

CORCON 2018: International Conference & Expo

30th September - 3rd October 2018 in JECC, Jaipur

The contribution of NACE International Gateway India Section (NIGIS) towards generating corrosion awareness and developing corrosion management strategies, over time has been commendable. The annual event CORCON conference & expo on corrosion has earned a name for itself as a unique platform for exchange of knowledge, information and development of solutions on matters pertaining to corrosion and its control.

CORCON 2018 was held in the culturally vibrant, pink city, Jaipur, the capital Rajasthan state, during September 30 – October 3 at Jaipur Exhibition and Convention Centre.

Mr. N Manohar Rao, Chairman NIGIS & CORCON-2018 in his welcome address at the inaugural function highlighted about the significance of the conference expressed that every registered delegate at the conference could have a technical feast of three days in Jaipur.

The conference was inaugurated by Mr. Devendra Bhushan Gupta, IAS, Chief Secretary, Government of Rajasthan. In his inaugural address he said that they at Government of Rajasthan were delighted to be a partner when Mr. N Manohar Rao, Chairman-NIGIS & CORCON-2018 had approached them because the government has a progressive and positive attitude to attract investments in the state of Rajasthan and encourage the visit of specialised professionals from India and abroad, like in the field of corrosion. He appreciated the efforts of NIGIS in providing trainings to industry personal in the area of corrosion control. He emphasised that more efforts are needed to develop green substitutes to control corrosion. He expressed that enhancement of life of aging infrastructure is a matter of great concern and the specialists need to evolve techniques and technologies to take care of them. In the past decades, corrosion professionals focussed primarily on new construction, specifying materials and designing corrosion protection and control systems for buildings, bridges, roads, plants, pipelines, tanks, ships etc. Today when most of the infrastructures reaches end of its design life, the emphasis is on maintaining and extending the life of these valuable assets.

The industry should take leverage from R&D to reduce direct and indirect cost of corrosion.

Mr. D. Rajkumar, Chairman and Managing Director, Bharat Petroleum Corporation Ltd., who was the Guest of Honour at the Inaugural function, highlighted that the world is passing through a phase where business revolves around disruptive, innovative and sustainable practices. He observed that this conference on corrosion aims to achieve sustainability, in both, industrial and business environment. He opined that the theme of CORCON 2018, "Uniting the World in Mitigating and Combating Corrosion", has tremendous potential which if explored to the fullest can effectively contribute in enhancing the environment sustainability, optimizing cost, averting infrastructure mishaps and ensuring uninterrupted conduct of business operations. It is said that money saved is more than the money earned, perhaps because of the fact that replacement costs are much higher.

NACE International President, Jeffrey L. Didas, appreciated NIGIS for the great efforts and contributions. He mentioned that India has a big strength of 892 members of NACE International community.

Mr B. Narayan, Group President, Reliance Industries Limited, an ardent supporter of NIGIS for the past several years, mentioned in his address that at this point of time when Industrial Revolution 4.0 is taking off, he expected the corrosion engineers to keep pace with the developments and come up with innovative corrosion prediction models that can predict corrosion under corrosive environment so that effective control measures can be timely adopted.

"CORCON, the annual conference and expo on corrosion science and engineering held in India since last 26 years, is one of the largest event of its kind in Asia. This event offers a powerful platform for information-sharing, knowledge-acquisition, scouting opportunities, market offerings, and networking in the field of corrosion prevention and deployment of materials and components employed in a variety of industries," said

Glimpses of CORCON 2018



Shri N Manohar Rao, Chairman, CORCON 2018 warmly welcoming the fellow delegates



Shri Devendra Bhushan Gupta, IAS, Chief Secretary Government of Rajasthan delivering the inaugural speech



Shri D Rajkumar, CMD, BPCL, Guest of Honour addressing during the Inaugural function



Shri Jeffrey L. Didas, NACE International President during Lamp Lighting Ceremony



Dignitaries on the Dias releasing the CORCON 2018 Souvenir



Delegates during the inauguration session

Dr U. Kamachi Mudali, Chairman and Chief Executive, Department of Atomic Energy, Heavy Water Board, Government of India, while speaking on the occasion.

Mr. Tushar Jhaveri, Past President, NACE International congratulated to the entire team consisting of Chairman and the Committee members for such a grand success of CORCON-2018. Mr. Dipen Jhaveri, Secretary, NIGIS proposed the vote of thanks.

