanism for New Galvanized Steels**
Prof. Tooru Tsuru (Tokyo Institute of Technology, Japan):
- 11:00-11:50 **Corrosion Reliability Prediction: Long Term Nuclear Waste Storage in
Yucca Mountain**
Prof. Gerald Frankel (Ohio Sate University, USA):

Session: 03 Corrosion And Protection In Light Alloys-Mg
Date: Sep 21 Afternoon
Room: A
Chairs: Andrej Atrens

- 13:00-13:40 **03-Mg- Keynote Corrosion Protection Techniques For Magnesium Alloys**
En-Hou Han, Wei Ke
- 13:40-14:00 **03-Mg-17 Study On Corrosion Behavior Of Magnesium Alloy AZ91D and AZ63**
Liquan Bai, Di Li, Wei Huang
- 14:00-14:20 **03-Mg-25 Corrosion Behavior Of Rheoformed Magnesium Alloys**
Z. Koren, Ya. Unigovski, T. Chen, Y. Hao, E. M. Gutman, H. Rosenson
- 14:20-14:40 **03-Mg-28 Hardness And Wear Characteristics Of Electroless Ni-P-ZrO₂ Composite
Coating On AZ91D Magnesium Alloy**
Yingwei Song, Dayong Shan, Enhou Han
- 14:40-15:00 **03-Mg-33 Corrosion Behaviour Of Untreated And Thermally-Treated AS21X Mg
Alloy In Sulphate And Chloride Media.**
F. Zucchi, V. Grassi, A. Frignani, G. Trabanelli
- 15:00-15:20 **03-Mg-35 The Influence Of Electrical Parameters On The Corrosion Resistance
Behavior Of Microarc Oxidation Ceramic Coating Of Magnesium Alloy**
Yu Shen, Lei Yang, Xuehua Zhou, Zhongling Wei, Qirong Chen, Yuanwei
Huang
- 15:20-15:40 **Coffee-Break**
- 15:40-16:00 **03-Ti-01 Corrosion Behavior And Surface Characterization Of Ti-6Al-2Sn-4Zr-2Mo
And Ti-8Al-1Mo-1V Alloys After Gas Nitriding**
Ani Zhecheva, Savko Malinov, Wei Sha
- 16:00-16:20 **03-Ti-04 Hydrogen Absorption Into Alpha Titanium Alloys**
Li Yan, J. J. Noël, Z. Qin, D. W. Shoesmith
- 16:20-16:40 **03-Mg-23 Effect Of Zn Content On The Corrosion Behavior Of Magnesium Alloy**
Tao Zhang, Ying Li, Fuhui Wang

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| 16:40-17:00 | 03-Mg-36 | Influence Of Heat Treatment On Corrosion Behavior Of Die Cast AZ91D Magnesium Alloys In 3.5% NaCl Wanqiu Zhou, Dayong Shan, En-Hou Han, Wei Ke |
| | Session: | 18 Surface Protection Techniques-C |
| | Date: | Sep 21 Afternoon |
| | Room: | B |
| | Chairs: | An Lin |
| 13:00-13:40 | 18-C-Keynote | The Electrochemical Corrosion Of HVAS Zn-Al-Mg-RE Coating In Saline Solution Bin-Shi Xu, Yan Liu, Zi-Xin Zhu, Zhuo-Xin Li, Jie Ma |
| 13:40-14:00 | 18-C-16 | Bio-Compatible Hydroxy Apatite / Titanium Combined Coatings On SUS316L Stainless Steel Seisho Take, Kenichi Mitsui, Shyogo Hosokawa, Yasuhiko Itoi, Masaru Okuyama |
| 14:00-14:20 | 18-C-27 | The Study Of Polymeric Organosilane Based Layers As Pre-Treatment On Mild Steel And The Corrosion Resistance Evaluation By Electrochemical Techniques Marcos Fernandes de Oliveira, Stephan Wolyneec, Idalina Vieira Aoki |
| 14:20-14:40 | 18-C-28 | Corrosion Protection Of Al Alloys By Using Environmentally Friendly Pigments S. Tamir, M. Landkof, Z. Miller |
| 14:40-15:00 | 18-C-29 | Polyaniline Inhibition Of Filiform Corrosion On Organic Coated AA2024-T3 G. Williams, H. N. McMurray |
| 15:00-15:20 | 18-C-34 | Electrochemical Investigation Of The Anti-Corrosion Protective Performance Of Some Commercial Paint Systems For Carbon Steel In Seawater Le Viet Hai, Nguyen Thi Phuong Thoa, Nguyen Huu Doan, Nguyen The Nghiem |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 18-C-35 | Characterization Of Water Uptake And Protective Performance For Epoxy Primer Coatings In Seawater By Electrochemical Impedance Le Viet Hai, Nguyen Thi Phuong Thoa, Nguyen Nhi Tru, Nguyen Thai Hoang |
| 16:00-16:20 | 18-C-67 | Recent Ten Years Applications Of Arc-Spraying Technology For Corrosion Protection Of Steel Bridges In China Chun-Long Yi, Yun-Qi An, Ya-Tan Shen, Xun-An Pang |
| 16:20-16:40 | 18-C-24 | Phosphating And Phosphate Pigments In Relation To Protective Properties Of Organic Coatings. Lech Kwiatkowski |

- 16:40-17:00 18-C-70** **Synthesis and properties of fluorinated acrylic ternary copolymer emulsion**
Tianliang Zheng, Xuan Wang, Yingbo Li, Hua Zhang, Jingcheng Zou,
YuehongWang, Zhang Zhang
- 17:00-17:20 18-C-04** **Study On The Composite Protective Agent For Iron Relics**
Chunchun Xu, Kai Yu, Zise Wang
- 17:20-17:40 18-C-06** **Study On Co-Protecting Grounding Grids Using Conducting Coating And Sacrificial Anode Protection**
Zhi-Ping Zhu, Jing-Lu Li, Zhong-Liang Xiao, Yuchun Li
- 17:40-18:00 18-C-13** **Study On Process And Properties Of A New Nano-Composite Alkyd Coating**
Hongwei Shi, Fuchun Liu, Enhou Han
- 18:00-18:20 18-C-18** **Influence Of Methylamine Acid Phosphate On The Intumescent Coating**
Yong Feng, Feng Lu, Hua Shi, Jiajin Xiong

Session: 27 Corrosion Economics And Management
Date: Sep 21 Afternoon
Room: C
Chairs: V.A. Timonin

- 13:00-13:40 27-Keynote** **Economic, Ecological And Social Aspects Of Corrosion Problem**
V.A. Timonin
- 13:40-14:00 27-02** **Long Term Experience In The Application Of Corrosion Protection Systems In flue Gas Desulphurization Plants On A Global Scale Offers Safety For Chinese Power Plants**
Jürgen Fenner
- 14:00-14:20 27-06** **A New Approach Of The Corrosion: The “Multimedia Corrosion Guide”**
Sylvain Audisio
- 14:20-14:40 27-09** **Reducing The Economic Impact Of Corrosion**
Neil G. Thompson, Mark Yunovich, Cliff Johnson
- 14:40-15:00 27-03** **Corrosion Life Cycle Costs In Defense**
Vinod S. Agarwala
- 15:00-15:20 Coffee-Break**

Session: 05 Corrosion And Protection In Natural Environments-SRB
Date: Sep 21 Afternoon
Room: C
Chairs: V. S. Raja, Xiaogang Li

- 15:20-15:40 05-SRB-22** **Corrosion And Hydrogen Absorption Prevention By X5CrNi 18.10 Steel Corrosion In Aqueous Salt Medium With SRB**
S. M. Beloglazov, M.V. Gryaznova

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| 15:40-16:00 | 05-SRB-02 | Biosorption Of Lead By Biofilm-Forming SRB From AISI 1020 Steel Carbon In A Dynamic System Denise Mesquita Vieira, Antonio Carlos Augusto Da Costa, Vicelma Luiz Cardoso, Francisca Pessoa De Franca |
| 16:00-16:20 | 05-SRB-16 | Corrosion Influenced By SRB Biofilm On Passive Film Of 316L SS By Electrochemical And XPS Analysis Jizhou Duan, Xiaodong Zhao, Jie Zhang, Baorong Hou, Zhigang Yu |
| 16:20-16:40 | 05-SRB-04 | Evaluation Of THPS Biocide Efficacy On Biofilm Control At Different Exposure Times Eliana Flavia C. Sérvulo, Mariana De O. Souza, Francica P. De Franca |
| 16:40-17:00 | 05-SRB-07 | Corrosion Behavior Of AISI 1020 In The Presence Of Biofilms Of Pseudomonas And SRB Using Electrochemical Techniques Simone Louise Delarue Cezar Brasil, Mariana Machado Galvao, Rayane Rodrigues Fonseca, Eliana Flavia Camporese Sérvulo |
| 17:00-17:20 | 05-SRB-08 | Non-SRB Sulfidogenic Bacteria From Waters Used In Secondary Crude-Oil Recovery Zoilabet Duque, José R.Ibars, M.Isabel Sarró, Eduardo Chicote, Diego A.Moreno, Matilde F.de Romero |
| 17:20-17:40 | 05-SRB-09 | Peculiarity Of Mild Steel Corrosion, Induced By Aggressive Sulfur Cycle Bacterium Association. Andriy I. Pilyashenko-Novokhatny, Maria O. Protasova, Iryna P. Kozlova |
| 17:40-18:00 | 05-SRB-17 | Microbiologically Influenced Corrosion Of Underground Structures I.Kozlova, Zh. Kopteva, K. Andreyuk |

Session: 06 Corrosion And Protection In Industrial Environments
Date: Sep 21 Afternoon
Room: D
Chairs: Lucrezia Scoppio

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| 13:00-13:20 | 06-26 | Inter Granular Corrosion Properties Of The Cobalt Base Alloy Stellite No.6 -Effect Of The Dilution With Iron During Hard Facing- Tadashi Honda |
| 13:20-13:40 | 06-31 | Effect Of Wood Species On Corrosion Of Carbon Steel In Pulp Mills Patrick E. Hazlewood, Preet M. Singh, Jeffery S. Hsieh |
| 13:40-14:00 | 06-36 | The Contribution Of Sulfides In Causing The Breakdown Of Passivity David A. Shifler |
| 14:00-14:20 | 06-39 | Corrosion Of Stainless Steel By Dishwashing Detergent Hideki Hagi, Atsuhiko Ikuta |
| 14:20-14:40 | 06-06 | The Mechanism Studies Of Supercritical Carbon Dioxide Corrosion In The Process Of Oil And Natural Gas Exploitation Chunfu Li, Bin Wang, Jialin Dai, Ying Zhang, Yuxing Cheng, Pingya Luo |
| 14:40-15:00 | 06-29 | Performance Monitoring Of HFA Fluids In Hydraulic Equipment In Underground Mining G. Schmitt, R. Buschmann, H. Theunissen, H.-H. Hunfeld, P.Schrems |
| 15:00-15:20 | 06-54 | An Investigation on the Effect of Magnetic Field on Corrosion Failures in |

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| | | the CA (Chloro-Alkali) Plants A.Sabour, M.R.Haghifam, A.A.Riahi |
| 15:20-15:40 | 06-27 | Study Of Corrosiveness Of Acidic Crude Oil And Its Fractions Alec Groysman, Naphtali Brodsky, Joseph Penner, Alon Goldis, Natali Savchenko. |
| 15:40-16:00 | Coffee-Break | |
| | Session: | 17 Inhibitors |
| | Date: | Sep 21 Afternoon |
| | Room: | D |
| | Chairs: | Yurij Kuznetsov, Xingpeng Guo |
| 16:00-16:20 | 17-33 | Effect Of Morpholinium Polyamine On Corrosion Of Reinforcing Steel In Concrete Da-Quan Zhang, Li-Xin Gao, Guo-Ding Zhou |
| 16:20-16:40 | 17-31 | Inhibition For Corrosion Of Hot-Dip Zn-Al Alloy Coatings By Nicotinic Acid In Hydrochloric Acid Hong Ju, Yan Li |
| 16:40-17:00 | 17-26 | Adsorption Behavior And Inhibition Mechanism Of Cationic Inhibitor On The Surface Of Galvanic Electrodes Junzhe Ai, June Qu, Zhengyu Chen, Xingpeng Guo |
| 17:00-17:20 | 17-04 | Protective Action Of DMEA As Corrosion Inhibitor Of Steel In Concrete E. Rakanta , Ch. S. Karagianni, G. Batis |
| 17:20-17:40 | 17-15 | Polyfunctional Properties Of The Compositions Of Amines (Fraction C1₆₋₂₂) And Alkanes H.D. Tanygina, N.E. Solovyeva, O.A. Fomenkov |
| | Session: | 09 Localized Corrosion |
| | Date: | Sep 21 Afternoon |
| | Room: | E |
| | Chairs: | Yu Zuo, Wu Yang |
| 13:00-13:20 | 09-22 | Initial Study Of Anti-Polarization Galvanic Corrosion Behaviors Of Copper Coupled To Tin63-Lead37 Solder In Laboratory Damp Heat Atmosphere Ping Qiu, Ye Wan, Chuanwei Yan, Fuhui Wang |
| 13:20-13:40 | 09-23 | Effects Of Carbon On Corrosion Resistance Of Austenitic Cr-Mn Stainless Steel Josef Bernauer, Gregor Mori, Sannakaisa Virtanen, Markus O. Speidel |
| 13:40-14:00 | 09-26 | The Role Of Electrolyte Concentration On Crevice Corrosion Of Pure Nickel Mohammed Ismail Abdulsalam |
| 14:00-14:20 | 09-39 | Initiation And Propagation Of Pitting Of 16Mn Carbon Steel In Chloride Solutions Studied By Electrochemical Noise Analysis Z. H. Dong, W. J. Jiang, X. P. Guo |
| 14:20-14:40 | 09-30 | Effect Of Molybdate On The Crevice Corrosion Behavior Of Titanium |

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| | | Kulandaivelu Ravichandran, Toshiyasu Nishimura |
| 14:40-15:00 | 09-31 | Application Of Combined Electrochemical AFM And SECM For In-Situ Study Of Localized Corrosion Of Al-Alloys In Chloride Solutions J. Pan, A. Davoodi, C. Leygraf, S. Norgren |
| 15:00-15:20 | 09-32 | Spot Potential Profiles And Pitting Liability Of Thermally Oxidised Stainless Steel Ivan Esih, Vesna Alar, Ivan Juraga |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 09-52 | A New Index For Evaluating Corrosion Resistance Of Zinc And Zinc Alloy Coated Steel Sheets In The Crevice On Automotive Bodies Daisuke Mizuno, Sakae Fujita |
| 16:00-16:20 | 09-34 | The Comparison Of Metastable Pitting Of Mild Steel In Bicarbonate And Nitrite Solutions Containing Cl⁻ Yuming Tang, Yu Zuo, Xuhui Zhao |
| 16:20-16:40 | 09-47 | Influence Of Carbon Film Thickness On Pitting Corrosion Of Copper In Artificial Ground Water Shin-Ichi Komazaki, Yuki Sasaki, Toshihei Misawa, Takenori Nakayama, Tetsuro Hosogi, Chikara Saeki |
| 16:40-17:00 | 09-48 | Silica Film Induced Pitting Corrosion In Copper Tubes Terho Harju |
| 17:00-17:20 | 09-49 | Influence Of Copper On Corrosion Properties Of Palladium-Silver Alloys L. Joska, M. Poddana, J. Leitner |
| 17:20-17:40 | 09-54 | Study On Measuring Pitting Potential Of Carbon Steels And Low Alloy Steels Guoliang Cao, Xuequn Chen, Jianming Wang, Guoming Li |
| 17:40-18:00 | 09-46 | The Effect Of Cerium Chloride And Sodium Molybdate Treatment On The Susceptibility Of Al 6013/SiC Interface To Localized Corrosion Zaki Ahmad, B.J. Abdul Aleem |
| 18:00-18:20 | 09-20 | Applying The Volumetric Method In Research Galvanic Corrosion Of Coupled Cast-Al And Cast-Fe Yong Chen, Shuzhen Deng, Yusu Song |

Session: 14 Corrosion Electrochemistry and Electrochemical Testing Techniques

Date: Sep 21 Afternoon

Room: F

Chairs: Guangling Song

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| 13:00-13:20 | 14-31 | The Influence Of Matrix Phase Composition On The Corrosion Resistance Of High Chromium White Cast Iron Doan Dinh Phuong, Nguyen Van Tich, Hoang Thi Binh, Nguyen Viet Hue, Do Chi Linh, Truong Ngoc Than |
| 13:20-13:40 | 14-40 | Application Of Electrochemical Techniques For The Study Of Corrosion |

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| | | Protection Of Bronze Monuments Under Urban Atmospheric Exposure G. Cicileo, B. Rosales |
| 13:40-14:00 | 14-67 | The Magnetic Field Effect On Oxygen Reduction On Paramagnetic and Ferromagnetic Basic Metal Electrodes M. Okuyama, K. Ayabe, H. Sugiyama, S. Take, Y. Itoi |
| 14:00-14:20 | 14-33 | Investigation Of Electrochemical Behavior Of Stimulation/ Sensing Electrode Materials For Pacemaker Applications J. Pan, A. Norlin, C. Leygraf |
| 14:20-14:40 | 14-36 | The Effect Of Ni Ions Implantation On The Electrochemical Properties Of Aluminum Anodic Oxidic Films Lian-peng Tian, Yu Zuo, Jing-mao Zhao, Jin-ping Xiong, Xu-hui Zhao |
| 14:40-15:00 | 14-20 | Study on the Evolution of Impedance Model of Carbon Steels Coated by Nano-SiO₂ Modified Epoxy paint Xiuzhi Zhang, Yuanlong Du, Fuhui Wang |
| 15:00-15:20 | 14-34 | Comparison Of Corrosion Behavior Among I/M, P/M And MIM Type 304 Stainless Steels By Electrochemical Method Satoshi Sunada, Takahisa Yamamoto, Kazuhiko Majima, Norio Nunomura |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 14-32 | Corrosion Of Carbon Steels In High-Temperature Water Studied By Electrochemical Techniques Y.F. Cheng, F.R. Steward |
| 16:00-16:20 | 14-72 | Corrosion Analysis Of Condenser In Chlorine-Alkali Industry By Electrochemical Method Shaohua Xing, Bin Xiang, Shengtao Zhang, Yan Li |
| 16:20-16:40 | 14-74 | A Study On The Selective Dissolution Behaviors Of Duplex Stainless Steel By Micro Electrochemical Measurements Chang-Jian Lin, Yan Fu, Wen-Ta Tsai |
| 16:40-17:00 | 14-41 | A Study Of The Corrosion Inhibitors For Reinforcing Steel In SPS Solution By Electrochemical Methods Bing Zhao, Ronggui Du, Changjian Lin |
| 17:00-17:20 | 14-39 | Electrochemical Properties Of High Entropy Alloys Chia-Hau Wu, Chia-Shu Lin, Ku-Ling Chang, Han C. Shih |
| 17:20-17:40 | 14-18 | Structural Characterization Of Anticorrosive Film Derived From Vinyltrimethoxysilane Hong You, Honglai Su, Jie Yao |

Session: 10 Hydrogen Embrittlement And Stress Corrosion Cracking-H

Date: Sep 21 Afternoon

Room: G

Chairs: Kyoo Young Kim

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| 13:00-13:40 | 10-H-Keynote | Strategies For Mitigation Of Hydrogen Environment Assisted Cracking Of High Strength Steels John R. Scully, Richard P. Gangloff |
| 13:40-14:00 | 10-H-16 | Hydrogen Distribution Inside The Crevice And The Variation With Applied |

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| | | Potential |
| | | T. Sundararajan, E. Akiyama, K. Tsuzaki |
| 14:00-14:20 | 10-H-21 | Effect Of Environmental Severity On The Hydrogen Induced Cracking Of API X70 Grade Linepipe Steels |
| | | Wan Keun Kim, Seong Ung Koh, Kyoo Young Kim, Boo Young Yang |
| 14:20-14:40 | 10-H-17 | Effect Of Heat Treatments On The Susceptibility To Hydrogen Damage Of An API 5L X52 |
| | | S. Camero, A. L. Rivas, R. Réquiz, H. D Armas |
| 14:40-15:00 | 10-H-14 | Evaluation Of Hydrogen Embrittlement Of High Strength Steel By Slow Strain Rate Test |
| | | Maoqiu Wang, Eiji Akiyama, Kaneaki Tsuzaki |
| 15:00-15:20 | 10-H-18 | Effect Of Metal Coatings On Hydrogen Effusion From Steel |
| | | Guenter Schmitt, Kang-Kai Ma |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 10-H-05 | Comparison On The Failure Behaviour Of The LPG Spherical Tank Manufactured From Different Steels Under The Wet H₂S Environment |
| | | Jian-Qun Tang, Jian-Ming Gong, Shan-tung Tu |
| 16:00-16:20 | 10-H-01 | Quantitative Study On Conditions Of HIC Occurrence For X65 Linepipe Steels |
| | | Takuya Hara, Hitoshi Asahi |
| 16:20-16:40 | 10-H-07 | Thermal Healing Of Hydrogen-Induced Cracks And Bubbles In Steels |
| | | Xiaogang Li, Chaofang Dong |
| 16:40-17:00 | 10-H-03 | The Effect Of Microstructure On Hydrogen Induced Cracking Resistance Of High Strength Low Alloy Steels |
| | | Seong Ung Koh, Hwan Gyo Jung, Kyoo Young Kim |
| 17:00-17:20 | 10-H-09 | Effect Of Microstructure On Hydrogen Diffusion In High Strength Low Alloyed Steels |
| | | M. Cabrini, T. Pastore |
| 17:20-17:40 | 10-H-23 | Study Of The Relationship Between Plating Structure And Hydrogen Embrittlement |
| | | Zhihui Tang, Xiaoyun Zhang, Feng Lu, Jianping Cai, Bo Yu |
| 17:40-18:00 | 10-H-20 | Research Of Flaking In A Wheel Steel |
| | | X. C. Ren, W. Y. Chu, Y. J. Su, J. X. Li, L. J. Qiao |
| 18:00-18:20 | 10-H-22 | Cavitation Damage Characteristic Of 20SiMn Low Alloy Steel In HCl Aqueous Solution |
| | | Suzhen Luo, Yugui Zheng, Wei Ke |
| 18:20-18:40 | 10-H-11 | Hydrogen Corrosion In Steel-Some Thermodynamic And Kinetic Regularities |
| | | Yu.I. Archakov |

Session: 13 High Temperature Corrosion And Protection
Date: Sep 21 Afternoon
Room: H
Chairs: Yutaka Watanabe, Yedong He

- 13:00-13:40 13-Keynote **A Review Of The Reactive Element Effect On The High-Temperature Oxidation Of Metals And Alloys**
D.G.Lees
- 13:40-14:20 13-Keynote **High Temperature Oxidation Resistant Nanocomposites Manufactured By Composite Electrodeposition**
X. Peng
- 14:20-14:40 13-10 **EIS Studies Of Molten (0.9Na,0.1K)₂SO₄-Induced Hot Corrosion Of The Ni-Based Superalloy M38G At 900 In Air**
J. Li, C. L. Zeng
- 14:40-15:00 13-12 **XPS And PAT Study Of The Conventional NiAl Coatings On A Multicomponent Superalloy By Pack Cementation**
H. Wei ,X.F. Sun, Q. Zheng, H.R. Guan, Z.Q. Hu
- 15:00-15:20 13-14 **Influence Of Ambient-Temperature Corrosion On The High-Temperature Performance Of Thermal Barrier Coatings**
Xiang Min, Zhang Qi, Luo Junhua, Xiaojun Lv
- 15:20-15:40 **Coffee-Break**
- 15:40-16:00 13-13 **Transition From External To Internal Oxidation Of Co-Cr Alloys**
Yedong He, Jing Ma, Zhengwei Li, Wei Gao
- 16:00-16:20 13-19 **Oxidation Of A CeO₂-Dispersed Chromium Coating In SO₂ Or/And H₂O Containing Atmosphere**
J. Yan, X. Peng, F. Wang
- 16:20-16:40 13-20 **Oxidation Performance Of A Novel Ni-Cr-Al Nanocomposite By Electrodeposition**
X. Yang, X. Peng, F. Wang
- 16:40-17:00 13-22 **Oxidation Of A Novel Electrodeposited Cu-30Ni-20Cr Nanocomposite Film At 800°C In Air**
Z. Huang, X. Peng, F. Wang
- 17:00-17:20 13-23 **Preparation And Oxidation Of A CeO₂-Dispersed Chromizing Coating By Pack-Cementation At 700**
H. Zhang, X. Peng
- 17:20-17:40 13-46 **A Method To Prepare Diffusing Aluminide Coatings On Steels Assisted By Ball Peening Process**
Zhaolin Zhan, Yedong He, Deren Wang, Wei Gao
- 17:40-18:00 13-28 **High Temperature Corrosion Of Several Engineering Materials Induced By Gaseous ZnCl₂ At 700**
Haitao Ma, Changhai Zhou, Jie Zhao, Lai Wang
- 18:00-18:20 13-17 **Research On The Anticorrosion Performance Of Electro-Thermal Explosion Spraying Coat In High-Temperature**
Shicheng Wei, Binshi Xu, Haidou Wang, Guo Jin

September 22, Thursday

Session: 25 Duration And Life Prediction
Date: Sep 22 Morning
Room: A
Chairs: Roger W.Staehle

- 8:00-8:40 25-Keynote **Survey Of Approaches For Predicting Stress Corrosion Cracking**
Roger W. Staehle
- 8:40-9:00 25-01 **Influence Of Deformation On Product Performance Of Polymer Coated Packaging Steel.**
Berend Boelen, Hans Den Hartog, Hans Van Der Weijde, Hans De Wit
- 9:00-9:20 25-10 **Fatigue Life Prediction Of Offshore Tubular T-Joints**
Tong Liu, Min-Shan Liu, Ming-Hao Zhao, Qi-Wu Dong, Feng Yang
- 9:20-9:40 25-03 **Z-Parameter Method For Life Prediction In An Austenite Steel**
Jie Zhao, Li Xing, Wei Feng, Fu-Zhong Shen
- 9:40-10:00 25-11 **Estimation And Grounds Of Steel Structure Durability Indices In Calculation For Corrosion Attacks According To Limiting States**
V.Korolov, A.Gibalenko, A.Ryzhenkov, Yo. Rukhovych

10:00-10:20 Coffee -Break

Session: 21 Computer Applications In Corrosion And Protection Fields
Date: Sep 22 Morning
Room: A
Chairs: P. Schmuki

- 10:20-10:40 21-02 **The Implementation And Application Of The Corrosion Expert System For Fitness-For-Service Evaluation In The Petrochemical Industry**
Xiaogang Li, Dongmei Fu, Chaofang Dong, Junsheng Wu, Yangrui Zhang
- 10:40-11:00 21-06 **Simulation Of The Passivation Of Iron-Chromium Alloys Using Calculated Local Dissolution Probability And Diffusion Activation Barrier**
P. Marcus, Y. A. Beh, B. Diawara
- 11:00-11:20 21-05 **Reliability Calculation Of Pipe With Circumferential Crack Based On 3-D Elastic-Plastic Sfm**
Buolin He, Yingxia Yu, Lixing Huo, Yufeng Zhang

Session: 03 Corrosion And Protection In Light Alloys-Al, Ti
Date: Sep 22 Afternoon
Room: A
Chairs: En-Hou Han

- 13:00-13:40 03-Al- Keynote **A Mechanistic Understanding Of Environmentally Assisted Cracking Behavior Of 7010 Alloy**
V.S. Raja, M. Bobby Kannan

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| 13:40-14:00 | 03-AI-07 | Corrosion Behaviour Of Brazed Aluminium Cladding In Water - Ethylene Glycol Mixtures Séverin Tierce, Nadine Pébére, Christine Blanc, Christian Casenave, Georges Mankowski, Herveline Robidou |
| 14:00-14:20 | 03-AI-08 | Corrosion Performances Of Laser-Bended AA 5182 Aluminium Alloy Sheet L. Ma, Z. Liu |
| 14:20-14:40 | 03-AI-12 | The Effect Of Near-Surface Microstructure On Corrosion Resistance Of Aluminium Alloys X. Zhou, Y. Liu, G. E. Thompson, G. M. Scamans, A. Afseth |
| 14:40-15:00 | 03-AI-15 | Boric Acid-Sulfuric Acid Anodizing For Aeronautical Application Jianping Cai, Bin Li |
| 15:00-15:20 | 03-AI-17 | Microstructural Effects In The Corrosion Of Aluminium Tube Alloys Guan Wang, Alison J. Davenport, Brian J. Connolly, Huisheng Jiao, Jan Tore Buvik Gundersen |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 03-AI-19 | SKP Investigations Of Filiform Corrosion On Aluminium Alloy AA6016 A. J. Coleman, H.N.Mcmurray, G.Williams, G. Scamans, A. Afseth |
| 16:00-16:20 | 03-AI-21 | Galvanic Coupling Between Different Aluminium- Copper Alloys Jonathan Idrac, Christine Blanc, George Thompson, Yolande Khin, Georges Mankowski |
| 16:20-16:40 | 03-AI-22 | (De)Adhesion Mechanism Of Organic Molecules On Al-Mg Alloys F.M. De Wit, J.R. Flores, J. Van Den Brand, H. Terry, J.H.W. De Wit |
| 16:40-17:00 | 03-AI-04 | Study On Mechanism Of The Contact Corrosion Between Aluminum Alloy And Antiageing Coatings Of The Rubber Fuel Tank Bin Li, Chun-Hu Tao, Di Li, Feng Lu, Xue-Ren Wu, Jian-Ping Cai |
| 17:00-17:20 | 03-AI-13 | Effect Of Sc Addition On The Exfoliation And Electrochemical Corrosion Behavior Of Al-Zn-Mg-Cu-Zr Alloy M. Bobby Kannan, V.S. Raja, P. Schmuki |

Session: 04 Integrity Of Pipelines
Date: Sep 22 Morning
Room: B
Chairs: Minxu Lu

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| 8:00-8:40 | 04-Keynote | Development Of Risk Based Pipeline Integrity Management Systems Jens P. Tronskar, Bjørnøy, O.H, Li Zhang |
| 8:40-9:20 | 04-Keynote | Near-Neutral pH Stress Corrosion Cracking In Steel Pipelines Reg Eadie, Weixing Chen, Jingli Luo, Mimoun Elboujdaini |
| 9:20-9:40 | 04-03 | Influence Of AC On Carbon Steel Corrosion In Simulated Soil Conditions Sara Goidanich, Luciano Lazzari, Marco Ormellese, Mariapia Pedferri |
| 9:40-10:00 | 04-02 | Comparison Of Corrosion Behaviors Between X70 Pipeline Steel And 16Mn Pipeline Steel Yongji Weng, Ruipeng Yang, Fangwei Luo, Changchai Han |