A Souvenir of CORCON 2018 was also released during the inaugural session.

The technical sessions of the conference commenced from the morning 1st October. The technical richness of the conference was reflected by the 14 Symposia's in 32 Technical sessions. Four Plenary Talks, 18 Keynote Talks, 184 Oral Papers, 26 Poster Presentations and 6 Technical Interactive Forums were highlight of the conference. This was the biggest ever CORCON in terms of number of delegates, 869. The conference was supported by 01 Platinum Supporter, 09 Gold Supporters, 25 Silver Supporters, 49 Exhibitors with 77 Booths.

The delegates enjoyed a thrilling musical program in the evening, presented by the group Rajasthan Roots. The soulful music, with captivating vocal chord, mesmerising flute and energetic string instruments, refreshed the delegates after a busy day that was packed with heavy weight technical discussions and prepared them for the next day.

There were a few unique features in exhibition area this time. A special arrangement was made for those Supporters / exhibitors who were interested in presenting their products before a larger crowd in one go. The food court was in exhibition area with sitting arrangement. This made technical and business discussions possible during lunch, dinner and tea time. For the first time in expo area, a stall with medical facilities was also arranged. A Portrait Station was also setup for all the participants. This way, the invaluable time of each participant was gainfully utilized.

The four plenary talks, that attracted all the knowledge seekers, focussed on the following topics:

1. "Above Ground Storage Tank Bottom CP - Lessons Learned and What we are doing Today", Jeffrey L. Didas, Senior Technical Specialist, &

Corrosion Matcor, USA, President, NACE International.

2. "Corrosion Control and Cathodic Protection of Steel Reinforcement: Past Present and Future", George Sergi, Technical Director, Vector Corrosion Technologies Ltd

3. "Corrosion in The Defence Sector", S.V. Kamat, Distinguished Scientist & Director General, Naval Systems and Materials Defence Research and Development Organisation (DRDO)

4. "Innovative Corrosion Inspection Solutions for Oil & Gas Industries", Krishnan Balasubramanian, Chair Professor, Institute Professor, Dept. of Mechanical Engineering, IIT Madras Chennai

A scintillating Corrosion Awareness Awards function was organized in the evening on 2nd October. On this occasion, Dr V. K. Saraswat, Member, National Institution For Transforming India, NITI Aayog, said, "India loses around US\$100 billion annually solely due to corrosion. In this backdrop, the annual edition of CORCON is of special significance. They provide an ideal platform to exchange ideas and views in mitigating this horrendous loss." This year, the award winners were:

Dr T. P. D. Rajan, CSIR-NIIST, Trivandrum for Excellence in Corrosion Science and Technology in Research and Education;

Mr Pankaj Panchal, Corrosion Protection Specialist Pvt Ltd., Ahmedabad, for Excellence in Corrosion Science & Technology in Oil and Gas;

Dr Anita Toppo, Indira Gandhi Centre for Atomic Research, Kalpakkam, for Distinction in Corrosion Science and Technology in Research and Education;

Dr Liju Elias, Indian Institute of Technology Hyderabad, Student Award for PhD;

Mr Bidyut Dutta, IIT Bombay, Student Award for M. Tech;

CSIR-Central Electrochemical Research Institute, Karaikudi, Award for Excellent Laboratory;

Dr V. Saraswathy, CSIR-Central Electrochemical Research Institute, Karaikudi, for Meritorious Contribution to Research and Education.

The Lifetime Achievement Award, nominated by the Section Governing Board-NIGIS, was given to Dr S. L. Kataria, International Certification Services Pvt Ltd., Mumbai.

Glimpses of CORCON 2018



Dignitaries during the Inauguration of Exhibition



Interaction with Exhibitors in the exhibition premises



Dr. U Kamachi Mudali facilitating Dr. George Sergi during his Plenary Talk



Delegates during the presentation



Dr. V K Saraswat, Member, NITI Aayog addressing during Corrosion Awareness Award function



Dignitaries with winners of Corrosion Awareness Award 2018

This was followed by a surprise Rajasthan Nite-Chokhi Dhani on the sprawling lawns of the JECC with music, dance, entertainment, puppet shows, pottery makers, bangle makers and even fortune tellers guiding the delegates about their future.