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| 10:00-10:20 | Coffee-Break | |
| 10:20-10:40 | 04-01 | Probabilistic Integrity Assessment of Pipelines and Pressure Vessels with Localized Corrosion Jens P. Tronskar, Zhang Li, JohnD. Edwards |
| 10:40-11:00 | 04-05 | The Problematic Of Pipeline External Corrosion And Its Contribution To Integrity Management Marcel Roche |
| 11:00-11:20 | 04-20 | Corrosion And Protection Of Oil Tanks In China Guangzhang Chen, Cunguo Lin |
| 11:20-11:40 | 04-23 | Crack Initiation On Line Pipe Steels In Near-Neutral pH Environments Stefanie L.Asher, Jeffery A.Colwell, Brain N.Leis, Preet M.Singh |
| 11:40-12:00 | 04-10 | Hydrogen Absorption Study In Pipeline Steels During Hydrogen Cathodic Charging Maocheng Yan, Yongji Weng |

Session: 04 Integrity Of Pipelines
Date: Sep 22 Afternoon
Room: B
Chairs: Yongji Weng

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| 13:00-13:40 | 04-Keynote | Key Issues Related To Corrosion Model And Lifetime Of Buried Pipelines Yongji Weng |
| 13:40-14:00 | 04-invited | New Techniques In Pipeline Integrity Management Methods To Assess Unpiggable Pipelines Jose Larios, Bill Gu |
| 14:00-14:20 | 04-11 | Protection, Maintenance And Surveillance Of Buried Pipelines. 60 Years Of Experience. Antoine Pourbaix, René Gregoor |
| 14:20-14:40 | 04-07 | AC Induced Corrosion In Buried Pipeline Ruey-Kuen Wang, Jiunn-Shyong Luo, Jung-Chou Oung |
| 14:40-15:00 | 04-12 | Corrosiveness Of Sulfur Compounds Present In Gas And Light Petroleum Products Stabilized In A Process Centre G. Zavala-Olivares, M. J. Hernández-Gayosso, R. García-Esquivel, H. A. Marttelo-Araiza, R. Briseño-Cabrera, B. Sánchez-Díaz, J. Mañon-Castro. |
| 15:00-15:20 | 04-26 | Corrosion Behaviors Of Oil Tube Steels In Simulated Water Saturated With CO₂ Chao-Yang Fu, Ming Xu, Zhi-Guang Yang, Guang-Lei Wang, Tao Jiang, Jia-Shen Zheng |

15:20-15:40 Coffee-Break

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| 15:40-16:00 | 04-29 | A Review Of Pipeline Damage Assessment And Lifetime Prediction In China Minxu Lu, Yingfeng Chen, Xinwei Zhao, Jinheng Luo, Zhenquan Bai |
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| 16:00-16:20 | 04-42 | Reliability-Based Assessment Method For Corroded Pipelines Jian Shuai |
| 16:20-16:40 | 21-04 | Computer Models To Predict Corrosion Developing Process Based On Fractal Theory Li Bian, Yongji Weng |
| 16:40-17:00 | 04-18 | Numerical Study On Friction Factor Of The Inner Surface For Gas Transmission Pipeline Xiao-Hong Yang, Wei-Ling Zhu |
| 17:00-17:20 | 04-43 | Pulse Eddy Current Nondestructive Testing: A Method For Testing The Corrosion Of The Inner Walls Of Pipelines Gang Huang, Xiongwei Wen, Luming Li, Yuping Huang |
| 17:20-17:40 | 04-37 | Evaluation Of The External Anticorrosion Coating For Long-Distance Pipeline Xiaohong Yang, Weiling Zhu |

Session: 05 Corrosion And Protection In Natural Environments-B
Date: Sep 22 Morning
Room: C
Chairs: V. S. Raja, Feng Lu

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| 8:00-8:20 | 05-B-01 | Formation Process And Nanostructure Of Atmospheric Rust Layer On Fe-Based Binary Alloys Examined Using Synchrotron Radiation X-Rays M. Yamashita, H. Konishi, J. Mizuki, H. Uchida |
| 8:20-8:40 | 05-B-07 | The Characteristics Of Corrosion Products Formed On Galvanised Steel Exposed In Tropical Atmosphere Of Vietnam Le Thi Hong Lien, Le Quoc Hung |
| 8:40-9:00 | 05-B-25 | Synergistic Effect Of Copper And Manganese On Resistant To Atmospheric Corrosion For Low-Alloying Steel Junhua Dong, Xinhua Chen, Enhou Han, Wei Ke |
| 9:00-9:20 | 05-B-19 | Corrosion-Induced Copper Runoff From Naturally And Pre-Patinated Copper, With And Without Surface Treatments, In A Marine Environment. J. Sandberg, I. Odnevall Wallinder, C. Leygraf, N. Le Bozec |
| 9:20-9:40 | 05-B-20 | Initial Stages Of Zinc Runoff In Humid Tropical Climate L. Veleva, E. Meraz |
| 9:40-10:00 | 05-B-04 | Atmospheric Corrosion Of Carbon Steel In Simulated Atmosphere By An Inductive Probe Jian She, Zilong Tang, Yuzhuo Lu, Shizhe Song |
| 10:00-10:20 | Coffee-Break | |
| 10:20-10:40 | 05-B-21 | Comparison Of Environmental Parameters And Their Effect On Atmospheric Corrosion In Europe And In South Asia And Africa Vladimir Kucera, Johan Tidblad |
| 10:40-11:00 | 05-B-31 | Field Extraction Of Soluble Salts From Corroded Steel In The Atmosphere D. De La Fuente, E. Otero, B. Chico, M. Morcillo |

- 11:00-11:20 05-B-27 **Influence Of Alloying Elements On The Development Of Corrosion Products On Rolled Zinc During Outdoor Exposure**
C. Van Den Bos, A. Hovestad, H. Terry, J.H.W. De Wit
- 11:20-11:40 05-B-28 **Atmospheric Corrosion Of AA 6201 Alloy Used For High Power Electrical Conductors**
Rosa Vera, Diana Delgado, Blanca M. Rosales
- 11:40-12:00 05-B-30 **Degradation Of Polyurethane And Fluoropolymer Top Coatings In Tropical Environment**
Nguyen Nhi Tru, Hiroyuki Tanabe, Masanori Nagai

Session: 05 Corrosion And Protection In Natural Environments-B
Date: Sep 22 Afternoon
Room: C
Chairs: Xiaogang Li

- 13:00-13:20 05-B-33 **Annual Corrosion Rates Of Mild Steel, Zinc, Copper And Aluminium In Rural Atmospheres And Atmospheres Polluted With Sulphur Dioxide Or Marine Chlorides**
B. Chico, D. De La Fuente, J. Simancas, M. Morcillo
- 13:20-13:40 05-B-44 **Corrosion Of Carbon Steel In $MgCl_2$ Solution Under A Wet/Dry Condition**
Qiaoxia Li, Zhenyao Wang, Wei Han, Enhou Han
- 13:40-14:00 05-B-02 **Atmospheric Corrosion Of Galvanized Steel In Taiwan**
Jiunn-Shyong Luo, Jung-Chou Oung
- 14:00-14:20 05-B-18 **Corrosion Protection Methods Of Structural Steel Against Atmospheric**
E. Daflou, E. Rakanta, G. Batis
- 14:20-14:40 05-B-17 **Role Of Chemistry Of Structural Steels On Performance Of Coating Exposed In Saline Humid Environment**
DDN Singh, Jayanta Saha, Rita Ghosh
- 14:40-15:00 05-B-09 **Assessment By Coulometric Reduction And Gravimetry Of Copper And Silver Corrosion Products Evolution In An Indoor Heat Trap Tropical Climate Environment**
Idalina Vieira Aoki, Jaime A. Rocha
- 15:00-15:20 05-B-10 **The Effect of Micro-droplets Formation Caused by the Deliquescence of the Deposited Salt Particle on the Atmospheric Corrosion of Metals**
Jia Wang, Jibiao Zhang
- 15:20-15:40 **Coffee-Break**
- 15:40-16:00 05-B-13 **Atmospheric Corrosion Of Copper And The Seasonal Effect On The Kinetic Of Copper Corrosion In South Vietnam**
Tran Thi Ngoc Lan, N.T.T. Binh, R. Nishimura, Y. Tsujino, M. Yokoi, Y. Maeda
- 16:00-16:20 05-B-23 **Corrosion Products On Carbon Steel 1006 Exposed To A Highly Corrosive Marine Atmosphere, Six Months Period Study**
R. Nouel, Y. Flores, R. Reyes, M. Del R. Prato

Session: 26 Corrosion Education And Training
Date: Sep 22 Morning
Room: D
Chairs: S.A. Shipilov, Jianhua Liu

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| 8:00-8:40 | 26-Keynote | Universities Education in Corrosion: A True Challenge for the Engineering World S.A. Shipilov |
| 8:40-9:00 | 26-01 | Use Of The Internet For Corrosion Education J.M. Costa, P. McIntyre |
| 9:00-9:20 | 26-14 | Development Of Corrosion Education In Electric Power Industry Of China Da-Quan Zhang, Guo-Ding Zhou |
| 9:20-9:40 | 26-10 | Corrosion Education And Training In Turkey S. Bilgiç |
| 9:40-10:00 | 26-02 | Online Tutoring And Delivery Of Multi-Level And Multi-Lingual Training Systems For Corrosion Technicians And Engineers(Invited) Walter Bogaerts, Vu Thi Thuy, Bram Heyns, Stuart Lyon, Bob Cottis, Paul McIntyre, Gervasio Pimenta, Peter Poh, Marcel Piens |
| 10:00-10:20 | Coffee-Break | |
| 10:20-10:40 | 26-07 | Graduate Education In Corrosion Science And Engineering At The University Of Virginia(Invited) J.R. Scully |
| 10:40-11:00 | 26-04 | The Corrosion Curriculum At The Fontana Corrosion Center(Invited) G. S. Frankel, R.G. Buchheit |
| 11:00-11:20 | 26-15 | Graduate Attributes In A Bachelor Of Engineering(Materials) Program A. Atrens |
| 11:20-11:40 | 26-18 | The International Network On Corrosion And Anti-Corrosion Science And Technology –Ricop. An Example Of Successful Co-Operation For Education Improvement C. Arroyave |
| 11:40-12:00 | 26-21 | Evolving A Corrosion Curriculum For Industrial Applications: 18 Years Of Personal Experience V.S. Raja |

Session: 24 Corrosion Testing Methods And Standards
Date: Sep 22 Afternoon
Room: D
Chairs: Shi Hua Zhang

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| 13:00-13:20 | 24-12 | Corrosion Of Mild Steel, HDG Steel & 316 Stainless Steel In CCA, CuAz & ACQ Treated Pinus Radiata Gareth Kear, Mark S. Jones, Peter W. Haberecht |
| 13:20-13:40 | 24-02 | The Development Of An Accelerated Tarnish Test For Sterling Silver J.J. Mcewan, M. Scott, F.E. Goodwin |

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| 13:40-14:00 | 24-03 | Study On The Sensing Capability Of Fe-C Alloy Corrosion Sensing Film Ya Nan Luo, Zhigang Qiu, Shizhe Song, Saying Dong, Hongren Wang, Hui Yu |
| 14:00-14:20 | 24-10 | Accelerated Corrosion Testing Procedure For Cu-Base Alloys V. K. Gouda, N. A. Abdel Ghany |
| 14:20-14:40 | 24-05 | The Formation Of Pure Aluminum Corrosion Sensing Film On Fiber And Its Electrochemical Performance Zhigang Qiu, Ya Nan Luo, Shizhe Song |
| 14:40-15:00 | 24-04 | Development And Application Of Metallic Corrosion Rate Meter For Marine Corrosion Based On Virtual Instrumentation Lei Han, Yuzhuo Lu, Ansheng Zheng, Shizhe Song |
| 15:00-15:20 | 24-01 | Applying Electrical Resistance Probe In Corrosion Testing And Influence Of Surface Morphography To The Measurement Results Pham Thy San |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 24-08 | Use Of Cyclic Thermal Test To Evaluate The Protective Properties Of A Zinc Coating Applied By Electric-Arc Metallization On Steel CT3 When Immersed In Artificial Seawater Quy Le Thu, Cuong Ly Quoc, Sebastien Touzain |

Session: 17 Inhibitors
Date: Sep 22 Morning
Room: E
Chairs: Xingpeng Guo

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| 8:00-8:20 | 17-43 | Preparation Of Corrosion Inhibitor Nanosized Polyaniline Powders Nguyen Tuan Anh, Ho Thi Hoa, Nguyen Van Khuong, Vu Van Binh, Le Thu Quy |
| 8:20-8:40 | 17-44 | Inhibition Of Mild Steel Corrosion In Acidic Solution By Derivatives Of Diphenyl Glyoxal N.B. Iroha, E.E. Oguzie, G.N. Onuoha, A.I. Onuchukwu |
| 8:40-9:00 | 17-45 | Studies On The Inhibitive Action Of Bismark Brown Dye On Aluminium Corrosion In Acidic And Alkaline Media E.E. Oguzie, B.N. Okolue, C.E. Ogukwe, C. Unaegbu, A.I. Onuchukwu |
| 9:00-9:20 | 17-46 | Synergistic Effects Of Halide Ions On The Inhibition Of Mild Steel Corrosion In Acidic Solution By Some Organic Dyes E. E. Oguzie |
| 9:20-9:40 | 17-48 | Hydrodynamic Evaluation Of Generic Inhibitors Behaviour For Multiphase Systems (Brine-CO₂/H₂S-Hydrocarbon By Using Electrochemical Techniques Forero A., Peña D. Vásquez C. |
| 9:40-10:00 | 17-50 | Enhanced Inhibition Of Zinc Corrosion In Alkaline Solutions Containing Carboxylic Acid Modified PEG Mahmud Auinat, Yair Ein-Eli |
| 10:00-10:20 | Coffee-Break | |

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| 10:20-10:40 | 17-52 | The Effect Of Substituent Groups On The Inhibitive Behaviour Of Some Schiff Bases Towards Corrosion Of Zinc In Sulphuric Acid M N Desai, J D Talati, N K Shah |
| 10:40-11:00 | 17-58 | Effect Of Thiosemicarbazide Inhibition On Cold Rolled Carbon Steel Abdullah I. Almarshad, Sk A. Hossain |
| 11:00-11:20 | 17-59 | Anticorrosion Properties Of Quaternized Ammonium Salts Based On 2-Acetyl Allyl Chloride And Benzylated N-Arylpyridinium Chlorides I.Pogrebova, D.Pysanenko, C. Iantsevitch, V.Harbuz |
| 11:20-11:40 | 17-60 | Action Of Organic Compounds On Zn-Plated Steel Corrosion And Hydrogen Absorption In Liquid Media Deteriorated With Deuteromices S.Beloglazov, E.Azema |
| 11:40-12:00 | 17-16 | Corrosion Inhibitor For Temporal Protection Of Rolled Metal Products Gal Chenko Galina, Stovpchenko Ganna, Chygyrynets Olena |

Session: 23 Failure Analysis And Industrial Serving
Date: Sep 22 Afternoon
Room: E
Chairs: Ryuichiro Ebara, Wenlong Zheng

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| 13:00-13:40 | 23-Keynote | Role Of Engineering Failure Analysis To Prevent Corrosion Damage And Environment Sensitive Cracking Ryuichiro Ebara |
| 13:40-14:00 | 23-02 | Study On The Cause Of Explosive Failure Of Once-Through Boiler For Steam Production In Hot Exploitation Of Sticky Crude Oil Yuanlong Du,Guangqing Zhang |
| 14:00-14:20 | 23-04 | Approach To Failure Analysis Of Nuclear Steam Generator Tubing M. Clark, A. Macintosh, G. Ogundele, O. Yong |
| 14:20-14:40 | 23-07 | Analysis Of Corrosion Process And Principle Of Copper Tube Ammonia Corrosion In Condenser Air-Removal Section Zhi-Ping Zhu, Ke-Long Huang, Dao-Wu Yang, Qiong-Hua Zhou |
| 14:40-15:00 | 23-09 | An Investigation Of New Combination Probe Consisting Of Electrochemical And Resistant Sensors For Corrosion Monitoring Pham Thy San, Le Quoc Hung, Vu Thi Thu Ha |
| 15:00-15:20 | 23-11 | Electrochemical Evaluation Of Corrosion And Scale Inhibitors For Cooling Towers Systems J. Marín-Cruz, R. Cabrera-Sierra, A. Estrada M., I. González |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 23-08 | Control Valve Failures In Seawater Desalination Plants R. A. Mohammed, K. Shahzad, N. Sabah |
| 16:00-16:20 | 23-10 | NDT Assessment Of Railways In The Athens Metro In Greece A. Moropoulou, N.P. Avdelidis, K. Labropoulos, P. Moundoulas, D. Polymenakou, D. Stavrakas, P. Terezakis |
| 16:20-16:40 | 23-15 | Failure Analysis Of Cone Crusher Shields Used At Sarcheshmeh Copper |

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| | | S.R. Allahkaram, A.R. Moeini |
| 16:40-17:00 | 23-16 | Corrosion Problems In Stir Tanks In Super Acid Leach Process. Hannes Van Zyl |
| 17:00-17:20 | 23-17 | Failure Analysis Report For Leaky Copper Tube Wenlong Zheng, Jianjun Wang, Xiaofang Yang |
| 17:20-17:40 | 23-03 | Corrosion Failure Analysis And Inhibitor Protection Of Oil Tubes Chaoyang Fu, Guomin Li, Jiashen Zheng |
| 17:40-18:00 | 23-06 | Failure Analysis Of The Stabilized Austenitic Stainless Steel Welded Joints Due To Knife-Line Attack Kh. Gheisari, S.Javadpour, S.A.Jenabali Jahromi |
| | Session: | 18 Surface Protection Techniques-C |
| | Date: | Sep 22 Morning |
| | Room: | F |
| | Chairs: | Fuxing Gan |
| 8:00-8:20 | 18-C-21 | Hot Corrosion And Oxidation Behavior Of Coatings Used On Gas Turbine Blade D. Rezakhani, M.Alibabai, M.Hirbod, M.Saremi, M.R.Khajavi, A.Pasha, M.Ferdowsi, S.Afrookhteh |
| 8:20-8:40 | 18-C-23 | Heterotrophic Bacteria Taxis To Protective Coatings V.Zanina |
| 8:40-9:00 | 18-C-48 | Arc Ultrasonic Improves The Corrosion Property Of The Coatings Xiongwei Wen, Luming Li, Huatang Zhang, Lu Wang, Chengang Zhang |
| 9:00-9:20 | 18-C-07 | Study On Fluorocoating Cured At Room Temperature Wenzheng Wei, Chunse Xie |
| 9:20-9:40 | 18-C-62 | The Study Of Properties Of Electroplating Tungsten Alloys Fengjiao He, Miao Wang, Xin Lu |
| 9:40-10:00 | 18-C-02 | The Application And Performance Of Zinc Coating On Highway Steel Bridge Deck Chengjin Shen, Xuemei Ou, Yulong ZhaoZhi Sun |
| 10:00-10:20 | Coffee-Break | |
| 10:20-10:40 | 18-C-37 | Current Situation And Prospect Of Development Of Water Based Anticorrosion Paints Lan Jin |
| 10:40-11:00 | 18-C-38 | Biofilm Of Heterotrophic Bacteria On Protective Coatings Zh.Kopteva, V. Zanina, I. Kozlova |
| 11:00-11:20 | 18-C-39 | Research And Application About Castiron Centrifugal Pump Anticorrosive Coat Huixuan Zhang, Xiaping Zhang, Fengqin Cui |
| 11:20-11:40 | 18-C-61 | Protective Coatings Equipment And Applications Richard Cui |

Session: 18 Surface Protection Techniques-A
Date: Sep 22 Afternoon
Room: F
Chairs: Leyun Lin

- 13:00-13:20 18-A-02 **The Galvanic Anodic Protection Of Doped Polyaniline To Ferrous Metals In Acid Solutions**
 Shuhu Xiao, Lian Zhong, Hua Zhu, Fuxing Gan
- 13:20-13:40 18-A-38 **Advanced Light Metal Coatings For High Performance Applications**
 A. Eliezer, J. Haddad
- 13:40-14:00 18-A-06 **Coatings To Improve The Tarnish Resistance Of Sterling Silver**
 J.J. Mcewan, M. Scott, F.E. Goodwin
- 14:00-14:20 18-A-08 **Etching Treatment Of High Alumina Ceramics For Bonding To Electroless Nickel**
 D.Q. Peng, X.D. Bai, F. Pan, H. Sun
- 14:20-14:40 18-A-11 **Characterization Of The Surface Properties Of Anodised Titanium: Wear And Fretting Corrosion Resistance**
 Barbara Del Curto, Mariapia Pedferri, Gianni Rondelli, Alberto Cigada, Pietro Pedferri
- 14:40-15:00 18-A-12 **Main Factors That Influence Corrosion Resistance Of Autocatalytic Nickel-Phosphorus**
 Panossian, Z.; Cardoso, C.; Almeida, N.L.; Pimenta, G.S.; Berry, N.G.; Paes, M.T.P
- 15:00-15:20 18-A-01 **Self-Organized Localized Corrosion Of Valve Metals For Functional Oxide Structures**
 J. Macak, H. Tsuchiya, I. Sieber, E. Balaur, S. Bauer, S. Kleber, J. Kunze, P. Schmuki
- 15:20-15:40 **Coffee-Break**
- 15:40-16:00 18-A-47 **The Fracture Toughness Of Electroless Nickel Phosphorus Coatings**
 Q.J. Zhou, L.J. Qiao, K.W. Gao, J.X. Li, Y.J. Su, W.Y. Chu
- 16:00-16:20 18-A-46 **The Corrosion Resistance Of Electroplated Nanocrystalline Nickel Coatings**
 J. H. Qiu
- 16:20-16:40 18-B-07 **Photoelectrochemical Anticorrosion Of TiO₂ Coated Pure Aluminium Under The Environment Of Photocatalytically Decomposing Sodium Pentachlorophenate Wastewater**
 Li Zhang, Pengyi Zhang
- 16:40-17:00 18-B-29 **Electroless Nickel-Plating On Die Cast Magnesium Alloy AZ91D**
 Suqiu Jia, Shusheng Jia, Jun Yao
- 17:00-17:20 18-B-28 **Preparation And Characterization Of Nanocrystalline TiO₂ Film Via Photons Irradiation Induced Sol-Gel Method**
 Rong Yang, Jianhua Liu, Songmei Li
- 17:20-17:40 18-B-35 **The Structure And Anti-Corrosive Character Of Multilayer Ni-P/Ni-Mo-P**

Alloys

- 17:40-18:00 18-A-29 **Fabrication And Characteristics Of Nickel Nanowires Electrodeposited Into Porous Anodic Aluminum Oxide Membranes**
Yi Zhang, Jun Ma, Hongfu Fan, Liang Tao
Di Ma, Shuying Li, Chenghao Liang
- 18:00-18:20 18-A-48 **Surface Strengthening And Quick Repairs Of Molding Tools**
Canquan Li, Jin Yu, Sitong Yao, Binghui Xu, Guizhen Liu

Session: 10 Hydrogen Embrittlement And Stress Corrosion Cracking -SCC

Date: Sep 22 Morning

Room: G

Chairs: J.R. Scully, Lijie Qiao

- 8:00-8:40 10-SCC-Keynote **Metallurgical And Electrochemical Factors For Evaluation Of Sulfide Stress Cracking Of High Strength Linepipe Steel**
Kyoo Young Kim
- 8:40-9:00 10-SCC-02 **Considerations Referring To SCC Susceptibility Of Alloy 800 In Caustic Environment**
A. Dinu, D. Ionescu, L. Velciu, M. Radulescu
- 9:00-9:20 10-SCC-06 **AE Response Of Type AISI 304 Stainless Steel During Stress Corrosion Crack Propagation**
M.G. Alvarez, P. Lapitz, J. Ruzzante
- 9:20-9:40 10-SCC-25 **The Effect Of Test Temperature On SCC Behavior Of Austenitic Stainless Steels In Boiling Saturated Magnesium Chloride Solution**
Osama M. Alyousif, Rokuro Nishimura
- 9:40-10:00 10-SCC-29 **Aircraft AA2024 T351 Alloy Submitted To MIC + SCC In Integral Fuel Tanks**
Blanca M. Rosales, Mariano Iannuzzi
- 10:00-10:20 **Coffee-Break**
- 10:20-10:40 10-SCC-36 **SCC Initiation For X70 Pipeline Steel In A Near Neutral pH Solution**
Zhiying Wang, Jianqiu Wang, Enhou Han, Wei Ke
- 10:40-11:00 10-SCC-37 **Grain Boundary Engineering For Crack Bridging: Intergranular Corrosion And Stress Corrosion Crack Path Dependencies**
D L Engelberg, T J Marrow, L Babout, R C Newman
- 11:00-11:20 10-SCC-09 **Effect Of Ageing Conditions On The Stress Corrosion Cracking Of Al-Zn-Mg-Cu Alloy**
Zhihua Sun, Minghui Liu, Xiaoyun Zhang, Jian Gao, Feng Lu
- 11:20-11:40 10-SCC-17 **The Study On Atomospheric Stress Corrosion Of 40CrNi2Si2MoVA Steel**
Xiaoyun Zhang, Zhihua Sun, Minghui Liu, Zhihui Tang, Bin Li, Jian Gao
- 11:40-12:00 10-SCC-07 **Stress Corrosion Cracking Of X-70 Pipeline Steel In Different Soil Solutions**
Chunbo Huang, Guangfu Li, Wu Yang

Session: 10 Hydrogen Embrittlement And Stress Corrosion Cracking

-SCC

Date: Sep 22 Afternoon
Room: G
Chairs: R. Winston Revie

- 13:00-13:20** 10-SCC-13 **Stress Corrosion Cracking Of Pipeline Steels**
Wu Yang, Guangfu Li, Hao Guo, Chunbo Huang, Jianjiang Zhou
- 13:20-13:40** 10-SCC-35 **Study On Stress Corrosion Behaviors Of A New Aluminum Alloy**
Hao Wu, Jianhua Liu, Songmei Li
- 13:40-14:00** 10-SCC-31 **Influence Of Cu And Mo ON SCC Of Type 304 Stainless Steel In H₂SO₄-NaCl Solution**
Satoshi Sunada, Akira Motozawa, Kazuhiko Majima, Katsuhisa Sugimoto
- 14:00-14:20** 10-SCC-45 **Investigation On SCC In Gas Transmission Pipeline In China**
Jian Shuai
- 14:20-14:40** 10-SCC-28 **Stress Corrosion Cracking Of Stainless Steels Used In PVC Manufacturing**
W.H.Siew, R.K.Singh Raman, B.C.Muddle, N.Cann
- 14:40-15:00** 10-SCC-10 **Inconsistencies In Some Mechanisms Of Stress Corrosion**
E. M. Gutman
- 15:00-15:20** 10-SCC-14 **Influence Of Cathodic Polarization, pH And Anion Nature On The Cracking Of The Low Alloying Martensite Steels**
V.A. Timonin, V.I. Vigdorovich, L.E. Tsygankova
- 15:20-15:40** Coffee-Break
- 15:40-16:00** 10-SCC-01 **Factors Affecting The Stress Corrosion Cracking Of Carbon Steel In Fuel Grade Ethanol**
Narasi Sridhar, Kendra Price, James Dante, Janet Buckingham
- 16:00-16:20** 10-SCC-39 **Grain Size Influence Evaluation By Small-Punch Test For Sensitized Stainless Steel In BWR Conditions**
J. Isselin, T. Shoji
- 16:20-16:40** 10-SCC-50 **Design For Prevention Of SCC**
Jingui Li
- 16:40-17:00** 10-SCC-43 **Susceptibility To Chloride Induced Stress Corrosion Cracking Of Austenitic Stainless Steels In Air**
M. Mayuzumi, N. Ishiyama, J. Tani, T. Arai
- 17:00-17:20** 10-SCC-44 **Intergranular Corrosion And Stress Corrosion Cracking Of Sensitised AA5182**
Yudie Yuan, Rajan Ambat, Brian Connolly, Martin Strangwood, Geoff Scamans, Andeas Afseth, Alison Davenport
- 17:20-17:40** 10-SCC-11 **The Effect Of Base Metal Delta Ferrite On Cracking Of 304L Stainless Steel**
H. M. Shalaby
- 17:40-18:00** 10-SCC-47 **The Stress Corrosion Cracking Behavior Of X70 Pipeline Steel In Near-Neutral pH Soil Environment Solutions**
Changfeng Men, Jian Shuai

Session: 13 High Temperature Corrosion And Protection
Date: Sep 22 Morning
Room: H
Chairs: Yan Niu, X. Peng

- 8:00-8:40 13-keynote Corrosion Of Alloys In Aggressive Environments Near And Above The Critical Temperature Of Water**
Yutaka Watanabe, Kiwamu Sue, Yoshiaki Kurata
- 8:40-9:00 13-29 Effect Of Copper On Metal Dusting Of Iron**
Jianqiang Zhang, David J. Young
- 9:00-9:20 13-30 Hot Corrosion Attack Of Incinerators Thermowells**
R. C. Yin, R. Bradley, B. Al-Yami
- 9:20-9:40 13-33 Initial Oxidation Theory Of Dilute Binary Alloys By Hopping Model**
Ikuo Ishikawa And Hiroshi Nanjo
- 9:40-10:00 13-36 Mechanisms Of Chlorine Induced Corrosion And Effect Of Sulphur Additions In Superheater Corrosion In Biomass- And Waste Fired Boilers**
Peter Szakálos, Pamela Henderson, Rachel Pettersson
- 10:00-10:20 Coffee-Break**
- 10:20-10:40 13-38 Sulfidation Performance At High Temperature Of FeAl Aluminide Modified With Additions Of Li, Ce And Ni In SO₂.**
M. A. Luna-Ramírez, J. Porcayo-Calderon, A. Martínez Villafane, M. Salazar, G. Rosas, J. G. González Rodríguez.
- 10:40-11:00 19-22 SEM Investigation Of Reactive Element Particles On The Surface Of Kanthal AF Oxidized At 900°C**
Fang Liu, Helena Josefsson, Jan-Erik Svensson, Lars-Gunnar Johansson, Mats Halvarsson
- 11:00-11:20 13-09 Recent Developments In The Applications Of High Temperature Coating For Aircraft Engines**
Jianping Li, Feng Lu, Qiangang Xu, Zigan Ge
- 11:20-11:40 13-01 Oxidation Behaviour Of Nano-Structured Ni₃Al Coatings On An Inconel Alloy**
Deren Wang, Yedong He, Zhengwei Li, Wei Gao
- 11:40-12:00 13-35 The 3rd-Element Effect In The Oxidation Of Ni-xCr-7Al Alloys (X = 5, 10 At.%) At 900**
X.J. Zhang, F. Gesmundo, Y. Niu