CORCON 2018 had a day with special focus on corrosion in the oil and gas industry including with 'Jung Se Jung' session. 'Jung Se Jung (JSJ)' was organized by GAIL in association with NIGIS on 03 October 2018. The objective of JSJ was to discuss the Prevention Considerations to be taken at the Design and Construction Stage so as to avoid Internal & External Corrosion for Oil & Natural Gas Pipelines, which are one of the important national assets. At the outset of the program, Mr. M K Sogani, GM, GAIL welcomed the participants and briefed about the purpose of JSJ program with a glimpse of journey that has been covered during the past years. The JSJ was inaugurated by Dr. Ashutosh Karnatak, Director (Projects), GAIL (India) Ltd, who was the Chief Guest. In his keynote, he applauded the industries for the steps taken and collaboration in the battle against corrosion as well as appealed to all the industries to participate and share knowledge for prevention and mitigation of corrosion. He stressed on the need of migration from "Reactive" corrosion management to "Proactive" management of corrosion. The eminent keynote speakers and panelists at the JSJ were Dr. Carlos A Palacios, Mr. Hasan Sabri, Dr. Narendra Kumar, ED, O&M-CO, GAIL, Mr. E S Ranganathan, MD-IGL, Mr. A N Pandey, ED (O&M-NR), Mr. A K Tiwari, ED-IOCL (Pipeline), Mr. R Suresh, Business Head – RGTIL. The panelists shared their knowledge and views about corrosion and answered various queries of the participants during Q&A Session. The Interactive panel discussion was co-ordinated by Mr. M K Sogani, GM – GAIL.

The organizing committee of CORCON 2018 also placed on record the overwhelming support from Government of Rajasthan, for providing Jaipur Exhibition and Convention Centre (JECC) for the conducting this conference.

The valedictory function of CORCON-2018 was held on 03 Oct 2018. Ms. Helena Seelinger, Executive Director, NACE International Institute, USA was Chief Guest. She specially applauded of the dedication of NIGIS staff, who worked 24/7 in ensuring grand success of the conference. She had all praise for the NACE Staff in India

Mr. Manoj Mishra, Mr. Rishikesh Mishra, Ms Anita D'souza, Mr. T D Sundarakashan and Mr. Maxie Fernandes.

14 best symposia awards and 3 best poster papers, as chosen by eminent experts, were presented during the valedictory session. Awards for two best exhibition stalls and two runner-up exhibition stalls were chosen among the 77 exhibition stalls, were also presented.

CORCON 2018: Best paper awards

- 1 Materials and Composites - RP Tanks-A Potential Alternative Of Rubber Lined Tanks For Acid Storage, Shashank Mishra, Madhusudan Sur and Kumar Sudhir, Indian Oil Corporation Limited, Mathura
- 2 Cathodic and Anodic Protection - Different Grounding Methods For Mitigation Of AC Induction On Pipelines, Mohammad Shums Abbas and Uma Shanker, GAIL (INDIA) Ltd, NCR
- 3 Coatings, Linings and Thermal Insulation - Performance Evaluation of a Storage Tank Crossed-linked Two Components Epoxy Coating System at Three Curing Temperatures, M. Dabir, S. Mukadam and A. Al-Hashem, Petroleum Research Center, Kuwait and S. Rajendran, St. Antony's College of Arts and Sciences for Women, Thamaraipady
- 4 Corrosion in Refineries - Preferential Corrosion-Erosion Of Weldments Of Lean/Rich Amine Piping In Refineries, N Vaartha, Sukant Dev and Rajeev Ranjan Ravi, Indian Oil Corporation Limited, Mathura
- 5 Internal Corrosion in Pipelines - Qualification of lower-cost CRA clad material for flowlines T. Bos, Shell Technology Centre, Bangalore and M. E. Wilms, J. Smit, Shell Technology Centre Amsterdam
- 6 Corrosion Monitoring and Testing - ECDA - Indirect Inspection through Combined On ground Survey of Pipeline and its Benefits, Atul Parmar, Indian Oil Corporation Limited, Noida
- 7 Young Student Scientist Forum - Electrochemical response of embedded steel in carbonated limestone calcined clay (LC3) mortar, Sundar Rathnarajan and Radhakrishna G. Pillai, Indian Institute of Technology Madras, Chennai