Session: 18 Surface Protection Techniques-C
Date: Sep 22 Afternoon
Room: H
Chairs: Qifu Zhang

- 13:00-13:20 18-C-40 Biopolymers For The Corrosion Protection Of Steel**
G.M. Ferrari, H.J.A. Breur

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| 13:20-13:40 | 18-C-42 | The Use Of Polypyrrole Modified Nickel Coating On Mild Steel M.Erbil, T.Tüken, B. Yazici |
| 13:40-14:00 | 18-C-10 | Optimizing Corrosion Protection Of The Cut Edge Of Coil Coated Sheets By An Advanced Cutting Process Hartmut Hoffmann, Raphael Petry |
| 14:00-14:20 | 18-C-49 | The Preparation Of High-Temperature Resistance Polysiloxane Coatings Cured At Ambient Temperature An Lin, Fang Nan |
| 14:20-14:40 | 18-C-63 | The Research On Corrosion Resistance Of Al-Zn Alloy Hot-Spraying Coatings X.H. Zhou, J.X. Liu, L. Yang, Z.L Wei, F.X. Gan, Y.W Huang |
| 14:40-15:00 | 18-C-69 | Influence Of The Amine Salt Of Alkyl Phosphate On The Intumescent Coating Yong Feng, Feng Lu, Hua Shi, Jiajin Xiong |
| 15:00-15:20 | 18-C-54 | Determination Of The Protective Properties Of Fusion-Bonded Epoxy Powder Coatings Filled With Commercial Fillers Yinghua Wei, Lixin Zhang, Wei Ke |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 18-C-45 | Nickel-Sic Structured Composite Coatings: Electrochemical And Structural Studies Lidia Benea, Geta Carac, Alina Ciuboariu, Magda Lakatos-Varsany |
| 16:00-16:20 | 18-C-65 | Studies Of Electrodeposition Of Silane Films On Metals For Corrosion Protection Ji-Ming Hu, Liang Liu, Jian-Qing Zhang, Chu-Nan Cao |
| 16:20-16:40 | 18-C-66 | Corrosion Protection Of Silane-Participated Epoxy Coatings On Aluminum Alloys Jin-Tao Zhang, Ji-Ming Hu, Jian-Qing Zhang, Chu-Nan Cao |
| 16:40-17:00 | 18-C-56 | The Retarding Role Of Silica In Molten Salt Corrosion Of Slurry Si-Modified Aluminate Coatings K. Shirvani, M. Saremi, A. Nishikata, T. Tsuru |
| 17:00-17:20 | 18-B-13 | The Influence Of Micro-Laminated (ZrO₂-Y₂O₃)/(Al₂O₃-Y₂O₃) Coatings With Nanostructure On The Corrosion Resistance Of Alloy Mingming Yao, Yedong He, Deren Wang, Wei Gao |
| 17:20-17:40 | 18-C-52 | Study On The Anticorrosion Of Galfan Alloy Coating With One-Step Hot-Dipping On Steel Wire Jianchao Pang, Ruina Ma, Ming Wen, Xiaoming Cao |
| 17:40-18:00 | 18-C-53 | Improvement Of Nano-Concentrates In Anti-Ageing And Fire-Resistance Of APP/PER/MEL Coating Zhenyu Wang, Enhou Han, Wei Ke |

September 23, Friday

Session: 02 Corrosion And Protection In Advanced Materials

Date: Sep 23 Morning

Room: A

Chairs: Hugh S. Isaacs, Her-Hsiung Huang

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| 8:00-8:40 | 02-Keynote | Effect Of Environment Factors On Properties Of Ferroelectric Ceramic Lijie Qiao |
| 8:40-9:00 | 02-09 | Surface Treatments To Improve The Corrosion Resistance Of Shape Memory Ni-Ti Wires S. Rossi, F. Deflorian, D. D'orazio, S.Gialanella |
| 9:00-9:20 | 02-07 | Oxidation Of Zinc Films For Growth Of Zinc Oxide Thin Films And Nanostructures Z.W. Li, W. Gao |
| 9:20-9:40 | 02-08 | Degradation Of Carbon Fiber-Reinforced Epoxy Composites By Xe Lamp Radiation And Humidity Xiaojun Lu, Qi Zhang, Guojun Xie, Guanjie Liu |
| 9:40-10:00 | 02-06 | Electrochemical Corrosion Performance Of Several Magnetron Sputtered Nanocrystalline Coatings Ying Li, Fuhui Wang |
| 10:00-10:20 | Coffee-Break | |
| 10:20-10:40 | 02-19 | Corrosion Behavior Of Medical 316L Biomedical Stainelss Steel With La Addition In 0.9% NaCl Physiological Solution HuaJuan Yang, Ke Yang, Bingchun Zhang |
| 10:40-11:00 | 02-23 | Improved Corrosion Behaviour Of Pluse Planted Nanocrystalline Zinc And Zinc Alloy Coatings R. Ramanauskas, L. Gudavičiūtė, R. Juškėnas, A. Kaliničenko, O. Ščit |
| 11:00-11:20 | 02-26 | A New Ni-Cr-Mo Alloy For Severe Process Environments John F. Grubb, Bahri Ozturk, Cheryl A. Botti, John J. Dunn |
| 11:20-11:40 | 02-27 | Study On The Corrosion Behavior Of AF Reinforced Aluminium Composites Wires For Conductor Ling Wang, Haofeng Zhao, Junyi Su |
| 11:40-12:00 | 02-32 | The Effect Of Carbon And Silicon Element On Comprehension Properties Of Anticorrosion Ferroalloy Shijie Li, Jianchao Pang, Xiaoming Cao |

Session: 02 Corrosion And Protection In Advanced Materials
Date: Sep 23 Afternoon
Room: A
Chairs: Fuhui Wang

- 13:00-13:40 02- Keynote Preparation Of Self-Organized Nano-Network Oxide Structure On Titanium And The In Situ Biocompatibility Monitoring Using Electrochemical Techniques**
Her-Hsiung Huang, Szu-Jung Pan, Yu-Chiao Chuang, Zhi-Hwa Chen
- 13:40-14:00 02-16 The effect of cycle annealing on the microstructure and corrosion susceptibility of Al-6Mg-Mn-Sc-Zr alloy**
Jianhua Liu, Binwu Tao, Songmei Li, Ming Li
- 14:00-14:20 02-04 Chronological Development And Main Properties Of Ni-Mo Alloys**
Helena Alves, D.C. Agarwal
- 14:20-14:40 02-14 Investigation Of Microstructure Controlled Preparation Of Highly Ordered Nanoporous AAO Templates**
Songmei Li, Wei Wei, Jianhua Liu, Mei Yu
- 14:40-15:00 02-18 Study On Failure Behaviour Of Carbon Fiber/Epoxy Composite In Hygrothermal Environment**
Dong Cao, Jianhua Liu
- 15:00-15:20 02-30 Effect of Hydrogen Dielectric And Ferroelectric Property Of PZT Ferroelectric Ceramics**
Haiyou Huang, Wuyang Chu, Yanjing Su, Kewei Gao, Jinxu Li, Lijie Qiao
- 15:20-15:40 Coffee-Break**
- 15:40-16:00 02-13 Oxidation Performance Of Tininb Shape Memory Alloy In High Temperature Air Environment**
Binwu Tao, Jianhua Liu, Songmei Li, Hao Wu
- 16:00-16:20 02-12 Results And Partial Conclusions Of Electro-Electronic Materials Expositions In Specific Iberian-American Environments From TROPICORR's Sites**
Carlos Enrique Arroyave Posada, Daniel De La Fuente Garcia, Francisco Y. Corvo Pérez, Idalina Vieira Aoki, Jaime Rocha Velenzuela, José Rocha Andrade Da Silva, Juan Fernando Alvarez, Lucein Veleva Muleshkova, Teresa C. Diamantino
- 16:20-16:40 02-20 Influence Of Casting Process On The Corrosion Resistance Of Ni-Cr-Ti And Ni-Cr Alloys**
Freitas Silva, L., Sathler, L., Ponciano, J.A.C.
- 16:40-17:00 02-25 Corrosion In Nanomaterials**
Vimal Desai, Prabhakar Mohan, C. Suryanarayana
- 17:00-17:20 02-28 Electrochemical Corrosion Behavior Of Nd-Fe-B Sintered Magnets In different Acid Solutions**
Jingwu Zheng, Liqiang Jiang, Qiaoling Chen

Session: 04 Integrity Of Pipelines
Date: Sep 23 Morning
Room: B
Chairs: Bill Gu

- 8:00-8:40 04-Keynote Key Issues Related To Modeling Of Internal Corrosion Of Oil And Gas Pipelines**
S.Nešić
- 8:40-9:00 04-32 SEM And XPS Characterization Of CO₂ Corrosion Scales Of Carbon And Low Chromium-Containing Steels**
Guoan Zhang, Minxu Lu, Yinshun Wu
- 9:00-9:20 04-31 10 Years Experiences With Bubi -Pipes - New Progresses**
Iris Rommerskirchen, Thomas Schüller, Joachim Banse, Karl Schafer
- 9:20-9:40 04-40 Parasitic Consumption Of Corrosion Inhibitor By Produced Solid Particles And Emulsion Droplets In Multiphase Flow**
E.Gulbrandsen, J.Kvarekval
- 9:40-10:00 04-47 The Fracture Model Of Hydrogen Induced Cracking**
Shaohua Dong, Zhiyu Gu, Yingmin Lu
- 10:00-10:20 Coffee-Break**

Session: 28 Nuclear Power Related Materials Degradation Issues
Date: Sep 23 Morning
Room: B
Chairs: En-Hou Han

- 10:20-10:40 06-20 Effect Of Boiler Water Chemistry On Corrosion And Corrosion Fatigue Of Carbon Steels**
Dong Yang, Preet M. Singh, Jamshad Mahomood, Richard W. Neu
- 10:40-11:00 10-SCC-16 Stress Corrosion Cracking Of Solution-Annealed N-Containing Austenitic Stainless Steels In High Temperature Water Environments**
Guangfu Li, Chunbo Huang, Wu Yang, Yan Wen, H. Shaikh, H.S.Khatak
- 11:00-11:20 06-01 Some Materials Degradation Issues In The U.S. High-Level Nuclear Waste Repository Study(Invited)**
Fred Hua, Pasu Pasupathi, Neil Brown, Kevin Mon, Gerald Gordon, David Shoesmith, Raúl B. Rebak
- 11:20-11:40 06-03 The Influence of ZrO₂ Treatment on the Electrochemical Behavior of Oxygen and Hydrogen on Type 304 Stainless Steels in High Temperature Water**
A.Tsung-Kuang Yeh, B.Chuen-Horng Tsai, Chang-Tong Liu
- 11:40-12:00 10-SCC-23 Finite Element Calculation Of Crack Propagation In Type 304 Stainless Steel In High Temperature Water**
Steven Van Dyck, Serguei Gavrilov, M. Vankeerberghen

Session: 28 Nuclear Power Related Materials Degradation Issues
Date: Sep 23 Afternoon
Room: B
Chairs: Fred Hua

- 13:00-13:20 10-SCC-21 Characterization Of Stress Corrosion Cracking And Microstructure Of A Welded Light Water Reactor Thermal Shield After 25 Years Of Service**
Steven Van Dyck, Abderrahim Almazouzi, Raluca Stoenescu, Didier Gavillet
- 13:20-13:40 10-SCC-04 Correlation Between The Stability Of Irradiation Defects And Stress Corrosion Cracking In High Temperature Water Of Welded AISI 304 Stainless Steel**
Steven Van Dyck, Avderrahim Almazouzi, Andrej Rempel, Raluca Stoenescu, Didier Gavillet
- 13:40-14:00 06-16 An Overview Of Development Of SG Alloy 690 In China**
Yan Wen, Bin Gong
- 14:00-14:20 23-01 Historical Review Of Degradation Mechanisms In CANDU Steam Generator Tubing**
M. Clark , G. Ogundele, S. Pagan, Jim Sherin, P. J. King
- 14:20-14:40 10-SCC-27 Effects Of Grain Size And Intergranular Carbides On Stress Corrosion Cracking Behavior Of Alloy 690 In Lead Containing Caustic Solutions**
Yun Soo Lim, Hong Pyo Kim, Seong Sik Hwang, Seol Hwan Eom, Joung Soo Kim
- 14:40-15:00 10-SCC-15 Effect Of Flow On The Stress Corrosion Cracking Of Stainless Steels In Boiling Water Reactor**
Clinton Fong
- 15:00-15:20 Coffee-Break**
- 15:20-15:40 27-07 Results Of The LIRES Round Robin Test On High Temperature Reference Electrodes For LWR Applications**
R.W. Bosch, G. Nagy, D. Féron, M. Navas, W. Bogaerts, D. Kárník, T. Dorsch, A. Molander, K. Mäkelä
- 15:40-16:00 06-02 Passivity Of Alloy 22 In Chloride And Fluoride Containing Solutions**
Ricardo M. Carranza, Martín A. Rodríguez, Raúl B. Rebak

Session: 15 Cathodic Protection And Anodic Protection
Date: Sep 23 Morning
Room: C
Chairs: David Scantlebury, Likun Xu

- 8:00-8:40 15-Keynote Sacrificial Anodes For Cathodic Protection**
David Scantlebury
- 8:40-9:00 15-04 Evaluation Methods And Mitigation Measures For Stray Current Corrosion Of Cathodically Protected Pipelines**

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|-------------|---------------------|---|
| 9:00-9:20 | 15-09 | Fumio Kajiyama, Yuji Hosokawa Sacrificial Protection For The Neutral Ammonium Sulfito Cooker La-Jun Feng, A-Li Lei, Qiao-Qin Guo |
| 9:20-9:40 | 15-13 | Advances In The Cathodic Protection Of Underground Water Wells M.A.Guillén, A. Muñoz, A.Cámara, B.Guillén, V.Ojeda |
| 9:40-10:00 | 15-16 | Industrial Applications Of Anodic Protection In The Czech Republic Novak P., Mokra M. |
| 10:00-10:20 | Coffee-Break | |
| 10:20-10:40 | 15-17 | Mixed Metal Oxides As Impressed Current Anodes: Materials And Application Likun Xu |
| 10:40-11:00 | 15-18 | Electrochemical And Microstructural Investigations On Cathodicprotected Reinforced Mortars Under Chloride Ingress D.A.Koleva, J.Hu, A.L.A.Fraaij, J.H.W. De Wit, P.Overkamp |
| 11:00-11:20 | 15-20 | Iron Alloys Anode For Cathodic Protection Ping Yao, Hong-Reng Wang, Yue-Yi Wang, Yu-Mei Liu |
| 11:20-11:40 | 15-12 | Model For Complicate Cathodic Protection System Ai-Ping Wang, Min Du, Qing-Zhang Wang, Sheng-Shan Cao, Ji-Xing Sun |
| 11:40-12:00 | 15-14 | Cathodic Protection Of Well Casings In Abu Dhabi, U.A.E Gerald D. Williams, David Kroon |

Session: 05 Corrosion And Protection In Natural Environments-B
Date: Sep 23 Afternoon
Room: C
Chairs: Wen-Ta Tsai

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|-------------|---------|---|
| 13:00-13:20 | 05-B-36 | Corrosion Of Some Metals (Fe, Al, Cu) In Atmosphere Environment In Vietnam Nguyen Duc Hung, Tran Van Chung, Quang Tuan Le |
| 13:20-13:40 | 05-B-37 | Atmospheric Corrosion Resistance Of Si And Al-Bearing Ultrafine Grained Weathering Steel T. Nishimura |
| 13:40-14:00 | 05-B-50 | Influence Of The Alloy Element On Corrosion Morphology Of The Low Alloy Steels Exposed To The Atmospheric Environments Akira Tahara, Tadashi Shinohara |
| 14:00-14:20 | 05-B-35 | Stormy Seas, Salt Deposition And Environmental Corrosivity - A Discussion Peter W. Haberecht, Gareth Kear |
| 14:20-14:40 | 05-B-46 | Corrosion Products On Galvanized Steel G60 Exposed To A Highly Corrosive Marine Atmosphere, Six Months Period Study R.Nouel, Y.Flores, R.Reyes, M. Del R. Prato |
| 14:40-15:00 | 05-B-51 | Evaluation Of Soil Corrosivity Of Samples Obtained From Antarctic Continent. Ferreira C. A. M., Ponciano J. A. C |

15:00-15:20 Coffee-Break

Session: 16 New Corrosion Resistant Materials
Date: Sep 23 Afternoon
Room: C
Chairs: G.S.Frankel

15:20-15:40 16-07 **Application Of Low Alloy Structural Steel To Hydrochloric Acid Pickling Baths In Hot-Dip Galvanizing Line**

Akira Usami, Kazuhiro Kojima, Motohiro Okushima, Mutsuto Tanaka

15:40-16:00 16-03 **Microstructure And Electrochemical Properties Of High Entropy Alloys - A Comparison With Type 304 Stainless Steel**

Y.Y.Chen, T.Duval, U.T.Hung, J.W.Yeh, H.C.Shih

16:00-16:20 16-01 **Effects Of Temperature And pH On The Corrosion Behavior Of NiTi Orthodontic Arch Wire In Artificial Saliva**

A.Afshar, M. Shirazi, E. Fakheri

16:20-16:40 16-10 **Preparation Of Anti-Corrosion WC-Based Hardmetals By High Energy Ball Milling And Spark Plasma Sintering**

Jianbing Zhang, Xiaoqiang Li, Yuanyuan Li, Yan Long, Weiping Chen

Session: 19 Surface Analytical Techniques
Date: Sep 23 Morning
Room: D
Chairs: C. Leygraf

8:00-8:20 19-02 **XPS-Studies On The Formation Of Passive Layers On Sn And CuSn Alloys In 0.1 M KOH**

Petra Keller, Hans-Henning Strehblow

8:20-8:40 19-32 **An Investigation Of Mechanical Properties Of CO₂ Corrosion Scale**

Fang Yu, Kewei Gao, Guoan Zhang, Wuyang Chu, Lijie Qiao, Minxu Lu

8:40-9:00 19-08 **X Ray Absorption Fine Structure Spectra Of Rust Layers On Fe-Based Binary Alloys Exposed To Cl-Rich Environment**

H. Konishi, M. Yamashita, H. Uchida, J. Mizuki

9:00-9:20 19-28 **Study On Rust Layers On Carbon Steel Indoors And In-Situ By Mössbauer Effect**

Yantao Li, Li Ou, Yongxun Feng, Baorong Hou

9:20-9:40 19-10 **SKPFM/TEM Investigation Of The Surface Layers On Rolled Aluminium Alloys Using Ultramicrotomy**

Premendra, B.S.Tanem, H. Terryn, J.H.W. De Wit, L.Katgerman

9:40-10:00 19-24 **Effect Of Electrochemical Desalination On The System Of Rebar-Mortar**

Sen-Lin Li, Ya-Xian Zhu, Xiu-Juan Zhu

10:00-10:20 Coffee-Break

10:20-10:40 19-13 **SVET And XPS Assessment Of The Corrosion Behaviour Of Galvanised Steel**

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| | | In The Presence Of Cerium Nitrate M.F.Montemor, P. Cecílio, R. Duarte, A.M.P. Simões, M.G.S.Ferreira |
| 10:40-11:00 | 19-23 | Influence Of Reinforcement Phase On Film Growth During Plasma Anodizing Of Metal Matrix Composites Wenbin Xue, Jiancheng Du, Xiaoling Wu, Yongchun Lai |
| 11:00-11:20 | 19-15 | Synergism In Between Anion And Cation Exchange Pigments Inhibiting Corrosion-Driven Cathodic Coating Delamination On Galvanised Steel H.N.Mcmurray, G. Williams |
| 11:20-11:40 | 19-27 | Evidence For The Formation Of Fe-Cr Spinel Structure In The Passive Film On 300 Series Stainless Steels. T.L.Sudesh.L. Wijesinghe, D.J. Blackwood |
| | Session: | 19 Surface Analytical Techniques |
| | Date: | Sep 23 Afternoon |
| | Room: | D |
| | Chairs: | Chuanwei Yan |
| 13:00-13:20 | 19-05 | Overview Of Formation Of Cr-Free Films On Al/Zn/Fe Substrates: Case Study Silane Formation A.Franquet, T.Van Schaftinghen, I.De Graeve, P.Laha, C.Le Pen, H.Terryn, J.Vereecken |
| 13:20-13:40 | 19-31 | A Study On Surface Passive Film On Galvanized Sheet Formed From Chromate Solutions Lizhi Li, Xiaoming Cao, Ming Wen, Xiao Liu |
| 13:40-14:00 | 19-25 | Protective Performance Of Environmentally Friendly Paints Using Under Film Corrosion Tester Masanori Nagai, Tsuyoshi Matsumoto, Hiroyuki Tanabe |
| 14:00-14:20 | 19-29 | Study Of The Adhesion And Corrosion Resistance Of The Chromate/Fluoride And Chromate/Phosphate Conversion Coatings On Aluminum Alloy 5083 A. Eshagh Teymoori, M. Pakshir, R. Mozaffarinia, B. Haghighi |
| 14:20-14:40 | 19-18 | Investigation Of Oscillatory Electrodeposition Processes By Chloride Ion Perturbation Liang Li, Chao Wang, Shenhao Chen, Xuegeng Yang |
| 14:40-15:00 | 19-04 | Studies Of Anti-Turning Color Electroplating Process For Aluminum Alloys Jinwan Chai |
| 15:00-15:20 | 19-07 | Surface Treatment Influence On The Corrosion Resistance Of AA5052H32 Alloy In Mild Alkaline Solution For Specimens Treated With Self Assembling Molecules Fernando Morais Dos Reis, Hercílio Gomes De Melo, Isolda Costa |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 19-20 | Evaluation Of Mechanism Of Scales Formation On Cr-Mn Steels J. Gilewicz-Wolter, Z. Żurek, J. Dudała, M. Homa, M. Hetmańczyk |
| 16:00-16:20 | 19-26 | Electroplating For Sealing Of Thermally-Sprayed Coating Panadda Niranatlumpong, Hathaipat Koiprasert |
| 16:20-16:40 | 19-19 | Integration Of Scanning Electrochemical Microscopy And Atomic Force Microscopy For In-Situ Investigation Of Localized Corrosion |

A. Davoodi, J. Pan C. Leygraf, S. Norgren

Session: 08 Corrosion Of Concretes
Date: Sep 23 Morning
Room: E
Chairs: J.M. Costa

- 8:00-8:40 08-Keynote Application Of Electrochemical Techniques In Corrosion And Protection Of Reinforced Concrete**
Guangling Song
- 8:40-9:00 08-02 Affects Of Reinforcement On Chloride Intrusioninto Concrete And Time-To-Corrosion**
Pascal Crox, William Hartt
- 9:00-9:20 08-06 The Effect Of The Marine Environment On The Reinforced Concrete Durability In Iberoamerican Countries: Duracon Project/CYTED**
Oladis Trocónis De Rincón
- 9:20-9:40 08-08 Deterioration Of Reinforced Concrete Foundations Due To Reinforcing Steel Corrosion In Buried/Immersion Service**
Calvin R. Pynn
- 9:40-10:00 08-11 Experience Of Using Zinc To Prevent Corrosion Of Pre-Stressed Concrete Cylinder Pipes In High Resistivity Soils**
Faraj A. Garman, Fawzi Al-Maadani
- 10:00-10:20 Coffee-Break**
- 10:20-10:40 08-15 Monitoring Of The Chloride Content In Reinforced Concrete Structures Using An Ag/AgCl-Based Sensor. Laboratory And Field Tests.**
M.F.Montemora, J.H.Alves, A.M.P.Simões, J.C.S.Fernandes, Z. Lourenço, A.S.Costa, A.J. Appleton, M.G.S.Ferreira
- 10:40-11:00 08-16 The Role Of Composition And Superficial State On Corrosion Of Stainless Steels In Concrete Environment**
M. Kouřil, P. Novák, M. Bojko
- 11:00-11:20 08-20 Corrosion Measurements Of Reinforcing Steel In Concrete Containing Corrosion Inhibitors**
L. Luo, G. De Schutter
- 11:20-11:40 08-22 Degradation Of Coatings For Reinforced Concrete: Relationship Between Early Electrochemical Measurements And Long Term Behaviour**
L. Creazzi, L. Fedrizzi, P.L. Bonora.

Session: 08 Corrosion Of Concretes
Date: Sep 23 Afternoon
Room: E
Chairs: Changjian Lin

- 13:00-13:40 08-26 Surface-Applied Corrosion Inhibitors For Concrete Repair Strategies**

| | | |
|--------------------|--------------|--|
| | | U. Maeder, F. Wombacher, B. Marazzani |
| 13:40-14:00 | 08-27 | Efficiency Of Cathodic Protection In Retarding Corrosion-Induced Cracking Of Mortars Subjected To Aggressive Environments |
| | | J. Hu, D. A. Koleva, P. Stroeven |
| 14:00-14:20 | 08-18 | A Comprehensive Study On The Corrosion Behavior For Reinforced Steel In Concrete |
| | | Rong-Gang Hu, Chang-Jian Lin, Bin Zhao, Rong-Gui Du |
| 14:20-14:40 | 08-10 | Evaluation Of Corrosion Behavior Of Coated Reinforcing Steel In Concrete |
| | | Chien-Hung Chen, S. H. Yeih, W.W. Li, Ran Huang |
| 14:40-15:00 | 08-21 | Cathodic Corrosion Protection Of Steel In High-Performance Concrete |
| | | L. Stockert, H. Junker, H. Bergner, J. Brust, P. Kess |
| 15:00-15:20 | 08-14 | Comparative Study Of The Corrosion Resistance Of Stainless Steels In Solution And Mortar |
| | | M.L. Escudero, M.C. Garcia-Alonso, J.A. Gonzalez, J.M. Miranda, M.I. Vega, F.Capilla, A.Bennani |

15:20-15:40 **Coffee-Break**

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| 15:40-16:00 | 08-12 | Effect Of Catalytic Crystalline Waterproof Coating On Steel Reinforcement Corrosion Of Concrete |
| | | Guiming Wang, Jianying Yu |

Session: 18 Surface Protection Techniques-A
Date: Sep 23 Morning
Room: F
Chairs: Yanbin Huang

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| 8:00-8:20 | 18-A-21 | Characterization Of Electroplated Pt/Pt-Ir Films On The Nickel-Base Single Crystal Superalloy |
| | | Y.N.Wu, A.Suzuki, H.Murakami, S.kuroda |
| 8:20-8:40 | 18-A-34 | Post-Treatment Of Anodic Films On Aluminium For Corrosion Resistance |
| | | S.Liu, G.E.Thompson, P. Skeldon And C.J.E. Smith |
| 8:40-9:00 | 18-A-36 | An Environmental Friendly, Industrial PECVD Treatment For Anti-Tarnishing And Anti-Wear Corrosion Of Silver |
| | | Giuseppe Moretti, Francesca Guidi, Gilberto Rossetto, Giovanni, Carta, Thomas Friesen |
| 9:00-9:20 | 18-A-03 | The Mechanism Of Acceleration Passivation Of Doped Polyaniline On 1Cr13 Stainless Steel In Acidic Solutions Deaerated With N₂ |
| | | Lian Zhong, Hua Zhu, Shuhu Xiao, Fuxing Gan |
| 9:20-9:40 | 18-A-41 | Corrosion Mechanism Of A Non-Chromate Conversion Coating For Magnesium Alloys And Magnesium-Based Metal Matrix Composites In NaCl At Different pH Using EIS |
| | | M. A. González-Núñez, P. Skeldon. |
| 9:40-10:00 | 18-A-42 | New Pre-Treatments For Galvanized Steel Substrates Based On Doped |

Organosilane Solutions.