Glimpses of CORCON 2018



Rajasthani dance program during the conference



Rajasthan Nite - Chokhi Dani Cultural program during the conference



Dr. Ashutosh Karnatak and other Dignitaries on the Dias releasing the 'Jung Se Jung' booklet



Felicitating the Exhibitors in the exhibition premises



Poster presentation brief highlights of research results



Best Paper awards presented during the Valedictory function

- 8 Corrosion Control in Water Treatment Utilities - Troubleshooting of Scaling problems in Pressable Waxy Distillate (PWD) product cooler in Crude Distillation Unit (CDU) of Digboi Refinery - A Case Study, K K Pandey, Sukla Mistry , S D Chaklader, C R Rao and R Gayen, Indian Oil Corporation Limited, Digboi Refinery, Tinsukia
- 9 Microbial Corrosion and Inhibitors - Reduction of toxic thiourea usage by green and abundant guar gum for steel corrosion inhibition, Venkata Muralidhar K, Vinay Jain, Beena Rai, Tata Consultancy Services Ltd., Pune
- 10 Power Plants and Utilities - Self - healing Plasma Spray Coatings on Graphite for High-Temperature Applications, Madhura B, E. Vetrivendan, Ch. Jagadeeswara Rao, S. Ningshen, Indira Gandhi Centre for Atomic Research, Kalpakkam
- 11 Corrosion in Petrochemical, Chemical and Fertilizer Industries - Significance of Corrosion Assessment in Risk Based Inspection, Viswanathan Venkateswaran, Asset Integrity Services, Lloyd's Register Asia, Mumbai, Maran Periyasamy, Lloyd's Register of Shipping, Kuala Lumpur, Malaysia and Shivakumar Kulkarni, Lloyd's Register Asia, Mumbai
- 12 Corrosion in RCC Structures - Role Of Renewable Materials in Development of Protective Coatings, P.C. Thapliyal, S.R.Karade, Vibhrant, A. Dixit and R. Kumar, CSIR-Central Building Research Institute, Roorkee
- 13 Marine Corrosion - Ship Rudder Corrosion - Cause and Concerns, Cdr (Dr) Nitin Agarwala, National Maritime Foundation, New Delhi
- 14 Direct Assessment Methodology Application - Evaluation of Indirect Inspection Data within ECDA Process, Saleh Al-Sulaiman, Hasan Sabri, Eugene D'Souza, Kuwait Oil Company, Kuwait
- 15 A Novel chitosan/Ag/GO Composite Coating with Enhanced Antibacterial Activity and Improved Corrosion Resistance, Geetisubhra Jena, B Anandkumar, S.C. Vanithakumari, R. P. George, John Philip and G. Amarendra , Homi Bhabha National Institute, Mumbai & Indira Gandhi Centre for Atomic Research, Kalpakkam
- 16 High performance green concrete with improved biodeterioration resistance against fungus *Fusarium* sp., Manu Harilal, , B. Anandkumar, R.P. George, John Philip and G. Amarendra, Bhabha National Institute, Mumbai & Indira Gandhi Centre for Atomic Research, Kalpakkam and Sudha Uthaman, Sathyabama Institute of Science & Technology, Chennai
- 17 Biocompatibility and electrochemical behavior of sodium incorporated niobium oxide coating on 316L SS for orthopedic applications, K. Saranya and N. Rajendran, Anna University, Chennai

CORCON 2018: Best Stalls

1.	9 Sqm-Winner	B S S Tech CP (I) Pvt. Ltd.
2.	9 Sqm-Runner-up	N D T Global
3.	12 Sqm-Winner	Corrtech Energy Limited
4.	12 Sqm-Runner-up	Sunil Chemical Industries

Mr. Dipen Jhaveri, Secretary, NIGIS proposed the vote of thanks to supporters, exhibitors, speakers, delegates, organization committee, JECC management, Hotel Marriot, Event management, travel management and staff.

The next edition CORCON 2019 will be held during September 22 - 25, 2019, at Kochi, Kerala, popularly known as "God's Own Country".

Best Poster Awards

- 15 A Novel chitosan/Ag/GO Composite Coating with Enhanced Antibacterial Activity and Improved Corrosion Resistance, Geetisubhra Jena, B Anandkumar, S.C. Vanithakumari, R. P. George, John Philip and G. Amarendra , Homi Bhabha National Institute, Mumbai & Indira Gandhi Centre for Atomic Research, Kalpakkam