M.F.Montemor, W. Trabelsi, E. Triki, P. Cecilio, M. Zheludkevich, M.G.S.Ferreira

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| 10:00-10:20 | Coffee-Break | |
| 10:20-10:40 | 18-A-39 | Continuous Ni-Layer On Polyaniline Microtubules By An Electroless Plating Method Xinmei Zhou, Jianhua Liu, Songmei Li |
| 10:40-11:00 | 18-A-35 | Clad Plates In Pressure Vessel Applications - A Comparison Of Different Production Methods With Their Respective Corrosion Behavior Gernot Heigl |
| 11:00-11:20 | 18-A-33 | Corrosion Performance Of Cr(III)-Treated Zinc X. Zhang, C. Van Den Bos, A. Hovestad, H. Terry, J.H.W. de Wit |
| 11:20-11:40 | 18-A-15 | Study On The Bath Composition And Coating Properties Of Ni-P/n-Al₂O₃ Electroless Composite Plating Yan-Bin Huang, Qing-Guo Chu, Feifei Liu, Bo Liu, De-Gang Liu |
| 11:40-12:00 | 18-A-16 | Effect Of Rare Earth On Bath And Coating Properties Of Electroless Ni-W-P Plating Yan-Bin Huang, Fei fei Liu, Xiao-Li Xu, Ping Zhang, Bo Liu, Qing guo Chu |
| 12:00-12:20 | 18-A-26 | Surface Treatments For Improving The Corrosion Resistance Of NdFeB Magnets S.M. Tamborim Takeuchi, D.S. Azambuja |
| | Session: | 14 Corrosion Electrochemistry And Electrochemical Testing Techniques |
| | Date: | Sep 23 Afternoon |
| | Room: | F |
| | Chairs: | Shizhe Song, Guangling Song |
| 13:00-13:20 | 14-46 | In Situ Formation Of Gas-Phase Copper Oxide And Its Electrochemical Reduction R. S. Huang, C. J. Lin ,R. Scott Lillard, H. S. Isaacs |
| 13:20-13:40 | 14-47 | The Potential - pH Diagrams Of AISI 316L Stainless Steel Immersed In The Simulated Underground Waters In Thailand Constructed By The Cyclic Polarization Method J. Lujjan, D. Testaisong, T. Tonkunya, S. Chandra-Ambhorn, T. Methanawin |
| 13:40-14:00 | 14-54 | EIS Studies On Aluminium Anodised By Sulphuric Acid And Sulphuric-Boric Acid Processes J.C.S. Fernandes, R. Picciochi, M.G.S. Ferreira |
| 14:00-14:20 | 14-56 | Silicon Texturing Under Negative Potential Dissolution (NPD) Conditions Y. Ein-Eli, N. Gordon, D. Starosvetsky |
| 14:20-14:40 | 14-57 | Understanding The Interplay Between Water Chemistry And Electrochemical Properties Of Copper Relevant To Cold Water Pitting Hongbo Cong, John R. Scully |
| 14:40-15:00 | 14-61 | Simulation And Measurement Of Galvanic Corrosion Of Magnesium Coupled To Steel |

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| | | Guangling Song, Jimmy X.Jia, Andrej Atrens |
| 15:00-15:20 | 14-70 | Electrochemical Study Of Stannate And Permanganate Conversion Coatings On AS21X Mg Alloy. F. Zucchi, V. Grassi, A. Frignani, G. Trabanelli |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 27-07 | Results Of The Lires Round Robin Test On High Temperature Reference Electrodes For Lwr Applications R.W. Bosch, G. Nagy, D. Féron, M. Navas, W. Bogaerts, D. Kárník, T. Dorsch, A. Molander, K. Mäkelä |
| 16:00-16:20 | 14-69 | Electrochemical Noise Analysis (ENA) And Electrochemical Impedance Spectroscopy (EIS) For Pure Copper In Chloride Media A.M. Nagiub |
| 16:20-16:40 | 14-53 | A Comparative Electrochemical Noise Analysis Of Steel, Copper And Aluminum Alloys During SCC Test In Chloride Solution M.Saremi, A.Nori, M.Rodini |
| 16:40-17:00 | 14-55 | Copper Passivity In Carbonate Base Solutions And Its Application To Chemical Mechanical Planarization (CMP) D. Starosvetsky, E. Abelev, M. Auinat, Y. Ein-Eli |
| 17:00-17:20 | 14-60 | Study Of Corrosion Resistance Of SS-304 Stainless Steel Exposed To Several Fluid Rates Of A Lithium Bromide Aqueous Solution At 60 And 80 °C. C. Cuevas-Arteaga |
| 17:20-17:40 | 14-64 | Electrochemical Study Of Al₂O₃ Nanoparticles Codeposition In The Nickel Matrix Geta Carac, Lidia Benea, Catalina Iticescu, Pier Luigi Bonora, Erika Kalman |
| 17:40-18:00 | 14-66 | Electrochemical Processes On The Deformed Surface As A Basis For An Estimation Of Corrosion Endurance Of Stainless Steels. V. Pokhmurskii, M.Khoma |

Session: 01 Corrosion Problems And Countermeasures In Modern High-Tech Industries

Date: Sep 23 Afternoon

Room: G

Chairs: Vinod S.Agarwala

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| 13:00-13:20 | 01-01 | Corrosion Protection Of Steels Used In Aerospace By ZnCoFe Alloy Coating Z.F. Lodhi, H.A. Terry, A. Hovestad, J.H.W. De Wit. |
| 13:20-13:40 | 01-18 | After Fire Accidental Corrosion Marc Arav |
| 13:40-14:00 | 01-16 | Trends In Corrosion R&D For Materials Reliability: Prediction, Detection, Prevention (Invited) R. Winston Revie |
| 14:00-14:20 | 01-17 | A Review Of Various Applications Of The Wire Beam Electrode Method In Corrosion Science And Engineering Studies Yong-Jun Tan |
| 14:20-14:40 | 01-04 | Sub-Micrometer Order Corrosion Of Silver By Sulfur Vapor In Air Studied By Means Of Quartz Crystal Microbalance |

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| | | Jun'ichi Sakai, Risa Aoki, Keishin Ohsaka, Yuichi Ishikawa |
| 14:40-15:00 | 01-08 | Intercept Technology, A New Frontier In Packaging Keith W. Donaldson, Henry Tan |
| 15:00-15:20 | 01-13 | Combatting Corrosion In The Mining Industry Vanessa Naicker |
| 15:20-15:40 | Coffee-Break | |
| 15:40-16:00 | 01-15 | Case Histories On Solving Severe Corrosion Problems In The CPI And Other Industries By An Advanced Ni-Cr-Mo Alloy 59 UNS N06059 D.C. Agarwal, Helena Alves |
| 16:00-16:20 | 01-02 | Corrosion Experiments Under Humidity Conditions Using Polarization Techniques L. Cavallit, A.De Rooij |
| | Session: | 12 Corrosion-Erosion |
| | Date: | Sep 23 Morning |
| | Room: | H |
| | Chairs: | Srdjan Nešić |
| 8:00-8:20 | 12-03 | Simulation Of Erosion Corrosion Mechanism Using Rotating Cylinder Electrode Assembly Gabriel Ogundele, Amy Lloyd, Sandra Pagan, F.Camacho |
| 8:20-8:40 | 12-26 | Sliding Wear Performance Of Several Materials In Molten-Zinc Limin Zhang, xiaoming Cao, Ming Wen |
| 8:40-9:00 | 12-07 | Erosion-Corrosion Of Carbon Steel In A Multiphase Flow At High Fluid Velocities Jürgen Feyerl, Stefan Holzleitner, Gregor Mori, Markus Oberndorfer, Wolfgang Havlik, Christian Monetti |
| 9:00-9:20 | 12-10 | Characterisation Of The Corrosion Behaviour Of Stainless Steels In Erosion-Corrosion By Multiple-Impact And Single Particle Impact Measurements Xinming Hu, Anne Neville |
| 9:20-9:40 | 12-11 | Effect Of Medium Corrosivity On Cavitation Erosion Behavior Of Martensitic And Ferritic-Austenitic Stainless Steels Suzhen Luo, Yugui Zheng, Wei Ke |
| 9:40-10:00 | 12-13 | The Action Of Inhibitor On Corrosion, Erosion-Corrosion In CO₂ Containing Sand By RCE And Impinging Jet C. Wang, A. Neville |
| 10:00-10:20 | Coffee-Break | |
| 10:20-10:40 | 12-18 | Enhancement Of The Erosion-Corrosion Resistance Of Dacromet With Hybrid SiO₂ Sol-Gel And Its Electrochemical Behavior Jianguo Liu, Gaoping Gong, Chuanwei Yan |
| 10:40-11:00 | 12-19 | Electrochemical Methods Applied To The Study Of Tribo-Corrosion Phenomena L. Valentinelli, L. Fedrizzi, S.Rossi, P.L. Bonora |
| 11:00-11:20 | 12-21 | Corrosion And Wear Corrosion Behaviour Of A Ceramic Composite For Use In Biomedical Applications |

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| 11:20-11:40 | 12-22 | C. Monticelli, F. Zucchi, A. Tampieri Wear Of Boronising Layer In Aggressive Media Stjepan Aracic, Dragomir Krumes, Vlatko Marusic |
| | Session: | 12 Corrosion-Erosion |
| | Date: | Sep 23 Afternoon |
| | Room: | H |
| | Chairs: | Yugui Zheng |
| 13:00-13:20 | 12-23 | Corrosion Of Stainless Steels In Flowing Slurries B.T. Lu, J.L. Luo |
| 13:20-13:40 | 12-24 | Erosion-Corrosion Behavior Of Electroless Deposition Ni-P Coated Copper-Manganese-Aluminium Alloy In Flowing Seawater Hong-Ren Wang, Ming-Xian Sun, Deng Chunlong, Wang Tingyong, Li Haitao |
| 13:40-14:00 | 12-25 | Repassivation Kinetics Of Cobalt Chromium Alloy In Sulphuric Acid Solution Lidia Benea, Francois Wenger, Pierre Ponthiaux |
| 14:00-14:20 | 12-29 | Corrosion-Abrasion Of Stainless Alloys In The Industrial Phosphoric Acid Mohamed-Adil Hajji, Abdellah Guenbour, El Miloudi Jallouli, Ali Ben Bachir |
| 14:20-14:40 | 12-04 | Corrosive Wear Of The Cold Compaction Of Al/Cu_f Composites Ashraf Talaat Mohamed, A. Elbadawy Sayed, A.A. Ibrahim |
| 14:40-15:00 | 12-16 | Erosion Corrosion And Synergistic Effects In Disturbed Liquid-Particle Flow Ramakrishna Malka, Srdjan Nešić, Daniel Gulino |
| 15:00-15:20 | 12-12 | Study Of Corrosion Erosion Of Biomedical Nickel-Free Austenitic Stainless Steel Yibin Ren, Ke Yang, Bingchun Zhang, Huibin Yang |
| 15:20-15:40 | Coffee-Break | |
| | Session: | 11 Corrosion Fatigue |
| | Date: | Sep 23 Afternoon |
| | Room: | H |
| | Chairs: | Ryuichiro Ebara, Jianqiu Wang |
| 15:40-16:00 | 11-14 | Corrosion Fatigue Crack Initiation In 2205 Duplex Stainless Steel Under Selective Dissolution Condition I-Hsuang Lo, Wen-Ta Tsai |
| 16:00-16:20 | 11-13 | Study Of Low Frequency Fatigue Crack Growth Rate da/dN In H₂S Environment Jing Wang, Yiliang Zhang, Yaofeng Sun |
| 16:20-16:40 | 11-02 | Study On The Cause Of The Premature Failure Of Stainless Steel For Seawater Pump Shaft Yuanlong Du, Zuoyuan Chen, Zijie Lu |

Poster Session

Session: Poster Session 01

Date: Sep 21 Afternoon

- 01-03 A Study Of A Simulated Low Earth Orbit Atomic Oxygen On The Degradation Of PVF, PVDF, Teflon FEP Polymer**
Lei Zhang, Chuanwei Yan, Gang Shun, Jingyu Tong, Hwei Pang
- 01-05 Corrosion Studied Of Hard Disk With Lubricant Baking Process And CN Deposited On Sub-2 nm DLC Films**
A. H. Tan, J. Y. Chang, S. C. Chen, C. K. Lee, M. H. Hsieh
- 01-07 An Investigation Of The Adhesion And The Corrosion Behaviours Of Sol-Gel SiO₂ Films On Glass Substrate**
Xiaoping Liang, Zhengguo Jin, Dongcai Bian, Danmei Su
- 01-10 Preliminary Survey And Analysis For Corrosion Status Of Broadcasting And TV Steel Towers And Masts**
Xiaozhuang Zeng
- 01-14 Typical Corrosion Appearance Of Metals**
Yueyi Wang, Weimin Gu
- 02-01 Corrosion Analysis Of Polymer Matrix Composites**
Yanyan Wang, Chen Liang
- 02-02 Corrosion Behavior Of A2124 Aluminum Alloy Reinforced With Silicon Carbide Particles**
J.A.Lopez-Caballero, A.Forn, M.T.Baile, E.Martin, J.M.Bastidas
- 02-05 Studies Of The Immersion Corrosion Of Carbon Fiber Polymer-Matrix Composite By Electrical Resistance Measurement**
Xiaofei Li, Qi Zhang, Peng Diao
- 02-10 Corrosion Behaviour Of A6061 With Al₂O₃ Particles**
Antonio Forn, Elisa Rupérez, María-Teresa Baile
- 02-15 Researches On Corrosion Behaviors Of Aero Conduit Connector Of Tininb Shape Memory Alloy**
Junxiu Shi, Zhongzhi Sun, Lulu Jing, Jianhua Liu
- 02-17 Study On Corrosion Resistance Of TiNiNb Shape Memory Alloy**
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- 17-37 **Effect Of Tween-85 On The Corrosion Inhibition Of Cold Rolled Steel In Hydrochloric Acid**
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- 17-09 **Factors Effect On Amine Corrosion Inhibitors Efficiency Of Mild Steel In CO₂ Containing Environment**
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- 17-49 **Comparison Among Ecological Pigments In Anticorrosive Coatings**
D. Martínez-Cairo, M. Estévez, J. Genescá, F.J. Rodríguez
- 17-12 **Inhibition Of AZ91D By Sodium Molybdate**
I. M. Baghni, Yinshun Wu, Jiuqing Li
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- 17-17 **Synergistic Effect Of Orthophosphate On The Scale Inhibition**
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- 18-A-04 **Researches For Increasing The Efficiency Of Preserving The Energy Equipment Using Tensio-Active Substances For Surfaces**
Liviu Dragos, Corina Radulescu, Chem. Nicoleta Ion
- 18-A-07 **Anticorrosion Mechanism Of The Electroless Ni-P Deposit In Brine Medium**
Xiao-Xia Sun, Min Du, Rong-Jie Gao, Yan-Li Pu
- 18-A-22 **The Influence Of Some Oxides On The Stability And Electrochemical Properties Of Ti/IrO₂ Anode Under Oxygen Evolution**
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- 18-A-25 **Effect Of Anodic Oxidation On The Corrosion Resistance Of The Ti6Al4V Alloy**
D.Krupa, J.Baszkiewicz, J.A.Kozubowski, J.Mizera, J.W.Sobczak, A.Biliński, J.Smolik, Z.Słomka
- 18-A-28 **Improvement Of The Corrosion Resistance Of Carbon Steel By Nitrocarburizing Process**
K. Tadić, H. Otmačić, F. Cajner, D. Landek, H. Takenouti, E. Stupnišek-Lisac
- 18-A-30 **Studies On Chromium-Free Passivating And Three Price Chromium Passivating Technology Of Zinc-Plated Layer**
Jian Chen, Zuxiao Yu, Hua Lin He, Xudong Zhou, Min Gong
- 18-A-13 **Using Diagnosis Chart And Component Index Method To Diagnose Whether Certain Component Is Sufficient Of Scarce Or Lack Plating Solution**
Shan Qiu, Xing-Chu Qiu
- 18-A-27 **Evaluation of Hydrogen Permeation for Galvanized Steel**
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- 18-A-44 **Sealing Treatment By Liquid Phase Deposition On Electroless Ni-P Coating**
Yingchun Liu, Hongying Yu, Huimin Meng, Xudong Wang, Zishuan Fan, Huiqin Li, Dongbai Sun, Dejun Yang
- 18-A-43 **A Study On Ni-P-PTFE Composite Plating Coating**
Hui Li, Hongying Yu, Huimin Meng, Xudong Wang, Zishuan Fan, Huiqin Li, Dejun Yang, Dongbai Sun,
- 18-B-20 **Study On The Lower Temperature Hot-Corrosion Mechanism Of NiCr Coatings In Several Conditions**
Xuemei Ou, Zhi Sun, Min Sun
- 18-B-10 **Effect Of Sodium-Ion Implantation On The Corrosion Resistance Of Titanium And Ti6Al4V Alloy**
J.Baszkiewicz, D.Krupa, J.A.Kozubowski, B.Rajchel, A.Barcz, J.W.Sobczak, A.Biliński

- 18-B-14 Comparison Of Corrosion And Wear Behaviour Of Al₂O₃ Coating Without And With Dispersing Alumina Powder In Alumina Sol**
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- 18-B-24 Effects Of Fluoride Ion And Plasma Immersion Ion Implantation Treatment On The Corrosion Behaviour Of Titanium-Containing Orthodontic Archwires In Artificial Saliva**
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- 18-B-30 Electrodeposition Of Nickel Plates On Copper Substrates Using PC y PRC**
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- 18-B-33 A Study Of The Anti-Corrosion Ceramic Coating On LY12 Aluminium Formed By Micro-Arc Oxidation**
Dong-Chu Chen, Jun Du, De-Ling Peng, Wen-Fang Li
- 18-C-15 Application Of Nano-Sized Ti Powder Polymer Coating In H₂S Containing Water Tank**
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- 18-C-08 Qinghai-Tibet Railway Steel Bridge Anticorrosive Coating System Design**
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- 18-C-03 Polyacrylate Coating Filled With Modified Nanoparticles**
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- 18-C-05 Anti Corrosion Mechanisms Of Bipolar Coatings**
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- 18-C-11 Red Mud As Anticorrosive Pigment For Metal Protective Organic Coatings**
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- 18-C-32 Study On Preparation And Performance Of Glass Microspheres With Copper Coating**
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- 18-C-20 Research And Application Of Fluorocarbon Anti-Corrosion Coatings For External**
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- 18-C-47 The Effect Of Relative Humidity On The Corrosion Resisting Property Of Fluorocarbon Coating**
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- 18-C-44 A Study On Anti-Corrosion Behavior Of Fluorocarbon Coating Exposed In Different Regions**
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- 18-C-51 Experimental Evaluation On Degradation Characteristics Of Epoxy Coating By Using Adhesion Force And Impedance**
Hwan-Seon Nah, Yong-Pyo Suh, Nohyu Kim, Chul-Woo Lee

- 18-C-57 Research Of The New Heavy-Duty Coating Cured On The Damp Surface And Under Water**
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- 19-01 Atmospheric Copper Corrosion By Organic Acid Vapors**
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- 19-21 Image Analysis For Evaluation Of Corrosion Processes**
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- 19-12 The Properties Of Al/Li Composite Anodic Film By Hydrotalcite Precursor Method**
Hao Ye, Yu Zuo, Jin-Ping Xiong, Jing-Mao Zhao
- 19-09 Raman Spectrum Of Dimensionally Stable Anode**
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- 19-30 Interphases And Adhesion Strength Between Polymer Coating And Aluminum Alloy**
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- 19-33 Corrosion Resistance In Metallic Biomaterials Modified By A New Electrical Grinding**
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- 20-21 Integrated Corrosion Management Using Sensors And Life Prediction**
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- 20-04 Corrosion Monitoring Technology For Oilfield Production System**
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- 20-07 The Analysis System Of Underground Pipeline Coating Detection And Its Application**
Shizhe Song, Zhiming Gao, Lingli Liu, Fei Tian, Lei Han
- 20-09 Study On Corrosion Monitoring By Optical Fiber Sensor**
Saying Dong, Yunfeng Liu, Xiaoqing Tan
- 20-23 Pulse Eddy Current With New Input Signal For The Plane Corrosion Test**
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- 20-25 "Method Of Changing And Selecting Frequence" As A Technique To Measuring The Insulation Resistance Of Coating On The Buried Pipeline**
Jingyan Liu, Bei Cao, Yinshun Wu
- 21-03 Computer Simulation Of A Protection Of Underground Conductors Against Stray Currents**
W. Machczyński, P. Czarnywojtek
- 21-07 Design And Establishment Of Marine Corrosion And Protection Database**
Chunlong Deng, Mingxian Sun, Wenjun Li, Wei Liu, Weimin Guo
- 21-01 Study On Coating Deterioration Process With Neural Networks**
Zhiming Gao, Shizhe Song, Yunhai Xu
- 23-13 Study Of The Reason Of The Wasting Quickly About Sacrificial Anode In The Waste Water Tank In Chun Liang**
Cheng-Fei Zhu, Jian-Jian Zhu, Li Ou
- 24-09 Determination Of Degradation Mechanisms Of Organic Coatings**
W.M. Bos, G.M. Ferrari, J.H.W. de Wit

- 25-05 Probabilistic Study On Corrosion Damage Distribution And Fatigue Lives Of Aircraft Materials**
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- 27-08 Art Of Corrosion**
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- 25-08 Life Prediction Approach To Helicopter Metal Dynamic Components Under Corrosion Environment**
Wenlin Liu, Zhitao Mu, Kai Zhou, Chengmei Duan, Jialin Hu
- 27-04 Green Chemistry And Corrosion Protection**
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- 15-08 Study On Dissolution Behavior Of Sacrificial Anode With Electrochemical Noise Technique**
Xiaoshan Wan, Shizhe Song, Xiaojun Hao, Hua Li
- 10-SCC-32 Calculation Of SCC In Heat-Exchanger By J-Integral Method Of FEM**
Jing Li, Minshan Liu, Qiwu Dong, Tong Liu, Aifang Sun
- 10-SCC-51 Effect Of Strain Rate On Stress Corrosion Cracking For X60 Pipeline**
B.W. Pan, J. X. Li¹, X. Peng, W.Y. Chu, L. J. Qiao
- 10-SCC-52 Anodic Solution Mechanism Of Titanium/Ethanol System Based On Interfacial Frequency Effect**
Yinglv Jiang, Yinshun Wu, Kai Wang
- 11-05 Fretting Fatigue Behavior Of Titanium Alloy Ti6Al4V Contacting With 17-pH Stainless Steel**
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- 11-15 Cyclic Deformation Behavior Of Type 316LN Stainless Steel Under Low Cycle Fatigue Loading In 310 oC Low Oxygen Water**
Hyunchul Cho, Byoung Koo Kim, Changheui Jang, In Sup Kim, Dae Yul Jung, Seong Cheol Byeon
- 12-06 The Study On The Plasma-Nitrided Layer In Erosion And Its Mechanism**
Kegao Liu, Dong Xiang, Yuchao Niu, Bin Xu
- 12-30 Study On Tribological And Corrosion Inhibiting Proerties Of Thiadiazole Derivative As Lubricant Grease Additive**
Jianqiang Hu, Li Wang, Feng Ji
- 12-27 Determiation Synergy Effects Between Erosion And Corrosion Of Duplex Stainless Steel In Kuwait Marine Environment**
Essam Hussain, A. Husain
- 13-16 Corrosion Behavior Of N And Mo-Containing 13Cr Stainless Steels In CO₂ Environment**
L.Y.Yang, W.Liu, M.X.Lu, G.A.Zhang, C.W.Cha
- 13-42 High Temperature Corrosion Mechanism For A Fe-Cr-Ni Alloy Exposed To A Na₂SO₄-V₂O₅ Mixture Salt.**
C. Cuevas-Arteaga
- 14-25 Study On Electrochemical Noise Of Atmospheric Corrosion**
Sujing Chen
- 14-43 Electrochemical Oscillations In The Active Potential Region Of Iron Electrode In Acidic Aqueous Solutions With Corrosion Inhibitors**
Dihua Wang, Fuxing Gan, Jinyun Zou, LuAn Yao
- 14-48 Flatband Potential And Band Bending Determiation Of GaAs In Electrolytes**
Yin Huang, Jingli Luo, Douglas G. Ivey

- 14-68 Study On Mechanism Of Porous Oxygen Electrode Of Bronze Corrosion**
Shao-Bin Feng, Shi-Bo Shang, Zhen Xu, Guang-Zhan Tong
- 15-06 Effect Of Inhibiting H₂-Evolution For Aminophenols On Al-Anode**
Yan Zhang, Yu-Su Song, Yuan-sheng Wang, Shu-ren Yao
- 17-01 Corrosion Inhibition Of Poly(8-Hydroxyquinoline) And Poly(O-Aminophenol) On Carbon Steel**
Yicheng Shen, Zhenlin Xu, Zhijun Gu
- 17-20 Electrochemical Studies On The Corrosion Inhibition Of PMTA For Bronze In Aqueous Chloride Solution**
Lankun Cai, Hao Zhou, Zhaojiang Zhong, Hongfan Zhu
- 17-21 Study Of The Corrosion Inhibition Mechanism Of Rare Earth Metal(REM) On B95 Al Alloy With The Spilt Cell Technique**
Baoshan Gu, Jianhua Jiu, Qifu Zhang, Xiaochun Ji
- 17-25 Study Of Furfural On The Corrosion Inhibition Of 20[#] Carbon Steel**
Jia-Feng Fan, Xiao-Ling Ma, Jian-Fang Li
- 17-57 Study Of Corrosion Inhibition Behavior Of Phosphomolybdric Acid In The System Of P-Toluene Sulfonic Acid-Acetic Acid**
Wen-Bin Liu, Jun Wang
- 18-A-09 Effects Of Pulse Current On The Stability And The Solderability Of Acidic Tin Electroplating**
Yuehui Meng, Leyun Lin, Dawei Cui, Yuehong Zhao
- 18-A-10 Research of Technology of No Aqueous Phase Stripping Nickel Coating on NdFeB Permanent Magnet**
Houzeng Rao, Jing Li, Bingfeng Han, Gueimei Li, Guohua Li
- 18-A-19 The New Technology Of Electroless Plating Cu Onto Ceramic**
Yicheng shen, Zhenlin xu, Qilong guo, Xingchao zhao, Yanping Hong, Zhijun Gu
- 18-A-24 Investigation By EIS Of Trivalent Chromate Conversion Coating On Galvanized Steel**
C.R. Tomachuk, O.B. Ferraz
- 18-A-32 Study On The Corrosion Resistance Of Mo/Ce Conversion Coating On Tinplate Deposited By Cathodic Electrolysis**
Lankun Cai, Zhaojiang Zhong, Zhu Lu
- 18-A-45 Electrochemical Oxidation Of Organic Additives In The Electrolyte Of Tin Electroplating**
Yinmei Cheng, Lankun Cai, Guangjie Fan, Qiang Song, Zhu Lu
- 18-B-26 Enhancement Of Protection Performance Against Corrosion In Nickel / Copper Thin Films Deposited On ZAMAK Substrates By The Pulse Reverse Current Technique**
D.Laverde, W Aperador, E.Vera, J.Guerrero,
- 18-C-25 Anticorrosive Behaviour Of Electrodeposited Zinc Coatings: Prephosphated Zinc And Zinc-Nickel Alloy**
M.Joao.F. Marques, A.M.Simoes , E Almeida
- 18-C-50 Studies On Corrosion Resistance Of Electrodeposited RE-Ni-W-P-SiC-PTFE Composite Materials In Sulfuric Acid And Hydrochloric Acid**
Zhongcheng Guo, Junyi Pan, Xiaoyun Zhu, Ruidong Xu
- 18-C-71 Study And Application Of Strong Anticorrosive Paint Of YJF-Fluorubber**
Donglin Wang, Xin Zhou
- 10-H-02 Development On Formation And Healing Of Hydrogen Induced Cracking**
Herong Zhou, Chaofang Dong, Xiaogang Li

- 18-A-05 Study On Mechanism Of Electrolytic Black Coloring Of Aluminum Alloy LY12**
He-Rong Zhou, Nan Du , Xiaogang Li
- 18-C-72 Poly(2,5-Bis(N-Methyl-N-Hexylamino) Phenylene Vinylene: A New Electrically Active Polymer Coating For Corrosion Prevention In Marine Environments**
Peter Zarras, Nicole Anderson, Roxanne L. Quintana, Andrew Guenther, Nicholas Prokopuk, Cindy Webber, Lawrence Baldwin, John D. Stenger-Smith, Joni M. Penton
- 18-C-73 Effectively Of Insulating Coatings For Main Pipelines In Dependence Of Its Properties**
A.V. Timonin, M.L. Kosterina, I.V. Vjunitsky, V.V. Pritula
- 18-C-74 The Characteristics And Application Of A Water-Base Inorganic Anticorrosive Coating**
Yue Cui, Mingkui Qi
- 19-16 Electrochemical Investigation Of Surface Oxide Films Formed On Alloy 600**
Dong-Jin Kim, Hyuk-Chul Kwon, Hong Pyo Kim
- 19-17 Comparative Study Of The Effect Of Mechanical Methods For Surface Pretreatment On The Performance Of Epoxy Coatings**
Chung Seo Park, Kwang Ki Baek, Cha Su Seo, Gun Dae Lee, Jin Hwan Park
- 20-24 Light-Group Sensitive Materials As Early Warning Indicators For Corrosion Detection Of Al Alloys**
Jian-Hua Liu, Lan-Juan Li, Song-Mei Li
- 21-03 Computer Simulation Of A Protection Of Underground Conductors Against Stray Currents**
W. Machczyński, P. Czarnywojtek
- 25-06 Study On Accelerated Corrosion Equivalent Conversion Method Of Aircraft Service Environment**
Zhitao Mu, Wenlin Liu, Pei Shi, Chengmei Duan

Exhibition

The 16th International Corrosion Congress and Exhibition will be held in Beijing International Convention Center from September 20 to 23, 2005. More than 80 companies, which come from U.S.A., Germany, Japan, Singapore, Canada, UK, Korea, China and so on, will participate in the exhibition. The exhibition includes advanced products and technologies of following field: corrosion-resistant alloy materials, anti-rust technology, paints and coating, corrosion detecting system and instrument.

Venue: The first floor of Beijing International Convention Center

Date: September 20, from 9:30~16:30

September 21, from 9:00~16:30

September 22, from 9:00~16:30

September 23, from 9:00~16:30

Technical Seminars

16th ICC 专题技术报告会

地点：北京国际会议中心 1 层 5 号厅

Venue: Hall 5 Floor 1, Beijing International Convention Center

| 时间 Time | 报告题 Topic | 主讲人 (公司) Lecturer |
|--|---|---|
| 9 月 20 日下午 Sept. 20 1:30—2:30 p.m | 诺信粉末喷涂快速换色和数字化控制技术 Nordson Fast Color Chang Power Spray Technology and Digital Control Technology | 诺信 (中国) 有限公司 Nordson Corp. |
| 9 月 20 日下午 Sept. 20 2:40—3:40 p.m | 微区显微技术在腐蚀科学与工程中的应用 Localized Micro-techniques and Applications in Corrosion Science and Engineering | 普林斯顿应用研究 (美国) Princeton Applied Research-PAR |
| 9 月 20 日下午 Sept. 20 3:50—4:50 p.m | 美国 Graco 公司双组份重防腐设备及应用介绍 Graco New 2K Protective Coatings Equipment and Applications | 美国固瑞克公司 |
| 9 月 21 日下午 Sept. 21 1:30—2:30 p.m | 关于在日本冷镀锌涂料的研究及其使用方法 | 上海罗巴鲁富锌涂料有限公司 岩谷健作 日本 ROVAL 株式会社 |
| 9 月 21 日下午 Sept. 21 2:40-4:40 p.m | 新型多功能防腐蚀剂的研究和应用 The research & application of new type multifunction anti-corrosion agent | 北京天宝同辉材料防护技术有限公司 |
| 9 月 22 日上午 Sept. 22 9:30-11:30 a.m | 1. New Techniques In Pipeline Integrity Management Methods To Assess Unpiggable Pipelines 2. Data Management For Integrity Decision Support. | GE Oil & Gas-PII Limited Jose Larios |
| 9 月 22 日下午 Sept. 22 1:20-3:20 p.m | 控制腐蚀的新产品 Intercept Technology, a New Frontier in Packaging | TEC-HUB PTE LTD (新加坡) Mr Keith Donaldson |
| 9 月 22 日下午 Sept. 22 3:30—5:50 p.m | 采用气相缓蚀剂技术对设备和建筑的全面腐蚀控制系统气相防锈包装技术在减缓金属腐蚀损失方面的应用 | Mr. Robert Borde, Cortec 公司 安成强教授, 东北大学 |